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

Level IV Data Package for
Hahn and Associates
Mult 802 Decommissioning
Apex Laboratories Work Order number:
A9E0677

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

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Analytical Case Narrative

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

Analytical Case Narrative

Client: Hahn and Associates Date: 10/08/2019
Project: Mult 802 Decommissioning
Apex Work Order Number: A9E0677

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

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

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

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

Estella Rieben,
Quality Systems Manager
Apex Laboratories, LLC

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

Analytical Report

Apex Laboratories, LLC

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

Tuesday, May 28, 2019

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

RE: A9E0677 - Mult 802 Decommissioning - 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 A9E0677, which was received by the laboratory on 5/21/2019 at 12:09:00PM.

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	1.5 degC

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

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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 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2708-190520-006	**A9E0677-01**	**Solid**	**05/20/19 15:00**	**05/21/19 12:09**

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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
2708-190520-006 (A9E0677-01)				**Matrix: Solid**		**Batch: 9051229**		
Diesel	**305000**	---	34500	mg/kg	100	05/24/19	NWTPH-Dx	**F-17**
Oil	**132000**	---	69000	mg/kg	100	05/24/19	NWTPH-Dx	**F-17**
Surrogate: o-Terphenyl (Surr)			*Recovery: %*	*Limits: 50-150 %*	*100*	*05/24/19*	*NWTPH-Dx*	*S-01*

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Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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
2708-190520-006 (A9E0677-01)				**Matrix: Solid**			**Batch: 9051092**	**V-15**
Gasoline Range Organics	**39200**	---	16000	mg/kg	100000	05/21/19	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*133 %*	*Limits: 50-150 %*	*1*	*05/21/19*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*101 %*	*50-150 %*	*1*	*05/21/19*	*NWTPH-Gx (MS)*	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01)				**Matrix: Solid**			**Batch: 9051092**	**V-15**
Acetone	ND	---	3190000	ug/kg	100000	05/21/19	5035A/8260C	
Acrylonitrile	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
Benzene	**114000**	---	31900	ug/kg	100000	05/21/19	5035A/8260C	
Bromobenzene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Bromochloromethane	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Bromodichloromethane	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
Bromoform	ND	---	639000	ug/kg	100000	05/21/19	5035A/8260C	
Bromomethane	ND	---	1600000	ug/kg	100000	05/21/19	5035A/8260C	
2-Butanone (MEK)	ND	---	1600000	ug/kg	100000	05/21/19	5035A/8260C	
n-Butylbenzene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
sec-Butylbenzene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
tert-Butylbenzene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Carbon disulfide	ND	---	1600000	ug/kg	100000	05/21/19	5035A/8260C	
Carbon tetrachloride	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
Chlorobenzene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Chloroethane	ND	---	1600000	ug/kg	100000	05/21/19	5035A/8260C	
Chloroform	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Chloromethane	ND	---	799000	ug/kg	100000	05/21/19	5035A/8260C	
2-Chlorotoluene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
4-Chlorotoluene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Dibromochloromethane	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
1,2-Dibromo-3-chloropropane	ND	---	799000	ug/kg	100000	05/21/19	5035A/8260C	
1,2-Dibromoethane (EDB)	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Dibromomethane	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
1,2-Dichlorobenzene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
1,3-Dichlorobenzene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
1,4-Dichlorobenzene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Dichlorodifluoromethane	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
1,1-Dichloroethane	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
1,2-Dichloroethane (EDC)	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
1,1-Dichloroethene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
cis-1,2-Dichloroethene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
trans-1,2-Dichloroethene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01)				**Matrix: Solid**			**Batch: 9051092**	**V-15**
1,2-Dichloropropane	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
1,3-Dichloropropane	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
2,2-Dichloropropane	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
1,1-Dichloropropene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
cis-1,3-Dichloropropene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
trans-1,3-Dichloropropene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Ethylbenzene	**95500**	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Hexachlorobutadiene	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
2-Hexanone	ND	---	1600000	ug/kg	100000	05/21/19	5035A/8260C	
Isopropylbenzene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
4-Isopropyltoluene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Methylene chloride	ND	---	799000	ug/kg	100000	05/21/19	5035A/8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	1600000	ug/kg	100000	05/21/19	5035A/8260C	
Methyl tert-butyl ether (MTBE)	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Naphthalene	**10300000**	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
n-Propylbenzene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Styrene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
1,1,1,2-Tetrachloroethane	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
1,1,2,2-Tetrachloroethane	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Tetrachloroethene (PCE)	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Toluene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
1,2,3-Trichlorobenzene	ND	---	799000	ug/kg	100000	05/21/19	5035A/8260C	
1,2,4-Trichlorobenzene	ND	---	799000	ug/kg	100000	05/21/19	5035A/8260C	
1,1,1-Trichloroethane	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
1,1,2-Trichloroethane	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Trichloroethene (TCE)	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
Trichlorofluoromethane	ND	---	319000	ug/kg	100000	05/21/19	5035A/8260C	
1,2,3-Trichloropropane	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
1,2,4-Trimethylbenzene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
1,3,5-Trimethylbenzene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
Vinyl chloride	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	
m,p-Xylene	ND	---	160000	ug/kg	100000	05/21/19	5035A/8260C	
o-Xylene	ND	---	79900	ug/kg	100000	05/21/19	5035A/8260C	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01)				**Matrix: Solid**			**Batch: 9051092**	**V-15**
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*110 %*	*Limits: 80-120 %*	*1*	*05/21/19*	*5035A/8260C*	
Toluene-d8 (Surr)			*91 %*	*80-120 %*	*1*	*05/21/19*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*104 %*	*80-120 %*	*1*	*05/21/19*	*5035A/8260C*	

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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01)				**Matrix: Solid**			**Batch: 9051172**	
Acenaphthene	**22600000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Acenaphthylene	ND	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Anthracene	**11700000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Benz(a)anthracene	**6200000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Benzo(a)pyrene	**6980000**	---	1180000	ug/kg	10000	05/23/19	EPA 8270D	
Benzo(b)fluoranthene	**7190000**	---	1180000	ug/kg	10000	05/23/19	EPA 8270D	**M-05**
Benzo(k)fluoranthene	**2850000**	---	1180000	ug/kg	10000	05/23/19	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**4560000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Chrysene	**6140000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Dibenz(a,h)anthracene	ND	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Fluoranthene	**27500000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Fluorene	**11600000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**4470000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
1-Methylnaphthalene	**6420000**	---	1570000	ug/kg	10000	05/23/19	EPA 8270D	
2-Methylnaphthalene	**13300000**	---	1570000	ug/kg	10000	05/23/19	EPA 8270D	
Naphthalene	**36900000**	---	1570000	ug/kg	10000	05/23/19	EPA 8270D	
Phenanthrene	**42000000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Pyrene	**23400000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Carbazole	**5590000**	---	1180000	ug/kg	10000	05/23/19	EPA 8270D	
Dibenzofuran	**12500000**	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
4-Chloro-3-methylphenol	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
2-Chlorophenol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
2,4-Dichlorophenol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
2,4-Dimethylphenol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
2,4-Dinitrophenol	ND	---	19600000	ug/kg	10000	05/23/19	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	---	19600000	ug/kg	10000	05/23/19	EPA 8270D	
2-Methylphenol	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
3+4-Methylphenol(s)	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	Q-42
2-Nitrophenol	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
4-Nitrophenol	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
Pentachlorophenol (PCP)	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
Phenol	ND	---	1570000	ug/kg	10000	05/23/19	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	

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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01)				**Matrix: Solid**			**Batch: 9051172**	
2,3,5,6-Tetrachlorophenol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
2,4,5-Trichlorophenol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
2,4,6-Trichlorophenol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	---	11800000	ug/kg	10000	05/23/19	EPA 8270D	
Butyl benzyl phthalate	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
Diethylphthalate	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
Dimethylphthalate	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
Di-n-butylphthalate	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
Di-n-octyl phthalate	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
N-Nitrosodimethylamine	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
N-Nitrosodiphenylamine	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
Hexachlorobenzene	ND	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
Hexachlorobutadiene	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
Hexachlorocyclopentadiene	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
Hexachloroethane	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
2-Chloronaphthalene	ND	---	785000	ug/kg	10000	05/23/19	EPA 8270D	
1,2-Dichlorobenzene	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
1,3-Dichlorobenzene	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
1,4-Dichlorobenzene	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
1,2,4-Trichlorobenzene	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
4-Bromophenyl phenyl ether	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
Aniline	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
4-Chloroaniline	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
2-Nitroaniline	ND	---	15700000	ug/kg	10000	05/23/19	EPA 8270D	
3-Nitroaniline	ND	---	15700000	ug/kg	10000	05/23/19	EPA 8270D	
4-Nitroaniline	ND	---	15700000	ug/kg	10000	05/23/19	EPA 8270D	
Nitrobenzene	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
2,4-Dinitrotoluene	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	

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503-718-2323
EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01)				**Matrix: Solid**			**Batch: 9051172**	
2,6-Dinitrotoluene	ND	---	7850000	ug/kg	10000	05/23/19	EPA 8270D	
Benzoic acid	ND	---	97900000	ug/kg	10000	05/23/19	EPA 8270D	
Benzyl alcohol	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
Isophorone	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
Azobenzene (1,2-DPH)	ND	---	1960000	ug/kg	10000	05/23/19	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	---	19600000	ug/kg	10000	05/23/19	EPA 8270D	
3,3'-Dichlorobenzidine	ND	---	15700000	ug/kg	10000	05/23/19	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	---	19600000	ug/kg	10000	05/23/19	EPA 8270D	
1,3-Dinitrobenzene	ND	---	19600000	ug/kg	10000	05/23/19	EPA 8270D	
1,4-Dinitrobenzene	ND	---	19600000	ug/kg	10000	05/23/19	EPA 8270D	
Pyridine	ND	---	3910000	ug/kg	10000	05/23/19	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*%*	*Limits:*	*37-122 %*	*10000*	*05/23/19*	*EPA 8270D*	*S-01*
2-Fluorobiphenyl (Surr)			*%*		*44-115 %*	*10000*	*05/23/19*	*EPA 8270D*	*S-01*
Phenol-d6 (Surr)			*%*		*33-122 %*	*10000*	*05/23/19*	*EPA 8270D*	*S-01*
p-Terphenyl-d14 (Surr)			*136 %*		*54-127 %*	*10000*	*05/23/19*	*EPA 8270D*	*S-05*
2-Fluorophenol (Surr)			*%*		*35-115 %*	*10000*	*05/23/19*	*EPA 8270D*	*S-01*
2,4,6-Tribromophenol (Surr)			*%*		*39-132 %*	*10000*	*05/23/19*	*EPA 8270D*	*S-01*

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Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01)				**Matrix: Solid**				
Batch: 9051152								
Aluminum	ND	---	55.6	mg/kg	10	05/23/19	EPA 6020A	
Antimony	ND	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Arsenic	ND	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Barium	**2.27**	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Cadmium	**0.372**	---	0.222	mg/kg	10	05/23/19	EPA 6020A	
Calcium	ND	---	111	mg/kg	10	05/23/19	EPA 6020A	
Chromium	ND	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Copper	**1.78**	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Iron	**1250**	---	55.6	mg/kg	10	05/23/19	EPA 6020A	
Lead	**27.9**	---	0.222	mg/kg	10	05/23/19	EPA 6020A	
Magnesium	ND	---	55.6	mg/kg	10	05/23/19	EPA 6020A	
Manganese	**8.74**	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Mercury	ND	---	0.0889	mg/kg	10	05/23/19	EPA 6020A	
Nickel	ND	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Potassium	ND	---	111	mg/kg	10	05/23/19	EPA 6020A	
Selenium	ND	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Silver	ND	---	0.222	mg/kg	10	05/23/19	EPA 6020A	
Sodium	**160**	---	111	mg/kg	10	05/23/19	EPA 6020A	
Thallium	ND	---	0.222	mg/kg	10	05/23/19	EPA 6020A	
Vanadium	**1.16**	---	1.11	mg/kg	10	05/23/19	EPA 6020A	
Zinc	**35.0**	---	4.44	mg/kg	10	05/23/19	EPA 6020A	
2708-190520-006 (A9E0677-01RE1)				**Matrix: Solid**				
Batch: 9051152								
Beryllium	ND	---	0.222	mg/kg	10	05/24/19	EPA 6020A	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190520-006 (A9E0677-01RE2)				**Matrix: Solid**			**Batch: 9051240**	
Cyanide, Total	**0.846**	---	0.492	mg/kg	5	05/24/19	D7511-12	

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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 9051229 - EPA 3546 (Fuels)							**Solid**					
Blank (9051229-BLK1)			Prepared: 05/23/19 16:37		Analyzed: 05/24/19 01:14							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 90 %*	*Limits: 50-150 %*		*Dilution: 1x*							
LCS (9051229-BS1)			Prepared: 05/23/19 16:37		Analyzed: 05/24/19 01:36							
NWTPH-Dx												
Diesel	120	---	25.0	mg/kg	1	125	---	96	70-130%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 95 %*	*Limits: 50-150 %*		*Dilution: 1x*							
Duplicate (9051229-DUP1)			Prepared: 05/23/19 16:37		Analyzed: 05/24/19 02:18							
QC Source Sample: Non-SDG (A9E0672-01)												
Diesel	**634**	---	25.0	mg/kg	1	---	706	---	---	11	30%	F-13, F-20
Oil	ND	---	50.0	mg/kg	1	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		*Recovery: 91 %*	*Limits: 50-150 %*		*Dilution: 1x*							

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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 9051092 - EPA 5035A							**Soil**					
Blank (9051092-BLK1)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 12:43									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery:*	*116 %*	*Limits:*	*50-150 %*		*Dilution:*	*1x*				
1,4-Difluorobenzene (Sur)			*96 %*		*50-150 %*			*"*				
LCS (9051092-BS2)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 12:16									
NWTPH-Gx (MS)												
Gasoline Range Organics	27.2	---	5.00	mg/kg	50	25.0	---	109	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery:*	*115 %*	*Limits:*	*50-150 %*		*Dilution:*	*1x*				
1,4-Difluorobenzene (Sur)			*98 %*		*50-150 %*			*"*				
Duplicate (9051092-DUP1)			Prepared: 05/15/19 10:30 Analyzed: 05/21/19 16:25									
QC Source Sample: Non-SDG (A9E0515-01)												
Gasoline Range Organics	ND	---	5.87	mg/kg	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery:*	*96 %*	*Limits:*	*50-150 %*		*Dilution:*	*1x*				
1,4-Difluorobenzene (Sur)			*90 %*		*50-150 %*			*"*				

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
Blank (9051092-BLK1)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 12:43									
5035A/8260C												
Acetone	ND	---	667	ug/kg	50	---	---	---	---	---	---	
Acrylonitrile	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
Benzene	ND	---	6.67	ug/kg	50	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Bromochloromethane	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Bromodichloromethane	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
Bromoform	ND	---	133	ug/kg	50	---	---	---	---	---	---	
Bromomethane	ND	---	333	ug/kg	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	333	ug/kg	50	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Carbon disulfide	ND	---	333	ug/kg	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Chloroethane	ND	---	333	ug/kg	50	---	---	---	---	---	---	
Chloroform	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Chloromethane	ND	---	167	ug/kg	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	ug/kg	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
Blank (9051092-BLK1)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 12:43									
1,2-Dichloropropane	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
2-Hexanone	ND	---	333	ug/kg	50	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Methylene chloride	ND	---	167	ug/kg	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	ug/kg	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Styrene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Toluene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	ug/kg	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	ug/kg	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	ug/kg	50	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	ug/kg	50	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	ug/kg	50	---	---	---	---	---	---	

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

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
Blank (9051092-BLK1)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 12:43									
Surr: Toluene-d8 (Surr)			*Recovery: 94 %*	*Limits: 80-120 %*				*Dilution: 1x*				
4-Bromofluorobenzene (Surr)			*107 %*	*80-120 %*				*"*				
LCS (9051092-BS1)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 11:49									
5035A/8260C												
Acetone	1800	---	1000	ug/kg	50	2000	---	90	80-120%	---	---	
Acrylonitrile	1010	---	100	ug/kg	50	1000	---	101	80-120%	---	---	
Benzene	978	---	10.0	ug/kg	50	1000	---	98	80-120%	---	---	
Bromobenzene	1060	---	25.0	ug/kg	50	1000	---	106	80-120%	---	---	
Bromochloromethane	1020	---	50.0	ug/kg	50	1000	---	102	80-120%	---	---	
Bromodichloromethane	1050	---	100	ug/kg	50	1000	---	105	80-120%	---	---	
Bromoform	1290	---	200	ug/kg	50	1000	---	**129**	**80-120%**	---	---	Q-56
Bromomethane	1120	---	500	ug/kg	50	1000	---	112	80-120%	---	---	
2-Butanone (MEK)	1930	---	500	ug/kg	50	2000	---	97	80-120%	---	---	
n-Butylbenzene	1130	---	50.0	ug/kg	50	1000	---	113	80-120%	---	---	
sec-Butylbenzene	1140	---	50.0	ug/kg	50	1000	---	114	80-120%	---	---	
tert-Butylbenzene	1120	---	50.0	ug/kg	50	1000	---	112	80-120%	---	---	
Carbon disulfide	966	---	500	ug/kg	50	1000	---	97	80-120%	---	---	
Carbon tetrachloride	1230	---	100	ug/kg	50	1000	---	**123**	**80-120%**	---	---	Q-56
Chlorobenzene	957	---	25.0	ug/kg	50	1000	---	96	80-120%	---	---	
Chloroethane	836	---	500	ug/kg	50	1000	---	84	80-120%	---	---	
Chloroform	999	---	50.0	ug/kg	50	1000	---	100	80-120%	---	---	
Chloromethane	1020	---	250	ug/kg	50	1000	---	102	80-120%	---	---	
2-Chlorotoluene	1100	---	50.0	ug/kg	50	1000	---	110	80-120%	---	---	
4-Chlorotoluene	1120	---	50.0	ug/kg	50	1000	---	112	80-120%	---	---	
Dibromochloromethane	1080	---	100	ug/kg	50	1000	---	108	80-120%	---	---	
1,2-Dibromo-3-chloropropane	1060	---	250	ug/kg	50	1000	---	106	80-120%	---	---	
1,2-Dibromoethane (EDB)	976	---	50.0	ug/kg	50	1000	---	98	80-120%	---	---	
Dibromomethane	1020	---	50.0	ug/kg	50	1000	---	102	80-120%	---	---	
1,2-Dichlorobenzene	1030	---	25.0	ug/kg	50	1000	---	103	80-120%	---	---	
1,3-Dichlorobenzene	1040	---	25.0	ug/kg	50	1000	---	104	80-120%	---	---	
1,4-Dichlorobenzene	978	---	25.0	ug/kg	50	1000	---	98	80-120%	---	---	
Dichlorodifluoromethane	1220	---	100	ug/kg	50	1000	---	**122**	**80-120%**	---	---	Q-56
1,1-Dichloroethane	899	---	25.0	ug/kg	50	1000	---	90	80-120%	---	---	

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503-718-2323
EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
LCS (9051092-BS1)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 11:49									
1,2-Dichloroethane (EDC)	927	---	25.0	ug/kg	50	1000	---	93	80-120%	---	---	
1,1-Dichloroethene	810	---	25.0	ug/kg	50	1000	---	81	80-120%	---	---	
cis-1,2-Dichloroethene	999	---	25.0	ug/kg	50	1000	---	100	80-120%	---	---	
trans-1,2-Dichloroethene	885	---	25.0	ug/kg	50	1000	---	89	80-120%	---	---	
1,2-Dichloropropane	1000	---	25.0	ug/kg	50	1000	---	100	80-120%	---	---	
1,3-Dichloropropane	995	---	50.0	ug/kg	50	1000	---	99	80-120%	---	---	
2,2-Dichloropropane	1250	---	50.0	ug/kg	50	1000	---	**125**	**80-120%**	---	---	Q-56
1,1-Dichloropropene	1010	---	50.0	ug/kg	50	1000	---	101	80-120%	---	---	
cis-1,3-Dichloropropene	966	---	50.0	ug/kg	50	1000	---	97	80-120%	---	---	
trans-1,3-Dichloropropene	1010	---	50.0	ug/kg	50	1000	---	101	80-120%	---	---	
Ethylbenzene	990	---	25.0	ug/kg	50	1000	---	99	80-120%	---	---	
Hexachlorobutadiene	1020	---	100	ug/kg	50	1000	---	102	80-120%	---	---	
2-Hexanone	1890	---	500	ug/kg	50	2000	---	94	80-120%	---	---	
Isopropylbenzene	1120	---	50.0	ug/kg	50	1000	---	112	80-120%	---	---	
4-Isopropyltoluene	1100	---	50.0	ug/kg	50	1000	---	110	80-120%	---	---	
Methylene chloride	715	---	250	ug/kg	50	1000	---	**71**	**80-120%**	---	---	Q-55
4-Methyl-2-pentanone (MiBK)	1980	---	500	ug/kg	50	2000	---	99	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	984	---	50.0	ug/kg	50	1000	---	98	80-120%	---	---	
Naphthalene	917	---	100	ug/kg	50	1000	---	92	80-120%	---	---	
n-Propylbenzene	1120	---	25.0	ug/kg	50	1000	---	112	80-120%	---	---	
Styrene	995	---	50.0	ug/kg	50	1000	---	100	80-120%	---	---	
1,1,1,2-Tetrachloroethane	1160	---	100	ug/kg	50	1000	---	116	80-120%	---	---	
1,1,2,2-Tetrachloroethane	1180	---	50.0	ug/kg	50	1000	---	118	80-120%	---	---	
Tetrachloroethene (PCE)	973	---	25.0	ug/kg	50	1000	---	97	80-120%	---	---	
Toluene	911	---	50.0	ug/kg	50	1000	---	91	80-120%	---	---	
1,2,3-Trichlorobenzene	1040	---	250	ug/kg	50	1000	---	104	80-120%	---	---	
1,2,4-Trichlorobenzene	1060	---	250	ug/kg	50	1000	---	106	80-120%	---	---	
1,1,1-Trichloroethane	1160	---	25.0	ug/kg	50	1000	---	116	80-120%	---	---	
1,1,2-Trichloroethane	1030	---	25.0	ug/kg	50	1000	---	103	80-120%	---	---	
Trichloroethene (TCE)	972	---	25.0	ug/kg	50	1000	---	97	80-120%	---	---	
Trichlorofluoromethane	947	---	100	ug/kg	50	1000	---	95	80-120%	---	---	
1,2,3-Trichloropropane	1060	---	50.0	ug/kg	50	1000	---	106	80-120%	---	---	
1,2,4-Trimethylbenzene	1140	---	50.0	ug/kg	50	1000	---	114	80-120%	---	---	
1,3,5-Trimethylbenzene	1150	---	50.0	ug/kg	50	1000	---	115	80-120%	---	---	

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
LCS (9051092-BS1)			Prepared: 05/21/19 11:00 Analyzed: 05/21/19 11:49									
Vinyl chloride	1040	---	25.0	ug/kg	50	1000	---	104	80-120%	---	---	
m,p-Xylene	2120	---	50.0	ug/kg	50	2000	---	106	80-120%	---	---	
o-Xylene	1070	---	25.0	ug/kg	50	1000	---	107	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*95 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*104 %*		*80-120 %*				*"*			
Duplicate (9051092-DUP1)			Prepared: 05/15/19 10:30 Analyzed: 05/21/19 16:25									
QC Source Sample: Non-SDG (A9E0515-01)												
Acetone	ND	---	1170	ug/kg	50	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
Benzene	ND	---	11.7	ug/kg	50	---	ND	---	---	---	30%	
Bromobenzene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
Bromoform	ND	---	235	ug/kg	50	---	ND	---	---	---	30%	
Bromomethane	ND	---	587	ug/kg	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	587	ug/kg	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	587	ug/kg	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Chloroethane	ND	---	587	ug/kg	50	---	ND	---	---	---	30%	
Chloroform	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Chloromethane	ND	---	294	ug/kg	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	294	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Dibromomethane	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
Duplicate (9051092-DUP1)			Prepared: 05/15/19 10:30 Analyzed: 05/21/19 16:25									
QC Source Sample: Non-SDG (A9E0515-01)												
1,3-Dichlorobenzene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
2-Hexanone	ND	---	587	ug/kg	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Methylene chloride	ND	---	294	ug/kg	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	587	ug/kg	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Naphthalene	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Styrene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Toluene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	294	ug/kg	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	294	ug/kg	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	29.4	ug/kg	50	---	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**	A9E0677 - 05 28 19 1635

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
Duplicate (9051092-DUP1)			Prepared: 05/15/19 10:30 Analyzed: 05/21/19 16:25									
QC Source Sample: Non-SDG (A9E0515-01)												
Trichloroethene (TCE)	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	117	ug/kg	50	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	58.7	ug/kg	50	---	ND	---	---	---	30%	
o-Xylene	ND	---	29.4	ug/kg	50	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*100 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*104 %*		*80-120 %*			*"*				
Matrix Spike (9051092-MS1)			Prepared: 05/15/19 14:15 Analyzed: 05/21/19 18:13									
QC Source Sample: Non-SDG (A9E0515-07)												
5035A/8260C												
Acetone	2490	---	1180	ug/kg	50	2360	ND	105	36-164%	---	---	
Acrylonitrile	1240	---	118	ug/kg	50	1180	ND	105	65-134%	---	---	
Benzene	1170	---	11.8	ug/kg	50	1180	ND	99	77-121%	---	---	
Bromobenzene	1230	---	29.6	ug/kg	50	1180	ND	104	78-121%	---	---	
Bromochloromethane	1310	---	59.1	ug/kg	50	1180	ND	111	78-125%	---	---	
Bromodichloromethane	1250	---	118	ug/kg	50	1180	ND	105	75-127%	---	---	
Bromoform	1480	---	237	ug/kg	50	1180	ND	125	67-132%	---	---	Q-54c
Bromomethane	1370	---	591	ug/kg	50	1180	ND	116	53-143%	---	---	
2-Butanone (MEK)	2320	---	591	ug/kg	50	2360	ND	98	51-148%	---	---	
n-Butylbenzene	1240	---	59.1	ug/kg	50	1180	ND	105	70-128%	---	---	
sec-Butylbenzene	1280	---	59.1	ug/kg	50	1180	ND	108	73-126%	---	---	
tert-Butylbenzene	1260	---	59.1	ug/kg	50	1180	ND	107	73-125%	---	---	
Carbon disulfide	1140	---	591	ug/kg	50	1180	ND	96	63-132%	---	---	
Carbon tetrachloride	1420	---	118	ug/kg	50	1180	ND	120	70-135%	---	---	Q-54a
Chlorobenzene	1120	---	29.6	ug/kg	50	1180	ND	95	79-120%	---	---	
Chloroethane	1170	---	591	ug/kg	50	1180	ND	99	59-139%	---	---	
Chloroform	1190	---	59.1	ug/kg	50	1180	ND	101	78-123%	---	---	
Chloromethane	1290	---	296	ug/kg	50	1180	ND	109	50-136%	---	---	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
Matrix Spike (9051092-MS1)			Prepared: 05/15/19 14:15		Analyzed: 05/21/19 18:13							
QC Source Sample: Non-SDG (A9E0515-07)												
2-Chlorotoluene	1240	---	59.1	ug/kg	50	1180	ND	105	75-122%	---	---	
4-Chlorotoluene	1270	---	59.1	ug/kg	50	1180	ND	108	72-124%	---	---	
Dibromochloromethane	1280	---	118	ug/kg	50	1180	ND	108	74-126%	---	---	
1,2-Dibromo-3-chloropropane	1270	---	296	ug/kg	50	1180	ND	107	61-132%	---	---	
1,2-Dibromoethane (EDB)	1180	---	59.1	ug/kg	50	1180	ND	100	78-122%	---	---	
Dibromomethane	1250	---	59.1	ug/kg	50	1180	ND	106	78-125%	---	---	
1,2-Dichlorobenzene	1210	---	29.6	ug/kg	50	1180	ND	102	78-121%	---	---	
1,3-Dichlorobenzene	1190	---	29.6	ug/kg	50	1180	ND	101	77-121%	---	---	
1,4-Dichlorobenzene	1130	---	29.6	ug/kg	50	1180	ND	96	75-120%	---	---	
Dichlorodifluoromethane	1460	---	118	ug/kg	50	1180	ND	124	29-149%	---	---	Q-54
1,1-Dichloroethane	1100	---	29.6	ug/kg	50	1180	ND	93	76-125%	---	---	
1,2-Dichloroethane (EDC)	1140	---	29.6	ug/kg	50	1180	ND	96	73-128%	---	---	
1,1-Dichloroethene	979	---	29.6	ug/kg	50	1180	ND	83	70-131%	---	---	
cis-1,2-Dichloroethene	1210	---	29.6	ug/kg	50	1180	ND	102	77-123%	---	---	
trans-1,2-Dichloroethene	1060	---	29.6	ug/kg	50	1180	ND	90	74-125%	---	---	
1,2-Dichloropropane	1200	---	29.6	ug/kg	50	1180	ND	102	76-123%	---	---	
1,3-Dichloropropane	1230	---	59.1	ug/kg	50	1180	ND	104	77-121%	---	---	
2,2-Dichloropropane	1310	---	59.1	ug/kg	50	1180	ND	111	67-133%	---	---	Q-54b
1,1-Dichloropropene	1190	---	59.1	ug/kg	50	1180	ND	101	76-125%	---	---	
cis-1,3-Dichloropropene	1150	---	59.1	ug/kg	50	1180	ND	97	74-126%	---	---	
trans-1,3-Dichloropropene	1200	---	59.1	ug/kg	50	1180	ND	102	71-130%	---	---	
Ethylbenzene	1160	---	29.6	ug/kg	50	1180	ND	98	76-122%	---	---	
Hexachlorobutadiene	1120	---	118	ug/kg	50	1180	ND	95	61-135%	---	---	
2-Hexanone	2300	---	591	ug/kg	50	2360	ND	97	53-145%	---	---	
Isopropylbenzene	1270	---	59.1	ug/kg	50	1180	ND	107	68-134%	---	---	
4-Isopropyltoluene	1230	---	59.1	ug/kg	50	1180	ND	104	73-127%	---	---	
Methylene chloride	894	---	296	ug/kg	50	1180	ND	76	70-128%	---	---	Q-54d
4-Methyl-2-pentanone (MiBK)	2460	---	591	ug/kg	50	2360	ND	104	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1180	---	59.1	ug/kg	50	1180	ND	100	73-125%	---	---	
Naphthalene	1100	---	118	ug/kg	50	1180	ND	93	62-129%	---	---	
n-Propylbenzene	1260	---	29.6	ug/kg	50	1180	ND	107	73-125%	---	---	
Styrene	1120	---	59.1	ug/kg	50	1180	ND	94	76-124%	---	---	
1,1,1,2-Tetrachloroethane	1340	---	118	ug/kg	50	1180	ND	113	78-125%	---	---	

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Philip Nerenberg, Lab Director

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503-718-2323
EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051092 - EPA 5035A							**Soil**					
Matrix Spike (9051092-MS1)			Prepared: 05/15/19 14:15		Analyzed: 05/21/19 18:13							
QC Source Sample: Non-SDG (A9E0515-07)												
1,1,2,2-Tetrachloroethane	1390	---	59.1	ug/kg	50	1180	ND	118	70-124%	---	---	
Tetrachloroethene (PCE)	1160	---	29.6	ug/kg	50	1180	ND	98	73-128%	---	---	
Toluene	1110	---	59.1	ug/kg	50	1180	ND	94	77-121%	---	---	
1,2,3-Trichlorobenzene	1200	---	296	ug/kg	50	1180	ND	102	66-130%	---	---	
1,2,4-Trichlorobenzene	1220	---	296	ug/kg	50	1180	ND	103	67-129%	---	---	
1,1,1-Trichloroethane	1350	---	29.6	ug/kg	50	1180	ND	114	73-130%	---	---	
1,1,2-Trichloroethane	1250	---	29.6	ug/kg	50	1180	ND	106	78-121%	---	---	
Trichloroethene (TCE)	1160	---	29.6	ug/kg	50	1180	ND	98	77-123%	---	---	
Trichlorofluoromethane	1140	---	118	ug/kg	50	1180	ND	96	62-140%	---	---	
1,2,3-Trichloropropane	1270	---	59.1	ug/kg	50	1180	ND	107	73-125%	---	---	
1,2,4-Trimethylbenzene	1300	---	59.1	ug/kg	50	1180	ND	110	75-123%	---	---	
1,3,5-Trimethylbenzene	1300	---	59.1	ug/kg	50	1180	ND	110	73-124%	---	---	
Vinyl chloride	1270	---	29.6	ug/kg	50	1180	ND	107	56-135%	---	---	
m,p-Xylene	2450	---	59.1	ug/kg	50	2360	ND	104	77-124%	---	---	
o-Xylene	1210	---	29.6	ug/kg	50	1180	ND	103	77-123%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*98 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*101 %*		*80-120 %*				*"*			

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051172 - EPA 3546							**Solid**					
Blank (9051172-BLK1)			Prepared: 05/22/19 16:25		Analyzed: 05/23/19 12:43							
EPA 8270D												
Acenaphthene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Anthracene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	4.00	ug/kg	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	4.00	ug/kg	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	4.00	ug/kg	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Chrysene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Fluoranthene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Fluorene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	5.33	ug/kg	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	5.33	ug/kg	1	---	---	---	---	---	---	
Naphthalene	ND	---	5.33	ug/kg	1	---	---	---	---	---	---	
Phenanthrene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Pyrene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Carbazole	ND	---	4.00	ug/kg	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
2-Chlorophenol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	---	66.7	ug/kg	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	---	66.7	ug/kg	1	---	---	---	---	---	---	
2-Methylphenol	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
2-Nitrophenol	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
4-Nitrophenol	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
Phenol	ND	---	5.33	ug/kg	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	

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Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051172 - EPA 3546							**Solid**					
Blank (9051172-BLK1)			Prepared: 05/22/19 16:25		Analyzed: 05/23/19 12:43							
2,3,5,6-Tetrachlorophenol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	---	40.0	ug/kg	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
Diethylphthalate	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
Dimethylphthalate	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
Hexachloroethane	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	---	2.67	ug/kg	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
Aniline	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
4-Chloroaniline	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
2-Nitroaniline	ND	---	53.3	ug/kg	1	---	---	---	---	---	---	
3-Nitroaniline	ND	---	53.3	ug/kg	1	---	---	---	---	---	---	
4-Nitroaniline	ND	---	53.3	ug/kg	1	---	---	---	---	---	---	
Nitrobenzene	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	---	26.7	ug/kg	1	---	---	---	---	---	---	

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Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051172 - EPA 3546							**Solid**					
Blank (9051172-BLK1)			Prepared: 05/22/19 16:25		Analyzed: 05/23/19 12:43							
Benzoic acid	ND	---	333	ug/kg	1	---	---	---	---	---	---	
Benzyl alcohol	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
Isophorone	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	---	6.67	ug/kg	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	---	66.7	ug/kg	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	---	53.3	ug/kg	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	---	66.7	ug/kg	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	---	66.7	ug/kg	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	---	66.7	ug/kg	1	---	---	---	---	---	---	
Pyridine	ND	---	13.3	ug/kg	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		*Recovery:*	*80 %*	*Limits:*	*37-122 %*		*Dilution:*	*1x*				
2-Fluorobiphenyl (Surr)			*76 %*		*44-115 %*			*"*				
Phenol-d6 (Surr)			*78 %*		*33-122 %*			*"*				
p-Terphenyl-d14 (Surr)			*91 %*		*54-127 %*			*"*				
2-Fluorophenol (Surr)			*75 %*		*35-115 %*			*"*				
2,4,6-Tribromophenol (Surr)			*71 %*		*39-132 %*			*"*				
LCS (9051172-BS1)			Prepared: 05/22/19 16:25		Analyzed: 05/23/19 13:19							**Q-18**
EPA 8270D												
Acenaphthene	477	---	10.7	ug/kg	4	533	---	90	40-122%	---	---	
Acenaphthylene	496	---	10.7	ug/kg	4	533	---	93	32-132%	---	---	
Anthracene	495	---	10.7	ug/kg	4	533	---	93	47-123%	---	---	
Benz(a)anthracene	510	---	10.7	ug/kg	4	533	---	96	49-126%	---	---	
Benzo(a)pyrene	530	---	16.0	ug/kg	4	533	---	99	45-129%	---	---	
Benzo(b)fluoranthene	514	---	16.0	ug/kg	4	533	---	96	45-132%	---	---	
Benzo(k)fluoranthene	516	---	16.0	ug/kg	4	533	---	97	47-132%	---	---	
Benzo(g,h,i)perylene	492	---	10.7	ug/kg	4	533	---	92	43-134%	---	---	
Chrysene	506	---	10.7	ug/kg	4	533	---	95	50-124%	---	---	
Dibenz(a,h)anthracene	505	---	10.7	ug/kg	4	533	---	95	45-134%	---	---	
Fluoranthene	511	---	10.7	ug/kg	4	533	---	96	50-127%	---	---	
Fluorene	471	---	10.7	ug/kg	4	533	---	88	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	466	---	10.7	ug/kg	4	533	---	87	45-133%	---	---	
1-Methylnaphthalene	443	---	21.3	ug/kg	4	533	---	83	40-120%	---	---	
2-Methylnaphthalene	458	---	21.3	ug/kg	4	533	---	86	38-122%	---	---	

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Portland, OR 97209	Project Manager: **Rob Ede**	A9E0677 - 05 28 19 1635

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 9051172 - EPA 3546							**Solid**					
LCS (9051172-BS1)			Prepared: 05/22/19 16:25		Analyzed: 05/23/19 13:19							**Q-18**
Naphthalene	465	---	21.3	ug/kg	4	533	---	87	35-123%	---	---	
Phenanthrene	488	---	10.7	ug/kg	4	533	---	92	50-121%	---	---	
Pyrene	515	---	10.7	ug/kg	4	533	---	97	47-127%	---	---	
Carbazole	510	---	16.0	ug/kg	4	533	---	96	50-122%	---	---	
Dibenzofuran	470	---	10.7	ug/kg	4	533	---	88	44-120%	---	---	
4-Chloro-3-methylphenol	469	---	107	ug/kg	4	533	---	88	45-122%	---	---	
2-Chlorophenol	484	---	53.2	ug/kg	4	533	---	91	34-121%	---	---	
2,4-Dichlorophenol	495	---	53.2	ug/kg	4	533	---	93	40-122%	---	---	
2,4-Dimethylphenol	416	---	53.2	ug/kg	4	533	---	78	30-127%	---	---	
2,4-Dinitrophenol	753	---	267	ug/kg	4	533	---	**141**	**5-137%**	---	---	Q-29, Q-41
4,6-Dinitro-2-methylphenol	751	---	267	ug/kg	4	533	---	**141**	**29-132%**	---	---	Q-41, Q-29
2-Methylphenol	498	---	26.7	ug/kg	4	533	---	93	32-122%	---	---	Q-41
3+4-Methylphenol(s)	498	---	26.7	ug/kg	4	533	---	93	34-120%	---	---	
2-Nitrophenol	624	---	107	ug/kg	4	533	---	117	36-123%	---	---	Q-41
4-Nitrophenol	434	---	107	ug/kg	4	533	---	81	30-132%	---	---	
Pentachlorophenol (PCP)	422	---	107	ug/kg	4	533	---	79	25-133%	---	---	
Phenol	470	---	21.3	ug/kg	4	533	---	88	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	473	---	53.2	ug/kg	4	533	---	89	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	474	---	53.2	ug/kg	4	533	---	89	40-120%	---	---	
2,4,5-Trichlorophenol	519	---	53.2	ug/kg	4	533	---	97	41-124%	---	---	
2,4,6-Trichlorophenol	485	---	53.2	ug/kg	4	533	---	91	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	513	---	160	ug/kg	4	533	---	96	51-133%	---	---	
Butyl benzyl phthalate	533	---	107	ug/kg	4	533	---	100	48-132%	---	---	
Diethylphthalate	510	---	107	ug/kg	4	533	---	96	50-124%	---	---	
Dimethylphthalate	477	---	107	ug/kg	4	533	---	89	48-124%	---	---	
Di-n-butylphthalate	551	---	107	ug/kg	4	533	---	103	51-128%	---	---	
Di-n-octyl phthalate	544	---	107	ug/kg	4	533	---	102	44-140%	---	---	
N-Nitrosodimethylamine	446	---	26.7	ug/kg	4	533	---	84	23-120%	---	---	
N-Nitroso-di-n-propylamine	451	---	26.7	ug/kg	4	533	---	85	36-120%	---	---	
N-Nitrosodiphenylamine	515	---	26.7	ug/kg	4	533	---	97	38-127%	---	---	
Bis(2-Chloroethoxy) methane	478	---	26.7	ug/kg	4	533	---	90	36-121%	---	---	
Bis(2-Chloroethyl) ether	465	---	26.7	ug/kg	4	533	---	87	31-120%	---	---	Q-41
2,2'-Oxybis(1-Chloropropane)	436	---	26.7	ug/kg	4	533	---	82	33-131%	---	---	
Hexachlorobenzene	467	---	10.7	ug/kg	4	533	---	88	44-122%	---	---	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051172 - EPA 3546							**Solid**					
LCS (9051172-BS1)			Prepared: 05/22/19 16:25		Analyzed: 05/23/19 13:19							**Q-18**
Hexachlorobutadiene	471	---	26.7	ug/kg	4	533	---	88	32-123%	---	---	
Hexachlorocyclopentadiene	592	---	53.2	ug/kg	4	533	---	111	5-140%	---	---	Q-41
Hexachloroethane	514	---	26.7	ug/kg	4	533	---	96	28-120%	---	---	
2-Chloronaphthalene	516	---	10.7	ug/kg	4	533	---	97	41-120%	---	---	
1,2-Dichlorobenzene	456	---	26.7	ug/kg	4	533	---	86	33-120%	---	---	
1,3-Dichlorobenzene	450	---	26.7	ug/kg	4	533	---	84	30-120%	---	---	
1,4-Dichlorobenzene	451	---	26.7	ug/kg	4	533	---	85	31-120%	---	---	
1,2,4-Trichlorobenzene	486	---	26.7	ug/kg	4	533	---	91	34-120%	---	---	
4-Bromophenyl phenyl ether	482	---	26.7	ug/kg	4	533	---	90	46-124%	---	---	
4-Chlorophenyl phenyl ether	453	---	26.7	ug/kg	4	533	---	85	45-121%	---	---	
Aniline	274	---	53.2	ug/kg	4	533	---	51	7-120%	---	---	Q-31
4-Chloroaniline	325	---	26.7	ug/kg	4	533	---	61	16-120%	---	---	
2-Nitroaniline	513	---	213	ug/kg	4	533	---	96	44-127%	---	---	
3-Nitroaniline	417	---	213	ug/kg	4	533	---	78	33-120%	---	---	
4-Nitroaniline	489	---	213	ug/kg	4	533	---	92	35-120%	---	---	
Nitrobenzene	499	---	107	ug/kg	4	533	---	94	34-122%	---	---	Q-41
2,4-Dinitrotoluene	511	---	107	ug/kg	4	533	---	96	48-126%	---	---	
2,6-Dinitrotoluene	533	---	107	ug/kg	4	533	---	100	46-124%	---	---	
Benzoic acid	805	---	668	ug/kg	4	1070	---	75	5-140%	---	---	
Benzyl alcohol	473	---	53.2	ug/kg	4	533	---	89	29-122%	---	---	
Isophorone	458	---	26.7	ug/kg	4	533	---	86	30-122%	---	---	
Azobenzene (1,2-DPH)	510	---	26.7	ug/kg	4	533	---	96	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	587	---	267	ug/kg	4	533	---	110	60-121%	---	---	Q-41
3,3'-Dichlorobenzidine	1960	---	213	ug/kg	4	1070	---	**184**	**22-121%**	---	---	Q-29, Q-41
1,2-Dinitrobenzene	488	---	267	ug/kg	4	533	---	92	44-120%	---	---	
1,3-Dinitrobenzene	570	---	267	ug/kg	4	533	---	107	42-127%	---	---	Q-41
1,4-Dinitrobenzene	617	---	267	ug/kg	4	533	---	116	37-132%	---	---	Q-41
Pyridine	371	---	53.2	ug/kg	4	533	---	70	5-120%	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 86 %*	*Limits: 37-122 %*	*Dilution: 4x*
2-Fluorobiphenyl (Surr)	*90 %*	*44-115 %*	*"*
Phenol-d6 (Surr)	*86 %*	*33-122 %*	*"*
p-Terphenyl-d14 (Surr)	*94 %*	*54-127 %*	*"*
2-Fluorophenol (Surr)	*86 %*	*35-115 %*	*"*
2,4,6-Tribromophenol (Surr)	*92 %*	*39-132 %*	*"*

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503-718-2323
EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051172 - EPA 3546							**Solid**					
Duplicate (9051172-DUP1)			Prepared: 05/22/19 16:25		Analyzed: 05/23/19 14:34							
QC Source Sample: 2708-190520-006 (A9E0677-01)												
EPA 8270D												
Acenaphthene	**24100000**	---	801000	ug/kg	10000	---	22600000	---	---	6	30%	
Acenaphthylene	ND	---	801000	ug/kg	10000	---	ND	---	---	---	30%	
Anthracene	**12800000**	---	801000	ug/kg	10000	---	11700000	---	---	9	30%	
Benz(a)anthracene	**6410000**	---	801000	ug/kg	10000	---	6200000	---	---	3	30%	
Benzo(a)pyrene	**7340000**	---	1200000	ug/kg	10000	---	6980000	---	---	5	30%	
Benzo(b)fluoranthene	**7530000**	---	1200000	ug/kg	10000	---	7190000	---	---	5	30%	M-05
Benzo(k)fluoranthene	**3440000**	---	1200000	ug/kg	10000	---	2850000	---	---	18	30%	M-05
Benzo(g,h,i)perylene	**4820000**	---	801000	ug/kg	10000	---	4560000	---	---	6	30%	
Chrysene	**6450000**	---	801000	ug/kg	10000	---	6140000	---	---	5	30%	
Dibenz(a,h)anthracene	ND	---	801000	ug/kg	10000	---	575000	---	---	***	30%	
Fluoranthene	**29600000**	---	801000	ug/kg	10000	---	27500000	---	---	7	30%	
Fluorene	**13000000**	---	801000	ug/kg	10000	---	11600000	---	---	12	30%	
Indeno(1,2,3-cd)pyrene	**4790000**	---	801000	ug/kg	10000	---	4470000	---	---	7	30%	
1-Methylnaphthalene	**6880000**	---	1600000	ug/kg	10000	---	6420000	---	---	7	30%	
2-Methylnaphthalene	**14300000**	---	1600000	ug/kg	10000	---	13300000	---	---	7	30%	
Naphthalene	**37900000**	---	1600000	ug/kg	10000	---	36900000	---	---	3	30%	
Phenanthrene	**44700000**	---	801000	ug/kg	10000	---	42000000	---	---	6	30%	
Pyrene	**25000000**	---	801000	ug/kg	10000	---	23400000	---	---	7	30%	
Carbazole	**6190000**	---	1200000	ug/kg	10000	---	5590000	---	---	10	30%	
Dibenzofuran	**13500000**	---	801000	ug/kg	10000	---	12500000	---	---	8	30%	
4-Chloro-3-methylphenol	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
2-Chlorophenol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	---	20000000	ug/kg	10000	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	---	20000000	ug/kg	10000	---	ND	---	---	---	30%	
2-Methylphenol	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	**30%**	Q-17
2-Nitrophenol	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
4-Nitrophenol	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	

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Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	A9E0677 - 05 28 19 1635

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 9051172 - EPA 3546							**Solid**					
Duplicate (9051172-DUP1)			Prepared: 05/22/19 16:25 Analyzed: 05/23/19 14:34									
QC Source Sample: 2708-190520-006 (A9E0677-01)												
Phenol	ND	---	1600000	ug/kg	10000	---	1150000	---	---	***	30%	
2,3,4,6-Tetrachlorophenol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	---	12000000	ug/kg	10000	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
Diethylphthalate	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
Dimethylphthalate	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	---	801000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachloroethane	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	---	801000	ug/kg	10000	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
Aniline	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
4-Chloroaniline	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
2-Nitroaniline	ND	---	16000000	ug/kg	10000	---	ND	---	---	---	30%	
3-Nitroaniline	ND	---	16000000	ug/kg	10000	---	ND	---	---	---	30%	
4-Nitroaniline	ND	---	16000000	ug/kg	10000	---	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**	**A9E0677 - 05 28 19 1635**

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 9051172 - EPA 3546							**Solid**					
Duplicate (9051172-DUP1)			Prepared: 05/22/19 16:25 Analyzed: 05/23/19 14:34									
QC Source Sample: 2708-190520-006 (A9E0677-01)												
Nitrobenzene	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
2,4-Dinitrotoluene	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	---	8010000	ug/kg	10000	---	ND	---	---	---	30%	
Benzoic acid	ND	---	99900000	ug/kg	10000	---	ND	---	---	---	30%	
Benzyl alcohol	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
Isophorone	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	---	2000000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	---	20000000	ug/kg	10000	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	---	16000000	ug/kg	10000	---	ND	---	---	---	30%	Q-52
1,2-Dinitrobenzene	ND	---	20000000	ug/kg	10000	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	---	20000000	ug/kg	10000	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	---	20000000	ug/kg	10000	---	ND	---	---	---	30%	
Pyridine	ND	---	3990000	ug/kg	10000	---	ND	---	---	---	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: %*		*Limits: 37-122 %*		*Dilution: 10000x*					S-01
2-Fluorobiphenyl (Surr)			*%*		*44-115 %*		*"*					S-01
Phenol-d6 (Surr)			*%*		*33-122 %*		*"*					S-01
p-Terphenyl-d14 (Surr)			*232 %*		*54-127 %*		*"*					S-05
2-Fluorophenol (Surr)			*%*		*35-115 %*		*"*					S-01
2,4,6-Tribromophenol (Surr)			*%*		*39-132 %*		*"*					S-01

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051152 - EPA 3051A							**Solid**					
Blank (9051152-BLK1)			Prepared: 05/22/19 11:59 Analyzed: 05/23/19 16:15									
EPA 6020A												
Aluminum	ND	---	50.0	mg/kg	10	---	---	---	---	---	---	
Antimony	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Arsenic	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Barium	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Cadmium	ND	---	0.200	mg/kg	10	---	---	---	---	---	---	
Calcium	ND	---	100	mg/kg	10	---	---	---	---	---	---	
Chromium	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Copper	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Iron	ND	---	50.0	mg/kg	10	---	---	---	---	---	---	
Lead	ND	---	0.200	mg/kg	10	---	---	---	---	---	---	
Magnesium	ND	---	50.0	mg/kg	10	---	---	---	---	---	---	
Manganese	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Mercury	ND	---	0.0800	mg/kg	10	---	---	---	---	---	---	
Nickel	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Potassium	ND	---	100	mg/kg	10	---	---	---	---	---	---	
Selenium	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Silver	ND	---	0.200	mg/kg	10	---	---	---	---	---	---	
Sodium	ND	---	100	mg/kg	10	---	---	---	---	---	---	
Thallium	ND	---	0.200	mg/kg	10	---	---	---	---	---	---	
Vanadium	ND	---	1.00	mg/kg	10	---	---	---	---	---	---	
Zinc	ND	---	4.00	mg/kg	10	---	---	---	---	---	---	
Blank (9051152-BLK2)			Prepared: 05/22/19 11:59 Analyzed: 05/24/19 11:31									
EPA 6020A												
Beryllium	ND	---	0.200	mg/kg	10	---	---	---	---	---	---	Q-16
LCS (9051152-BS1)			Prepared: 05/22/19 11:59 Analyzed: 05/23/19 16:20									
EPA 6020A												
Aluminum	2410	---	50.0	mg/kg	10	2500	---	96	80-120%	---	---	
Antimony	22.7	---	1.00	mg/kg	10	25.0	---	91	80-120%	---	---	
Arsenic	48.5	---	1.00	mg/kg	10	50.0	---	97	80-120%	---	---	
Barium	52.0	---	1.00	mg/kg	10	50.0	---	104	80-120%	---	---	
Cadmium	46.8	---	0.200	mg/kg	10	50.0	---	94	80-120%	---	---	

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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 9051152 - EPA 3051A							**Solid**					
LCS (9051152-BS1)			Prepared: 05/22/19 11:59 Analyzed: 05/23/19 16:20									
Calcium	2440	---	100	mg/kg	10	2500	---	98	80-120%	---	---	
Chromium	48.5	---	1.00	mg/kg	10	50.0	---	97	80-120%	---	---	
Copper	50.1	---	1.00	mg/kg	10	50.0	---	100	80-120%	---	---	
Iron	2460	---	50.0	mg/kg	10	2500	---	98	80-120%	---	---	
Lead	47.1	---	0.200	mg/kg	10	50.0	---	94	80-120%	---	---	
Magnesium	2370	---	50.0	mg/kg	10	2500	---	95	80-120%	---	---	
Manganese	48.8	---	1.00	mg/kg	10	50.0	---	98	80-120%	---	---	
Mercury	0.909	---	0.0800	mg/kg	10	1.00	---	91	80-120%	---	---	
Nickel	50.6	---	1.00	mg/kg	10	50.0	---	101	80-120%	---	---	
Potassium	2490	---	100	mg/kg	10	2500	---	100	80-120%	---	---	
Selenium	22.7	---	1.00	mg/kg	10	25.0	---	91	80-120%	---	---	
Silver	23.5	---	0.200	mg/kg	10	25.0	---	94	80-120%	---	---	
Sodium	2420	---	100	mg/kg	10	2500	---	97	80-120%	---	---	
Thallium	23.1	---	0.200	mg/kg	10	25.0	---	93	80-120%	---	---	
Vanadium	47.6	---	1.00	mg/kg	10	50.0	---	95	80-120%	---	---	
Zinc	49.2	---	4.00	mg/kg	10	50.0	---	98	80-120%	---	---	
LCS (9051152-BS2)			Prepared: 05/22/19 11:59 Analyzed: 05/24/19 11:35									
EPA 6020A												
Beryllium	22.5	---	0.200	mg/kg	10	25.0	---	90	80-120%	---	---	Q-16
Duplicate (9051152-DUP1)			Prepared: 05/22/19 11:59 Analyzed: 05/23/19 16:45									
QC Source Sample: Non-SDG (A9E0672-01)												
Aluminum	**361**	---	53.3	mg/kg	10	---	519	---	---	36	40%	
Antimony	ND	---	1.07	mg/kg	10	---	ND	---	---	---	40%	
Arsenic	**3.73**	---	1.07	mg/kg	10	---	4.43	---	---	17	40%	
Barium	**39.9**	---	1.07	mg/kg	10	---	60.7	---	---	**41**	**40%**	Q-04
Cadmium	ND	---	0.213	mg/kg	10	---	ND	---	---	---	40%	
Calcium	**3380**	---	107	mg/kg	10	---	4170	---	---	21	40%	
Chromium	**2.60**	---	1.07	mg/kg	10	---	3.85	---	---	39	40%	
Copper	**15.9**	---	1.07	mg/kg	10	---	16.9	---	---	6	40%	
Iron	**6220**	---	53.3	mg/kg	10	---	7660	---	---	21	40%	
Lead	**1.29**	---	0.213	mg/kg	10	---	1.48	---	---	14	40%	
Magnesium	**402**	---	53.3	mg/kg	10	---	453	---	---	12	40%	

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Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051152 - EPA 3051A							**Solid**					
Duplicate (9051152-DUP1)			Prepared: 05/22/19 11:59 Analyzed: 05/23/19 16:45									
QC Source Sample: Non-SDG (A9E0672-01)												
Manganese	**684**	---	1.07	mg/kg	10	---	788	---	---	14	40%	
Mercury	ND	---	0.0853	mg/kg	10	---	ND	---	---	---	40%	
Nickel	**8.64**	---	1.07	mg/kg	10	---	19.4	---	---	**77**	**40%**	Q-04
Potassium	ND	---	107	mg/kg	10	---	59.1	---	---	***	40%	
Selenium	ND	---	1.07	mg/kg	10	---	ND	---	---	---	40%	
Silver	ND	---	0.213	mg/kg	10	---	ND	---	---	---	40%	
Sodium	**141**	---	107	mg/kg	10	---	189	---	---	29	40%	
Thallium	ND	---	0.213	mg/kg	10	---	ND	---	---	---	40%	
Vanadium	**5.40**	---	1.07	mg/kg	10	---	5.78	---	---	7	40%	
Zinc	**180**	---	4.26	mg/kg	10	---	217	---	---	18	40%	
Duplicate (9051152-DUP2)			Prepared: 05/22/19 11:59 Analyzed: 05/24/19 11:45									
QC Source Sample: Non-SDG (A9E0672-01RE1)												
Beryllium	ND	---	0.213	mg/kg	10	---	ND	---	---	**---**	**40%**	Q-05, Q-16
Matrix Spike (9051152-MS1)			Prepared: 05/22/19 11:59 Analyzed: 05/23/19 16:50									
QC Source Sample: Non-SDG (A9E0672-01)												
EPA 6020A												
Aluminum	3060	---	54.1	mg/kg	10	2710	519	94	75-125%	---	---	
Antimony	22.3	---	1.08	mg/kg	10	27.1	ND	82	75-125%	---	---	
Arsenic	56.6	---	1.08	mg/kg	10	54.1	4.43	96	75-125%	---	---	
Barium	98.0	---	1.08	mg/kg	10	54.1	60.7	**69**	**75-125%**	---	---	Q-04
Cadmium	52.3	---	0.216	mg/kg	10	54.1	ND	97	75-125%	---	---	
Calcium	6600	---	108	mg/kg	10	2710	4170	90	75-125%	---	---	
Chromium	54.5	---	1.08	mg/kg	10	54.1	3.85	94	75-125%	---	---	
Copper	70.8	---	1.08	mg/kg	10	54.1	16.9	100	75-125%	---	---	
Iron	9360	---	54.1	mg/kg	10	2710	7660	**63**	**75-125%**	---	---	Q-04
Lead	52.5	---	0.216	mg/kg	10	54.1	1.48	94	75-125%	---	---	
Magnesium	3020	---	54.1	mg/kg	10	2710	453	95	75-125%	---	---	
Manganese	782	---	1.08	mg/kg	10	54.1	788	**-11**	**75-125%**	---	---	Q-03
Mercury	0.995	---	0.0866	mg/kg	10	1.08	ND	92	75-125%	---	---	
Nickel	63.5	---	1.08	mg/kg	10	54.1	19.4	81	75-125%	---	---	

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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 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0677 - 05 28 19 1635**

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 9051152 - EPA 3051A							**Solid**					
Matrix Spike (9051152-MS1)			Prepared: 05/22/19 11:59 Analyzed: 05/23/19 16:50									
QC Source Sample: Non-SDG (A9E0672-01)												
Potassium	2730	---	108	mg/kg	10	2710	59.1	99	75-125%	---	---	
Selenium	25.8	---	1.08	mg/kg	10	27.1	ND	95	75-125%	---	---	
Silver	25.4	---	0.216	mg/kg	10	27.1	ND	94	75-125%	---	---	
Sodium	2760	---	108	mg/kg	10	2710	189	95	75-125%	---	---	
Thallium	21.8	---	0.216	mg/kg	10	27.1	ND	81	75-125%	---	---	
Vanadium	56.8	---	1.08	mg/kg	10	54.1	5.78	94	75-125%	---	---	
Zinc	248	---	4.33	mg/kg	10	54.1	217	**57**	**75-125%**	---	---	Q-04
Matrix Spike (9051152-MS2)			Prepared: 05/22/19 11:59 Analyzed: 05/24/19 11:49									
QC Source Sample: Non-SDG (A9E0672-01RE1)												
EPA 6020A												
Beryllium	24.9	---	0.216	mg/kg	10	27.1	ND	92	75-125%	---	---	Q-16

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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051240 - ASTM D7511-12mod (S)							**Solid**					
Blank (9051240-BLK1)			Prepared: 05/24/19 07:10		Analyzed: 05/24/19 13:07							
D7511-12												
Cyanide, Total	ND	---	0.100	mg/kg	1	---	---	---	---	---	---	
LCS (9051240-BS1)			Prepared: 05/24/19 07:10		Analyzed: 05/24/19 13:09							
D7511-12												
Cyanide, Total	0.388	---	0.100	mg/kg	1	0.400	---	97	84-116%	---	---	
Matrix Spike (9051240-MS3)			Prepared: 05/24/19 07:10		Analyzed: 05/24/19 14:24							
QC Source Sample: 2708-190520-006 (A9E0677-01RE2)												
D7511-12												
Cyanide, Total	1.07	---	0.484	mg/kg	5	0.387	0.846	**57**	**64-136%**	---	---	Q-04, Q-16
Matrix Spike Dup (9051240-MSD3)			Prepared: 05/24/19 07:10		Analyzed: 05/24/19 14:28							
QC Source Sample: 2708-190520-006 (A9E0677-01RE2)												
D7511-12												
Cyanide, Total	1.44	---	0.482	mg/kg	5	0.386	0.846	**154**	**64-136%**	30	47%	Q-04, Q-16

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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9051229							
A9E0677-01	Solid	NWTPH-Dx	05/20/19 15:00	05/23/19 16:37	0.58g/5mL	10g/5mL	17.20

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

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9051092							
A9E0677-01	Solid	NWTPH-Gx (MS)	05/20/19 15:00	05/21/19 13:35	3.13g/5mL	5g/5mL	1.60

Volatile Organic Compounds by EPA 5035A/8260C

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9051092							
A9E0677-01	Solid	5035A/8260C	05/20/19 15:00	05/21/19 13:35	3.13g/5mL	5g/5mL	1.60

Semivolatile Organic Compounds by EPA 8270D

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9051172							
A9E0677-01	Solid	EPA 8270D	05/20/19 15:00	05/22/19 16:25	0.51g/2mL	15g/2mL	29.40

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9051152							
A9E0677-01	Solid	EPA 6020A	05/20/19 15:00	05/22/19 11:59	0.45g/50mL	0.5g/50mL	1.11
A9E0677-01RE1	Solid	EPA 6020A	05/20/19 15:00	05/22/19 11:59	0.45g/50mL	0.5g/50mL	1.11

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12mod (S)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9051240							

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SAMPLE PREPARATION INFORMATION

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12mod (S)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A9E0677-01RE2	Solid	D7511-12	05/20/19 15:00	05/24/19 07:10	2.5415g/50mL	2.5g/50mL	0.98

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QUALIFIER DEFINITIONS

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

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F-13	The chromatographic pattern does not resemble the fuel standard used for quantitation
F-17	No fuel pattern detected. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
F-20	Result for Diesel is Estimated due to overlap from Gasoline Range Organics or other VOCs.
M-05	Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-05	Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
Q-16	Reanalysis of an original Batch QC sample.
Q-17	RPD between original and duplicate sample is outside of established control limits.
Q-18	Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-31	Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
Q-52	Due to erratic or low blank spike recoveries, results for this analyte are considered Estimated Values.
Q-54	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +1.9%. 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 +2.9%. 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 +5.1%. The results are reported as Estimated Values.
Q-54c	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +9.2%. The results are reported as Estimated Values.
Q-54d	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -8.5%. 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

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S-01 Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.

S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

V-15 Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

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

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

NR Result Not Reported

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

Detection Limits: Limit of Detection (LOD)

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

Reporting Limits: Limit of Quantitation (LOQ)

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

Reporting Conventions:

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

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

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

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

QC Source:

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

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

Miscellaneous Notes:

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

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

Blanks:

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

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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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LABORATORY ACCREDITATION INFORMATION

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

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

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

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

Secondary Accreditations

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

Subcontract Laboratory Accreditations

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

Field Testing Parameters

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

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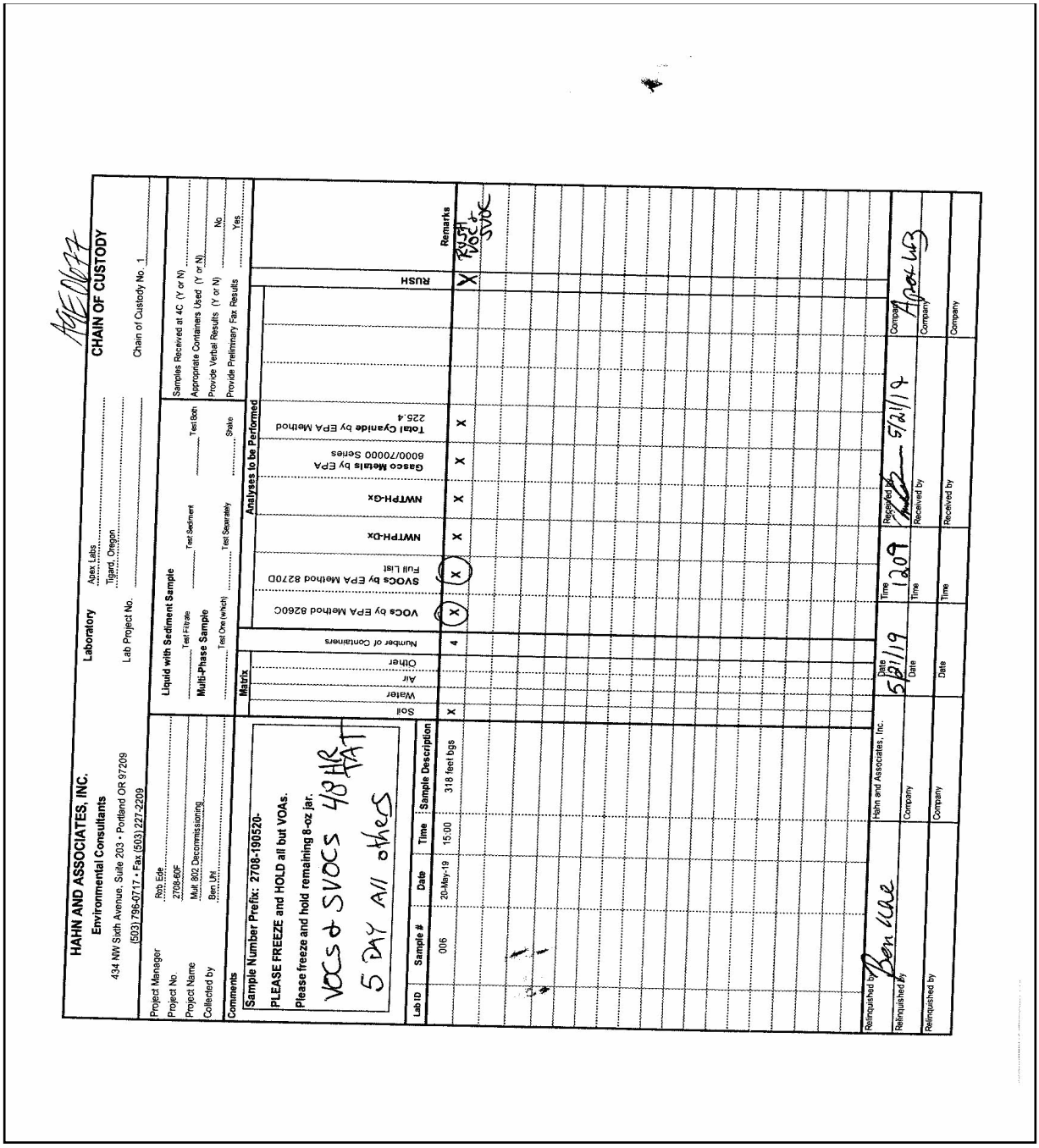

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

CHAIN OF CUSTODY

Laboratory: Apex Labs, Tigard, Oregon
Lab Project No.
Chain of Custody No. 1

Project Manager: Rob Ede
Project No.: 2708-60F
Project Name: Mult 802 Decommissioning
Collected by: Ben Uhl

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

Comments
Sample Number Prefix: 2708-190520-
PLEASE FREEZE and HOLD all but VOAs.
Please freeze and hold remaining 8-oz jar.
VOCs & SVOCs 48 HR HAT
5 DAY All others

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	VOCs by EPA Method 8260C	SVOCs by EPA Method 8270D Full List	NWTPH-Dx	NWTPH-Gx	Gasco Metals by EPA 6000/7000D Series	Total Cyanide by EPA Method 335.4	RUSH	Remarks
	006	20-May-19	15:00	318 feet bgs	X				4	(X)	(X)	X	X	X	X	X	RUSH VOCs + SVOC

Analyses to be Performed

Relinquished by: Ben Uhl — Hahn and Associates, Inc. — Date 5/21/19 — Time 1209 — Received by: Apex Labs — Date 5/21/19
Relinquished by: ____ — Company ____ — Date ____ — Time ____ — Received by: ____ — Company ____ — Date ____ — Time ____
Relinquished by: ____ — Company ____ — Date ____ — Time ____ — Received by: ____ — Company ____ — Date ____ — Time ____

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APEX LABS COOLER RECEIPT FORM

Client: Hahn Element WO#: A9 E0677

Project/Project #: Mult 802 Decommissioning 2708-60F

Delivery Info:

Date/time received: 5/21/19 @ 1209 By: CFH

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

Cooler Inspection Date/time inspected: 5/21/19 @ 1303 By: CFH

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

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	1.5						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	N						
Ice type: (Gel/Real/Other)	Real						
Condition:	Good						

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

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

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

Samples Inspection: Date/time inspected: 5/21/19 @ 1308 By: MO

All samples intact? Yes X No ___ Comments: ___

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

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

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

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

Comments ___

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

Comments: ___

Additional information: ___

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

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

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

A9E0677

Apex Laboratories

Client: Hahn and Associates
Project: Mult 802 Decommissioning

Project Manager: Philip Nerenberg
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: 05/23/19 17:00 (2 day TAT)

Received By: Charles F. Hoffman
Date Received: 05/21/19 12:09

Logged In By: Kristen R. Sherwood
Date Logged In: 05/21/19 13:10

Cooler #1 received at 1.5°C

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

Analysis	Due	TAT	Expires	Comments
A9E0677-01 2708-190520-006 [Solid] Sampled 05/20/19 15:00 (GMT-08:00) Pacific Time (US & Canada) 5 Containers				**318 Feet Bgs**
Dry Weight				
~~Dry Weight~~	05/23/19 17:00	2	11/16/19 15:00	Cancelled Dry Weight
Fuels				
NWTPH-Dx (Diesel/Oil)	05/28/19 17:00	5	06/03/19 15:00	Strong Odor
Metals				
Metals, Select 1	05/28/19 17:00	5	11/16/19 15:00	Strong Odor Ag, Al, As, Ba, Be, Cd, Cr, Cu, Fe, Hg, Mn, Ni, Pb,
Project Mgmt				
Data Package	07/01/19 17:00	10	08/27/19 15:00	Added 5/31 ST
Sample Control				
Archive Samples - Frozen	05/22/20 17:00	1	05/21/19 15:00	Freeze remaining sample after analysis
Semivols (Scan)				
8270D LL Full List	05/23/19 17:00	2	06/03/19 15:00	Strong Odor
Volatiles				
8260C Full List	05/23/19 17:00	2	05/22/19 15:00	Strong Odor
NWTPH-Gx	05/28/19 17:00	5	05/22/19 15:00	Strong Odor
Wet Chem				
Cyanide, Total (ASTM D7511, OIA)	05/28/19 17:00	5	06/03/19 15:00	Strong Odor

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	Ca (Calcium) - 6020 - Total	Cd (Cadmium) - 6020 - Total	Cr (Chromium) - 6020 - Total
Cu (Copper) - 6020 - Total	Fe (Iron) - 6020 - Total	Hg (Mercury) - 6020 - Total	K (Potassium) - 6020 - Total
Mg (Magnesium) - 6020 - Total	Mn (Manganese) - 6020 - Total	Na (Sodium) - 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		

Reviewed By

Date

A9E0677

Apex Laboratories

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

Reviewed By

Date

AGE0677

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 Decommissioning
Collected by: Ben Uhl

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

Comments

Sample Number Prefix: 2708-190520-

PLEASE FREEZE and HOLD all but VOAs.

Please freeze and hold remaining 8-oz jar.

VOCs & SVOCs 48 HR TAT
5 DAY All others

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	VOCs by EPA Method 8260C	SVOCs by EPA Method 8270D Full List	NWTPH-Dx	NWTPH-Gx	Gasco Metals by EPA 6000/70000 Series	Total Cyanide by EPA Method 225.4				RUSH	Remarks
	006	20-May-19	15:00	318 feet bgs	X				4	X	X	X	X	X	X				X	RUSH VOC & SVOC

Analyses to be Performed

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn and Associates, Inc.	5/21/19	1209	5/21/19	Apex Labs
Relinquished by	Company	Date	Time	Received by	Company
Relinquished by	Company	Date	Time	Received by	Company

APEX LABS COOLER RECEIPT FORM

Client: Hahn Element WO#: A9 E0677

Project/Project #: Mult 802 Decommissioning 2708-60F

Delivery Info:

Date/time received: 5/21/19@ 1209 By: CFH

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

Cooler Inspection Date/time inspected: 5/21/19@ 1303 By: CFH

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

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	1.5						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	N						
Ice type: (Gel/Real/Other)	Real						
Condition:	Good						

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

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

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

Samples Inspection: Date/time inspected: 5/21/19 @ 1308 By: MD

All samples intact? Yes X No ___ Comments: ___

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

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

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

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

Comments ___

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

Comments: ___

Additional information: ___

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

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

CLP-Like Forms

Apex Laboratories

SDG: A9E0677

CLASS: GC

METHOD: NWTPH-Dx

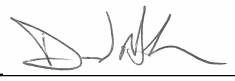
ANALYSES DATA PACKAGE COVER PAGE

NWTPH-Dx

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190520-006	A9E0677-01	Solid

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: 9/30/2019 3:05PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Solid

Analyte	MDL	MRL	Units
Diesel	10.0	20.0	mg/kg
Oil	20.0	40.0	mg/kg

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

ORGANIC ANALYSIS DATA SHEET

NWTPH-Dx

2708-190520-006

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0677-01	File ID:	4R052314.D
Sampled:	05/20/19 15:00	Prepared:	05/23/19 16:37	Analyzed:	05/24/19 02:39
		Preparation:	EPA 3546 (Fuels)	Initial/Final:	0.58 g / 5 mL

Batch: 9051229 Sequence: 9E23033 Calibration: A9D1904 Instrument: DUALFID4R

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg)	Q
68334-30-5	Diesel	100	305000	D
Oil	Oil	100	132000	D

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
o-Terphenyl (Surr)	431	ND		50 - 150	D

* Values outside of QC limits

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Batch: 9051229 Batch Matrix: Solid Preparation: EPA 3546 (Fuels)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051229-BLK1	4R052310.D	05/23/19 16:37	
LCS	9051229-BS1	4R052311.D	05/23/19 16:37	
2708-190520-006	A9E0677-01	4R052314.D	05/23/19 16:37	

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.

METHOD BLANK DATA SHEET
NWTPH-Dx

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051229-BLK1	File ID:	4R052310.D
Prepared:	05/23/19 16:37	Preparation:	EPA 3546 (Fuels)	Initial/Final:	11 g / 5 mL
Analyzed:	05/24/19 01:14	Instrument:	DUALFID4R		
Batch:	9051229	Sequence:	9E23033	Calibration:	A9D1904

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
68334-30-5	Diesel	9.09	U
Oil	Oil	18.2	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
o-Terphenyl (Surr)	22.7	20.5	90	50 - 150	

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051229	Laboratory ID:	9051229-BS1
Preparation:	EPA 3546 (Fuels)	Initial/Final:	10 g / 5 mL

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Diesel	125	120	96	70 - 130

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9D18031	Instrument:	DUALFID4R
Matrix:	Solid	Calibration:	A9D1904

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Blank	9D18031-ICB1	4R041804.D	04/18/19 17:05
Cal Standard	9D18031-CAL1	4R041805.D	04/18/19 17:26
Cal Standard	9D18031-CAL2	4R041806.D	04/18/19 17:48
Cal Standard	9D18031-CAL3	4R041807.D	04/18/19 18:10
Cal Standard	9D18031-CAL4	4R041808.D	04/18/19 18:31
Cal Standard	9D18031-CAL5	4R041809.D	04/18/19 18:53
Cal Standard	9D18031-CAL6	4R041810.D	04/18/19 19:14
Cal Standard	9D18031-CAL7	4R041811.D	04/18/19 19:36
Cal Standard	9D18031-CAL8	4R041812.D	04/18/19 19:57
Cal Standard	9D18031-CAL9	4R041813.D	04/18/19 20:19
Cal Standard	9D18031-CALA	4R041814.D	04/18/19 20:40
Cal Standard	9D18031-CALB	4R041815.D	04/18/19 21:02
Cal Standard	9D18031-CALC	4R041816.D	04/18/19 21:23
Cal Standard	9D18031-CALD	4R041817.D	04/18/19 21:45
Cal Standard	9D18031-CALF	4R041819.D	04/18/19 22:28
Cal Standard	9D18031-CALG	4R041820.D	04/18/19 22:49
Cal Standard	9D18031-CALH	4R041821.D	04/18/19 23:10
Cal Standard	9D18031-CALI	4R041822.D	04/18/19 23:31
Cal Standard	9D18031-CALJ	4R041823.D	04/18/19 23:53
Cal Standard	9D18031-CALK	4R041825.D	04/19/19 00:36
Initial Cal Check	9D18031-ICV1	4R041827.D	04/19/19 01:18
Initial Cal Check	9D18031-ICV2	4R041828.D	04/19/19 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

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23033	Instrument:	DUALFID4R
Matrix:	Solid	Calibration:	A9D1904

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9E23033-CCV1	4R052303.D	05/23/19 20:25
Calibration Check	9E23033-CCV2	4R052304.D	05/23/19 20:47
Calibration Blank	9E23033-CCB1	4R052305.D	05/23/19 23:28
Blank	9051229-BLK1	4R052310.D	05/24/19 01:14
LCS	9051229-BS1	4R052311.D	05/24/19 01:36
2708-190520-006	A9E0677-01	4R052314.D	05/24/19 02:39
Calibration Check	9E23033-CCV3	4R052316.D	05/24/19 03:22
Calibration Check	9E23033-CCV4	4R052317.D	05/24/19 03:43

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: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9D1904 Date: 04/19/19 15:14 Instrument: DUALFID4R

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Diesel	1140517	Ave	4.202061	6	0			15	
Oil	1049293	Ave	2.834819	9	0			15	
o-Terphenyl (Surr)	1261586	Ave	1.021771	6.392	7.344847E-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

NWTPH-Dx

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9D1904
Instrument: DUALFID4R
Calibration Date: 04/19/19 15:14

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	1242553	40	1172274	100	1135692	250	1141236	500	1119926	1000	1113983
Diesel Range Organics (C12-C24)	25	1242553	40	1172274	100	1135692	250	1141236	500	1119926	1000	1113983

INITIAL CALIBRATION DATA (Continued)

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Calibration:	A9D1904	Instrument:	DUALFID4R
Matrix:		Calibration Date:	04/19/19 15:14

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	1106235	5000	1092238								
Diesel Range Organics (C12-C24)	2500	1106235	5000	1092238								
o-Terphenyl (Surr)					10	1255074	25	1269858	50	1269613	100	1271551

INITIAL CALIBRATION DATA (Continued)

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Calibration:	A9D1904	Instrument:	DUALFID4R
Matrix:		Calibration Date:	04/19/19 15:14

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	~~1256969~~	80	1108304	250	1042649	500	1039164	1000	1045982
o-Terphenyl (Surr)	200	1241835										
Residual Range Organics (>C24-C			40	~~1256969~~	80	1108304	250	1042649	500	1039164	1000	1045982

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R041827.D		
Sequence:	9D18031	Inject Date:	04/19/19
Lab Sample ID:	9D18031-ICV1	Inject Time:	01:18

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Diesel	1000	923	-7.7	85 - 115

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R041828.D		
Sequence:	9D18031	Inject Date:	04/19/19
Lab Sample ID:	9D18031-ICV2	Inject Time:	01:40

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Oil	1000	966	-3.4	85 - 115

CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052303.D	Calibration Date:	04/19/19 15:14
Sequence:	9E23033	Injection Date:	05/23/19
Lab Sample ID:	9E23033-CCV1	Injection Time:	20:25

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Oil	Ave	500	450		1049293	944994.6	-9.9	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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052304.D	Calibration Date:	04/19/19 15:14
Sequence:	9E23033	Injection Date:	05/23/19
Lab Sample ID:	9E23033-CCV2	Injection Time:	20:47

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Diesel	Ave	1000	909		1140517	1036975	-9.1	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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052316.D	Calibration Date:	04/19/19 15:14
Sequence:	9E23033	Injection Date:	05/24/19
Lab Sample ID:	9E23033-CCV3	Injection Time:	03:22

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Diesel	Ave	1000	921		1140517	1050580	-7.9	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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052317.D	Calibration Date:	04/19/19 15:14
Sequence:	9E23033	Injection Date:	05/24/19
Lab Sample ID:	9E23033-CCV4	Injection Time:	03:43

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Oil	Ave	500	468		1049293	982849.6	-6.3	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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23033	Instrument:	DUALFID4R
Matrix:	Solid	Calibration:	A9D1904

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9E23033-CCV1)			Lab File ID: 4R052303.D		Analyzed: 05/23/19 20:25			
o-Terphenyl (Surr)	50.0	92	80 - 120	6.38	6.392	-0.0120	+/-1.0	
Calibration Check (9E23033-CCV2)			Lab File ID: 4R052304.D		Analyzed: 05/23/19 20:47			
o-Terphenyl (Surr)	50.0	98	80 - 120	6.38	6.392	-0.0120	+/-1.0	
Calibration Blank (9E23033-CCB1)			Lab File ID: 4R052305.D		Analyzed: 05/23/19 23:28			
o-Terphenyl (Surr)			50 - 150	0	6.392	-6.3920	+/-1.0	
Blank (9051229-BLK1)			Lab File ID: 4R052310.D		Analyzed: 05/24/19 01:14			
o-Terphenyl (Surr)	22.7	90	50 - 150	6.38	6.392	-0.0120	+/-1.0	
LCS (9051229-BS1)			Lab File ID: 4R052311.D		Analyzed: 05/24/19 01:36			
o-Terphenyl (Surr)	25.0	95	50 - 150	6.38	6.392	-0.0120	+/-1.0	
2708-190520-006 (A9E0677-01)			Lab File ID: 4R052314.D		Analyzed: 05/24/19 02:39			
o-Terphenyl (Surr)	431		50 - 150	0	6.392	-6.3920	+/-1.0	*
Calibration Check (9E23033-CCV3)			Lab File ID: 4R052316.D		Analyzed: 05/24/19 03:22			
o-Terphenyl (Surr)	50.0	99	80 - 120	6.38	6.392	-0.0120	+/-1.0	
Calibration Check (9E23033-CCV4)			Lab File ID: 4R052317.D		Analyzed: 05/24/19 03:43			
o-Terphenyl (Surr)	50.0	95	80 - 120	6.38	6.392	-0.0120	+/-1.0	

HOLDING TIME SUMMARY

NWTPH-Dx

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning

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
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/23/19 16:37	3.07	14.00	05/24/19 02:39	0.42	40.00	

Apex Laboratories

SDG: A9E0677

CLASS: GCMS

METHOD: NWTPH-Gx (MS)

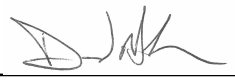
ANALYSES DATA PACKAGE COVER PAGE

NWTPH-Gx (MS)

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190520-006	A9E0677-01	Solid

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: 9/30/2019 3:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Gx (MS)

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Soil

Analyte	MDL	MRL	Units
Gasoline Range Organics	2.50	5.00	mg/kg

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

ORGANIC ANALYSIS DATA SHEET

NWTPH-Gx (MS)

2708-190520-006

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0677-01	File ID:	VF19052126.D
Sampled:	05/20/19 15:00	Prepared:	05/21/19 13:35	Analyzed:	05/21/19 22:17
		Preparation:	EPA 5035A	Initial/Final:	3.13 g / 5 mL

Batch: 9051092 Sequence: 9E21036 Calibration: A9E0804 Instrument: VOA-GCMS6

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg wet)	Q
8006-61-9	Gasoline Range Organics	100000	39200	D

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Sur)	50.0	66.3	133	50 - 150	
1,4-Difluorobenzene (Sur)	50.0	50.3	101	50 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (IS)	282560	6.097	324051	6.096	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

NWTPH-Gx (MS)

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Batch: 9051092 Batch Matrix: Soil Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051092-BLK1	VF19052105.D	05/21/19 11:00	
LCS	9051092-BS2	VF19052104.D	05/21/19 11:00	
2708-190520-006	A9E0677-01	VF19052126.D	05/21/19 13:35	

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

METHOD BLANK DATA SHEET
NWTPH-Gx (MS)

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Soil	Laboratory ID:	9051092-BLK1	File ID:	VF19052105.D
Prepared:	05/21/19 11:00	Preparation:	EPA 5035A	Initial/Final:	7.5 g / 5 mL
Analyzed:	05/21/19 12:43	Instrument:	VOA-GCMS6		
Batch:	9051092	Sequence:	9E21036	Calibration:	A9E0804

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
8006-61-9	Gasoline Range Organics	1.67	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Sur)	50.0	58.0	116	50 - 150	
1,4-Difluorobenzene (Sur)	50.0	48.2	96	50 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (IS)	343474	6.102	324051	6.096	

LCS / LCS DUPLICATE RECOVERY

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Soil		
Batch:	9051092	Laboratory ID:	9051092-BS2
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Gasoline Range Organics	25.0	27.2	109	80 - 120

* = Values outside of QC limits

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

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E07048	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9E07048-TUN2	VF19050731.D	05/08/19 03:55
Initial Cal Blank	9E07048-ICB2	VF19050733.D	05/08/19 04:49
Cal Standard	9E07048-CALC	VF19050734.D	05/08/19 05:16
Cal Standard	9E07048-CALD	VF19050735.D	05/08/19 05:43
Cal Standard	9E07048-CALE	VF19050736.D	05/08/19 06:11
Cal Standard	9E07048-CALF	VF19050737.D	05/08/19 06:38
Cal Standard	9E07048-CALG	VF19050738.D	05/08/19 07:05
Cal Standard	9E07048-CALH	VF19050739.D	05/08/19 07:32
Cal Standard	9E07048-CALI	VF19050740.D	05/08/19 07:59
Cal Standard	9E07048-CALJ	VF19050741.D	05/08/19 08:26
Initial Cal Check	9E07048-ICV2	VF19050744.D	05/08/19 09:47

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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9E21036-TUN1	VF19052102.D	05/21/19 11:22
Calibration Check	9E21036-CCV2	VF19052104.D	05/21/19 12:16
Blank	9051092-BLK1	VF19052105.D	05/21/19 12:43
2708-190520-006	A9E0677-01	VF19052126.D	05/21/19 22:17

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	VF19050731.D	Injection Date:	05/08/19
Instrument ID:	VOA-GCMS6	Injection Time:	03:55
Sequence:	9E07048	Lab Sample ID:	9E07048-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		120.75	
m/z 96	5 - 9% of m/z 95	6.90	PASS
m/z 173		0.34	
m/z 174	50 - 200% of m/z 95	82.82	PASS
m/z 175	5 - 9% of m/z 174	6.94	PASS
m/z 176	95 - 101% of m/z 174	97.64	PASS
m/z 177	5 - 9% of m/z 176	6.61	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	VF19052102.D	Injection Date:	05/21/19
Instrument ID:	VOA-GCMS6	Injection Time:	11:22
Sequence:	9E21036	Lab Sample ID:	9E21036-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		130.67	
m/z 96	5 - 9% of m/z 95	7.06	PASS
m/z 173		0.12	
m/z 174	50 - 200% of m/z 95	76.53	PASS
m/z 175	5 - 9% of m/z 174	6.92	PASS
m/z 176	95 - 101% of m/z 174	97.20	PASS
m/z 177	5 - 9% of m/z 176	6.68	PASS

INITIAL CALIBRATION DATA (Summary)

NWTPH-Gx (MS)

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E0804 Date: 05/08/19 13:09 Instrument: VOA-GCMS6

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Gasoline Range Organics	1.378936	XXX	25.00493	9.87	1.842533E-02				
4-Bromofluorobenzene (Sur)	2.427431	Ave	2.741646	10.86913	0.0240066			15	
1,4-Difluorobenzene (Sur)	3.942159	Ave	9.20496	6.65775	0.04122			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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Calibration:	A9E0804	Instrument:	VOA-GCMS6
Matrix:		Calibration Date:	05/08/19 13:09

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	0.8607231
4-Bromofluorobenzene (Sur)											50	2.315462
1,4-Difluorobenzene (Sur)											50	3.752187

INITIAL CALIBRATION DATA (Continued)

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Calibration:	A9E0804	Instrument:	VOA-GCMS6
Matrix:		Calibration Date:	05/08/19 13:09

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	1.005202	250	1.178416	500	1.362	1000	1.574236	2500	1.575557	5000	1.580661
4-Bromofluorobenzene (Sur)	50	2.475316	50	2.411144	50	2.420186	50	2.536601	50	2.470386	50	2.397658
1,4-Difluorobenzene (Sur)	50	3.782215	50	3.750281	50	3.773772	50	3.792616	50	3.918931	50	3.946487

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	VOA-GCMS6	Calibration:	A9E0804
Lab File ID:	VF19050744.D		
Sequence:	9E07048	Inject Date:	05/08/19
Lab Sample ID:	9E07048-ICV2	Inject Time:	09:47

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Gasoline Range Organics	500	528	5.6	70 - 130
4-Bromofluorobenzene (Sur)	50.0	46.5	-7.0	0 - 200
1,4-Difluorobenzene (Sur)	50.0	46.7	-6.5	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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E07048	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9E07048-ICV2)				Lab File ID: VF19050744.D		Analyzed: 05/08/19 09:47		
4-Bromofluorobenzene (Sur)	50.0	93	0 - 200	10.873	10.86913	0.0039	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	93	0 - 200	6.663	6.65775	0.0053	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9051092-BS2)			Lab File ID: VF19052104.D		Analyzed: 05/21/19 12:16			
4-Bromofluorobenzene (Sur)	50.0	115	50 - 150	10.872	10.86913	0.0029	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	98	50 - 150	6.656	6.65775	-0.0018	+/-1.0	
Blank (9051092-BLK1)			Lab File ID: VF19052105.D		Analyzed: 05/21/19 12:43			
4-Bromofluorobenzene (Sur)	50.0	116	50 - 150	10.871	10.86913	0.0019	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	96	50 - 150	6.661	6.65775	0.0032	+/-1.0	
2708-190520-006 (A9E0677-01)			Lab File ID: VF19052126.D		Analyzed: 05/21/19 22:17			
4-Bromofluorobenzene (Sur)	50.0	133	50 - 150	10.866	10.86913	-0.0031	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	101	50 - 150	6.656	6.65775	-0.0018	+/-1.0	

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

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9051092-BS2)			Lab File ID: VF19052104.D			Analyzed: 05/21/19 12:16			
Pentafluorobenzene (IS)	324051	6.096	324051	6.096	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9E21036-CCV2)			Lab File ID: VF19052104.D			Analyzed: 05/21/19 12:16			
Pentafluorobenzene (IS)	324051	6.096				50 - 200	6.0960	+/-0.50	*
Blank (9051092-BLK1)			Lab File ID: VF19052105.D			Analyzed: 05/21/19 12:43			
Pentafluorobenzene (IS)	343474	6.102	324051	6.096	106	50 - 200	0.0060	+/-0.50	
Duplicate (9051092-DUP1)			Lab File ID: VF19052113.D			Analyzed: 05/21/19 16:25			
Pentafluorobenzene (IS)	307120	6.095	324051	6.096	95	50 - 200	-0.0010	+/-0.50	
2708-190520-006 (A9E0677-01)			Lab File ID: VF19052126.D			Analyzed: 05/21/19 22:17			
Pentafluorobenzene (IS)	282560	6.097	324051	6.096	87	50 - 200	0.0010	+/-0.50	

HOLDING TIME SUMMARY

NWTPH-Gx (MS)

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

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
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/21/19 13:35	0.94	2.00	05/21/19 22:17	0.36	14.00	

Apex Laboratories

SDG: A9E0677

CLASS: GCMS

METHOD: 5035A/8260C

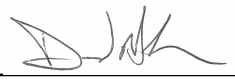
ANALYSES DATA PACKAGE COVER PAGE

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190520-006	A9E0677-01	Solid

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: 9/30/2019 3:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

5035A/8260C

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Soil

Analyte	MDL	MRL	Units
Acetone	500	1000	ug/kg
Acrylonitrile	50.0	100	ug/kg
Benzene	5.00	10.0	ug/kg
Bromobenzene	12.5	25.0	ug/kg
Bromochloromethane	25.0	50.0	ug/kg
Bromodichloromethane	25.0	50.0	ug/kg
Bromoform	50.0	100	ug/kg
Bromomethane	500	500	ug/kg
2-Butanone (MEK)	250	500	ug/kg
n-Butylbenzene	25.0	50.0	ug/kg
sec-Butylbenzene	25.0	50.0	ug/kg
tert-Butylbenzene	25.0	50.0	ug/kg
Carbon disulfide	250	500	ug/kg
Carbon tetrachloride	25.0	50.0	ug/kg
Chlorobenzene	12.5	25.0	ug/kg
Chloroethane	250	500	ug/kg
Chloroform	25.0	50.0	ug/kg
Chloromethane	125	250	ug/kg
2-Chlorotoluene	25.0	50.0	ug/kg
4-Chlorotoluene	25.0	50.0	ug/kg
Dibromochloromethane	50.0	100	ug/kg
1,2-Dibromo-3-chloropropane	125	250	ug/kg
1,2-Dibromoethane (EDB)	25.0	50.0	ug/kg
Dibromomethane	25.0	50.0	ug/kg
1,2-Dichlorobenzene	12.5	25.0	ug/kg
1,3-Dichlorobenzene	12.5	25.0	ug/kg
1,4-Dichlorobenzene	12.5	25.0	ug/kg
Dichlorodifluoromethane	50.0	100	ug/kg
1,1-Dichloroethane	12.5	25.0	ug/kg
1,2-Dichloroethane (EDC)	12.5	25.0	ug/kg
1,1-Dichloroethene	12.5	25.0	ug/kg
cis-1,2-Dichloroethene	12.5	25.0	ug/kg
trans-1,2-Dichloroethene	12.5	25.0	ug/kg
1,2-Dichloropropane	12.5	25.0	ug/kg
1,3-Dichloropropane	25.0	50.0	ug/kg
2,2-Dichloropropane	25.0	50.0	ug/kg
1,1-Dichloropropene	25.0	50.0	ug/kg

METHOD DETECTION AND REPORTING LIMITS

5035A/8260C

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Soil

Analyte	MDL	MRL	Units
cis-1,3-Dichloropropene	25.0	50.0	ug/kg
trans-1,3-Dichloropropene	25.0	50.0	ug/kg
Ethylbenzene	12.5	25.0	ug/kg
Hexachlorobutadiene	50.0	100	ug/kg
2-Hexanone	250	500	ug/kg
Isopropylbenzene	25.0	50.0	ug/kg
4-Isopropyltoluene	25.0	50.0	ug/kg
Methylene chloride	125	250	ug/kg
4-Methyl-2-pentanone (MiBK)	250	500	ug/kg
Methyl tert-butyl ether (MTBE)	25.0	50.0	ug/kg
Naphthalene	50.0	100	ug/kg
n-Propylbenzene	12.5	25.0	ug/kg
Styrene	25.0	50.0	ug/kg
1,1,1,2-Tetrachloroethane	12.5	25.0	ug/kg
1,1,2,2-Tetrachloroethane	25.0	50.0	ug/kg
Tetrachloroethene (PCE)	12.5	25.0	ug/kg
Toluene	25.0	50.0	ug/kg
1,2,3-Trichlorobenzene	125	250	ug/kg
1,2,4-Trichlorobenzene	125	250	ug/kg
1,1,1-Trichloroethane	12.5	25.0	ug/kg
1,1,2-Trichloroethane	12.5	25.0	ug/kg
Trichloroethene (TCE)	12.5	25.0	ug/kg
Trichlorofluoromethane	50.0	100	ug/kg
1,2,3-Trichloropropane	25.0	50.0	ug/kg
1,2,4-Trimethylbenzene	25.0	50.0	ug/kg
1,3,5-Trimethylbenzene	25.0	50.0	ug/kg
Vinyl chloride	12.5	25.0	ug/kg
m,p-Xylene	25.0	50.0	ug/kg
o-Xylene	12.5	25.0	ug/kg

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

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

2708-190520-006

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0677-01	File ID:	VF19052126.D
Sampled:	05/20/19 15:00	Prepared:	05/21/19 13:35	Analyzed:	05/21/19 22:17
		Preparation:	EPA 5035A	Initial/Final:	3.13 g / 5 mL

Batch: 9051092 Sequence: 9E21036 Calibration: A9E0804 Instrument: VOA-GCMS6

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg wet)	Q
67-64-1	Acetone	100000	1600000	U
107-13-1	Acrylonitrile	100000	160000	U
71-43-2	Benzene	100000	114000	D
108-86-1	Bromobenzene	100000	39900	U
74-97-5	Bromochloromethane	100000	79900	U
75-27-4	Bromodichloromethane	100000	160000	U
75-25-2	Bromoform	100000	319000	U
74-83-9	Bromomethane	100000	1600000	U
78-93-3	2-Butanone (MEK)	100000	799000	U
104-51-8	n-Butylbenzene	100000	79900	U
135-98-8	sec-Butylbenzene	100000	79900	U
98-06-6	tert-Butylbenzene	100000	79900	U
75-15-0	Carbon disulfide	100000	799000	U
56-23-5	Carbon tetrachloride	100000	160000	U
108-90-7	Chlorobenzene	100000	39900	U
75-00-3	Chloroethane	100000	799000	U
67-66-3	Chloroform	100000	79900	U
74-87-3	Chloromethane	100000	399000	U
95-49-8	2-Chlorotoluene	100000	79900	U
106-43-4	4-Chlorotoluene	100000	79900	U
124-48-1	Dibromochloromethane	100000	160000	U
96-12-8	1,2-Dibromo-3-chloropropane	100000	399000	U
106-93-4	1,2-Dibromoethane (EDB)	100000	79900	U
74-95-3	Dibromomethane	100000	79900	U
95-50-1	1,2-Dichlorobenzene	100000	39900	U
541-73-1	1,3-Dichlorobenzene	100000	39900	U
106-46-7	1,4-Dichlorobenzene	100000	39900	U
75-71-8	Dichlorodifluoromethane	100000	160000	U
75-34-3	1,1-Dichloroethane	100000	39900	U
107-06-2	1,2-Dichloroethane (EDC)	100000	39900	U
75-35-4	1,1-Dichloroethene	100000	39900	U
156-59-2	cis-1,2-Dichloroethene	100000	39900	U
156-60-5	trans-1,2-Dichloroethene	100000	39900	U
78-87-5	1,2-Dichloropropane	100000	39900	U
142-28-9	1,3-Dichloropropane	100000	79900	U
594-20-7	2,2-Dichloropropane	100000	79900	U
563-58-6	1,1-Dichloropropene	100000	79900	U
10061-01-5	cis-1,3-Dichloropropene	100000	79900	U
10061-02-6	trans-1,3-Dichloropropene	100000	79900	U
100-41-4	Ethylbenzene	100000	95500	D

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

2708-190520-006

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0677-01	File ID:	VF19052126.D
Sampled:	05/20/19 15:00	Prepared:	05/21/19 13:35	Analyzed:	05/21/19 22:17
		Preparation:	EPA 5035A	Initial/Final:	3.13 g / 5 mL

Batch: 9051092 Sequence: 9E21036 Calibration: A9E0804 Instrument: VOA-GCMS6

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg wet)	Q
87-68-3	Hexachlorobutadiene	100000	160000	U
591-78-6	2-Hexanone	100000	799000	U
98-82-8	Isopropylbenzene	100000	79900	U
99-87-6	4-Isopropyltoluene	100000	79900	U
75-09-2	Methylene chloride	100000	799000	U
108-10-1	4-Methyl-2-pentanone (MiBK)	100000	799000	U
1634-04-4	Methyl tert-butyl ether (MTBE)	100000	79900	U
91-20-3	Naphthalene	100000	10300000	D
103-65-1	n-Propylbenzene	100000	39900	U
100-42-5	Styrene	100000	79900	U
630-20-6	1,1,1,2-Tetrachloroethane	100000	160000	U
79-34-5	1,1,2,2-Tetrachloroethane	100000	79900	U
127-18-4	Tetrachloroethene (PCE)	100000	39900	U
87-61-6	1,2,3-Trichlorobenzene	100000	399000	U
120-82-1	1,2,4-Trichlorobenzene	100000	399000	U
71-55-6	1,1,1-Trichloroethane	100000	39900	U
79-00-5	1,1,2-Trichloroethane	100000	39900	U
79-01-6	Trichloroethene (TCE)	100000	39900	U
75-69-4	Trichlorofluoromethane	100000	160000	U
96-18-4	1,2,3-Trichloropropane	100000	79900	U
95-63-6	1,2,4-Trimethylbenzene	100000	79900	U
108-67-8	1,3,5-Trimethylbenzene	100000	79900	U
108-88-3	Toluene	100000	132000	JD
75-01-4	Vinyl chloride	100000	39900	U
179601-23-1	m,p-Xylene	100000	130000	JD
95-47-6	o-Xylene	100000	40100	JD

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	54.8	110	80 - 120	
Toluene-d8 (Surr)	50.0	45.5	91	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.9	104	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	282560	6.097	324912	6.095	
Chlorobenzene-d5 (ISTD)	411374	9.801	405034	9.806	
1,4-Dichlorobenzene-d4 (ISTD)	189213	11.748	180218	11.753	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Batch: 9051092 Batch Matrix: Soil Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051092-BLK1	VF19052105.D	05/21/19 11:00	
LCS	9051092-BS1	VF19052103.D	05/21/19 11:00	
2708-190520-006	A9E0677-01	VF19052126.D	05/21/19 13:35	

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

METHOD BLANK DATA SHEET
5035A/8260C

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Soil	Laboratory ID:	9051092-BLK1	File ID:	VF19052105.D
Prepared:	05/21/19 11:00	Preparation:	EPA 5035A	Initial/Final:	7.5 g / 5 mL
Analyzed:	05/21/19 12:43	Instrument:	VOA-GCMS6		
Batch:	9051092	Sequence:	9E21036	Calibration:	A9E0804

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
67-64-1	Acetone	333	U
107-13-1	Acrylonitrile	33.3	U
71-43-2	Benzene	3.33	U
108-86-1	Bromobenzene	8.33	U
74-97-5	Bromochloromethane	16.7	U
75-27-4	Bromodichloromethane	33.3	U
75-25-2	Bromoform	66.7	U
74-83-9	Bromomethane	333	U
78-93-3	2-Butanone (MEK)	167	U
104-51-8	n-Butylbenzene	16.7	U
135-98-8	sec-Butylbenzene	16.7	U
98-06-6	tert-Butylbenzene	16.7	U
75-15-0	Carbon disulfide	167	U
56-23-5	Carbon tetrachloride	33.3	U
108-90-7	Chlorobenzene	8.33	U
75-00-3	Chloroethane	167	U
67-66-3	Chloroform	16.7	U
74-87-3	Chloromethane	83.3	U
95-49-8	2-Chlorotoluene	16.7	U
106-43-4	4-Chlorotoluene	16.7	U
124-48-1	Dibromochloromethane	33.3	U
96-12-8	1,2-Dibromo-3-chloropropane	83.3	U
106-93-4	1,2-Dibromoethane (EDB)	16.7	U
74-95-3	Dibromomethane	16.7	U
95-50-1	1,2-Dichlorobenzene	8.33	U
541-73-1	1,3-Dichlorobenzene	8.33	U
106-46-7	1,4-Dichlorobenzene	8.33	U
75-71-8	Dichlorodifluoromethane	33.3	U
75-34-3	1,1-Dichloroethane	8.33	U
107-06-2	1,2-Dichloroethane (EDC)	8.33	U
75-35-4	1,1-Dichloroethene	8.33	U
156-59-2	cis-1,2-Dichloroethene	8.33	U
156-60-5	trans-1,2-Dichloroethene	8.33	U
78-87-5	1,2-Dichloropropane	8.33	U
142-28-9	1,3-Dichloropropane	16.7	U

METHOD BLANK DATA SHEET

5035A/8260C

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Soil	Laboratory ID:	9051092-BLK1	File ID:	VF19052105.D
Prepared:	05/21/19 11:00	Preparation:	EPA 5035A	Initial/Final:	7.5 g / 5 mL
Analyzed:	05/21/19 12:43	Instrument:	VOA-GCMS6		
Batch:	9051092	Sequence:	9E21036	Calibration:	A9E0804

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
594-20-7	2,2-Dichloropropane	16.7	U
563-58-6	1,1-Dichloropropene	16.7	U
10061-01-5	cis-1,3-Dichloropropene	16.7	U
10061-02-6	trans-1,3-Dichloropropene	16.7	U
100-41-4	Ethylbenzene	8.33	U
87-68-3	Hexachlorobutadiene	33.3	U
591-78-6	2-Hexanone	167	U
98-82-8	Isopropylbenzene	16.7	U
99-87-6	4-Isopropyltoluene	16.7	U
75-09-2	Methylene chloride	167	U
108-10-1	4-Methyl-2-pentanone (MiBK)	167	U
1634-04-4	Methyl tert-butyl ether (MTBE)	16.7	U
91-20-3	Naphthalene	33.3	U
103-65-1	n-Propylbenzene	8.33	U
100-42-5	Styrene	16.7	U
630-20-6	1,1,1,2-Tetrachloroethane	33.3	U
79-34-5	1,1,2,2-Tetrachloroethane	16.7	U
127-18-4	Tetrachloroethene (PCE)	8.33	U
87-61-6	1,2,3-Trichlorobenzene	83.3	U
120-82-1	1,2,4-Trichlorobenzene	83.3	U
71-55-6	1,1,1-Trichloroethane	8.33	U
79-00-5	1,1,2-Trichloroethane	8.33	U
79-01-6	Trichloroethene (TCE)	8.33	U
75-69-4	Trichlorofluoromethane	33.3	U
96-18-4	1,2,3-Trichloropropane	16.7	U
95-63-6	1,2,4-Trimethylbenzene	16.7	U
108-67-8	1,3,5-Trimethylbenzene	16.7	U
108-88-3	Toluene	16.7	U
75-01-4	Vinyl chloride	8.33	U
179601-23-1	m,p-Xylene	16.7	U
95-47-6	o-Xylene	8.33	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.7	105	80 - 120	
Toluene-d8 (Surr)	50.0	46.9	94	80 - 120	

METHOD BLANK DATA SHEET

5035A/8260C

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Soil	Laboratory ID:	9051092-BLK1	File ID:	VF19052105.D
Prepared:	05/21/19 11:00	Preparation:	EPA 5035A	Initial/Final:	7.5 g / 5 mL
Analyzed:	05/21/19 12:43	Instrument:	VOA-GCMS6		
Batch:	9051092	Sequence:	9E21036	Calibration:	A9E0804

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Surr)	50.0	53.5	107	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	344135	6.102	324912	6.095	
Chlorobenzene-d5 (ISTD)	464763	9.806	405034	9.806	
1,4-Dichlorobenzene-d4 (ISTD)	195986	11.753	180218	11.753	

LCS / LCS DUPLICATE RECOVERY

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Matrix: Soil
Batch: 9051092
Laboratory ID: 9051092-BS1
Preparation: EPA 5035A
Initial/Final: 5 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Acetone	2000	1800	90	80 - 120
Acrylonitrile	1000	1010	101	80 - 120
Benzene	1000	978	98	80 - 120
Bromobenzene	1000	1060	106	80 - 120
Bromochloromethane	1000	1020	102	80 - 120
Bromodichloromethane	1000	1050	105	80 - 120
Bromoform	1000	1290	129 *	80 - 120
Bromomethane	1000	1120	112	80 - 120
2-Butanone (MEK)	2000	1930	97	80 - 120
n-Butylbenzene	1000	1130	113	80 - 120
sec-Butylbenzene	1000	1140	114	80 - 120
tert-Butylbenzene	1000	1120	112	80 - 120
Carbon disulfide	1000	966	97	80 - 120
Carbon tetrachloride	1000	1230	123 *	80 - 120
Chlorobenzene	1000	957	96	80 - 120
Chloroethane	1000	836	84	80 - 120
Chloroform	1000	999	100	80 - 120
Chloromethane	1000	1020	102	80 - 120
2-Chlorotoluene	1000	1100	110	80 - 120
4-Chlorotoluene	1000	1120	112	80 - 120
Dibromochloromethane	1000	1080	108	80 - 120
1,2-Dibromo-3-chloropropane	1000	1060	106	80 - 120
1,2-Dibromoethane (EDB)	1000	976	98	80 - 120
Dibromomethane	1000	1020	102	80 - 120
1,2-Dichlorobenzene	1000	1030	103	80 - 120
1,3-Dichlorobenzene	1000	1040	104	80 - 120
1,4-Dichlorobenzene	1000	978	98	80 - 120
Dichlorodifluoromethane	1000	1220	122 *	80 - 120
1,1-Dichloroethane	1000	899	90	80 - 120
1,2-Dichloroethane (EDC)	1000	927	93	80 - 120

LCS / LCS DUPLICATE RECOVERY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Soil		
Batch:	9051092	Laboratory ID:	9051092-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
1,1-Dichloroethene	1000	810	81	80 - 120
cis-1,2-Dichloroethene	1000	999	100	80 - 120
trans-1,2-Dichloroethene	1000	885	89	80 - 120
1,2-Dichloropropane	1000	1000	100	80 - 120
1,3-Dichloropropane	1000	995	99	80 - 120
2,2-Dichloropropane	1000	1250	125 *	80 - 120
1,1-Dichloropropene	1000	1010	101	80 - 120
cis-1,3-Dichloropropene	1000	966	97	80 - 120
trans-1,3-Dichloropropene	1000	1010	101	80 - 120
Ethylbenzene	1000	990	99	80 - 120
Hexachlorobutadiene	1000	1020	102	80 - 120
2-Hexanone	2000	1890	94	80 - 120
Isopropylbenzene	1000	1120	112	80 - 120
4-Isopropyltoluene	1000	1100	110	80 - 120
Methylene chloride	1000	715	71 *	80 - 120
4-Methyl-2-pentanone (MiBK)	2000	1980	99	80 - 120
Methyl tert-butyl ether (MTBE)	1000	984	98	80 - 120
Naphthalene	1000	917	92	80 - 120
n-Propylbenzene	1000	1120	112	80 - 120
Styrene	1000	995	100	80 - 120
1,1,1,2-Tetrachloroethane	1000	1160	116	80 - 120
1,1,2,2-Tetrachloroethane	1000	1180	118	80 - 120
Tetrachloroethene (PCE)	1000	973	97	80 - 120
1,2,3-Trichlorobenzene	1000	1040	104	80 - 120
1,2,4-Trichlorobenzene	1000	1060	106	80 - 120
1,1,1-Trichloroethane	1000	1160	116	80 - 120
1,1,2-Trichloroethane	1000	1030	103	80 - 120
Trichloroethene (TCE)	1000	972	97	80 - 120
Trichlorofluoromethane	1000	947	95	80 - 120
1,2,3-Trichloropropane	1000	1060	106	80 - 120

LCS / LCS DUPLICATE RECOVERY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Soil		
Batch:	9051092	Laboratory ID:	9051092-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
1,2,4-Trimethylbenzene	1000	1140	114	80 - 120
1,3,5-Trimethylbenzene	1000	1150	115	80 - 120
Toluene	1000	911	91	80 - 120
Vinyl chloride	1000	1040	104	80 - 120
m,p-Xylene	2000	2120	106	80 - 120
o-Xylene	1000	1070	107	80 - 120

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E07048	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9E07048-TUN1	VF19050712.D	05/07/19 19:21
Initial Cal Blank	9E07048-ICB1	VF19050713.D	05/07/19 19:48
Cal Standard	9E07048-CAL1	VF19050714.D	05/07/19 20:15
Cal Standard	9E07048-CAL2	VF19050715.D	05/07/19 20:42
Cal Standard	9E07048-CAL3	VF19050716.D	05/07/19 21:09
Cal Standard	9E07048-CAL4	VF19050717.D	05/07/19 21:36
Cal Standard	9E07048-CAL5	VF19050718.D	05/07/19 22:04
Cal Standard	9E07048-CAL6	VF19050719.D	05/07/19 22:31
Cal Standard	9E07048-CAL7	VF19050720.D	05/07/19 22:58
Cal Standard	9E07048-CAL8	VF19050721.D	05/07/19 23:25
Cal Standard	9E07048-CAL9	VF19050722.D	05/07/19 23:52
Cal Standard	9E07048-CALA	VF19050724.D	05/08/19 00:46
Cal Standard	9E07048-CALB	VF19050726.D	05/08/19 01:40
Initial Cal Check	9E07048-ICV1	VF19050729.D	05/08/19 03:01

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9E21036-TUN1	VF19052102.D	05/21/19 11:22
Calibration Check	9E21036-CCV1	VF19052103.D	05/21/19 11:49
Blank	9051092-BLK1	VF19052105.D	05/21/19 12:43
2708-190520-006	A9E0677-01	VF19052126.D	05/21/19 22:17

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	VF19050712.D	Injection Date:	05/07/19
Instrument ID:	VOA-GCMS6	Injection Time:	19:21
Sequence:	9E07048	Lab Sample ID:	9E07048-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		128.91	
m/z 96	5 - 9% of m/z 95	7.29	PASS
m/z 173		0.19	
m/z 174	50 - 200% of m/z 95	77.58	PASS
m/z 175	5 - 9% of m/z 174	7.27	PASS
m/z 176	95 - 101% of m/z 174	99.18	PASS
m/z 177	5 - 9% of m/z 176	6.36	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	VF19052102.D	Injection Date:	05/21/19
Instrument ID:	VOA-GCMS6	Injection Time:	11:22
Sequence:	9E21036	Lab Sample ID:	9E21036-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		130.67	
m/z 96	5 - 9% of m/z 95	7.06	PASS
m/z 173		0.12	
m/z 174	50 - 200% of m/z 95	76.53	PASS
m/z 175	5 - 9% of m/z 174	6.92	PASS
m/z 176	95 - 101% of m/z 174	97.20	PASS
m/z 177	5 - 9% of m/z 176	6.68	PASS

INITIAL CALIBRATION DATA (Summary)

5035A/8260C

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E0804 Date: 05/08/19 13:09 Instrument: VOA-GCMS6

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	0.2564407	Ave	7.744177	3.863333	0.1995287			20	
Acrylonitrile	0.2692675	Ave	12.01365	4.654875	0.2069527			20	
Benzene	2.41678	Ave	3.155137	6.006636	7.797203E-02			20	
Bromobenzene	0.8994337	Ave	8.785729	9.959273	33.16625			20	
Bromochloromethane	0.453775	Ave	11.05082	5.3408	0.1124728			20	
Bromodichloromethane	0.4523323	XXX	30.87602	7.259375	2.489057E-02				
Bromoform	0.1166506	XXX	43.09987	10.43567	2.334046E-02				
Bromomethane	0.4164018	Ave	11.21385	2.3	0.253578			20	
2-Butanone (MEK)	0.3832028	Ave	8.332168	5.7533	0.1715508			20	
n-Butylbenzene	2.199964	Ave	9.438812	11.94591	2.139637E-02			20	
sec-Butylbenzene	3.096842	Ave	9.585973	11.51836	0.0218418			20	
tert-Butylbenzene	1.483657	Ave	9.851129	10.34527	33.16626			20	
Carbon disulfide	1.053756	XXX	20.85792	3.141111	0.1301069				
Carbon tetrachloride	0.4035293	XXX	32.32495	5.548375	5.817391E-02				
Chlorobenzene	1.205131	Ave	4.792978	9.819818	1.090532E-02			20	
Chloroethane	0.0913605	Ave	10.7651	2.42675	0.2508377			20	
Chloroform	0.9293319	Ave	6.621218	5.421545	4.941593E-02			20	
Chloromethane	0.6802256	Ave	5.604576	1.8405	0.2072021			20	
2-Chlorotoluene	0.8034289	Ave	7.062893	11.1042	2.519217E-02			20	
4-Chlorotoluene	2.37608	Ave	8.107004	11.23573	2.794099E-02			20	
Dibromochloromethane	0.1991761	XXX	46.5533	9.075667	4.779145E-02				
1,2-Dibromo-3-chloropropane	0.1309833	XXX	52.52016	12.68437	0.0239431				
1,2-Dibromoethane (EDB)	0.3048663	XXX	30.44542	8.3809	35.13645				
Dibromomethane	0.2919693	Ave	14.83789	7.0789	4.527477E-02			20	
1,2-Dichlorobenzene	1.439925	Ave	4.379289	12.079	1.881118E-02			20	
1,3-Dichlorobenzene	1.534467	Ave	3.836305	11.69536	1.467601E-02			20	
1,4-Dichlorobenzene	1.677585	Ave	6.490518	11.76055	0.0194388			20	
Dichlorodifluoromethane	0.4667655	Ave	10.75654	1.630778	0.2906501			20	
1,1-Dichloroethane	1.045419	Ave	5.050409	4.578636	8.815815E-02			20	
1,2-Dichloroethane (EDC)	0.8175119	Ave	3.891625	6.224545	5.601535E-02			20	
1,1-Dichloroethene	0.8644626	Ave	6.059447	3.128727	0.1609455			20	
cis-1,2-Dichloroethene	0.7604442	Ave	8.811742	4.669455	33.16631			20	
trans-1,2-Dichloroethene	0.8258115	Ave	7.976692	3.580455	33.16642			20	

INITIAL CALIBRATION DATA (Summary)

5035A/8260C

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E0804 Date: 05/08/19 13:09 Instrument: VOA-GCMS6

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,2-Dichloropropane	0.5776517	Ave	5.222789	7.1847	5.854618E-02			20	
1,3-Dichloropropane	0.7092434	Ave	7.764625	9.174	5.111819E-02			20	
2,2-Dichloropropane	0.5239617	Ave	13.31556	5.239143	6.028937E-02			20	
1,1-Dichloropropene	0.7724776	Ave	9.397248	5.749	7.218244E-02			20	
cis-1,3-Dichloropropene	0.4730113	XXX	28.49459	7.965111	4.683205E-02				
trans-1,3-Dichloropropene	0.4043419	XXX	37.74548	8.716778	5.705373E-02				
Ethylbenzene	2.012914	Ave	5.161089	9.846455	2.811805E-02			20	
Hexachlorobutadiene	0.2054685	Ave	4.16965	13.18913	2.531843E-02			20	
2-Hexanone	0.3946841	Ave	13.40766	9.544333	4.204365E-02			20	
Isopropylbenzene	1.539761	Ave	13.51672	10.6305	2.251522E-02			20	
4-Isopropyltoluene	2.577173	Ave	12.9107	11.6265	7.011429E-03			20	
Methylene chloride	1.826097	XXX	116.7711	3.774889	0.1136738				
4-Methyl-2-pentanone (MiBK)	0.5464244	Ave	14.83451	8.67675	0.0402065			20	
Methyl tert-butyl ether (MTBE)	1.669041	Ave	6.686993	4.085909	0.2042592			20	
Naphthalene	2.413637	XXX	25.86756	13.50178	1.756379E-02				
n-Propylbenzene	3.996031	Ave	6.079878	10.97355	0.0181964			20	
Styrene	0.8661843	XXX	26.03761	10.4127	2.984329E-02				
1,1,1,2-Tetrachloroethane	0.2257314	XXX	40.98196	9.883333	4.438073E-02				
1,1,2,2-Tetrachloroethane	0.9501049	Ave	12.77652	11.0386	1.681372E-02			20	
Tetrachloroethene (PCE)	0.4628382	Ave	6.885747	8.675091	5.013449E-02			20	
1,2,3-Trichlorobenzene	0.7871333	Ave	11.97016	13.664	1.017938E-02			20	
1,2,4-Trichlorobenzene	0.7731788	Ave	13.57468	13.2262	2.013817E-02			20	
1,1,1-Trichloroethane	0.6547532	Ave	13.25628	5.622	7.602732E-02			20	
1,1,2-Trichloroethane	0.3664796	Ave	10.39357	8.8892	5.102461E-02			20	
Trichloroethene (TCE)	0.5838813	Ave	6.390334	6.6251	5.740967E-02			20	
Trichlorofluoromethane	0.1185601	Ave	6.44325	2.555556	0.1875039			20	
1,2,3-Trichloropropane	0.376742	Ave	7.974877	11.14556	1.672472E-02			20	
1,2,4-Trimethylbenzene	2.59642	Ave	11.98981	11.43709	2.198909E-02			20	
1,3,5-Trimethylbenzene	2.583933	Ave	12.34047	11.13	1.998858E-02			20	
Toluene	2.113834	Ave	12.92352	8.227273	4.010907E-02			20	
Vinyl chloride	0.6726011	Ave	5.402368	1.9401	0.2640991			20	
m,p-Xylene	1.40996	Ave	9.205493	9.982	0.0369797			20	
o-Xylene	1.357163	Ave	9.18818	10.36309	2.353736E-02			20	

INITIAL CALIBRATION DATA (Summary)

5035A/8260C

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E0804 Date: 05/08/19 13:09 Instrument: VOA-GCMS6

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Difluorobenzene (Surr)	1.54484	Ave	0.9604008	6.659818	4.572574E-02			20	
Toluene-d8 (Surr)	1.478298	Ave	4.641448	8.169091	2.954905E-02			20	
4-Bromofluorobenzene (Surr)	0.7698666	Ave	2.590052	10.87082	0.0236891			20	

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

INITIAL CALIBRATION DATA

5035A/8260C

Laboratory: Apex Laboratories

Client: Hahn and Associates

Calibration: A9E0804

SDG: A9E0677

Project: Mult 802 Decommissioning

Instrument: VOA-GCMS6

Calibration Date: 05/08/19 13:09

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	~~1.752833~~	0.4	~~0.7928243~~	0.8	~~0.5405725~~	2	~~0.3375024~~	4	~~0.3151775~~	10	0.2884519
Acrylonitrile	0.1	~~0~~	0.2	~~0~~	0.4	~~0.1282545~~	1	0.1993508	2	0.2543231	5	0.2703496
Benzene	0.1	2.347525	0.2	2.41932	0.4	2.409781	1	2.282604	2	2.403826	5	2.440741
Bromobenzene	0.1	0.68146	0.2	0.9540496	0.4	0.8390237	1	0.9348568	2	0.9115158	5	0.903457
Bromochloromethane	0.1	~~0~~	0.2	0.3257912	0.4	0.4629184	1	0.4181783	2	0.4834402	5	0.4764469
Bromodichloromethane	0.1	~~0~~	0.2	~~0.1279543~~	0.4	~~0.2850656~~	1	0.29979	2	0.3240767	5	0.3523224
Bromoform	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	~~0~~	2	7.313852E-02	5	7.631046E-02
Bromomethane	0.1	~~4.168056~~	0.2	~~1.126982~~	0.4	~~1.203387~~	1	~~0.5877411~~	2	~~0.6026798~~	5	0.4854076
2-Butanone (MEK)	0.2	~~0~~	0.4	0.4379973	0.8	0.375495	2	0.3258545	4	0.3618343	10	0.3851115
n-Butylbenzene	0.1	2.14234	0.2	1.948886	0.4	1.990605	1	2.017397	2	1.935363	5	2.146733
sec-Butylbenzene	0.1	3.045274	0.2	2.64935	0.4	2.741365	1	2.781959	2	2.865464	5	3.106363
tert-Butylbenzene	0.1	1.252183	0.2	1.379648	0.4	1.273073	1	1.418891	2	1.406385	5	1.495777
Carbon disulfide	0.1	~~1.468505~~	0.2	~~0~~	0.4	0.9764373	1	0.8210807	2	0.8549453	5	0.8917758
Carbon tetrachloride	0.1	~~0~~	0.2	~~0~~	0.4	~~0.1963896~~	1	0.2564445	2	0.2923892	5	0.3190912
Chlorobenzene	0.1	1.345987	0.2	1.286034	0.4	1.199333	1	1.194492	2	1.183866	5	1.166751
Chloroethane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	9.089173E-02	2	0.1113178	5	9.189795E-02
Chloroform	0.1	0.8831862	0.2	0.8789474	0.4	0.8511888	1	0.8585068	2	0.8963037	5	0.9403166
Chloromethane	0.1	~~2.355857~~	0.2	~~0.784458~~	0.4	~~1.026036~~	1	0.644262	2	0.7430102	5	0.678325
2-Chlorotoluene	0.1	~~0~~	0.2	0.7820369	0.4	0.6946868	1	0.7825804	2	0.7385259	5	0.7866614
4-Chlorotoluene	0.1	2.057158	0.2	2.221978	0.4	2.105867	1	2.306757	2	2.297682	5	2.396533
Dibromochloromethane	0.1	~~0~~	0.2	~~0~~	0.4	9.525548E-02	1	0.1004219	2	0.1410199	5	0.1536236
1,2-Dibromo-3-chloropropane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	4.911001E-02	2	7.025799E-02	5	8.207467E-02
1,2-Dibromoethane (EDB)	0.1	~~0~~	0.2	0.1475647	0.4	0.2024733	1	0.2204307	2	0.2735547	5	0.3062803
Dibromomethane	0.1	~~0~~	0.2	0.2027583	0.4	0.2770497	1	0.2562536	2	0.278706	5	0.2856592
1,2-Dichlorobenzene	0.1	1.358661	0.2	1.416888	0.4	1.377951	1	1.362361	2	1.407202	5	1.464473
1,3-Dichlorobenzene	0.1	1.537544	0.2	1.457674	0.4	1.444408	1	1.466588	2	1.531992	5	1.541542
1,4-Dichlorobenzene	0.1	1.980493	0.2	1.65274	0.4	1.698815	1	1.694825	2	1.681699	5	1.611619
Dichlorodifluoromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.4238409	1	0.3752148	2	0.4555593	5	0.4623427
1,1-Dichloroethane	0.1	1.047742	0.2	1.00198	0.4	1.000986	1	0.9847241	2	1.066984	5	1.085818
1,2-Dichloroethane (EDC)	0.1	0.7686219	0.2	0.8238286	0.4	0.7775427	1	0.8185984	2	0.8227434	5	0.8484588
1,1-Dichloroethene	0.1	0.9665056	0.2	0.817923	0.4	0.8511888	1	0.7800267	2	0.8460975	5	0.8523163

INITIAL CALIBRATION DATA

5035A/8260C

Laboratory: Apex Laboratories

Client: Hahn and Associates

Calibration: A9E0804

SDG: A9E0677

Project: Mult 802 Decommissioning

Instrument: VOA-GCMS6

Calibration Date: 05/08/19 13:09

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	0.6394768	0.2	0.687016	0.4	0.7249383	1	0.685507	2	0.78406	5	0.7989938
trans-1,2-Dichloroethene	0.1	0.6665556	0.2	0.8385925	0.4	0.7900675	1	0.7750621	2	0.8203771	5	0.8471327
1,2-Dichloropropane	0.1	~~0~~	0.2	0.578747	0.4	0.5180278	1	0.5548978	2	0.5622475	5	0.5712782
1,3-Dichloropropane	0.1	0.7015103	0.2	0.5973991	0.4	0.6787507	1	0.6466797	2	0.7158905	5	0.7480287
2,2-Dichloropropane	0.1	~~0~~	0.2	~~0.4340602~~	0.4	~~0.4594115~~	1	0.4410922	2	0.473152	5	0.4760852
1,1-Dichloropropene	0.1	~~0~~	0.2	0.672252	0.4	0.7094075	1	0.6715677	2	0.7543272	5	0.7741207
cis-1,3-Dichloropropene	0.1	~~0~~	0.2	~~0.2657751~~	0.4	0.3203242	1	0.3301797	2	0.3689207	5	0.3980606
trans-1,3-Dichloropropene	0.1	~~0~~	0.2	~~0~~	0.4	0.2224105	1	0.2459248	2	0.2844378	5	0.3200312
Ethylbenzene	0.1	2.233806	0.2	2.09764	0.4	1.94144	1	1.891538	2	1.899019	5	1.92538
Hexachlorobutadiene	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.1936136	2	0.1995409	5	0.2057826
n-Hexane	0.1	~~3.82228~~	0.2	~~1.812029~~	0.4	~~1.014012~~	1	~~0.4105404~~	2	~~0.2876567~~	5	0.1795365
2-Hexanone	0.2	~~0~~	0.4	~~0.2030998~~	0.8	~~0.2310499~~	2	~~0.2485675~~	4	~~0.2943526~~	10	0.318384
Isopropylbenzene	0.1	~~1.153975~~	0.2	1.286034	0.4	1.242309	1	1.378081	2	1.368603	5	1.531688
4-Isopropyltoluene	0.1	~~2.023084~~	0.2	~~1.945339~~	0.4	~~1.926224~~	1	2.083819	2	2.11693	5	2.396374
Methylene chloride	0.1	~~30.86986~~	0.2	~~13.61236~~	0.4	7.017423	1	3.178728	2	1.918637	5	1.117924
4-Methyl-2-pentanone (MiBK)	0.2	~~0.3716674~~	0.4	~~0.3732753~~	0.8	~~0.3841233~~	2	0.400444	4	0.4826865	10	0.5175396
Methyl tert-butyl ether (MTBE)	0.1	1.63931	0.2	1.718524	0.4	1.560095	1	1.53523	2	1.610301	5	1.619124
Naphthalene	0.1	~~0~~	0.2	~~0~~	0.4	1.638588	1	1.629463	2	1.868781	5	2.105656
n-Propylbenzene	0.1	3.89284	0.2	3.768318	0.4	3.659307	1	3.801963	2	3.748182	5	3.903354
Styrene	0.1	~~0~~	0.2	0.5886721	0.4	0.6238126	1	0.6623803	2	0.6846245	5	0.8039634
1,1,1,2-Tetrachloroethane	0.1	~~0~~	0.2	~~0~~	0.4	0.1293702	1	0.1220297	2	0.1568835	5	0.1711345
1,1,2,2-Tetrachloroethane	0.1	~~0.5877593~~	0.2	0.7802636	0.4	0.8006031	1	0.8352235	2	0.8935428	5	0.9184736
Tetrachloroethene (PCE)	0.1	0.4581679	0.2	0.3990594	0.4	0.4669734	1	0.4161446	2	0.4681603	5	0.4815688
1,2,3-Trichlorobenzene	0.1	~~0~~	0.2	~~0.6313042~~	0.4	0.6230375	1	0.6613953	2	0.7522099	5	0.7903163
1,2,4-Trichlorobenzene	0.1	~~0~~	0.2	0.5781044	0.4	0.7071475	1	0.6638684	2	0.74547	5	0.753768
1,1,1-Trichloroethane	0.1	~~0~~	0.2	~~0.5423292~~	0.4	0.6097097	1	0.5722742	2	0.5888937	5	0.6159212
1,1,2-Trichloroethane	0.1	~~0~~	0.2	0.291956	0.4	0.3340588	1	0.3258271	2	0.3833086	5	0.3790456
Trichloroethene (TCE)	0.1	~~0.4270122~~	0.2	0.6043378	0.4	0.5465844	1	0.5382853	2	0.5398193	5	0.5746937
Trichlorofluoromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.1112207	1	0.1176246	2	0.1292192	5	0.1281026
1,2,3-Trichloropropane	0.1	~~0~~	0.2	~~0.2393991~~	0.4	0.3146339	1	0.3437701	2	0.3929546	5	0.3780361
1,1,2-Trichloro-1,2,2-trifluoroethan	0.1	~~0~~	0.2	0.4507927	0.4	0.5215347	1	0.5367577	2	0.520066	5	0.5370425

INITIAL CALIBRATION DATA

5035A/8260C

Laboratory: Apex Laboratories

Client: Hahn and Associates

Calibration: A9E0804

SDG: A9E0677

Project: Mult 802 Decommissioning

Instrument: VOA-GCMS6

Calibration Date: 05/08/19 13:09

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
1,2,4-Trimethylbenzene	0.1	2.389369	0.2	2.218431	0.4	2.254357	1	2.255174	2	2.343431	5	2.577288
1,3,5-Trimethylbenzene	0.1	2.334001	0.2	2.195378	0.4	2.255396	1	2.262594	2	2.345678	5	2.511342
Toluene	0.1	2.876382	0.2	2.258692	0.4	2.052645	1	1.957916	2	2.101003	5	2.068869
Vinyl chloride	0.1	~~0~~	0.2	0.6752048	0.4	0.6277454	1	0.6316593	2	0.6601906	5	0.6598409
m,p-Xylene	0.2	1.375454	0.4	1.338793	0.8	1.198225	2	1.290328	4	1.297955	10	1.366337
o-Xylene	0.1	1.465757	0.2	1.317769	0.4	1.198004	1	1.191228	2	1.227215	5	1.272891
trans-1,4-Dichloro-2-butene	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	~~0~~	2	4.840449E-02	5	4.608258E-02
Xylenes, total	0.3	1.405555	0.6	1.331785	1.2	1.198151	3	1.257295	6	1.274375	15	1.335188
1,4-Difluorobenzene (Surr)	50	1.553041	50	1.549664	50	1.538296	50	1.535608	50	1.540362	50	1.535994
Toluene-d8 (Surr)	50	1.569679	50	1.433139	50	1.535788	50	1.441468	50	1.53882	50	1.533396
4-Bromofluorobenzene (Surr)	50	0.7694791	50	0.7869029	50	0.7813886	50	0.7970449	50	0.765951	50	0.7634931

INITIAL CALIBRATION DATA (Continued)

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E0804
Instrument: VOA-GCMS6
Matrix:
Calibration Date: 05/08/19 13:09

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	0.2419019	40	0.2742404	100	0.246246	200	0.2433386	400	0.2444651		
Acrylonitrile	10	0.2620644	20	0.2971292	50	0.2890354	100	0.2857635	200	0.2961238		
Benzene	10	2.360772	20	2.550772	50	2.456006	100	2.390489	200	2.52274		
Bromobenzene	10	0.9492825	20	0.9387664	50	0.9447975	100	0.9118558	200	0.9247052		
Bromochloromethane	10	0.4621196	20	0.5042704	50	0.4748457	100	0.4549383	200	0.4748012		
Bromodichloromethane	10	0.370656	20	0.4599386	50	0.54191	100	0.583295	200	0.6866693		
Bromoform	10	8.486507E-02	20	0.1134038	50	0.153396	100	0.1987895	200	~~0.2389616~~		
Bromomethane	10	0.4462014	20	0.4123009	50	0.4177758	100	0.3507855	200	0.3859397		
2-Butanone (MEK)	20	0.3526488	40	0.4080648	100	0.387426	200	0.3863811	400	0.4112151		
n-Butylbenzene	10	2.373551	20	2.397669	50	2.472164	100	2.411971	200	2.36293		
sec-Butylbenzene	10	3.35742	20	3.380716	50	3.465874	100	3.350017	200	3.321464		
tert-Butylbenzene	10	1.616203	20	1.621271	50	1.66482	100	1.595885	200	1.596089		
Carbon disulfide	10	0.8940664	20	1.082939	50	1.240152	100	1.288944	200	1.433464		
Carbon tetrachloride	10	0.3318058	20	0.3965901	50	0.4736746	100	0.523393	200	0.6348459		
Chlorobenzene	10	1.176012	20	1.188317	50	1.189156	100	1.160765	200	1.165733		
Chloroethane	10	8.365567E-02	20	9.475985E-02	50	9.429338E-02	100	7.851257E-02	200	8.555506E-02		
Chloroform	10	0.921271	20	1.008278	50	0.988711	100	0.9695525	200	1.026389		
Chloromethane	10	0.6261792	20	0.697824	50	0.7159711	100	0.676284	200	0.6599496		
2-Chlorotoluene	10	0.8577657	20	0.8398971	50	0.8713309	100	0.8319615	200	0.8488422		
4-Chlorotoluene	10	2.5802	20	2.54733	50	2.614956	100	2.491408	200	2.517011		
Dibromochloromethane	10	0.158684	20	0.213768	50	0.2626913	100	0.313983	200	0.3531375		
1,2-Dibromo-3-chloropropane	10	0.0968574	20	0.1294979	50	0.1711681	100	0.2177268	200	0.2311736		
1,2-Dibromoethane (EDB)	10	0.3109729	20	0.3885904	50	0.3899816	100	0.4110444	200	0.3977697		
Dibromomethane	10	0.2890233	20	0.3267916	50	0.3254618	100	0.3239474	200	0.3540424		
1,2-Dichlorobenzene	10	1.456458	20	1.560407	50	1.513843	100	1.459579	200	1.461352		
1,3-Dichlorobenzene	10	1.550627	20	1.622393	50	1.619071	100	1.547067	200	1.560233		
1,4-Dichlorobenzene	10	1.629428	20	1.684319	50	1.655046	100	1.57984	200	1.584612		
Dichlorodifluoromethane	10	0.4464471	20	0.4743755	50	0.5329335	100	0.5032896	200	0.5268858		
1,1-Dichloroethane	10	1.029277	20	1.152566	50	1.107124	100	1.024209	200	0.998194		
1,2-Dichloroethane (EDC)	10	0.7945681	20	0.8769001	50	0.8252766	100	0.7957578	200	0.8403346		
1,1-Dichloroethene	10	0.8213569	20	0.908352	50	0.9011528	100	0.8564178	200	0.9077515		

INITIAL CALIBRATION DATA (Continued)

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E0804
Instrument: VOA-GCMS6
Matrix:
Calibration Date: 05/08/19 13:09

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	0.760482	20	0.8486127	50	0.8231251	100	0.8017893	200	0.8108853		
trans-1,2-Dichloroethene	10	0.8182564	20	0.8933085	50	0.8781558	100	0.8597056	200	0.8967125		
1,2-Dichloropropane	10	0.5681024	20	0.6097872	50	0.603212	100	0.5884503	200	0.6217671		
1,3-Dichloropropane	10	0.7102991	20	0.8044618	50	0.7374997	100	0.7477423	200	0.713416		
2,2-Dichloropropane	10	0.4911013	20	0.5688523	50	0.6083495	100	0.6090996	200	~~0.6754078~~		
1,1-Dichloropropene	10	0.7601039	20	0.8359855	50	0.8411755	100	0.8301044	200	0.8757318		
cis-1,3-Dichloropropene	10	0.409021	20	0.5505736	50	0.5752381	100	0.6412444	200	0.6635391		
trans-1,3-Dichloropropene	10	0.3489509	20	0.473147	50	0.5279537	100	0.5916959	200	0.6245255		
Ethylbenzene	10	1.946884	20	2.05753	50	2.074955	100	2.028917	200	2.044943		
Hexachlorobutadiene	10	0.2030881	20	0.2185117	50	0.2164735	100	0.2073872	200	0.1993501		
n-Hexane	10	0.1465345	20	0.1441567	50	0.1331258	100	0.1301553	200	0.1324706		
2-Hexanone	20	0.3366006	40	0.4196367	100	0.4246755	200	0.442425	400	0.4263828		
Isopropylbenzene	10	1.596504	20	1.705482	50	1.775627	100	1.733204	200	1.780079		
4-Isopropyltoluene	10	2.67317	20	2.79289	50	2.908842	100	2.803164	200	2.842191		
Methylene chloride	10	0.8086715	20	0.7197725	50	0.5931839	100	0.5369313	200	0.5435988		
4-Methyl-2-pentanone (MiBK)	20	0.5152713	40	0.6249499	100	0.6042894	200	0.6274063	400	0.5988082		
Methyl tert-butyl ether (MTBE)	10	1.55798	20	1.757915	50	1.743013	100	1.707382	200	1.910579		
Naphthalene	10	2.400872	20	2.919477	50	2.971083	100	3.187857	200	3.000956		
n-Propylbenzene	10	4.202144	20	4.218527	50	4.353542	100	4.21684	200	4.191329		
Styrene	10	0.8847117	20	1.004107	50	1.11364	100	1.101819	200	1.194112		
1,1,1,2-Tetrachloroethane	10	0.1924352	20	0.2493535	50	0.3024805	100	0.3423881	200	0.3655074		
1,1,2,2-Tetrachloroethane	10	0.9902634	20	1.09488	50	1.077614	100	1.094781	200	1.015404		
Tetrachloroethene (PCE)	10	0.4558453	20	0.5144691	50	0.4732682	100	0.4876975	200	0.4698653		
1,2,3-Trichlorobenzene	10	0.7954587	20	0.8881317	50	0.8600013	100	0.8864916	200	0.8271571		
1,2,4-Trichlorobenzene	10	0.7768937	20	0.8762108	50	0.8716825	100	0.8989497	200	0.8596929		
1,1,1-Trichloroethane	10	0.6492625	20	0.7401237	50	0.8070877	100	~~0.8232~~	200	~~0.9044973~~		
1,1,2-Trichloroethane	10	0.3665807	20	0.4204243	50	0.3894328	100	0.3931444	200	0.3810173		
Trichloroethene (TCE)	10	0.5590089	20	0.6149634	50	0.6127348	100	0.6024215	200	0.6459636		
Trichlorofluoromethane	10	0.1106713	20	0.1250389	50	0.1206469	100	0.1091402	200	0.1153767		
1,2,3-Trichloropropane	10	0.3901544	20	0.4117848	50	0.3922972	100	0.3951544	200	0.3718928		
1,1,2-Trichloro-1,2,2-trifluoroethan	10	0.515489	20	0.5471059	50	0.5520578	100	0.5278398	200	0.560459		

INITIAL CALIBRATION DATA (Continued)

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E0804
Instrument: VOA-GCMS6
Matrix:
Calibration Date: 05/08/19 13:09

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
1,2,4-Trimethylbenzene	10	2.839455	20	2.921522	50	2.97654	100	2.87091	200	2.914147		
1,3,5-Trimethylbenzene	10	2.816603	20	2.880625	50	2.979177	100	2.875496	200	2.96697		
Toluene	10	1.955228	20	2.131224	50	1.978733	100	1.99247	200	1.879017		
Vinyl chloride	10	0.6484118	20	0.6918793	50	0.7415089	100	0.6704769	200	0.719093		
m,p-Xylene	20	1.421015	40	1.525141	100	1.552606	200	1.536775	400	1.606933		
o-Xylene	10	1.336833	20	1.433145	50	1.500381	100	1.462682	200	1.522892		
trans-1,4-Dichloro-2-butene	10	6.016349E-02	20	7.542077E-02	50	0.1074294	100	0.1280113	200	0.1432857		
Xylenes, total	30	1.392954	60	1.494476	150	1.535197	300	1.512078	600	1.578919		
1,4-Difluorobenzene (Surr)	50	1.531301	50	1.549395	50	1.541734	50	1.533681	50	1.584166		
Toluene-d8 (Surr)	50	1.452187	50	1.531564	50	1.417982	50	1.462872	50	1.34438		
4-Bromofluorobenzene (Surr)	50	0.7979001	50	0.7597709	50	0.7677041	50	0.7422173	50	0.7366811		

SECOND-SOURCE CALIBRATION VERIFICATION

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	VOA-GCMS6	Calibration:	A9E0804
Lab File ID:	VF19050729.D		
Sequence:	9E07048	Inject Date:	05/08/19
Lab Sample ID:	9E07048-ICV1	Inject Time:	03:01

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acetone	40.0	41.8	4.6	70 - 130
Acrylonitrile	20.0	21.9	9.4	70 - 130
Benzene	20.0	20.4	1.9	70 - 130
Bromobenzene	20.0	20.1	0.3	70 - 130
Bromochloromethane	20.0	21.7	8.5	70 - 130
Bromodichloromethane	20.0	20.0	0.08	70 - 130
Bromoform	20.0	21.5	7.5	70 - 130
Bromomethane	20.0	20.2	0.8	70 - 130
2-Butanone (MEK)	40.0	42.1	5.3	70 - 130
n-Butylbenzene	20.0	21.0	5.0	70 - 130
sec-Butylbenzene	20.0	21.1	5.6	70 - 130
tert-Butylbenzene	20.0	21.0	5.0	70 - 130
Carbon disulfide	20.0	18.0	-10.0	70 - 130
Carbon tetrachloride	20.0	22.3	11.4	70 - 130
Chlorobenzene	20.0	18.6	-6.9	70 - 130
Chloroethane	20.0	24.2	20.9	70 - 130
Chloroform	20.0	21.2	5.8	70 - 130
Chloromethane	20.0	24.4	22.2	70 - 130
2-Chlorotoluene	20.0	20.3	1.6	70 - 130
4-Chlorotoluene	20.0	21.1	5.3	70 - 130
Dibromochloromethane	20.0	20.1	0.5	70 - 130
1,2-Dibromo-3-chloropropane	20.0	19.6	-2.0	70 - 130
1,2-Dibromoethane (EDB)	20.0	21.4	7.0	70 - 130
Dibromomethane	20.0	21.7	8.3	70 - 130
1,2-Dichlorobenzene	20.0	21.1	5.6	70 - 130
1,3-Dichlorobenzene	20.0	20.4	2.0	70 - 130
1,4-Dichlorobenzene	20.0	19.4	-2.8	70 - 130
Dichlorodifluoromethane	20.0	24.2	21.2	70 - 130
1,1-Dichloroethane	20.0	21.6	7.9	70 - 130
1,2-Dichloroethane (EDC)	20.0	21.0	4.9	70 - 130
1,1-Dichloroethene	20.0	20.9	4.4	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	VOA-GCMS6	Calibration:	A9E0804
Lab File ID:	VF19050729.D		
Sequence:	9E07048	Inject Date:	05/08/19
Lab Sample ID:	9E07048-ICV1	Inject Time:	03:01

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
cis-1,2-Dichloroethene	20.0	21.8	8.9	70 - 130
trans-1,2-Dichloroethene	20.0	21.4	6.9	70 - 130
1,2-Dichloropropane	20.0	20.6	3.0	70 - 130
1,3-Dichloropropane	20.0	22.4	11.8	70 - 130
2,2-Dichloropropane	20.0	21.2	6.0	70 - 130
1,1-Dichloropropene	20.0	21.6	7.9	70 - 130
cis-1,3-Dichloropropene	20.0	20.1	0.7	70 - 130
trans-1,3-Dichloropropene	20.0	20.3	1.4	70 - 130
Ethylbenzene	20.0	19.8	-1.2	70 - 130
Hexachlorobutadiene	20.0	21.2	6.0	70 - 130
n-Hexane	20.0	19.9	-0.7	70 - 130
2-Hexanone	40.0	42.7	6.8	70 - 130
Isopropylbenzene	20.0	21.5	7.6	70 - 130
4-Isopropyltoluene	20.0	20.8	4.0	70 - 130
Methylene chloride	20.0	21.6	8.2	70 - 130
4-Methyl-2-pentanone (MiBK)	40.0	44.5	11.2	70 - 130
Methyl tert-butyl ether (MTBE)	20.0	20.8	4.1	70 - 130
Naphthalene	20.0	19.7	-1.4	70 - 130
n-Propylbenzene	20.0	20.1	0.4	70 - 130
Styrene	20.0	19.2	-4.0	70 - 130
1,1,1,2-Tetrachloroethane	20.0	20.3	1.3	70 - 130
1,1,2,2-Tetrachloroethane	20.0	22.9	14.6	70 - 130
Tetrachloroethene (PCE)	20.0	21.5	7.5	70 - 130
1,2,3-Trichlorobenzene	20.0	22.3	11.7	70 - 130
1,2,4-Trichlorobenzene	20.0	22.2	11.1	70 - 130
1,1,1-Trichloroethane	20.0	24.2	21.1	70 - 130
1,1,2-Trichloroethane	20.0	22.5	12.6	70 - 130
Trichloroethene (TCE)	20.0	20.4	2.1	70 - 130
Trichlorofluoromethane	20.0	22.3	11.5	70 - 130
1,2,3-Trichloropropane	20.0	20.9	4.7	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	20.0	21.3	6.6	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	VOA-GCMS6	Calibration:	A9E0804
Lab File ID:	VF19050729.D		
Sequence:	9E07048	Inject Date:	05/08/19
Lab Sample ID:	9E07048-ICV1	Inject Time:	03:01

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
1,2,4-Trimethylbenzene	20.0	21.1	5.5	70 - 130
1,3,5-Trimethylbenzene	20.0	21.1	5.6	70 - 130
Toluene	20.0	19.3	-3.7	70 - 130
Vinyl chloride	20.0	23.0	15.0	70 - 130
m,p-Xylene	40.0	41.3	3.3	70 - 130
o-Xylene	20.0	20.5	2.4	70 - 130
trans-1,4-Dichloro-2-butene	20.0	17.6	-11.8	70 - 130
Xylenes, total	60.0	61.8	3.0	70 - 130
1,4-Difluorobenzene (Surr)	50.0	49.8	-0.4	70 - 130
Toluene-d8 (Surr)	50.0	51.7	3.3	70 - 130
4-Bromofluorobenzene (Surr)	50.0	49.8	-0.5	70 - 130

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E07048	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9E07048-ICV1)				Lab File ID: VF19050729.D		Analyzed: 05/08/19 03:01		
1,4-Difluorobenzene (Surr)	50.0	100	70 - 130	6.661	6.659818	0.0012	+/-1.0	
Toluene-d8 (Surr)	50.0	103	70 - 130	8.17	8.169091	0.0009	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	70 - 130	10.871	10.87082	0.0002	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9051092-BS1)			Lab File ID: VF19052103.D		Analyzed: 05/21/19 11:49			
1,4-Difluorobenzene (Surr)	50.0	100	80 - 120	6.655	6.659818	-0.0048	+/-1.0	
Toluene-d8 (Surr)	50.0	95	80 - 120	8.169	8.169091	-0.0001	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	104	80 - 120	10.87	10.87082	-0.0008	+/-1.0	
Blank (9051092-BLK1)			Lab File ID: VF19052105.D		Analyzed: 05/21/19 12:43			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.661	6.659818	0.0012	+/-1.0	
Toluene-d8 (Surr)	50.0	94	80 - 120	8.17	8.169091	0.0009	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	107	80 - 120	10.871	10.87082	0.0002	+/-1.0	
2708-190520-006 (A9E0677-01)			Lab File ID: VF19052126.D		Analyzed: 05/21/19 22:17			
1,4-Difluorobenzene (Surr)	50.0	110	80 - 120	6.656	6.659818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	91	80 - 120	8.171	8.169091	0.0019	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	104	80 - 120	10.872	10.87082	0.0012	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9E0804

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9051092-BS1)			Lab File ID: VF19052103.D			Analyzed: 05/21/19 11:49			
Pentafluorobenzene (ISTD)	324912	6.095	324912	6.095	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	405034	9.806	405034	9.806	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	180218	11.753	180218	11.753	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9E21036-CCV1)			Lab File ID: VF19052103.D			Analyzed: 05/21/19 11:49			
Pentafluorobenzene (ISTD)	324912	6.095	247283	6.097	131	50 - 200	-0.0020	+/-0.50	
Chlorobenzene-d5 (ISTD)	405034	9.806	274550	9.802	148	50 - 200	0.0040	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	180218	11.753	127087	11.749	142	50 - 200	0.0040	+/-0.50	
Blank (9051092-BLK1)			Lab File ID: VF19052105.D			Analyzed: 05/21/19 12:43			
Pentafluorobenzene (ISTD)	344135	6.102	324912	6.095	106	50 - 200	0.0070	+/-0.50	
Chlorobenzene-d5 (ISTD)	464763	9.806	405034	9.806	115	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	195986	11.753	180218	11.753	109	50 - 200	0.0000	+/-0.50	
Duplicate (9051092-DUP1)			Lab File ID: VF19052113.D			Analyzed: 05/21/19 16:25			
Pentafluorobenzene (ISTD)	307120	6.095	324912	6.095	95	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	361582	9.806	405034	9.806	89	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	151715	11.753	180218	11.753	84	50 - 200	0.0000	+/-0.50	
Matrix Spike (9051092-MS1)			Lab File ID: VF19052117.D			Analyzed: 05/21/19 18:13			
Pentafluorobenzene (ISTD)	309549	6.096	324912	6.095	95	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	372203	9.807	405034	9.806	92	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	164284	11.748	180218	11.753	91	50 - 200	-0.0050	+/-0.50	
2708-190520-006 (A9E0677-01)			Lab File ID: VF19052126.D			Analyzed: 05/21/19 22:17			
Pentafluorobenzene (ISTD)	282560	6.097	324912	6.095	87	50 - 200	0.0020	+/-0.50	
Chlorobenzene-d5 (ISTD)	411374	9.801	405034	9.806	102	50 - 200	-0.0050	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	189213	11.748	180218	11.753	105	50 - 200	-0.0050	+/-0.50	

HOLDING TIME SUMMARY

5035A/8260C

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

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
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/21/19 13:35	0.94	2.00	05/21/19 22:17	0.36	14.00	

Apex Laboratories

SDG: A9E0677

CLASS: GCMS

METHOD: EPA 8270D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190520-006	A9E0677-01	Solid

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: 9/30/2019 3:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Solid

Analyte	MDL	MRL	Units
Acenaphthene	1.33	2.67	ug/kg
Acenaphthylene	1.33	2.67	ug/kg
Anthracene	1.33	2.67	ug/kg
Benz(a)anthracene	1.33	2.67	ug/kg
Benzo(a)pyrene	2.00	4.00	ug/kg
Benzo(b)fluoranthene	2.00	4.00	ug/kg
Benzo(k)fluoranthene	2.00	4.00	ug/kg
Benzo(g,h,i)perylene	1.33	2.67	ug/kg
Chrysene	1.33	2.67	ug/kg
Dibenz(a,h)anthracene	1.33	2.67	ug/kg
Fluoranthene	1.33	2.67	ug/kg
Fluorene	1.33	2.67	ug/kg
Indeno(1,2,3-cd)pyrene	1.33	2.67	ug/kg
1-Methylnaphthalene	2.67	5.33	ug/kg
2-Methylnaphthalene	2.67	5.33	ug/kg
Naphthalene	2.67	5.33	ug/kg
Phenanthrene	1.33	2.67	ug/kg
Pyrene	1.33	2.67	ug/kg
Carbazole	2.00	4.00	ug/kg
Dibenzofuran	1.33	2.67	ug/kg
4-Chloro-3-methylphenol	13.3	26.7	ug/kg
2-Chlorophenol	6.67	13.3	ug/kg
2,4-Dichlorophenol	6.67	13.3	ug/kg
2,4-Dimethylphenol	6.67	13.3	ug/kg
2,4-Dinitrophenol	33.3	66.7	ug/kg
4,6-Dinitro-2-methylphenol	33.3	66.7	ug/kg
2-Methylphenol	3.33	6.67	ug/kg
3+4-Methylphenol(s)	3.33	6.67	ug/kg
2-Nitrophenol	13.3	26.7	ug/kg
4-Nitrophenol	13.3	26.7	ug/kg
Pentachlorophenol (PCP)	13.3	26.7	ug/kg
Phenol	2.67	5.33	ug/kg
2,3,4,6-Tetrachlorophenol	6.67	13.3	ug/kg
2,3,5,6-Tetrachlorophenol	6.67	13.3	ug/kg
2,4,5-Trichlorophenol	6.67	13.3	ug/kg
2,4,6-Trichlorophenol	6.67	13.3	ug/kg
Bis(2-ethylhexyl)phthalate	20.0	40.0	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Solid

Analyte	MDL	MRL	Units
Butyl benzyl phthalate	13.3	26.7	ug/kg
Diethylphthalate	13.3	26.7	ug/kg
Dimethylphthalate	13.3	26.7	ug/kg
Di-n-butylphthalate	13.3	26.7	ug/kg
Di-n-octyl phthalate	13.3	26.7	ug/kg
N-Nitrosodimethylamine	3.33	6.67	ug/kg
N-Nitroso-di-n-propylamine	3.33	6.67	ug/kg
N-Nitrosodiphenylamine	3.33	6.67	ug/kg
Bis(2-Chloroethoxy) methane	3.33	6.67	ug/kg
Bis(2-Chloroethyl) ether	3.33	6.67	ug/kg
2,2'-Oxybis(1-Chloropropane)	3.33	6.67	ug/kg
Hexachlorobenzene	1.33	2.67	ug/kg
Hexachlorobutadiene	3.33	6.67	ug/kg
Hexachlorocyclopentadiene	6.67	13.3	ug/kg
Hexachloroethane	3.33	6.67	ug/kg
2-Chloronaphthalene	1.33	2.67	ug/kg
1,2-Dichlorobenzene	3.33	6.67	ug/kg
1,3-Dichlorobenzene	3.33	6.67	ug/kg
1,4-Dichlorobenzene	3.33	6.67	ug/kg
1,2,4-Trichlorobenzene	3.33	6.67	ug/kg
4-Bromophenyl phenyl ether	3.33	6.67	ug/kg
4-Chlorophenyl phenyl ether	3.33	6.67	ug/kg
Aniline	6.67	13.3	ug/kg
4-Chloroaniline	3.33	6.67	ug/kg
2-Nitroaniline	26.7	53.3	ug/kg
3-Nitroaniline	26.7	53.3	ug/kg
4-Nitroaniline	26.7	53.3	ug/kg
Nitrobenzene	13.3	26.7	ug/kg
2,4-Dinitrotoluene	13.3	26.7	ug/kg
2,6-Dinitrotoluene	13.3	26.7	ug/kg
Benzoic acid	167	333	ug/kg
Benzyl alcohol	6.67	13.3	ug/kg
Isophorone	3.33	6.67	ug/kg
Azobenzene (1,2-DPH)	3.33	6.67	ug/kg
Bis(2-Ethylhexyl) adipate	33.3	66.7	ug/kg
3,3'-Dichlorobenzidine	26.7	53.3	ug/kg
1,2-Dinitrobenzene	33.3	66.7	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Solid

Analyte	MDL	MRL	Units
1,3-Dinitrobenzene	33.3	66.7	ug/kg
1,4-Dinitrobenzene	33.3	66.7	ug/kg
Pyridine	6.67	13.3	ug/kg

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

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190520-006

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0677-01	File ID:	J05231910.D
Sampled:	05/20/19 15:00	Prepared:	05/22/19 16:25	Analyzed:	05/23/19 13:55
		Preparation:	EPA 3546	Initial/Final:	0.51 g / 2 mL

Batch: 9051172 Sequence: 9E23010 Calibration: A9D1505 Instrument: SV-GCMS10

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q
83-32-9	Acenaphthene	10000	22600000	D
208-96-8	Acenaphthylene	10000	391000	U
120-12-7	Anthracene	10000	11700000	D
56-55-3	Benz(a)anthracene	10000	6200000	D
50-32-8	Benzo(a)pyrene	10000	6980000	D
205-99-2	Benzo(b)fluoranthene	10000	7190000	D
207-08-9	Benzo(k)fluoranthene	10000	2850000	D
191-24-2	Benzo(g,h,i)perylene	10000	4560000	D
218-01-9	Chrysene	10000	6140000	D
53-70-3	Dibenz(a,h)anthracene	10000	575000	JD
206-44-0	Fluoranthene	10000	27500000	D
86-73-7	Fluorene	10000	11600000	D
193-39-5	Indeno(1,2,3-cd)pyrene	10000	4470000	D
90-12-0	1-Methylnaphthalene	10000	6420000	D
91-57-6	2-Methylnaphthalene	10000	13300000	D
91-20-3	Naphthalene	10000	36900000	D
85-01-8	Phenanthrene	10000	42000000	D
129-00-0	Pyrene	10000	23400000	D
86-74-8	Carbazole	10000	5590000	D
132-64-9	Dibenzofuran	10000	12500000	D
59-50-7	4-Chloro-3-methylphenol	10000	3910000	U
95-57-8	2-Chlorophenol	10000	1960000	U
120-83-2	2,4-Dichlorophenol	10000	1960000	U
105-67-9	2,4-Dimethylphenol	10000	1960000	U
51-28-5	2,4-Dinitrophenol	10000	9790000	U
534-52-1	4,6-Dinitro-2-methylphenol	10000	9790000	U
95-48-7	2-Methylphenol	10000	979000	U
NA	3+4-Methylphenol(s)	10000	979000	U
88-75-5	2-Nitrophenol	10000	3910000	U
100-02-7	4-Nitrophenol	10000	3910000	U
87-86-5	Pentachlorophenol (PCP)	10000	3910000	U
108-95-2	Phenol	10000	1150000	JD
58-90-2	2,3,4,6-Tetrachlorophenol	10000	1960000	U
935-95-5	2,3,5,6-Tetrachlorophenol	10000	1960000	U
95-95-4	2,4,5-Trichlorophenol	10000	1960000	U
88-06-2	2,4,6-Trichlorophenol	10000	1960000	U
117-81-7	Bis(2-ethylhexyl)phthalate	10000	5880000	U
85-68-7	Butyl benzyl phthalate	10000	3910000	U
84-66-2	Diethylphthalate	10000	3910000	U
131-11-3	Dimethylphthalate	10000	3910000	U

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190520-006

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0677-01	File ID:	J05231910.D
Sampled:	05/20/19 15:00	Prepared:	05/22/19 16:25	Analyzed:	05/23/19 13:55
		Preparation:	EPA 3546	Initial/Final:	0.51 g / 2 mL

Batch: 9051172 Sequence: 9E23010 Calibration: A9D1505 Instrument: SV-GCMS10

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q
84-74-2	Di-n-butylphthalate	10000	3910000	U
117-84-0	Di-n-octyl phthalate	10000	3910000	U
62-75-9	N-Nitrosodimethylamine	10000	979000	U
621-64-7	N-Nitroso-di-n-propylamine	10000	979000	U
86-30-6	N-Nitrosodiphenylamine	10000	979000	U
111-91-1	Bis(2-Chloroethoxy) methane	10000	979000	U
111-44-4	Bis(2-Chloroethyl) ether	10000	979000	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	10000	979000	U
118-74-1	Hexachlorobenzene	10000	391000	U
87-68-3	Hexachlorobutadiene	10000	979000	U
77-47-4	Hexachlorocyclopentadiene	10000	1960000	U
67-72-1	Hexachloroethane	10000	979000	U
91-58-7	2-Chloronaphthalene	10000	391000	U
95-50-1	1,2-Dichlorobenzene	10000	979000	U
541-73-1	1,3-Dichlorobenzene	10000	979000	U
106-46-7	1,4-Dichlorobenzene	10000	979000	U
120-82-1	1,2,4-Trichlorobenzene	10000	979000	U
101-55-3	4-Bromophenyl phenyl ether	10000	979000	U
7005-72-3	4-Chlorophenyl phenyl ether	10000	979000	U
62-53-3	Aniline	10000	1960000	U
106-47-8	4-Chloroaniline	10000	979000	U
88-74-4	2-Nitroaniline	10000	7850000	U
99-09-2	3-Nitroaniline	10000	7850000	U
100-01-6	4-Nitroaniline	10000	7850000	U
98-95-3	Nitrobenzene	10000	3910000	U
121-14-2	2,4-Dinitrotoluene	10000	3910000	U
606-20-2	2,6-Dinitrotoluene	10000	3910000	U
65-85-0	Benzoic acid	10000	49100000	U
100-51-6	Benzyl alcohol	10000	1960000	U
78-59-1	Isophorone	10000	979000	U
103-33-3	Azobenzene (1,2-DPH)	10000	979000	U
103-23-1	Bis(2-Ethylhexyl) adipate	10000	9790000	U
91-94-1	3,3'-Dichlorobenzidine	10000	7850000	U
528-29-0	1,2-Dinitrobenzene	10000	9790000	U
99-65-0	1,3-Dinitrobenzene	10000	9790000	U
100-25-4	1,4-Dinitrobenzene	10000	9790000	U
110-86-1	Pyridine	10000	1960000	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Nitrobenzene-d5 (Surr)	9800	0.00		37 - 122	D
2-Fluorobiphenyl (Surr)	9800	0.00		44 - 115	D

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190520-006

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0677-01	File ID:	J05231910.D
Sampled:	05/20/19 15:00	Prepared:	05/22/19 16:25	Analyzed:	05/23/19 13:55
		Preparation:	EPA 3546	Initial/Final:	0.51 g / 2 mL

Batch: 9051172 Sequence: 9E23010 Calibration: A9D1505 Instrument: SV-GCMS10

SYSTEM MONITORING COMPOUND	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Phenol-d6 (Surr)	9800	0.00		33 - 122	D
p-Terphenyl-d14 (Surr)	9800	13300	136	54 - 127	D
2-Fluorophenol (Surr)	9800	0.00		35 - 115	D
2,4,6-Tribromophenol (Surr)	9800	0.00		39 - 132	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4 (ISTD)	187203	6.808	167980	6.803	
Naphthalene-d8 (ISTD)	771304	8.076	738657	8.076	
Acenaphthene-d10 (ISTD)	346599	9.857	345296	9.857	
Phenanthrene-d10 (ISTD)	541694	11.371	579994	11.376	
Chrysene-d12 (ISTD)	468376	15.345	471294	15.345	
Perylene-d12 (ISTD)	421436	18.859	420349	18.864	
Dibenz(a,h)anthracene-d14 (ISTD)	390289	21.25	397590	21.255	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Batch: 9051172 Batch Matrix: Solid Preparation: EPA 3546

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051172-BLK1	J05231908.D	05/22/19 16:25	
LCS	9051172-BS1	J05231909.D	05/22/19 16:25	
2708-190520-006 (Dup)	9051172-DUP1	J05231911.D	05/22/19 16:25	
2708-190520-006	A9E0677-01	J05231910.D	05/22/19 16:25	

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:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051172-BLK1	File ID:	J05231908.D
Prepared:	05/22/19 16:25	Preparation:	EPA 3546	Initial/Final:	15 g / 2 mL
Analyzed:	05/23/19 12:43	Instrument:	SV-GCMS10		
Batch:	9051172	Sequence:	9E23010	Calibration:	A9D1505

CAS NO.	COMPOUND	CONC. (ug/kg)	Q
83-32-9	Acenaphthene	1.33	U
208-96-8	Acenaphthylene	1.33	U
120-12-7	Anthracene	1.33	U
56-55-3	Benz(a)anthracene	1.33	U
50-32-8	Benzo(a)pyrene	2.00	U
205-99-2	Benzo(b)fluoranthene	2.00	U
207-08-9	Benzo(k)fluoranthene	2.00	U
191-24-2	Benzo(g,h,i)perylene	1.33	U
218-01-9	Chrysene	1.33	U
53-70-3	Dibenz(a,h)anthracene	1.33	U
206-44-0	Fluoranthene	1.33	U
86-73-7	Fluorene	1.33	U
193-39-5	Indeno(1,2,3-cd)pyrene	1.33	U
90-12-0	1-Methylnaphthalene	2.67	U
91-57-6	2-Methylnaphthalene	2.67	U
91-20-3	Naphthalene	2.67	U
85-01-8	Phenanthrene	1.33	U
129-00-0	Pyrene	1.33	U
86-74-8	Carbazole	2.00	U
132-64-9	Dibenzofuran	1.33	U
59-50-7	4-Chloro-3-methylphenol	13.3	U
95-57-8	2-Chlorophenol	6.67	U
120-83-2	2,4-Dichlorophenol	6.67	U
105-67-9	2,4-Dimethylphenol	6.67	U
51-28-5	2,4-Dinitrophenol	33.3	U
534-52-1	4,6-Dinitro-2-methylphenol	33.3	U
95-48-7	2-Methylphenol	3.33	U
NA	3+4-Methylphenol(s)	3.33	U
88-75-5	2-Nitrophenol	13.3	U
100-02-7	4-Nitrophenol	13.3	U
87-86-5	Pentachlorophenol (PCP)	13.3	U
108-95-2	Phenol	2.67	U
58-90-2	2,3,4,6-Tetrachlorophenol	6.67	U
935-95-5	2,3,5,6-Tetrachlorophenol	6.67	U
95-95-4	2,4,5-Trichlorophenol	6.67	U

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051172-BLK1	File ID:	J05231908.D
Prepared:	05/22/19 16:25	Preparation:	EPA 3546	Initial/Final:	15 g / 2 mL
Analyzed:	05/23/19 12:43	Instrument:	SV-GCMS10		
Batch:	9051172	Sequence:	9E23010	Calibration:	A9D1505

CAS NO.	COMPOUND	CONC. (ug/kg)	Q
88-06-2	2,4,6-Trichlorophenol	6.67	U
117-81-7	Bis(2-ethylhexyl)phthalate	20.0	U
85-68-7	Butyl benzyl phthalate	13.3	U
84-66-2	Diethylphthalate	13.3	U
131-11-3	Dimethylphthalate	13.3	U
84-74-2	Di-n-butylphthalate	13.3	U
117-84-0	Di-n-octyl phthalate	13.3	U
62-75-9	N-Nitrosodimethylamine	3.33	U
621-64-7	N-Nitroso-di-n-propylamine	3.33	U
86-30-6	N-Nitrosodiphenylamine	3.33	U
111-91-1	Bis(2-Chloroethoxy) methane	3.33	U
111-44-4	Bis(2-Chloroethyl) ether	3.33	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.33	U
118-74-1	Hexachlorobenzene	1.33	U
87-68-3	Hexachlorobutadiene	3.33	U
77-47-4	Hexachlorocyclopentadiene	6.67	U
67-72-1	Hexachloroethane	3.33	U
91-58-7	2-Chloronaphthalene	1.33	U
95-50-1	1,2-Dichlorobenzene	3.33	U
541-73-1	1,3-Dichlorobenzene	3.33	U
106-46-7	1,4-Dichlorobenzene	3.33	U
120-82-1	1,2,4-Trichlorobenzene	3.33	U
101-55-3	4-Bromophenyl phenyl ether	3.33	U
7005-72-3	4-Chlorophenyl phenyl ether	3.33	U
62-53-3	Aniline	6.67	U
106-47-8	4-Chloroaniline	3.33	U
88-74-4	2-Nitroaniline	26.7	U
99-09-2	3-Nitroaniline	26.7	U
100-01-6	4-Nitroaniline	26.7	U
98-95-3	Nitrobenzene	13.3	U
121-14-2	2,4-Dinitrotoluene	13.3	U
606-20-2	2,6-Dinitrotoluene	13.3	U
65-85-0	Benzoic acid	167	U
100-51-6	Benzyl alcohol	6.67	U
78-59-1	Isophorone	3.33	U

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051172-BLK1	File ID:	J05231908.D
Prepared:	05/22/19 16:25	Preparation:	EPA 3546	Initial/Final:	15 g / 2 mL
Analyzed:	05/23/19 12:43	Instrument:	SV-GCMS10		
Batch:	9051172	Sequence:	9E23010	Calibration:	A9D1505

CAS NO.	COMPOUND	CONC. (ug/kg)	Q
103-33-3	Azobenzene (1,2-DPH)	3.33	U
103-23-1	Bis(2-Ethylhexyl) adipate	33.3	U
91-94-1	3,3'-Dichlorobenzidine	26.7	U
528-29-0	1,2-Dinitrobenzene	33.3	U
99-65-0	1,3-Dinitrobenzene	33.3	U
100-25-4	1,4-Dinitrobenzene	33.3	U
110-86-1	Pyridine	6.67	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Nitrobenzene-d5 (Surr)	333	268	80	37 - 122	
2-Fluorobiphenyl (Surr)	333	253	76	44 - 115	
Phenol-d6 (Surr)	333	259	78	33 - 122	
p-Terphenyl-d14 (Surr)	333	304	91	54 - 127	
2-Fluorophenol (Surr)	333	251	75	35 - 115	
2,4,6-Tribromophenol (Surr)	333	236	71	39 - 132	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4 (ISTD)	178980	6.803	167980	6.803	
Naphthalene-d8 (ISTD)	761638	8.076	738657	8.076	
Acenaphthene-d10 (ISTD)	354982	9.857	345296	9.857	
Phenanthrene-d10 (ISTD)	589543	11.371	579994	11.376	
Chrysene-d12 (ISTD)	496727	15.345	471294	15.345	
Perylene-d12 (ISTD)	441516	18.859	420349	18.864	
Dibenz(a,h)anthracene-d14 (ISTD)	408839	21.25	397590	21.255	

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051172	Laboratory ID:	9051172-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 2 mL

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	533	477	90	40 - 122
Acenaphthylene	533	496	93	32 - 132
Anthracene	533	495	93	47 - 123
Benz(a)anthracene	533	510	96	49 - 126
Benzo(a)pyrene	533	530	99	45 - 129
Benzo(b)fluoranthene	533	514	96	45 - 132
Benzo(k)fluoranthene	533	516	97	47 - 132
Benzo(g,h,i)perylene	533	492	92	43 - 134
Chrysene	533	506	95	50 - 124
Dibenz(a,h)anthracene	533	505	95	45 - 134
Fluoranthene	533	511	96	50 - 127
Fluorene	533	471	88	43 - 125
Indeno(1,2,3-cd)pyrene	533	466	87	45 - 133
1-Methylnaphthalene	533	443	83	40 - 120
2-Methylnaphthalene	533	458	86	38 - 122
Naphthalene	533	465	87	35 - 123
Phenanthrene	533	488	92	50 - 121
Pyrene	533	515	97	47 - 127
Carbazole	533	510	96	50 - 122
Dibenzofuran	533	470	88	44 - 120
4-Chloro-3-methylphenol	533	469	88	45 - 122
2-Chlorophenol	533	484	91	34 - 121
2,4-Dichlorophenol	533	495	93	40 - 122
2,4-Dimethylphenol	533	416	78	30 - 127
2,4-Dinitrophenol	533	753	141 *	5 - 137
4,6-Dinitro-2-methylphenol	533	751	141 *	29 - 132
2-Methylphenol	533	498	93	32 - 122
3+4-Methylphenol(s)	533	498	93	34 - 120
2-Nitrophenol	533	624	117	36 - 123
4-Nitrophenol	533	434	81	30 - 132

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051172	Laboratory ID:	9051172-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 2 mL

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Pentachlorophenol (PCP)	533	422	79	25 - 133
Phenol	533	470	88	34 - 120
2,3,4,6-Tetrachlorophenol	533	473	89	44 - 125
2,3,5,6-Tetrachlorophenol	533	474	89	40 - 120
2,4,5-Trichlorophenol	533	519	97	41 - 124
2,4,6-Trichlorophenol	533	485	91	39 - 126
Bis(2-ethylhexyl)phthalate	533	513	96	51 - 133
Butyl benzyl phthalate	533	533	100	48 - 132
Diethylphthalate	533	510	96	50 - 124
Dimethylphthalate	533	477	89	48 - 124
Di-n-butylphthalate	533	551	103	51 - 128
Di-n-octyl phthalate	533	544	102	44 - 140
N-Nitrosodimethylamine	533	446	84	23 - 120
N-Nitroso-di-n-propylamine	533	451	85	36 - 120
N-Nitrosodiphenylamine	533	515	97	38 - 127
Bis(2-Chloroethoxy) methane	533	478	90	36 - 121
Bis(2-Chloroethyl) ether	533	465	87	31 - 120
2,2'-Oxybis(1-Chloropropane)	533	436	82	33 - 131
Hexachlorobenzene	533	467	88	44 - 122
Hexachlorobutadiene	533	471	88	32 - 123
Hexachlorocyclopentadiene	533	592	111	5 - 140
Hexachloroethane	533	514	96	28 - 120
2-Chloronaphthalene	533	516	97	41 - 120
1,2-Dichlorobenzene	533	456	86	33 - 120
1,3-Dichlorobenzene	533	450	84	30 - 120
1,4-Dichlorobenzene	533	451	85	31 - 120
1,2,4-Trichlorobenzene	533	486	91	34 - 120
4-Bromophenyl phenyl ether	533	482	90	46 - 124
4-Chlorophenyl phenyl ether	533	453	85	45 - 121
Aniline	533	274	51	7 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051172	Laboratory ID:	9051172-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 2 mL

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
4-Chloroaniline	533	325	61	16 - 120
2-Nitroaniline	533	513	96	44 - 127
3-Nitroaniline	533	417	78	33 - 120
4-Nitroaniline	533	489	92	35 - 120
Nitrobenzene	533	499	94	34 - 122
2,4-Dinitrotoluene	533	511	96	48 - 126
2,6-Dinitrotoluene	533	533	100	46 - 124
Benzoic acid	1070	805	75	5 - 140
Benzyl alcohol	533	473	89	29 - 122
Isophorone	533	458	86	30 - 122
Azobenzene (1,2-DPH)	533	510	96	39 - 125
Bis(2-Ethylhexyl) adipate	533	587	110	60 - 121
3,3'-Dichlorobenzidine	1070	1960	184 *	22 - 121
1,2-Dinitrobenzene	533	488	92	44 - 120
1,3-Dinitrobenzene	533	570	107	42 - 127
1,4-Dinitrobenzene	533	617	116	37 - 132
Pyridine	533	371	70	5 - 120

* = Values outside of QC limits

DUPLICATES

EPA 8270D

2708-190520-006

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Solid
Batch: 9051172
Preparation: EPA 3546
Source Sample Name: 2708-190520-006

SDG: A9E0677
Project: Mult 802 Decommissioning
Laboratory ID: 9051172-DUP1
Lab Source ID: A9E0677-01
Initial/Final: 0.5 g / 2 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/kg)	C	DUPLICATE CONCENTRATION (ug/kg)	C	RPD %	Q	METHOD
Acenaphthene	30	22600000		24100000		6		EPA 8270D
Acenaphthylene	30	237000		ND				EPA 8270D
Anthracene	30	11700000		12800000		9		EPA 8270D
Benz(a)anthracene	30	6200000		6410000		3		EPA 8270D
Benzo(a)pyrene	30	6980000		7340000		5		EPA 8270D
Benzo(b)fluoranthene	30	7190000		7530000		5		EPA 8270D
Benzo(k)fluoranthene	30	2850000		3440000		18		EPA 8270D
Benzo(g,h,i)perylene	30	4560000		4820000		6		EPA 8270D
Chrysene	30	6140000		6450000		5		EPA 8270D
Dibenz(a,h)anthracene	30	575000		694000		19		EPA 8270D
Fluoranthene	30	27500000		29600000		7		EPA 8270D
Fluorene	30	11600000		13000000		12		EPA 8270D
Indeno(1,2,3-cd)pyrene	30	4470000		4790000		7		EPA 8270D
1-Methylnaphthalene	30	6420000		6880000		7		EPA 8270D
2-Methylnaphthalene	30	13300000		14300000		7		EPA 8270D
Naphthalene	30	36900000		37900000		3		EPA 8270D
Phenanthrene	30	42000000		44700000		6		EPA 8270D
Pyrene	30	23400000		25000000		7		EPA 8270D
Carbazole	30	5590000		6190000		10		EPA 8270D
Dibenzofuran	30	12500000		13500000		8		EPA 8270D
4-Chloro-3-methylphenol	30	0.00		ND				EPA 8270D
2-Chlorophenol	30	0.00		ND				EPA 8270D
2,4-Dichlorophenol	30	0.00		ND				EPA 8270D
2,4-Dimethylphenol	30	1080000		ND				EPA 8270D
2,4-Dinitrophenol	30	0.00		ND				EPA 8270D
4,6-Dinitro-2-methylphenol	30	0.00		ND				EPA 8270D
2-Methylphenol	30	335000		ND				EPA 8270D
3+4-Methylphenol(s)	30	864000		1470000		200	*	EPA 8270D
2-Nitrophenol	30	0.00		ND				EPA 8270D
4-Nitrophenol	30	3090000		ND				EPA 8270D
Pentachlorophenol (PCP)	30	0.00		ND				EPA 8270D
Phenol	30	1150000		1270000		10		EPA 8270D

DUPLICATES

EPA 8270D

2708-190520-006

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Solid
Batch: 9051172
Preparation: EPA 3546
Source Sample Name: 2708-190520-006

SDG: A9E0677
Project: Mult 802 Decommissioning
Laboratory ID: 9051172-DUP1
Lab Source ID: A9E0677-01
Initial/Final: 0.5 g / 2 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/kg)	C	DUPLICATE CONCENTRATION (ug/kg)	C	RPD %	Q	METHOD
2,3,4,6-Tetrachlorophenol	30	0.00		ND				EPA 8270D
2,3,5,6-Tetrachlorophenol	30	0.00		ND				EPA 8270D
2,4,5-Trichlorophenol	30	0.00		ND				EPA 8270D
2,4,6-Trichlorophenol	30	0.00		ND				EPA 8270D
Bis(2-ethylhexyl)phthalate	30	0.00		ND				EPA 8270D
Butyl benzyl phthalate	30	0.00		ND				EPA 8270D
Diethylphthalate	30	0.00		ND				EPA 8270D
Dimethylphthalate	30	0.00		ND				EPA 8270D
Di-n-butylphthalate	30	0.00		ND				EPA 8270D
Di-n-octyl phthalate	30	2610000		ND				EPA 8270D
N-Nitrosodimethylamine	30	0.00		ND				EPA 8270D
N-Nitroso-di-n-propylamine	30	0.00		ND				EPA 8270D
N-Nitrosodiphenylamine	30	0.00		ND				EPA 8270D
Bis(2-Chloroethoxy) methane	30	0.00		ND				EPA 8270D
Bis(2-Chloroethyl) ether	30	113000		ND				EPA 8270D
2,2'-Oxybis(1-Chloropropane)	30	0.00		ND				EPA 8270D
Hexachlorobenzene	30	0.00		ND				EPA 8270D
Hexachlorobutadiene	30	0.00		ND				EPA 8270D
Hexachlorocyclopentadiene	30	0.00		ND				EPA 8270D
Hexachloroethane	30	0.00		ND				EPA 8270D
2-Chloronaphthalene	30	0.00		ND				EPA 8270D
1,2-Dichlorobenzene	30	0.00		ND				EPA 8270D
1,3-Dichlorobenzene	30	0.00		ND				EPA 8270D
1,4-Dichlorobenzene	30	0.00		ND				EPA 8270D
1,2,4-Trichlorobenzene	30	0.00		ND				EPA 8270D
4-Bromophenyl phenyl ether	30	0.00		ND				EPA 8270D
4-Chlorophenyl phenyl ether	30	0.00		ND				EPA 8270D
Aniline	30	0.00		ND				EPA 8270D
4-Chloroaniline	30	672000		ND				EPA 8270D
2-Nitroaniline	30	0.00		ND				EPA 8270D
3-Nitroaniline	30	0.00		ND				EPA 8270D
4-Nitroaniline	30	661000		ND				EPA 8270D

DUPLICATES

2708-190520-006

EPA 8270D

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Solid
Batch: 9051172
Preparation: EPA 3546
Source Sample Name: 2708-190520-006

SDG: A9E0677
Project: Mult 802 Decommissioning
Laboratory ID: 9051172-DUP1
Lab Source ID: A9E0677-01
Initial/Final: 0.5 g / 2 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/kg)	C	DUPLICATE CONCENTRATION (ug/kg)	C	RPD %	Q	METHOD
Nitrobenzene	30	113000		ND				EPA 8270D
2,4-Dinitrotoluene	30	2450000		ND				EPA 8270D
2,6-Dinitrotoluene	30	0.00		ND				EPA 8270D
Benzoic acid	30	29600000		ND				EPA 8270D
Benzyl alcohol	30	0.00		ND				EPA 8270D
Isophorone	30	0.00		ND				EPA 8270D
Azobenzene (1,2-DPH)	30	0.00		ND				EPA 8270D
Bis(2-Ethylhexyl) adipate	30	3790000		ND				EPA 8270D
3,3'-Dichlorobenzidine	30	0.00		ND				EPA 8270D
1,2-Dinitrobenzene	30	0.00		ND				EPA 8270D
1,3-Dinitrobenzene	30	3030000		ND				EPA 8270D
1,4-Dinitrobenzene	30	5360000		ND				EPA 8270D
Pyridine	30	0.00		ND				EPA 8270D
1,4-Dichlorobenzene-d4 (ISTD)		2000		2000				EPA 8270D

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9D12042	Instrument:	SV-GCMS10
Matrix:	Solid	Calibration:	A9D1505

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9D12042-TUN2	J04121913.D	04/12/19 17:47
Initial Cal Blank	9D12042-ICB1	J04121914.D	04/12/19 18:15
Cal Standard	9D12042-CAL1	J04121915.D	04/12/19 18:51
Cal Standard	9D12042-CAL2	J04121916.D	04/12/19 19:27
Cal Standard	9D12042-CAL3	J04121917.D	04/12/19 20:03
Cal Standard	9D12042-CAL4	J04121918.D	04/12/19 20:39
Cal Standard	9D12042-CAL5	J04121919.D	04/12/19 21:16
Cal Standard	9D12042-CAL6	J04121920.D	04/12/19 21:52
Cal Standard	9D12042-CAL7	J04121921.D	04/12/19 22:28
Cal Standard	9D12042-CAL8	J04121922.D	04/12/19 23:04
Cal Standard	9D12042-CAL9	J04121923.D	04/12/19 23:40
Cal Standard	9D12042-CALA	J04121924.D	04/13/19 00:15
Initial Cal Check	9D12042-ICV1	J04121926.D	04/13/19 01:26

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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23010	Instrument:	SV-GCMS10
Matrix:	Solid	Calibration:	A9D1505

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9E23010-TUN2	J05231904.D	05/23/19 10:25
Calibration Check	9E23010-CCV2	J05231905.D	05/23/19 10:54
Calibration Blank	9E23010-CCB1	J05231907.D	05/23/19 12:08
Blank	9051172-BLK1	J05231908.D	05/23/19 12:43
LCS	9051172-BS1	J05231909.D	05/23/19 13:19
2708-190520-006	A9E0677-01	J05231910.D	05/23/19 13:55
2708-190520-006 (Dup)	9051172-DUP1	J05231911.D	05/23/19 14:34

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	J04121913.D	Injection Date:	04/12/19
Instrument ID:	SV-GCMS10	Injection Time:	17:47
Sequence:	9D12042	Lab Sample ID:	9D12042-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	1.40	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	0.34	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.90	PASS
m/z 365	1 - 100% of m/z 198	3.44	PASS
m/z 441	Less than 24% of m/z 443	73.83	FAIL
m/z 442	50 - 200% of m/z 198	97.22	PASS
m/z 443	15 - 24% of m/z 442	20.19	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	J05231904.D	Injection Date:	05/23/19
Instrument ID:	SV-GCMS10	Injection Time:	10:25
Sequence:	9E23010	Lab Sample ID:	9E23010-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	1.49	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.59	PASS
m/z 197	Less than 2% of m/z 198	0.44	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	7.09	PASS
m/z 365	1 - 100% of m/z 198	3.66	PASS
m/z 441	Less than 24% of m/z 443	77.79	FAIL
m/z 442	50 - 200% of m/z 198	98.17	PASS
m/z 443	15 - 24% of m/z 442	19.32	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9D1505 Date: 04/15/19 14:53 Instrument: SV-GCMS10

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	1.28667	Ave	10.97154	9.8995	5.839588E-02			20	
Acenaphthylene	2.000623	Ave	8.590469	9.720334	3.731059E-02			20	
Anthracene	1.056941	Ave	11.97015	11.4568	5.906968E-02			20	
Benz(a)anthracene	1.091349	Ave	3.455393	15.3374	7.238036E-02			20	
Benzo(a)pyrene	0.9699381	XXX	20.03122	18.74	0.124951				
Benzo(b)fluoranthene	1.087957	XXX	17.55607	17.9581	0.1164495				
Benzo(k)fluoranthene	1.045719	XXX	17.74867	18.0284	0.1148608				
Benzo(g,h,i)perylene	1.081412	Ave	8.424744	21.8226	0.1318572			20	
Chrysene	1.058934	Ave	2.949131	15.4228	0.1140267			20	
Dibenz(a,h)anthracene	1.00084	Ave	4.355	21.3401	0.1066938			20	
Fluoranthene	1.082262	Ave	10.69782	12.722	0.0484217			20	
Fluorene	1.316347	Ave	12.04043	10.4231	5.859306E-02			20	
Indeno(1,2,3-cd)pyrene	1.118845	Ave	5.308681	21.2786	0.1250806			20	
1-Methylnaphthalene	0.6584879	Ave	9.581506	8.903	4.608219E-02			20	
2-Methylnaphthalene	0.6788702	Ave	10.52969	8.800334	4.353128E-02			20	
Naphthalene	1.035252	Ave	10.71752	8.1056	5.874788E-02			20	
Phenanthrene	1.085248	Ave	12.23274	11.4067	5.409496E-02			20	
Pyrene	1.115312	Ave	10.02968	13.0343	6.155216E-02			20	
Carbazole	0.8944781	Ave	13.01088	8.705125	61.72134			20	
Dibenzofuran	1.680969	Ave	10.47771	10.0727	5.557058E-02			20	
4-Chloro-3-methylphenol	0.2639941	XXX	26.37452	8.626875	6.825759E-02				
2-Chlorophenol	1.359666	Ave	10.81701	6.6083	5.891071E-02			20	
2,4-Dichlorophenol	0.2003562	XXX	32.22398	7.93625	7.673341E-02				
2,4-Dimethylphenol	0.2740272	XXX	18.58514	7.728889	0.1052943				
2,4-Dinitrophenol	0.0732051	XXX	62.1963	9.914286	0.1126792				
4,6-Dinitro-2-methylphenol	0.1071724	XXX	54.99035	10.466	0.1149234				
2-Methylphenol	1.05318	Ave	13.92126	7.046	5.041497E-02			20	
3+4-Methylphenol(s)	1.169725	XXX	27.40684	7.193428	9.45117E-03				
2-Nitrophenol	0.148279	XXX	25.65725	7.6975	3.269702E-02				
4-Nitrophenol	0.1892084	XXX	39.12015	9.96825	0.1225655				
Pentachlorophenol (PCP)	0.1042426	XXX	20.98617	11.18589	0.0342848				
Phenol	1.753361	XXX	18.93665	6.4553	0.122374				
2,3,4,6-Tetrachlorophenol	0.2487148	XXX	25.52684	10.1967	4.467364E-02				

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9D1505 Date: 04/15/19 14:53 Instrument: SV-GCMS10

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
2,3,5,6-Tetrachlorophenol	0.2284494	XXX	30.66295	10.15356	3.995245E-02				
2,4,5-Trichlorophenol	0.2945873	XXX	23.36234	9.120223	4.607131E-02				
2,4,6-Trichlorophenol	0.2960295	XXX	29.20474	9.083889	4.517346E-02				
Bis(2-ethylhexyl)phthalate	0.8401148	Ave	10.65042	15.49371	0.0429042			20	
Butyl benzyl phthalate	0.5488667	XXX	27.52801	14.115	5.936762E-02				
Diethylphthalate	1.32865	Ave	12.8928	10.2862	8.374172E-02			20	
Dimethylphthalate	1.391125	Ave	7.090646	9.5735	0.139015			20	
Di-n-butylphthalate	1.222963	Ave	10.44375	11.95175	3.479313E-02			20	
Di-n-octyl phthalate	1.292107	XXX	31.16713	17.17063	6.118308E-02				
N-Nitrosodimethylamine	0.985493	Ave	4.413267	4.1667	0.4181248			20	
N-Nitroso-di-n-propylamine	1.108171	Ave	7.963678	7.203667	0.1129027			20	
N-Nitrosodiphenylamine	0.615761	Ave	13.40987	10.5312	7.397305E-02			20	
Bis(2-Chloroethoxy) methane	0.3995136	Ave	13.46554	7.8188	8.777625E-02			20	
Bis(2-Chloroethyl) ether	1.693368	Ave	4.687035	6.5463	8.688509E-02			20	
2,2'-Oxybis(1-Chloropropane)	1.916246	Ave	10.81155	7.0732	5.299118E-02			20	
Hexachlorobenzene	0.2400356	Ave	12.69577	10.9947	5.225217E-02			20	
Hexachlorobutadiene	0.1543422	Ave	9.534615	8.2321	2.493439E-02			20	
Hexachlorocyclopentadiene	0.2547577	XXX	26.04578	8.969667	3.212524E-03				
Hexachloroethane	0.4113541	Ave	5.993255	7.322	1.762697E-02			20	
2-Chloronaphthalene	1.146525	Ave	10.15727	9.297222	3.793247E-02			20	
1,2-Dichlorobenzene	1.485454	Ave	6.939998	6.9833	3.890713E-02			20	
1,3-Dichlorobenzene	1.529883	Ave	5.007217	6.7591	4.783308E-02			20	
1,4-Dichlorobenzene	1.526264	Ave	5.801474	6.8281	5.632506E-02			20	
1,2,4-Trichlorobenzene	0.2840707	Ave	7.214382	8.0242	2.901022E-02			20	
4-Bromophenyl phenyl ether	0.196864	Ave	9.006213	10.9125	4.247515E-02			20	
4-Chlorophenyl phenyl ether	0.6023756	Ave	8.394672	10.4112	4.366987E-02			20	
Aniline	1.966327	Ave	4.619461	6.490889	6.284863E-02			20	
4-Chloroaniline	0.2731865	XXX	26.42698	8.146429	2.928244E-02				
2-Nitroaniline	0.3484087	XXX	29.94686	9.39375	8.676553E-02				
3-Nitroaniline	0.2734225	Ave	8.609593	5.602	93.54145			20	
4-Nitroaniline	0.2515482	Ave	12.23487	10.4335	0.1535243			20	
Nitrobenzene	1.422717	Ave	9.811335	7.378111	8.936199E-02			20	
2,4-Dinitrotoluene	0.331362	XXX	26.1698	10.04825	0.1213272				

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9D1505 Date: 04/15/19 14:53 Instrument: SV-GCMS10

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
2,6-Dinitrotoluene	0.259342	XXX	26.10084	9.634222	0.1083835				
Benzoic acid	0.173224	XXX	45.07128	7.873667	0.8646483				
Benzyl alcohol	0.7685032	XXX	33.4249	6.945	0.1025464				
Isophorone	0.7448874	Ave	4.567069	7.6143	0.15505			20	
Azobenzene (1,2-DPH)	0.8333983	Ave	12.7174	10.574	6.455449E-02			20	
Bis(2-Ethylhexyl) adipate	0.5698967	Ave	11.84224	14.29629	4.332993E-02			20	
3,3'-Dichlorobenzidine	0.189927	XXX	28.01131	10.19333	77.4597				
1,2-Dinitrobenzene	0.1340364	Ave	9.378426	9.698143	0.1417491			20	
1,3-Dinitrobenzene	0.1634372	XXX	31.74897	9.607	0.1442388				
1,4-Dinitrobenzene	0.1409773	XXX	34.40578	9.522429	9.014581E-02				
Pyridine	1.607979	Ave	12.26532	4.1903	0.59547			20	
Nitrobenzene-d5 (Surr)	1.406617	XXX	14.43767	7.358778	8.594122E-02				
2-Fluorobiphenyl (Surr)	1.411121	Ave	11.24503	9.169333	3.813388E-02			20	
Phenol-d6 (Surr)	1.672419	Ave	14.32085	6.441556	0.1105596			20	
p-Terphenyl-d14 (Surr)	0.9414444	Ave	5.989346	13.2467	3.941845E-02			20	
2-Fluorophenol (Surr)	1.300156	Ave	12.27825	5.5363	6.470345E-02			20	
2,4,6-Tribromophenol (Surr)	0.0888545	XXX	20.57089	10.669	5.382367E-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: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9D1505
Instrument: SV-GCMS10
Calibration Date: 04/15/19 14:53

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	1.407537	50	1.318607	100	1.402616	200	1.408561	500	1.407188	1000	1.341761
Acenaphthylene	20	1.903158	50	1.943127	100	2.138559	200	2.108565	500	2.208351	1000	2.145042
Anthracene	20	0.9981684	50	1.082171	100	1.183458	200	1.181237	500	1.196563	1000	1.12605
Benz(a)anthracene	20	1.100877	50	1.023224	100	1.075788	200	1.127988	500	1.153062	1000	1.113308
Benzo(a)pyrene	20	0.5833412	50	0.6986363	100	0.8488289	200	0.9976045	500	1.096103	1000	1.108181
Benzo(b)fluoranthene	20	0.6991584	50	0.8330036	100	0.9840151	200	1.068095	500	1.197558	1000	1.192055
Benzo(k)fluoranthene	20	0.6268189	50	0.8533243	100	1.029425	200	1.118996	500	1.211419	1000	1.21117
Benzo(b+k)fluoranthene(s)	40	0.741341	100	0.8721357	200	1.038054	400	1.118338	1000	1.230479	2000	1.225398
Benzo(g,h,i)perylene	20	0.9036528	50	0.982206	100	1.005877	200	1.09576	500	1.174822	1000	1.179351
Chrysene	20	1.032687	50	1.014982	100	1.087538	200	1.089147	500	1.096461	1000	1.083692
Dibenz(a,h)anthracene	20	0.962609	50	0.9142935	100	1.001866	200	0.9987687	500	1.042878	1000	1.02648
Fluoranthene	20	0.9416683	50	0.9624752	100	1.129078	200	1.207544	500	1.237955	1000	1.175948
Fluorene	20	1.306897	50	1.353905	100	1.471751	200	1.488122	500	1.483045	1000	1.384838
Indeno(1,2,3-cd)pyrene	20	1.200077	50	1.053246	100	1.089032	200	1.086355	500	1.104676	1000	1.089045
1-Methylnaphthalene	20	0.6307203	50	0.6423631	100	0.684546	200	0.7320903	500	0.7481156	1000	0.6981849
2-Methylnaphthalene	20	0.5777526	50	0.5959154	100	0.6434083	200	0.7476714	500	0.7731555	1000	0.7399508
Naphthalene	20	1.039191	50	1.087569	100	1.129825	200	1.131105	500	1.147102	1000	1.091938
Phenanthrene	20	1.156024	50	1.17608	100	1.215486	200	1.197343	500	1.177029	1000	1.131256
Pyrene	20	1.015133	50	1.041664	100	1.181284	200	1.233764	500	1.27795	1000	1.200352
Carbazole	20	0.754341	50	0.8329661	100	0.9747962	200	1.00912	500	1.014369	1000	0.9724756
Dibenzofuran	20	1.700221	50	1.773831	100	1.78623	200	1.855744	500	1.87307	1000	1.746939
4-Chloro-3-methylphenol	20	~~7.229364E-02~~	50	~~0.1235332~~	100	0.1244964	200	0.1889564	500	0.2754519	1000	0.2897448
2-Chlorophenol	20	1.075855	50	1.143408	100	1.289471	200	1.343778	500	1.445379	1000	1.485893
2,4-Dichlorophenol	20	~~5.070098E-02~~	50	0.1018295	100	0.1183661	200	0.1561193	500	0.2240723	1000	0.244696
2,4-Dimethylphenol	20	~~0.1587836~~	50	0.1721793	100	0.2144464	200	0.2572861	500	0.3075341	1000	0.3154132
2,4-Dinitrophenol	20	~~0~~	50	~~0~~	100	~~4.301114E-03~~	200	1.376921E-02	500	2.934789E-02	1000	4.648092E-02
4,6-Dinitro-2-methylphenol	20	~~1.562877E-02~~	50	~~0.0134466~~	100	2.177722E-02	200	0.0454973	500	7.163797E-02	1000	8.957786E-02
2-Methylphenol	20	0.8385051	50	0.8133916	100	0.9166993	200	1.02536	500	1.127542	1000	1.185934
3+4-Methylphenol(s)	20	0.7387989	50	0.8172113	100	1.026387	200	1.178178	500	1.420886	1000	1.488649
2-Nitrophenol	20	~~5.750088E-02~~	50	~~7.530798E-02~~	100	7.517723E-02	200	0.1103898	500	0.1378061	1000	0.1613617
4-Nitrophenol	20	~~1.918077E-02~~	50	~~4.472863E-02~~	100	6.297737E-02	200	0.1114629	500	0.1535283	1000	0.1890583

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories

Client: Hahn and Associates

Calibration: A9D1505

SDG: A9E0677

Project: Mult 802 Decommissioning

Instrument: SV-GCMS10

Calibration Date: 04/15/19 14:53

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
Pentachlorophenol (PCP)	20	~~0.1388781~~	50	6.789244E-02	100	7.413181E-02	200	9.638542E-02	500	0.1006502	1000	0.1045785
Phenol	20	1.023813	50	1.450316	100	1.505073	200	1.808779	500	1.940786	1000	1.767056
2,3,4,6-Tetrachlorophenol	20	0.1103486	50	0.170417	100	0.2155537	200	0.2622695	500	0.2752862	1000	0.2835067
2,3,5,6-Tetrachlorophenol	20	~~8.643185E-02~~	50	0.0964607	100	0.1340137	200	0.2016283	500	0.2417931	1000	0.2592075
2,4,5-Trichlorophenol	20	~~0.1349758~~	50	0.1808755	100	0.1904714	200	0.25221	500	0.3147115	1000	0.337543
2,4,6-Trichlorophenol	20	~~0.1508414~~	50	0.1537955	100	0.1608164	200	0.2474311	500	0.3273405	1000	0.3413524
Bis(2-ethylhexyl)phthalate	20	~~0.3214443~~	50	~~0.3816077~~	100	~~0.5155443~~	200	0.6508178	500	0.8078548	1000	0.8624217
Butyl benzyl phthalate	20	~~0.235551~~	50	0.2757728	100	0.3691949	200	0.4448589	500	0.5615709	1000	0.5991685
Diethylphthalate	20	1.299793	50	1.326265	100	1.516845	200	1.497898	500	1.521107	1000	1.419226
Dimethylphthalate	20	1.353547	50	1.382385	100	1.47981	200	1.488143	500	1.532492	1000	1.43415
Di-n-butylphthalate	20	~~0.9169406~~	50	~~0.9832994~~	100	1.117678	200	1.286755	500	1.376791	1000	1.33187
Di-n-octyl phthalate	20	~~0.354852~~	50	~~0.3994942~~	100	0.5663861	200	0.8329586	500	1.176041	1000	1.379003
N-Nitrosodimethylamine	20	0.888115	50	0.9948244	100	0.939152	200	0.9728813	500	0.9910709	1000	1.008704
N-Nitroso-di-n-propylamine	20	1.011653	50	1.001891	100	1.055189	200	1.127313	500	1.24387	1000	1.218921
N-Nitrosodiphenylamine	20	0.5310722	50	0.6305439	100	0.6965368	200	0.695151	500	0.7206807	1000	0.6649125
Bis(2-Chloroethoxy) methane	20	0.2822554	50	0.330139	100	0.4163786	200	0.4309149	500	0.4441828	1000	0.439436
Bis(2-Chloroethyl) ether	20	1.723702	50	1.648937	100	1.642734	200	1.710863	500	1.781222	1000	1.70375
2,2'-Oxybis(1-Chloropropane)	20	2.141982	50	2.067569	100	2.028572	200	2.017663	500	2.081219	1000	2.003748
Hexachlorobenzene	20	0.2879636	50	0.269687	100	0.2609196	200	0.2480367	500	0.2527626	1000	0.2431731
Hexachlorobutadiene	20	0.1779903	50	0.1635259	100	0.1706583	200	0.1571331	500	0.1582297	1000	0.1558618
Hexachlorocyclopentadiene	20	~~9.377264E-02~~	50	0.1283964	100	0.1796508	200	0.2105314	500	0.2623164	1000	0.2906806
Hexachloroethane	20	0.3458104	50	0.4081282	100	0.4119717	200	0.4144501	500	0.4312529	1000	0.4117826
2-Chloronaphthalene	20	0.9732464	50	1.048275	100	1.079036	200	1.227816	500	1.325003	1000	1.255679
1,2-Dichlorobenzene	20	1.405128	50	1.552873	100	1.534703	200	1.620258	500	1.604537	1000	1.528996
1,3-Dichlorobenzene	20	1.462034	50	1.539887	100	1.519888	200	1.645421	500	1.638024	1000	1.563853
1,4-Dichlorobenzene	20	1.543744	50	1.589924	100	1.611079	200	1.601329	500	1.610674	1000	1.530894
1,2,4-Trichlorobenzene	20	0.2679398	50	0.2872462	100	0.312693	200	0.3017264	500	0.3062254	1000	0.296437
4-Bromophenyl phenyl ether	20	0.1643247	50	0.1898706	100	0.2055859	200	0.2152968	500	0.2195735	1000	0.2098386
4-Chlorophenyl phenyl ether	20	0.6154422	50	0.6135012	100	0.6575725	200	0.6479382	500	0.6486658	1000	0.6222331
Aniline	20	~~1.800549~~	50	2.010657	100	1.972256	200	1.867537	500	1.964541	1000	2.159821
4-Chloroaniline	20	0.1970777	50	0.1896732	100	0.2272371	200	0.2593357	500	0.3366249	1000	0.3486812

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories

Client: Hahn and Associates

Calibration: A9D1505

SDG: A9E0677

Project: Mult 802 Decommissioning

Instrument: SV-GCMS10

Calibration Date: 04/15/19 14:53

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
2-Nitroaniline	20	~~0.1162686~~	50	~~0.1401622~~	100	0.1542968	200	0.226199	500	0.3447594	1000	0.365808
3-Nitroaniline	20	~~0.1262142~~	50	~~0.1380144~~	100	~~0.1834991~~	200	0.2450962	500	0.2932486	1000	0.2998447
4-Nitroaniline	20	~~9.708784E-02~~	50	~~0.1233539~~	100	0.1799677	200	0.2430232	500	0.2541273	1000	0.2695943
Nitrobenzene	20	~~1.106496~~	50	1.106358	100	1.323242	200	1.393521	500	1.485482	1000	1.533967
2,4-Dinitrotoluene	20	~~0.1221886~~	50	~~0.1320382~~	100	0.1642573	200	0.2436342	500	0.3144075	1000	0.3525949
2,6-Dinitrotoluene	20	~~0.101587~~	50	0.1269957	100	0.1657966	200	0.2454454	500	0.2877494	1000	0.3014389
Benzoic acid	40	~~3.280652E-03~~	100	~~2.479083E-03~~	200	~~2.442914E-03~~	400	~~0.0138676~~	1000	5.336497E-02	2000	0.1106981
Benzyl alcohol	20	~~0.256318~~	50	0.357709	100	0.4078309	200	0.6447301	500	0.7038085	1000	0.8332474
Isophorone	20	0.6871475	50	0.7033579	100	0.7293021	200	0.775627	500	0.7990322	1000	0.7732808
Azobenzene (1,2-DPH)	20	0.7944518	50	0.8205286	100	0.9200193	200	0.9376598	500	0.9629235	1000	0.9062117
Benzidine	40	~~0.4062113~~	100	~~0.2350277~~	200	0.2736461	400	0.2715237	1000	0.3620512	2000	0.4297671
Bis(2-Ethylhexyl) adipate	20	~~0.3298042~~	50	~~0.2956577~~	100	~~0.396091~~	200	0.4377666	500	0.530752	1000	0.566525
3,3'-Dichlorobenzidine	40	~~0.1748192~~	100	~~0.2050962~~	200	~~0.2551593~~	400	0.2747303	1000	0.2205468	2000	0.2058667
1,2-Dinitrobenzene	20	~~0.0584895~~	50	~~5.546723E-02~~	100	~~7.628819E-02~~	200	0.109259	500	0.1294402	1000	0.1348607
1,3-Dinitrobenzene	20	~~3.244155E-02~~	50	~~4.631608E-02~~	100	7.207762E-02	200	0.1022107	500	0.152902	1000	0.1655171
1,4-Dinitrobenzene	20	~~1.704957E-02~~	50	~~4.781014E-02~~	100	~~4.898743E-02~~	200	6.055395E-02	500	0.1010135	1000	0.1202293
Pyridine	20	1.214957	50	1.363992	100	1.497803	200	1.59819	500	1.610122	1000	1.705812
2,3,5-Trimethylnaphthalene	20	1.053048	50	1.123818	100	1.202184	200	1.210774	500	1.203973	1000	1.115924
2,6-Dimethylnaphthalene	20	1.058731	50	1.207393	100	1.24841	200	1.32252	500	1.360596	1000	1.306092
Benzo(e)pyrene	20	0.8443924	50	0.8957328	100	1.052391	200	1.110091	500	1.217014	1000	1.203153
1,1'-Biphenyl	20	1.28819	50	1.494814	100	1.510053	200	1.783276	500	1.864254	1000	1.789293
Perylene	20	0.9707552	50	0.9544863	100	1.028055	200	1.104627	500	1.074625	1000	1.051602
Nitrobenzene-d5 (Surr)	20	~~1.037917~~	50	0.9478428	100	1.284594	200	1.307222	500	1.423927	1000	1.482348
2-Fluorobiphenyl (Surr)	20	~~1.174052~~	50	1.365204	100	1.35132	200	1.570824	500	1.630604	1000	1.556624
Phenol-d6 (Surr)	20	~~1.098714~~	50	1.196119	100	1.39741	200	1.567644	500	1.711503	1000	1.761661
p-Terphenyl-d14 (Surr)	20	0.8168062	50	0.8999245	100	0.9597296	200	0.9685109	500	1.012126	1000	0.9930516
2-Fluorophenol (Surr)	20	1.086068	50	1.024618	100	1.155766	200	1.272371	500	1.350448	1000	1.359638
2,4,6-Tribromophenol (Surr)	20	~~0.0552062~~	50	4.929333E-02	100	6.845792E-02	200	8.799316E-02	500	9.356845E-02	1000	9.755618E-02

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9D1505
Instrument: SV-GCMS10
Matrix:
Calibration Date: 04/15/19 14:53

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	1.275831	4000	1.193488	6000	1.089011	8000	1.022103				
Acenaphthylene	2000	2.003643	4000	1.898611	6000	1.656547	8000	~~1.494399~~				
Anthracene	2000	1.088237	4000	0.9914895	6000	0.8942322	8000	0.8278006				
Benz(a)anthracene	2000	1.10212	4000	1.097957	6000	1.062166	8000	1.056996				
Benzo(a)pyrene	2000	1.137055	4000	1.126645	6000	1.066126	8000	1.03686				
Benzo(b)fluoranthene	2000	1.221197	4000	1.257976	6000	1.207525	8000	1.218987				
Benzo(k)fluoranthene	2000	1.181608	4000	1.162057	6000	1.079397	8000	0.9829712				
Benzo(b+k)fluoranthene(s)	4000	1.222411	8000	1.228643	12000	1.162137	16000	1.142006				
Benzo(g,h,i)perylene	2000	1.157191	4000	1.137309	6000	1.094109	8000	1.083844				
Chrysene	2000	1.07383	4000	1.058982	6000	1.028745	8000	1.023281				
Dibenz(a,h)anthracene	2000	1.06317	4000	1.032341	6000	0.9930483	8000	0.9729436				
Fluoranthene	2000	1.158537	4000	1.08301	6000	0.990162	8000	0.9362458				
Fluorene	2000	1.329145	4000	1.216133	6000	1.094041	8000	1.035598				
Indeno(1,2,3-cd)pyrene	2000	1.089734	4000	1.120479	6000	1.107223	8000	1.248578				
1-Methylnaphthalene	2000	0.6795904	4000	0.6409036	6000	0.580747	8000	0.5476182				
2-Methylnaphthalene	2000	0.7255449	4000	0.6820757	6000	0.624357	8000	~~0.5897244~~				
Naphthalene	2000	1.052378	4000	0.9717272	6000	0.8811986	8000	0.8204817				
Phenanthrene	2000	1.077902	4000	0.9840685	6000	0.8927602	8000	0.8445283				
Pyrene	2000	1.167948	4000	1.08811	6000	0.999296	8000	0.9476153				
Carbazole	2000	0.879679	4000	0.7180782	6000	~~0.6522258~~	8000	~~0.5830367~~				
Dibenzofuran	2000	1.698649	4000	1.604292	6000	1.441695	8000	1.329021				
4-Chloro-3-methylphenol	2000	0.3087296	4000	0.3182331	6000	0.3075433	8000	0.2987976				
2-Chlorophenol	2000	1.466096	4000	1.479065	6000	1.467852	8000	1.399867				
2,4-Dichlorophenol	2000	0.2545735	4000	0.2576182	6000	0.2455748	8000	~~0.2355527~~				
2,4-Dimethylphenol	2000	0.3230022	4000	0.306268	6000	0.2889028	8000	0.2812126				
2,4-Dinitrophenol	2000	0.0704893	4000	0.1030754	6000	0.1183872	8000	0.1308858				
4,6-Dinitro-2-methylphenol	2000	0.1239136	4000	0.1593363	6000	0.1693465	8000	0.1762921				
2-Methylphenol	2000	1.179589	4000	1.192219	6000	1.152066	8000	1.100493				
3+4-Methylphenol(s)	2000	1.517967	4000	~~1.515359~~	6000	~~1.425723~~	8000	~~1.349224~~				
2-Nitrophenol	2000	0.1653728	4000	0.1777841	6000	0.1793081	8000	0.1790318				
4-Nitrophenol	2000	0.2262254	4000	0.2533685	6000	0.2571722	8000	0.2598746				

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9D1505
Instrument: SV-GCMS10
Matrix:
Calibration Date: 04/15/19 14:53

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
Pentachlorophenol (PCP)	2000	0.1196889	4000	0.1256196	6000	0.1245869	8000	0.1246499				
Phenol	2000	2.012487	4000	2.060627	6000	2.011084	8000	1.953591				
2,3,4,6-Tetrachlorophenol	2000	0.2939887	4000	0.2998435	6000	0.2932934	8000	0.2826404				
2,3,5,6-Tetrachlorophenol	2000	0.2756684	4000	0.2906511	6000	0.2792157	8000	0.277406				
2,4,5-Trichlorophenol	2000	0.3410959	4000	0.3598322	6000	0.3396843	8000	0.3348622				
2,4,6-Trichlorophenol	2000	0.364244	4000	0.367047	6000	0.358843	8000	0.3433958				
Bis(2-ethylhexyl)phthalate	2000	0.8855234	4000	0.9124573	6000	0.8857301	8000	0.8759984				
Butyl benzyl phthalate	2000	0.6418156	4000	0.6853113	6000	0.6757879	8000	0.6863196				
Diethylphthalate	2000	1.346538	4000	1.234029	6000	1.100482	8000	1.024322				
Dimethylphthalate	2000	1.402622	4000	1.355086	6000	1.26105	8000	1.221963				
Di-n-butylphthalate	2000	1.317355	4000	1.228718	6000	1.100526	8000	1.024014				
Di-n-octyl phthalate	2000	1.539104	4000	1.663901	6000	1.602667	8000	1.576793				
N-Nitrosodimethylamine	2000	0.9907884	4000	1.036469	6000	1.020553	8000	1.012372				
N-Nitroso-di-n-propylamine	2000	1.168414	4000	1.102794	6000	1.04349	8000	~~1.003585~~				
N-Nitrosodiphenylamine	2000	0.6353277	4000	0.5762403	6000	0.5209626	8000	0.4861823				
Bis(2-Chloroethoxy) methane	2000	0.4370383	4000	0.4298068	6000	0.4025025	8000	0.3824813				
Bis(2-Chloroethyl) ether	2000	1.774419	4000	1.777148	6000	1.641243	8000	1.529665				
2,2'-Oxybis(1-Chloropropane)	2000	1.877473	4000	1.780452	6000	1.656497	8000	1.50728				
Hexachlorobenzene	2000	0.2291662	4000	0.214893	6000	0.2010171	8000	0.1927369				
Hexachlorobutadiene	2000	0.1502009	4000	0.1422678	6000	0.1353964	8000	0.1321579				
Hexachlorocyclopentadiene	2000	0.2998993	4000	0.3108957	6000	0.3089424	8000	0.3015063				
Hexachloroethane	2000	0.4264875	4000	0.4318624	6000	0.4216764	8000	0.4101191				
2-Chloronaphthalene	2000	1.214927	4000	1.144134	6000	1.050606	8000	~~0.9876788~~				
1,2-Dichlorobenzene	2000	1.4896	4000	1.436777	6000	1.384201	8000	1.297469				
1,3-Dichlorobenzene	2000	1.542446	4000	1.522485	6000	1.4684	8000	1.396389				
1,4-Dichlorobenzene	2000	1.527031	4000	1.48361	6000	1.420172	8000	1.344179				
1,2,4-Trichlorobenzene	2000	0.2818984	4000	0.2743278	6000	0.2620793	8000	0.2501333				
4-Bromophenyl phenyl ether	2000	0.205481	4000	0.197603	6000	0.1831161	8000	0.1779497				
4-Chlorophenyl phenyl ether	2000	0.6076998	4000	0.5736022	6000	0.5272068	8000	0.5098946				
Aniline	2000	1.906833	4000	1.859535	6000	1.949666	8000	2.0061				
4-Chloroaniline	2000	0.353676	4000	~~0.3660651~~	6000	~~0.3493996~~	8000	~~0.3227673~~				

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9D1505
Instrument: SV-GCMS10
Matrix:
Calibration Date: 04/15/19 14:53

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
2-Nitroaniline	2000	0.4071074	4000	0.4286871	6000	0.431121	8000	0.4292912				
3-Nitroaniline	2000	0.2957879	4000	0.2735192	6000	0.2608362	8000	0.2456246				
4-Nitroaniline	2000	0.2761483	4000	0.2698359	6000	0.2633356	8000	0.256353				
Nitrobenzene	2000	1.537203	4000	1.532206	6000	1.481801	8000	1.410672				
2,4-Dinitrotoluene	2000	0.391929	4000	0.4118297	6000	0.3944729	8000	0.3777708				
2,6-Dinitrotoluene	2000	0.3089472	4000	0.3118574	6000	0.301392	8000	0.2844556				
Benzoic acid	4000	0.1679855	8000	0.2196402	12000	0.2387947	16000	0.2488604				
Benzyl alcohol	2000	0.9317302	4000	1.01651	6000	1.016511	8000	1.004452				
Isophorone	2000	0.7568911	4000	0.754124	6000	0.7371746	8000	0.7329367				
Azobenzene (1,2-DPH)	2000	0.8652409	4000	0.7883272	6000	0.7014708	8000	0.6371498				
Benzidine	4000	0.4343947	8000	0.4538204	12000	0.4735618	16000	0.4613835				
Bis(2-Ethylhexyl) adipate	2000	0.5951931	4000	0.6325947	6000	0.6138839	8000	0.6125619				
3,3'-Dichlorobenzidine	4000	0.1479293	8000	0.1428327	12000	0.1476561	16000	~~0.1563874~~				
1,2-Dinitrobenzene	2000	0.1390092	4000	0.1481806	6000	0.1433953	8000	0.1341096				
1,3-Dinitrobenzene	2000	0.1930695	4000	0.208132	6000	0.2077297	8000	0.2058593				
1,4-Dinitrobenzene	2000	0.155197	4000	0.1783267	6000	0.1832778	8000	0.1882426				
Pyridine	2000	1.703231	4000	1.795388	6000	1.797254	8000	1.793043				
2,3,5-Trimethylnaphthalene	2000	1.063082	4000	0.9640403	6000	0.8726082	8000	0.8178874				
2,6-Dimethylnaphthalene	2000	1.237723	4000	1.137262	6000	1.038312	8000	0.9698444				
Benzo(e)pyrene	2000	1.19816	4000	1.193881	6000	1.133891	8000	1.118241				
1,1'-Biphenyl	2000	1.694202	4000	1.546002	6000	~~1.40092~~	8000	~~1.293293~~				
Perylene	2000	1.029392	4000	1.018288	6000	0.96584	8000	0.9546067				
Nitrobenzene-d5 (Surr)	2000	1.566706	4000	1.582496	6000	1.548876	8000	1.515539				
2-Fluorobiphenyl (Surr)	2000	1.472265	4000	1.359615	6000	1.23328	8000	1.160352				
Phenol-d6 (Surr)	2000	1.826101	4000	1.8938	6000	1.872366	8000	1.825167				
p-Terphenyl-d14 (Surr)	2000	0.9702531	4000	0.9625854	6000	0.9196357	8000	0.9118209				
2-Fluorophenol (Surr)	2000	1.389109	4000	1.463186	6000	1.464451	8000	1.435903				
2,4,6-Tribromophenol (Surr)	2000	0.1023306	4000	0.1038946	6000	0.1001372	8000	9.645912E-02				

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS10	Calibration:	A9D1505
Lab File ID:	J04121926.D		
Sequence:	9D12042	Inject Date:	04/13/19
Lab Sample ID:	9D12042-ICV1	Inject Time:	01:26

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acenaphthene	1000	1030	3.0	70 - 130
Acenaphthylene	1000	1080	7.7	70 - 130
Anthracene	1000	1050	5.4	70 - 130
Benz(a)anthracene	1000	1040	4.0	70 - 130
Benzo(a)pyrene	1000	1040	3.5	70 - 130
Benzo(b)fluoranthene	1000	1030	3.0	70 - 130
Benzo(k)fluoranthene	1000	1020	1.6	70 - 130
Benzo(g,h,i)perylene	1000	1060	6.4	70 - 130
Chrysene	1000	1020	2.1	70 - 130
Dibenz(a,h)anthracene	1000	1020	1.9	70 - 130
Fluoranthene	1000	1100	9.9	70 - 130
Fluorene	1000	1070	7.1	70 - 130
Indeno(1,2,3-cd)pyrene	1000	957	-4.3	70 - 130
1-Methylnaphthalene	1000	1050	5.0	70 - 130
2-Methylnaphthalene	1000	1090	8.5	70 - 130
Naphthalene	1000	1050	4.9	70 - 130
Phenanthrene	1000	1040	3.7	70 - 130
Pyrene	1000	1090	9.3	70 - 130
Carbazole	1000	1060	6.5	70 - 130
Dibenzofuran	1000	1060	5.8	70 - 130
4-Chloro-3-methylphenol	1000	993	-0.7	70 - 130
2-Chlorophenol	1000	1070	7.4	70 - 130
2,4-Dichlorophenol	1000	1020	2.1	70 - 130
2,4-Dimethylphenol	1000	987	-1.3	70 - 130
2,4-Dinitrophenol	1000	962	-3.8	70 - 130
4,6-Dinitro-2-methylphenol	1000	1190	18.6	70 - 130
2-Methylphenol	1000	1080	7.8	70 - 130
3+4-Methylphenol(s)	1000	1050	5.3	70 - 130
2-Nitrophenol	1000	1120	12.2	70 - 130
4-Nitrophenol	1000	1080	7.7	70 - 130
Pentachlorophenol (PCP)	1000	1050	5.0	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS10	Calibration:	A9D1505
Lab File ID:	J04121926.D		
Sequence:	9D12042	Inject Date:	04/13/19
Lab Sample ID:	9D12042-ICV1	Inject Time:	01:26

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Phenol	1000	1050	5.1	70 - 130
2,3,4,6-Tetrachlorophenol	1000	1040	4.3	70 - 130
2,3,5,6-Tetrachlorophenol	1000	1030	3.5	70 - 130
2,4,5-Trichlorophenol	1000	1080	8.2	70 - 130
2,4,6-Trichlorophenol	1000	964	-3.6	70 - 130
Bis(2-ethylhexyl)phthalate	1000	1010	0.7	70 - 130
Butyl benzyl phthalate	1000	1010	1.2	70 - 130
Diethylphthalate	1000	1070	6.9	70 - 130
Dimethylphthalate	1000	1050	4.8	70 - 130
Di-n-butylphthalate	1000	1090	8.9	70 - 130
Di-n-octyl phthalate	1000	993	-0.7	70 - 130
N-Nitrosodimethylamine	1000	966	-3.4	70 - 130
N-Nitroso-di-n-propylamine	1000	1060	6.1	70 - 130
N-Nitrosodiphenylamine	1000	1080	8.0	70 - 130
Bis(2-Chloroethoxy) methane	1000	1110	11.4	70 - 130
Bis(2-Chloroethyl) ether	1000	1020	1.7	70 - 130
2,2'-Oxybis(1-Chloropropane)	1000	993	-0.7	70 - 130
Hexachlorobenzene	1000	987	-1.3	70 - 130
Hexachlorobutadiene	1000	995	-0.5	70 - 130
Hexachlorocyclopentadiene	1000	1090	9.0	70 - 130
Hexachloroethane	1000	1020	2.0	70 - 130
2-Chloronaphthalene	1000	1110	10.7	70 - 130
1,2-Dichlorobenzene	1000	1030	2.7	70 - 130
1,3-Dichlorobenzene	1000	1020	2.4	70 - 130
1,4-Dichlorobenzene	1000	1020	1.5	70 - 130
1,2,4-Trichlorobenzene	1000	1020	2.2	70 - 130
4-Bromophenyl phenyl ether	1000	1090	9.2	70 - 130
4-Chlorophenyl phenyl ether	1000	1050	4.7	70 - 130
Aniline	1000	1010	1.4	70 - 130
4-Chloroaniline	1000	1030	3.3	70 - 130
2-Nitroaniline	1000	1050	5.4	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS10	Calibration:	A9D1505
Lab File ID:	J04121926.D		
Sequence:	9D12042	Inject Date:	04/13/19
Lab Sample ID:	9D12042-ICV1	Inject Time:	01:26

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
3-Nitroaniline	1000	1140	13.9	70 - 130
4-Nitroaniline	1000	1190	18.6	70 - 130
Nitrobenzene	1000	1060	5.8	70 - 130
2,4-Dinitrotoluene	1000	1050	5.5	70 - 130
2,6-Dinitrotoluene	1000	1070	6.5	70 - 130
Benzoic acid	2000	1820	-9.1	70 - 130
Benzyl alcohol	1000	991	-0.9	70 - 130
Isophorone	1000	1030	2.9	70 - 130
Azobenzene (1,2-DPH)	1000	1060	6.0	70 - 130
Bis(2-Ethylhexyl) adipate	1000	981	-1.9	70 - 130
3,3'-Dichlorobenzidine	2000	2030	1.3	70 - 130
1,2-Dinitrobenzene	1000	1020	1.6	70 - 130
1,3-Dinitrobenzene	1000	1080	8.1	70 - 130
1,4-Dinitrobenzene	1000	1070	6.7	70 - 130
Pyridine	1000	928	-7.2	70 - 130
Nitrobenzene-d5 (Surr)	1000	1010	1.0	70 - 130
2-Fluorobiphenyl (Surr)	1000	1100	9.5	70 - 130
Phenol-d6 (Surr)	1000	1020	1.8	70 - 130
p-Terphenyl-d14 (Surr)	1000	1050	4.6	70 - 130
2-Fluorophenol (Surr)	1000	1030	2.5	70 - 130
2,4,6-Tribromophenol (Surr)	1000	1000	0.4	70 - 130

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS10	Calibration:	A9D1505
Lab File ID:	J05231905.D	Calibration Date:	04/15/19 14:53
Sequence:	9E23010	Injection Date:	05/23/19
Lab Sample ID:	9E23010-CCV2	Injection Time:	10:54

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	1000	1050		1.28667	1.34524	4.6	20
Acenaphthylene	Ave	1000	1070		2.000623	2.146993	7.3	20
Anthracene	Ave	1000	1070		1.056941	1.132601	7.2	20
Benz(a)anthracene	Ave	1000	1050		1.091349	1.150148	5.4	20
Benzo(a)pyrene	XXX	1000	1100	10.4				20
Benzo(b)fluoranthene	XXX	1000	1090	9.1				20
Benzo(k)fluoranthene	XXX	1000	1070	7.4				20
Benzo(g,h,i)perylene	Ave	1000	1020		1.081412	1.104726	2.2	20
Chrysene	Ave	1000	1060		1.058934	1.125264	6.3	20
Dibenz(a,h)anthracene	Ave	1000	1060		1.00084	1.062326	6.1	20
Fluoranthene	Ave	1000	1070		1.082262	1.154677	6.7	20
Fluorene	Ave	1000	1030		1.316347	1.361638	3.4	20
Indeno(1,2,3-cd)pyrene	Ave	1000	979		1.118845	1.094831	-2.1	20
1-Methylnaphthalene	Ave	1000	1030		0.6584879	0.6775242	2.9	20
2-Methylnaphthalene	Ave	1000	1070		0.6788702	0.7296973	7.5	20
Naphthalene	Ave	1000	1040		1.035252	1.078411	4.2	20
Phenanthrene	Ave	1000	1040		1.085248	1.130174	4.1	20
Pyrene	Ave	1000	1050		1.115312	1.174774	5.3	20
Carbazole	Ave	1000	1020		0.8944781	0.9149164	2.3	20
Dibenzofuran	Ave	1000	1040		1.680969	1.75545	4.4	20
4-Chloro-3-methylphenol	XXX	1000	1100	10.1				20
2-Chlorophenol	Ave	1000	1140		1.359666	1.548565	13.9	20
2,4-Dichlorophenol	XXX	1000	1090	8.6				20
2,4-Dimethylphenol	XXX	1000	986	-1.4				20
2,4-Dinitrophenol	XXX	1000	1700	69.9 *				20
4,6-Dinitro-2-methylphenol	XXX	1000	1590	59.1 *				20
2-Methylphenol	Ave	1000	1240		1.05318	1.307382	24.1*	20
3+4-Methylphenol(s)	XXX	1000	1170	17.0				20
2-Nitrophenol	XXX	1000	1230	22.6 *				20
4-Nitrophenol	XXX	1000	960	-4.0				20

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS10	Calibration:	A9D1505
Lab File ID:	J05231905.D	Calibration Date:	04/15/19 14:53
Sequence:	9E23010	Injection Date:	05/23/19
Lab Sample ID:	9E23010-CCV2	Injection Time:	10:54

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Pentachlorophenol (PCP)	XXX	1000	896	-10.4				20
Phenol	XXX	1000	1100	10.4				20
2,3,4,6-Tetrachlorophenol	XXX	1000	1070	6.6				20
2,3,5,6-Tetrachlorophenol	XXX	1000	1090	9.5				20
2,4,5-Trichlorophenol	XXX	1000	1180	18.0				20
2,4,6-Trichlorophenol	XXX	1000	1090	8.8				20
Bis(2-ethylhexyl)phthalate	Ave	1000	1110		0.8401148	0.929458	10.6	20
Butyl benzyl phthalate	XXX	1000	1150	14.9				20
Diethylphthalate	Ave	1000	1080		1.32865	1.431172	7.7	20
Dimethylphthalate	Ave	1000	1050		1.391125	1.465589	5.4	20
Di-n-butylphthalate	Ave	1000	1110		1.222963	1.360645	11.3	20
Di-n-octyl phthalate	XXX	1000	1170	17.5				20
N-Nitrosodimethylamine	Ave	1000	1020		0.985493	1.008751	2.4	20
N-Nitroso-di-n-propylamine	Ave	1000	1120		1.108171	1.24441	12.3	20
N-Nitrosodiphenylamine	Ave	1000	1100		0.615761	0.6742794	9.5	20
Bis(2-Chloroethoxy) methane	Ave	1000	1080		0.3995136	0.4294794	7.5	20
Bis(2-Chloroethyl) ether	Ave	1000	1240		1.693368	2.099452	24.0*	20
2,2'-Oxybis(1-Chloropropane)	Ave	1000	1080		1.916246	2.060448	7.5	20
Hexachlorobenzene	Ave	1000	979		0.2400356	0.2350645	-2.1	20
Hexachlorobutadiene	Ave	1000	1020		0.1543422	0.157234	1.9	20
Hexachlorocyclopentadiene	XXX	1000	1250	25.0 *				20
Hexachloroethane	Ave	1000	1130		0.4113541	0.4652816	13.1	20
2-Chloronaphthalene	Ave	1000	1130		1.146525	1.29592	13.0	20
1,2-Dichlorobenzene	Ave	1000	1050		1.485454	1.564067	5.3	20
1,3-Dichlorobenzene	Ave	1000	1030		1.529883	1.575711	3.0	20
1,4-Dichlorobenzene	Ave	1000	1020		1.526264	1.556066	2.0	20
1,2,4-Trichlorobenzene	Ave	1000	1060		0.2840707	0.3000824	5.6	20
4-Bromophenyl phenyl ether	Ave	1000	1040		0.196864	0.2055504	4.4	20
4-Chlorophenyl phenyl ether	Ave	1000	1020		0.6023756	0.6145626	2.0	20
Aniline	Ave	1000	648		1.966327	1.27383	-35.2*	20

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS10	Calibration:	A9D1505
Lab File ID:	J05231905.D	Calibration Date:	04/15/19 14:53
Sequence:	9E23010	Injection Date:	05/23/19
Lab Sample ID:	9E23010-CCV2	Injection Time:	10:54

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
4-Chloroaniline	XXX	1000	826	-17.4				20
2-Nitroaniline	XXX	1000	1150	15.5				20
3-Nitroaniline	Ave	1000	983		0.2734225	0.2687723	-1.7	20
4-Nitroaniline	Ave	1000	979		0.2515482	0.2461772	-2.1	20
Nitrobenzene	Ave	1000	1210		1.422717	1.725777	21.3*	20
2,4-Dinitrotoluene	XXX	1000	1150	14.6				20
2,6-Dinitrotoluene	XXX	1000	1110	11.5				20
Benzoic acid	XXX	2000	2070	3.4				20
Benzyl alcohol	XXX	1000	1190	18.5				20
Isophorone	Ave	1000	1040		0.7448874	0.7765038	4.2	20
Azobenzene (1,2-DPH)	Ave	1000	1090		0.8333983	0.9117749	9.4	20
Bis(2-Ethylhexyl) adipate	Ave	1000	1570		0.5698967	0.8923177	56.6*	20
3,3'-Dichlorobenzidine	XXX	2000	2590	29.6 *				20
1,2-Dinitrobenzene	Ave	1000	1100		0.1340364	0.1470564	9.7	20
1,3-Dinitrobenzene	XXX	1000	1220	22.0 *				20
1,4-Dinitrobenzene	XXX	1000	1370	37.0 *				20
Pyridine	Ave	1000	1010		1.607979	1.626837	1.2	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:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9D12042	Instrument:	SV-GCMS10
Matrix:	Solid	Calibration:	A9D1505

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9D12042-ICV1)			Lab File ID: J04121926.D		Analyzed: 04/13/19 01:26			
Nitrobenzene-d5 (Surr)	1000	101	70 - 130	7.354	7.358778	-0.0048	+/-1.0	
2-Fluorobiphenyl (Surr)	1000	110	70 - 130	9.167	9.169333	-0.0023	+/-1.0	
Phenol-d6 (Surr)	1000	102	70 - 130	6.434	6.441556	-0.0076	+/-1.0	
p-Terphenyl-d14 (Surr)	1000	105	70 - 130	13.243	13.2467	-0.0037	+/-1.0	
2-Fluorophenol (Surr)	1000	103	70 - 130	5.535	5.5363	-0.0013	+/-1.0	
2,4,6-Tribromophenol (Surr)	1000	100	70 - 130	10.665	10.669	-0.0040	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23010	Instrument:	SV-GCMS10
Matrix:	Solid	Calibration:	A9D1505

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9E23010-CCV2)			Lab File ID: J05231905.D		Analyzed: 05/23/19 10:54			
Nitrobenzene-d5 (Surr)	1000	117	80 - 120	7.348	7.358778	-0.0108	+/-1.0	
2-Fluorobiphenyl (Surr)	1000	110	80 - 120	9.162	9.169333	-0.0073	+/-1.0	
Phenol-d6 (Surr)	1000	114	80 - 120	6.445	6.441556	0.0034	+/-1.0	
p-Terphenyl-d14 (Surr)	1000	111	80 - 120	13.232	13.2467	-0.0147	+/-1.0	
2-Fluorophenol (Surr)	1000	107	80 - 120	5.541	5.5363	0.0047	+/-1.0	
2,4,6-Tribromophenol (Surr)	1000	104	80 - 120	10.659	10.669	-0.0100	+/-1.0	
Calibration Blank (9E23010-CCB1)			Lab File ID: J05231907.D		Analyzed: 05/23/19 12:08			
Nitrobenzene-d5 (Surr)			44 - 120	7.343	7.358778	-0.0158	+/-1.0	
2-Fluorobiphenyl (Surr)			44 - 120	0	9.169333	-9.1693	+/-1.0	
Phenol-d6 (Surr)			10 - 120	0	6.441556	-6.4416	+/-1.0	
p-Terphenyl-d14 (Surr)			50 - 133	0	13.2467	-13.2467	+/-1.0	
2-Fluorophenol (Surr)			19 - 120	0	5.5363	-5.5363	+/-1.0	
2,4,6-Tribromophenol (Surr)			43 - 140	0	10.669	-10.6690	+/-1.0	
Blank (9051172-BLK1)			Lab File ID: J05231908.D		Analyzed: 05/23/19 12:43			
Nitrobenzene-d5 (Surr)	333	80	37 - 122	7.354	7.358778	-0.0048	+/-1.0	
2-Fluorobiphenyl (Surr)	333	76	44 - 115	9.162	9.169333	-0.0073	+/-1.0	
Phenol-d6 (Surr)	333	78	33 - 122	6.45	6.441556	0.0084	+/-1.0	
p-Terphenyl-d14 (Surr)	333	91	54 - 127	13.232	13.2467	-0.0147	+/-1.0	
2-Fluorophenol (Surr)	333	75	35 - 115	5.535	5.5363	-0.0013	+/-1.0	
2,4,6-Tribromophenol (Surr)	333	71	39 - 132	10.659	10.669	-0.0100	+/-1.0	
LCS (9051172-BS1)			Lab File ID: J05231909.D		Analyzed: 05/23/19 13:19			
Nitrobenzene-d5 (Surr)	333	86	37 - 122	7.354	7.358778	-0.0048	+/-1.0	
2-Fluorobiphenyl (Surr)	333	90	44 - 115	9.162	9.169333	-0.0073	+/-1.0	
Phenol-d6 (Surr)	333	86	33 - 122	6.45	6.441556	0.0084	+/-1.0	
p-Terphenyl-d14 (Surr)	333	94	54 - 127	13.232	13.2467	-0.0147	+/-1.0	
2-Fluorophenol (Surr)	333	86	35 - 115	5.546	5.5363	0.0097	+/-1.0	
2,4,6-Tribromophenol (Surr)	333	92	39 - 132	10.659	10.669	-0.0100	+/-1.0	
2708-190520-006 (A9E0677-01)			Lab File ID: J05231910.D		Analyzed: 05/23/19 13:55			
Nitrobenzene-d5 (Surr)	9800		37 - 122	0	7.358778	-7.3588	+/-1.0	*
2-Fluorobiphenyl (Surr)	9800		44 - 115	0	9.169333	-9.1693	+/-1.0	*
Phenol-d6 (Surr)	9800		33 - 122	0	6.441556	-6.4416	+/-1.0	*
p-Terphenyl-d14 (Surr)	9800	136	54 - 127	13.237	13.2467	-0.0097	+/-1.0	*
2-Fluorophenol (Surr)	9800		35 - 115	0	5.5363	-5.5363	+/-1.0	*
2,4,6-Tribromophenol (Surr)	9800		39 - 132	0	10.669	-10.6690	+/-1.0	*

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23010	Instrument:	SV-GCMS10
Matrix:	Solid	Calibration:	A9D1505

Surrogate Compound	Spike Level ug/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Duplicate (9051172-DUP1)			Lab File ID: J05231911.D		Analyzed: 05/23/19 14:34			
Nitrobenzene-d5 (Surr)	10000		37 - 122	0	7.358778	-7.3588	+/-1.0	*
2-Fluorobiphenyl (Surr)	10000		44 - 115	0	9.169333	-9.1693	+/-1.0	*
Phenol-d6 (Surr)	10000		33 - 122	0	6.441556	-6.4416	+/-1.0	*
p-Terphenyl-d14 (Surr)	10000	232	54 - 127	13.232	13.2467	-0.0147	+/-1.0	*
2-Fluorophenol (Surr)	10000		35 - 115	0	5.5363	-5.5363	+/-1.0	*
2,4,6-Tribromophenol (Surr)	10000		39 - 132	0	10.669	-10.6690	+/-1.0	*

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23010	Instrument:	SV-GCMS10
Matrix:	Solid	Calibration:	A9D1505

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9E23010-CCV2)			Lab File ID: J05231905.D			Analyzed: 05/23/19 10:54			
1,4-Dichlorobenzene-d4 (ISTD)	167980	6.803	207595	6.808	81	50 - 200	-0.0050	+/-0.50	
Naphthalene-d8 (ISTD)	738657	8.076	870566	8.081	85	50 - 200	-0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	345296	9.857	408985	9.868	84	50 - 200	-0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	579994	11.376	701196	11.381	83	50 - 200	-0.0050	+/-0.50	
Chrysene-d12 (ISTD)	471294	15.345	609064	15.355	77	50 - 200	-0.0100	+/-0.50	
Perylene-d12 (ISTD)	420349	18.864	550560	18.875	76	50 - 200	-0.0110	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	397590	21.255	510954	21.266	78	50 - 200	-0.0110	+/-0.50	
Calibration Blank (9E23010-CCB1)			Lab File ID: J05231907.D			Analyzed: 05/23/19 12:08			
1,4-Dichlorobenzene-d4 (ISTD)	186129	6.808	167980	6.803	111	50 - 200	0.0050	+/-0.50	
Naphthalene-d8 (ISTD)	772629	8.076	738657	8.076	105	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	357400	9.857	345296	9.857	104	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	560569	11.371	579994	11.376	97	50 - 200	-0.0050	+/-0.50	
Chrysene-d12 (ISTD)	482711	15.345	471294	15.345	102	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	424933	18.859	420349	18.864	101	50 - 200	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	378470	21.25	397590	21.255	95	50 - 200	-0.0050	+/-0.50	
Blank (9051172-BLK1)			Lab File ID: J05231908.D			Analyzed: 05/23/19 12:43			
1,4-Dichlorobenzene-d4 (ISTD)	178980	6.803	167980	6.803	107	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	761638	8.076	738657	8.076	103	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	354982	9.857	345296	9.857	103	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	589543	11.371	579994	11.376	102	50 - 200	-0.0050	+/-0.50	
Chrysene-d12 (ISTD)	496727	15.345	471294	15.345	105	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	441516	18.859	420349	18.864	105	50 - 200	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	408839	21.25	397590	21.255	103	50 - 200	-0.0050	+/-0.50	
LCS (9051172-BS1)			Lab File ID: J05231909.D			Analyzed: 05/23/19 13:19			
1,4-Dichlorobenzene-d4 (ISTD)	191541	6.808	167980	6.803	114	50 - 200	0.0050	+/-0.50	
Naphthalene-d8 (ISTD)	760566	8.076	738657	8.076	103	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	336278	9.857	345296	9.857	97	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	539341	11.371	579994	11.376	93	50 - 200	-0.0050	+/-0.50	
Chrysene-d12 (ISTD)	470913	15.345	471294	15.345	100	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	422411	18.859	420349	18.864	100	50 - 200	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	401761	21.255	397590	21.255	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23010	Instrument:	SV-GCMS10
Matrix:	Solid	Calibration:	A9D1505

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
2708-190520-006 (A9E0677-01)			Lab File ID: J05231910.D			Analyzed: 05/23/19 13:55			
1,4-Dichlorobenzene-d4 (ISTD)	187203	6.808	167980	6.803	111	50 - 200	0.0050	+/-0.50	
Naphthalene-d8 (ISTD)	771304	8.076	738657	8.076	104	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	346599	9.857	345296	9.857	100	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	541694	11.371	579994	11.376	93	50 - 200	-0.0050	+/-0.50	
Chrysene-d12 (ISTD)	468376	15.345	471294	15.345	99	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	421436	18.859	420349	18.864	100	50 - 200	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	390289	21.25	397590	21.255	98	50 - 200	-0.0050	+/-0.50	
Duplicate (9051172-DUP1)			Lab File ID: J05231911.D			Analyzed: 05/23/19 14:34			
1,4-Dichlorobenzene-d4 (ISTD)	176173	6.803	167980	6.803	105	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	764466	8.076	738657	8.076	103	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	361123	9.857	345296	9.857	105	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	587312	11.371	579994	11.376	101	50 - 200	-0.0050	+/-0.50	
Chrysene-d12 (ISTD)	497173	15.345	471294	15.345	105	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	448583	18.859	420349	18.864	107	50 - 200	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	413689	21.25	397590	21.255	104	50 - 200	-0.0050	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

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
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/22/19 16:25	2.06	14.00	05/23/19 13:55	0.90	40.00	

Apex Laboratories

SDG: A9E0677

CLASS: METALS

METHOD: EPA 6020A

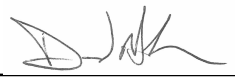
ANALYSES DATA PACKAGE COVER PAGE

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190520-006	A9E0677-01	Solid

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: 9/30/2019 3:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 6020A

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Solid

Analyte	MDL	MRL	Units
Aluminum	25.0	50.0	mg/kg
Antimony	0.500	1.00	mg/kg
Arsenic	0.500	1.00	mg/kg
Barium	0.500	1.00	mg/kg
Beryllium	0.100	0.200	mg/kg
Cadmium	0.100	0.200	mg/kg
Calcium	50.0	100	mg/kg
Chromium	0.500	1.00	mg/kg
Copper	0.500	1.00	mg/kg
Iron	25.0	50.0	mg/kg
Lead	0.100	0.200	mg/kg
Magnesium	25.0	50.0	mg/kg
Manganese	0.500	1.00	mg/kg
Mercury	0.0400	0.0800	mg/kg
Nickel	0.500	1.00	mg/kg
Potassium	50.0	100	mg/kg
Selenium	0.500	1.00	mg/kg
Silver	0.100	0.200	mg/kg
Sodium	50.0	100	mg/kg
Thallium	0.100	0.200	mg/kg
Vanadium	0.500	1.00	mg/kg
Zinc	2.00	4.00	mg/kg

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

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

2708-190520-006

Laboratory: Apex Laboratories | SDG: A9E0677

Client: Hahn and Associates | Project: Mult 802 Decommissioning

Matrix: Solid | Laboratory ID: A9E0677-01 | File ID: 9E23021-076

Sampled: 05/20/19 15:00 | Prepared: 05/22/19 11:59 | Analyzed: 05/23/19 17:33

Solids: N/A | Preparation: EPA 3051A | Initial/Final: 0.45 g / 50 mL

Batch: 9051152 | Sequence: 9E23021 | Instrument: ICPMS6

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
7429-90-5	Aluminum	48.3	10	J	EPA 6020A
7440-36-0	Antimony	0.556	10	U	EPA 6020A
7440-38-2	Arsenic	0.556	10	U	EPA 6020A
7440-39-3	Barium	2.27	10		EPA 6020A
7440-43-9	Cadmium	0.372	10		EPA 6020A
7440-70-2	Calcium	55.6	10	U	EPA 6020A
7440-47-3	Chromium	0.556	10	U	EPA 6020A
7440-50-8	Copper	1.78	10		EPA 6020A
7439-89-6	Iron	1250	10		EPA 6020A
7439-92-1	Lead	27.9	10		EPA 6020A
7439-95-4	Magnesium	27.8	10	U	EPA 6020A
7439-96-5	Manganese	8.74	10		EPA 6020A
7439-97-6	Mercury	0.0444	10	U	EPA 6020A
7440-02-0	Nickel	0.556	10	U	EPA 6020A
7440-09-7	Potassium	55.6	10	U	EPA 6020A
7782-49-2	Selenium	0.556	10	U	EPA 6020A
7440-22-4	Silver	0.111	10	U	EPA 6020A
7440-23-5	Sodium	160	10		EPA 6020A
7440-28-0	Thallium	0.111	10	U	EPA 6020A
7440-62-2	Vanadium	1.16	10		EPA 6020A
7440-66-6	Zinc	35.0	10		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

2708-190520-006

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Matrix: Solid
Laboratory ID: A9E0677-01RE1
File ID: 9E24020-030
Sampled: 05/20/19 15:00
Prepared: 05/22/19 11:59
Analyzed: 05/24/19 11:58
Solids: N/A
Preparation: EPA 3051A
Initial/Final: 0.45 g / 50 mL
Batch: 9051152
Sequence: 9E24020
Instrument: ICPMS6

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
7440-41-7	Beryllium	0.111	10	U	EPA 6020A

PREPARATION BATCH SUMMARY

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Batch: 9051152 Batch Matrix: Solid Preparation: EPA 3051A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051152-BLK1	9E23021-060	05/22/19 11:59	
Blank	9051152-BLK2	9E24020-024	05/22/19 11:59	
LCS	9051152-BS1	9E23021-061	05/22/19 11:59	
LCS	9051152-BS2	9E24020-025	05/22/19 11:59	
2708-190520-006	A9E0677-01	9E23021-076	05/22/19 11:59	
2708-190520-006	A9E0677-01RE1	9E24020-030	05/22/19 11:59	

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:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051152-BLK1	File ID:	9E23021-060
Prepared:	05/22/19 11:59	Preparation:	EPA 3051A	Initial/Final:	0.5 g / 50 mL
Analyzed:	05/23/19 16:15	Instrument:	ICPMS6		
Batch:	9051152	Sequence:	9E23021	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/kg)	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
7440-43-9	Cadmium	0.100	U
7440-70-2	Calcium	50.0	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
7439-95-4	Magnesium	25.0	U
7439-96-5	Manganese	0.500	U
7439-97-6	Mercury	0.0400	U
7440-02-0	Nickel	0.500	U
7440-09-7	Potassium	50.0	U
7782-49-2	Selenium	0.500	U
7440-22-4	Silver	0.100	U
7440-23-5	Sodium	50.0	U
7440-28-0	Thallium	0.100	U
7440-62-2	Vanadium	0.500	U
7440-66-6	Zinc	2.00	U

METHOD BLANK DATA SHEET

EPA 6020A

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051152-BLK2	File ID:	9E24020-024
Prepared:	05/22/19 11:59	Preparation:	EPA 3051A	Initial/Final:	0.5 g / 50 mL
Analyzed:	05/24/19 11:31	Instrument:	ICPMS6		
Batch:	9051152	Sequence:	9E24020	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
7440-41-7	Beryllium	0.100	U

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051152	Laboratory ID:	9051152-BS1
Preparation:	EPA 3051A	Initial/Final:	0.5 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Aluminum	2500	2410	96	80 - 120
Antimony	25.0	22.7	91	80 - 120
Arsenic	50.0	48.5	97	80 - 120
Barium	50.0	52.0	104	80 - 120
Cadmium	50.0	46.8	94	80 - 120
Calcium	2500	2440	98	80 - 120
Chromium	50.0	48.5	97	80 - 120
Copper	50.0	50.1	100	80 - 120
Iron	2500	2460	98	80 - 120
Lead	50.0	47.1	94	80 - 120
Magnesium	2500	2370	95	80 - 120
Manganese	50.0	48.8	98	80 - 120
Mercury	1.00	0.909	91	80 - 120
Nickel	50.0	50.6	101	80 - 120
Potassium	2500	2490	100	80 - 120
Selenium	25.0	22.7	91	80 - 120
Silver	25.0	23.5	94	80 - 120
Sodium	2500	2420	97	80 - 120
Thallium	25.0	23.1	93	80 - 120
Vanadium	50.0	47.6	95	80 - 120
Zinc	50.0	49.2	98	80 - 120

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051152	Laboratory ID:	9051152-BS2
Preparation:	EPA 3051A	Initial/Final:	0.5 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Beryllium	25.0	22.5	90	80 - 120

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23021	Instrument:	ICPMS6
Matrix:	Solid	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Blank	9E23021-ICB1	9E23021-015	05/23/19 12:46
Initial Cal Check	9E23021-ICV2	9E23021-016	05/23/19 12:51
Instrument RL Check	9E23021-CRL1	9E23021-017	05/23/19 12:56
Instrument RL Check	9E23021-CRL2	9E23021-018	05/23/19 13:00
Instrument RL Check	9E23021-CRL3	9E23021-019	05/23/19 13:05
Calibration Check	9E23021-CCV1	9E23021-033	05/23/19 14:10
Calibration Blank	9E23021-CCB1	9E23021-034	05/23/19 14:15
Calibration Check	9E23021-CCV2	9E23021-045	05/23/19 15:06
Calibration Blank	9E23021-CCB2	9E23021-046	05/23/19 15:11
Calibration Check	9E23021-CCV3	9E23021-057	05/23/19 16:02
Calibration Blank	9E23021-CCB3	9E23021-058	05/23/19 16:06
Blank	9051152-BLK1	9E23021-060	05/23/19 16:15
LCS	9051152-BS1	9E23021-061	05/23/19 16:20
Calibration Check	9E23021-CCV4	9E23021-069	05/23/19 17:00
Calibration Blank	9E23021-CCB4	9E23021-070	05/23/19 17:05
Instrument RL Check	9E23021-CRL4	9E23021-071	05/23/19 17:10
Instrument RL Check	9E23021-CRL5	9E23021-072	05/23/19 17:14
Instrument RL Check	9E23021-CRL6	9E23021-073	05/23/19 17:19
Instrument RL Check	9E23021-CRL7	9E23021-074	05/23/19 17:23
2708-190520-006	A9E0677-01	9E23021-076	05/23/19 17:33
Calibration Check	9E23021-CCV5	9E23021-085	05/23/19 18:14
Calibration Blank	9E23021-CCB5	9E23021-086	05/23/19 18:19
Calibration Check	9E23021-CCV6	9E23021-097	05/23/19 19:09
Calibration Blank	9E23021-CCB6	9E23021-098	05/23/19 19:14
Calibration Check	9E23021-CCV7	9E23021-109	05/23/19 20:06
Calibration Blank	9E23021-CCB7	9E23021-110	05/23/19 20:10
Calibration Check	9E23021-CCV8	9E23021-116	05/23/19 20:38
Calibration Blank	9E23021-CCB8	9E23021-117	05/23/19 20:43
Instrument RL Check	9E23021-CRL8	9E23021-118	05/23/19 20:47
Instrument RL Check	9E23021-CRL9	9E23021-119	05/23/19 20:52
Instrument RL Check	9E23021-CRLA	9E23021-120	05/23/19 20:56
Instrument RL Check	9E23021-CRLB	9E23021-121	05/23/19 21:01
Calibration Check	9E23021-CCV9	9E23021-132	05/23/19 21:52

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E23021	Instrument:	ICPMS6
Matrix:	Solid	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	9E23021-CCB9	9E23021-133	05/23/19 21:56
Calibration Check	9E23021-CCVA	9E23021-138	05/23/19 22:19
Calibration Blank	9E23021-CCBA	9E23021-139	05/23/19 22:24
Instrument RL Check	9E23021-CRLC	9E23021-140	05/23/19 22:28
Instrument RL Check	9E23021-CRLD	9E23021-141	05/23/19 22:33
Instrument RL Check	9E23021-CRLE	9E23021-142	05/23/19 22:38
Instrument RL Check	9E23021-CRLF	9E23021-143	05/23/19 22:42

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.

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E24020	Instrument:	ICPMS6
Matrix:	Solid	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	9E24020-ICV1	9E24020-016	05/24/19 10:53
Initial Cal Blank	9E24020-ICB1	9E24020-017	05/24/19 10:57
Instrument RL Check	9E24020-CRL1	9E24020-018	05/24/19 11:03
Instrument RL Check	9E24020-CRL2	9E24020-019	05/24/19 11:08
Instrument RL Check	9E24020-CRL3	9E24020-020	05/24/19 11:12
Blank	9051152-BLK2	9E24020-024	05/24/19 11:31
LCS	9051152-BS2	9E24020-025	05/24/19 11:35
2708-190520-006	A9E0677-01RE1	9E24020-030	05/24/19 11:58
Calibration Check	9E24020-CCV1	9E24020-034	05/24/19 12:17
Calibration Blank	9E24020-CCB1	9E24020-035	05/24/19 12:21
Calibration Check	9E24020-CCV2	9E24020-041	05/24/19 12:52
Calibration Blank	9E24020-CCB2	9E24020-042	05/24/19 12:56
Instrument RL Check	9E24020-CRL4	9E24020-043	05/24/19 13:01
Instrument RL Check	9E24020-CRL5	9E24020-044	05/24/19 13:05
Instrument RL Check	9E24020-CRL6	9E24020-045	05/24/19 13:10
Calibration Check	9E24020-CCV3	9E24020-056	05/24/19 14:02
Calibration Blank	9E24020-CCB3	9E24020-057	05/24/19 14:07
Calibration Check	9E24020-CCV4	9E24020-068	05/24/19 14:58
Calibration Blank	9E24020-CCB4	9E24020-069	05/24/19 15:02
Calibration Check	9E24020-CCV5	9E24020-080	05/24/19 16:05
Calibration Blank	9E24020-CCB5	9E24020-081	05/24/19 16:10
Calibration Check	9E24020-CCV6	9E24020-092	05/24/19 17:02
Calibration Blank	9E24020-CCB6	9E24020-093	05/24/19 17:07
Instrument RL Check	9E24020-CRL7	9E24020-094	05/24/19 17:11
Instrument RL Check	9E24020-CRL8	9E24020-095	05/24/19 17:16
Instrument RL Check	9E24020-CRL9	9E24020-096	05/24/19 17:21
Instrument RL Check	9E24020-CRLA	9E24020-097	05/24/19 17:26
Calibration Check	9E24020-CCV7	9E24020-108	05/24/19 18:16
Calibration Blank	9E24020-CCB7	9E24020-109	05/24/19 18:21
Calibration Check	9E24020-CCV8	9E24020-120	05/24/19 19:11
Calibration Blank	9E24020-CCB8	9E24020-121	05/24/19 19:16
Calibration Check	9E24020-CCV9	9E24020-132	05/24/19 20:06
Calibration Blank	9E24020-CCB9	9E24020-133	05/24/19 20:11

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E24020	Instrument:	ICPMS6
Matrix:	Solid	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9E24020-CCVA	9E24020-144	05/24/19 21:02
Calibration Blank	9E24020-CCBA	9E24020-145	05/24/19 21:06
Instrument RL Check	9E24020-CRLB	9E24020-146	05/24/19 21:11
Instrument RL Check	9E24020-CRLC	9E24020-147	05/24/19 21:15
Instrument RL Check	9E24020-CRLD	9E24020-148	05/24/19 21:20
Instrument RL Check	9E24020-CRLE	9E24020-149	05/24/19 21:24
Calibration Check	9E24020-CCVB	9E24020-160	05/24/19 22:15
Calibration Blank	9E24020-CCBB	9E24020-161	05/24/19 22:20
Calibration Check	9E24020-CCVC	9E24020-172	05/24/19 23:10
Calibration Blank	9E24020-CCBC	9E24020-173	05/24/19 23:15
Calibration Check	9E24020-CCVD	9E24020-184	05/25/19 00:05
Calibration Blank	9E24020-CCBD	9E24020-185	05/25/19 00:10
Calibration Check	9E24020-CCVE	9E24020-189	05/25/19 00:28
Calibration Blank	9E24020-CCBE	9E24020-190	05/25/19 00:33
Instrument RL Check	9E24020-CRLF	9E24020-191	05/25/19 00:37
Instrument RL Check	9E24020-CRLG	9E24020-192	05/25/19 00:42
Instrument RL Check	9E24020-CRLH	9E24020-193	05/25/19 00:46
Instrument RL Check	9E24020-CRLI	9E24020-194	05/25/19 00:51

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.

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E23021-ICV2	Aluminum	4000	4140	103	ug/L	EPA 6020A
	Antimony	40.0	42.9	107	ug/L	EPA 6020A
	Arsenic	100	99.2	99	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	40.8	102	ug/L	EPA 6020A
	Cadmium	100	95.5	96	ug/L	EPA 6020A
	Calcium	4000	4190	105	ug/L	EPA 6020A
	Chromium	100	98.5	98	ug/L	EPA 6020A
	Copper	100	106	106	ug/L	EPA 6020A
	Iron	4000	4200	105	ug/L	EPA 6020A
	Lead	100	97.4	97	ug/L	EPA 6020A
	Magnesium	4000	4260	107	ug/L	EPA 6020A
	Manganese	100	98.9	99	ug/L	EPA 6020A
	Mercury	800	804	101	ng/L	EPA 6020A
	Nickel	100	105	105	ug/L	EPA 6020A
	Potassium	4000	4220	105	ug/L	EPA 6020A
	Selenium	40.0	39.7	99	ug/L	EPA 6020A
	Silver	40.0	40.0	100	ug/L	EPA 6020A
	Sodium	4000	4220	106	ug/L	EPA 6020A
	Thallium	40.0	39.8	99	ug/L	EPA 6020A
	Vanadium	100	98.6	99	ug/L	EPA 6020A
	Zinc	100	102	102	ug/L	EPA 6020A
9E23021-CCV1	Aluminum	4000	3980	99	ug/L	EPA 6020A
	Antimony	40.0	41.6	104	ug/L	EPA 6020A
	Arsenic	100	97.8	98	ug/L	EPA 6020A
	Barium	100	107	107	ug/L	EPA 6020A
	Beryllium	40.0	40.7	102	ug/L	EPA 6020A
	Cadmium	100	92.8	93	ug/L	EPA 6020A
	Calcium	4000	4090	102	ug/L	EPA 6020A
	Chromium	100	95.9	96	ug/L	EPA 6020A
	Copper	100	103	103	ug/L	EPA 6020A
	Iron	4000	4060	102	ug/L	EPA 6020A
	Lead	100	95.0	95	ug/L	EPA 6020A
	Magnesium	4000	4090	102	ug/L	EPA 6020A
	Manganese	100	98.7	99	ug/L	EPA 6020A
	Mercury	800	777	97	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4100	103	ug/L	EPA 6020A
	Selenium	40.0	39.5	99	ug/L	EPA 6020A
	Silver	40.0	39.5	99	ug/L	EPA 6020A
	Sodium	4000	3960	99	ug/L	EPA 6020A
	Thallium	40.0	39.1	98	ug/L	EPA 6020A
	Vanadium	100	96.7	97	ug/L	EPA 6020A
	Zinc	100	98.1	98	ug/L	EPA 6020A
9E23021-CCV2	Aluminum	4000	3990	100	ug/L	EPA 6020A
	Antimony	40.0	41.6	104	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E23021-CCV2	Arsenic	100	96.2	96	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	41.3	103	ug/L	EPA 6020A
	Cadmium	100	92.3	92	ug/L	EPA 6020A
	Calcium	4000	4100	103	ug/L	EPA 6020A
	Chromium	100	96.1	96	ug/L	EPA 6020A
	Copper	100	103	103	ug/L	EPA 6020A
	Iron	4000	4030	101	ug/L	EPA 6020A
	Lead	100	93.2	93	ug/L	EPA 6020A
	Magnesium	4000	3960	99	ug/L	EPA 6020A
	Manganese	100	96.2	96	ug/L	EPA 6020A
	Mercury	800	779	97	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4110	103	ug/L	EPA 6020A
	Selenium	40.0	38.9	97	ug/L	EPA 6020A
	Silver	40.0	39.2	98	ug/L	EPA 6020A
	Sodium	4000	4020	101	ug/L	EPA 6020A
	Thallium	40.0	38.4	96	ug/L	EPA 6020A
	Vanadium	100	96.6	97	ug/L	EPA 6020A
	Zinc	100	97.9	98	ug/L	EPA 6020A
9E23021-CCV3	Aluminum	4000	3970	99	ug/L	EPA 6020A
	Antimony	40.0	42.6	106	ug/L	EPA 6020A
	Arsenic	100	96.4	96	ug/L	EPA 6020A
	Barium	100	106	106	ug/L	EPA 6020A
	Beryllium	40.0	42.1	105	ug/L	EPA 6020A
	Cadmium	100	94.8	95	ug/L	EPA 6020A
	Calcium	4000	4130	103	ug/L	EPA 6020A
	Chromium	100	95.8	96	ug/L	EPA 6020A
	Copper	100	103	103	ug/L	EPA 6020A
	Iron	4000	4060	102	ug/L	EPA 6020A
	Lead	100	94.8	95	ug/L	EPA 6020A
	Magnesium	4000	4040	101	ug/L	EPA 6020A
	Manganese	100	97.9	98	ug/L	EPA 6020A
	Mercury	800	803	100	ng/L	EPA 6020A
	Nickel	100	103	103	ug/L	EPA 6020A
	Potassium	4000	4090	102	ug/L	EPA 6020A
	Selenium	40.0	40.0	100	ug/L	EPA 6020A
	Silver	40.0	40.1	100	ug/L	EPA 6020A
	Sodium	4000	3990	100	ug/L	EPA 6020A
	Thallium	40.0	39.1	98	ug/L	EPA 6020A
	Vanadium	100	97.2	97	ug/L	EPA 6020A
	Zinc	100	98.0	98	ug/L	EPA 6020A
9E23021-CCV4	Aluminum	4000	3930	98	ug/L	EPA 6020A
	Antimony	40.0	42.4	106	ug/L	EPA 6020A
	Arsenic	100	94.6	95	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E23021-CCV4	Cadmium	100	93.7	94	ug/L	EPA 6020A
	Calcium	4000	4010	100	ug/L	EPA 6020A
	Chromium	100	94.2	94	ug/L	EPA 6020A
	Copper	100	102	102	ug/L	EPA 6020A
	Iron	4000	4010	100	ug/L	EPA 6020A
	Lead	100	94.4	94	ug/L	EPA 6020A
	Magnesium	4000	4040	101	ug/L	EPA 6020A
	Manganese	100	95.3	95	ug/L	EPA 6020A
	Mercury	800	778	97	ng/L	EPA 6020A
	Nickel	100	101	101	ug/L	EPA 6020A
	Potassium	4000	4010	100	ug/L	EPA 6020A
	Selenium	40.0	39.0	97	ug/L	EPA 6020A
	Silver	40.0	40.0	100	ug/L	EPA 6020A
	Sodium	4000	3990	100	ug/L	EPA 6020A
	Thallium	40.0	38.8	97	ug/L	EPA 6020A
	Vanadium	100	94.5	94	ug/L	EPA 6020A
	Zinc	100	96.6	97	ug/L	EPA 6020A
9E23021-CCV5	Aluminum	4000	3990	100	ug/L	EPA 6020A
	Antimony	40.0	42.9	107	ug/L	EPA 6020A
	Arsenic	100	96.0	96	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Cadmium	100	95.7	96	ug/L	EPA 6020A
	Calcium	4000	4100	103	ug/L	EPA 6020A
	Chromium	100	96.2	96	ug/L	EPA 6020A
	Copper	100	104	104	ug/L	EPA 6020A
	Iron	4000	4120	103	ug/L	EPA 6020A
	Lead	100	96.3	96	ug/L	EPA 6020A
	Magnesium	4000	4140	103	ug/L	EPA 6020A
	Manganese	100	95.7	96	ug/L	EPA 6020A
	Mercury	800	777	97	ng/L	EPA 6020A
	Nickel	100	103	103	ug/L	EPA 6020A
	Potassium	4000	4080	102	ug/L	EPA 6020A
	Selenium	40.0	40.1	100	ug/L	EPA 6020A
	Silver	40.0	40.3	101	ug/L	EPA 6020A
	Sodium	4000	4080	102	ug/L	EPA 6020A
	Thallium	40.0	39.5	99	ug/L	EPA 6020A
	Vanadium	100	96.7	97	ug/L	EPA 6020A
	Zinc	100	97.9	98	ug/L	EPA 6020A
9E23021-CCV6	Aluminum	4000	3980	100	ug/L	EPA 6020A
	Antimony	40.0	44.3	111 *	ug/L	EPA 6020A
	Arsenic	100	96.8	97	ug/L	EPA 6020A
	Barium	100	107	107	ug/L	EPA 6020A
	Cadmium	100	98.3	98	ug/L	EPA 6020A
	Calcium	4000	4100	102	ug/L	EPA 6020A
	Chromium	100	96.8	97	ug/L	EPA 6020A
	Copper	100	103	103	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E23021-CCV6	Iron	4000	4080	102	ug/L	EPA 6020A
	Lead	100	99.2	99	ug/L	EPA 6020A
	Magnesium	4000	4190	105	ug/L	EPA 6020A
	Manganese	100	98.6	99	ug/L	EPA 6020A
	Mercury	800	821	103	ng/L	EPA 6020A
	Nickel	100	103	103	ug/L	EPA 6020A
	Potassium	4000	4110	103	ug/L	EPA 6020A
	Selenium	40.0	41.5	104	ug/L	EPA 6020A
	Silver	40.0	41.9	105	ug/L	EPA 6020A
	Sodium	4000	4010	100	ug/L	EPA 6020A
	Thallium	40.0	40.5	101	ug/L	EPA 6020A
	Vanadium	100	97.2	97	ug/L	EPA 6020A
	Zinc	100	97.9	98	ug/L	EPA 6020A
9E23021-CCV7	Aluminum	4000	3970	99	ug/L	EPA 6020A
	Antimony	40.0	43.6	109	ug/L	EPA 6020A
	Arsenic	100	96.0	96	ug/L	EPA 6020A
	Barium	100	110	110	ug/L	EPA 6020A
	Cadmium	100	97.1	97	ug/L	EPA 6020A
	Calcium	4000	4120	103	ug/L	EPA 6020A
	Chromium	100	94.4	94	ug/L	EPA 6020A
	Copper	100	102	102	ug/L	EPA 6020A
	Iron	4000	4010	100	ug/L	EPA 6020A
	Lead	100	97.0	97	ug/L	EPA 6020A
	Magnesium	4000	4160	104	ug/L	EPA 6020A
	Manganese	100	103	103	ug/L	EPA 6020A
	Mercury	800	816	102	ng/L	EPA 6020A
	Nickel	100	101	101	ug/L	EPA 6020A
	Potassium	4000	4110	103	ug/L	EPA 6020A
	Selenium	40.0	41.5	104	ug/L	EPA 6020A
	Silver	40.0	41.0	102	ug/L	EPA 6020A
	Sodium	4000	3970	99	ug/L	EPA 6020A
	Thallium	40.0	39.9	100	ug/L	EPA 6020A
	Vanadium	100	94.7	95	ug/L	EPA 6020A
	Zinc	100	96.5	97	ug/L	EPA 6020A
9E23021-CCV8	Aluminum	4000	3920	98	ug/L	EPA 6020A
	Antimony	40.0	41.6	104	ug/L	EPA 6020A
	Arsenic	100	96.7	97	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Cadmium	100	92.6	93	ug/L	EPA 6020A
	Calcium	4000	4080	102	ug/L	EPA 6020A
	Chromium	100	95.4	95	ug/L	EPA 6020A
	Copper	100	103	103	ug/L	EPA 6020A
	Iron	4000	4070	102	ug/L	EPA 6020A
	Lead	100	93.3	93	ug/L	EPA 6020A
	Magnesium	4000	3960	99	ug/L	EPA 6020A
	Manganese	100	95.7	96	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E23021-CCV8	Mercury	800	769	96	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4090	102	ug/L	EPA 6020A
	Selenium	40.0	39.2	98	ug/L	EPA 6020A
	Silver	40.0	39.5	99	ug/L	EPA 6020A
	Sodium	4000	3920	98	ug/L	EPA 6020A
	Thallium	40.0	38.3	96	ug/L	EPA 6020A
	Vanadium	100	95.9	96	ug/L	EPA 6020A
	Zinc	100	97.6	98	ug/L	EPA 6020A
9E23021-CCV9	Aluminum	4000	3950	99	ug/L	EPA 6020A
	Antimony	40.0	41.8	105	ug/L	EPA 6020A
	Arsenic	100	96.6	97	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Cadmium	100	92.4	92	ug/L	EPA 6020A
	Calcium	4000	4070	102	ug/L	EPA 6020A
	Chromium	100	95.7	96	ug/L	EPA 6020A
	Copper	100	102	102	ug/L	EPA 6020A
	Iron	4000	4080	102	ug/L	EPA 6020A
	Lead	100	93.2	93	ug/L	EPA 6020A
	Magnesium	4000	3980	100	ug/L	EPA 6020A
	Manganese	100	94.7	95	ug/L	EPA 6020A
	Mercury	800	756	94	ng/L	EPA 6020A
	Nickel	100	101	101	ug/L	EPA 6020A
	Potassium	4000	4080	102	ug/L	EPA 6020A
	Selenium	40.0	38.9	97	ug/L	EPA 6020A
	Silver	40.0	39.2	98	ug/L	EPA 6020A
	Sodium	4000	3960	99	ug/L	EPA 6020A
	Thallium	40.0	38.6	97	ug/L	EPA 6020A
	Vanadium	100	96.0	96	ug/L	EPA 6020A
	Zinc	100	97.0	97	ug/L	EPA 6020A
9E23021-CCVA	Aluminum	4000	3990	100	ug/L	EPA 6020A
	Antimony	40.0	41.4	104	ug/L	EPA 6020A
	Arsenic	100	97.5	98	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A
	Cadmium	100	92.8	93	ug/L	EPA 6020A
	Calcium	4000	4100	102	ug/L	EPA 6020A
	Chromium	100	95.6	96	ug/L	EPA 6020A
	Copper	100	102	102	ug/L	EPA 6020A
	Iron	4000	4080	102	ug/L	EPA 6020A
	Lead	100	93.6	94	ug/L	EPA 6020A
	Magnesium	4000	4010	100	ug/L	EPA 6020A
	Manganese	100	93.2	93	ug/L	EPA 6020A
	Mercury	800	749	94	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4110	103	ug/L	EPA 6020A
	Selenium	40.0	39.4	98	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E23021-CCVA	Silver	40.0	39.5	99	ug/L	EPA 6020A
	Sodium	4000	3970	99	ug/L	EPA 6020A
	Thallium	40.0	38.2	95	ug/L	EPA 6020A
	Vanadium	100	96.5	97	ug/L	EPA 6020A
	Zinc	100	97.2	97	ug/L	EPA 6020A

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E24020-ICV1	Arsenic	100	97.4	97	ug/L	EPA 6020A
	Barium	100	106	106	ug/L	EPA 6020A
	Beryllium	40.0	40.0	100	ug/L	EPA 6020A
	Cadmium	100	97.2	97	ug/L	EPA 6020A
	Chromium	100	99.0	99	ug/L	EPA 6020A
	Lead	100	96.4	96	ug/L	EPA 6020A
	Mercury	800	802	100	ng/L	EPA 6020A
	Selenium	40.0	39.8	99	ug/L	EPA 6020A
	Silver	40.0	39.2	98	ug/L	EPA 6020A
9E24020-CCV1	Arsenic	100	96.7	97	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	39.0	97	ug/L	EPA 6020A
	Cadmium	100	97.3	97	ug/L	EPA 6020A
	Chromium	100	96.6	97	ug/L	EPA 6020A
	Lead	100	97.0	97	ug/L	EPA 6020A
	Mercury	800	802	100	ng/L	EPA 6020A
	Selenium	40.0	39.5	99	ug/L	EPA 6020A
	Silver	40.0	39.3	98	ug/L	EPA 6020A
9E24020-CCV2	Arsenic	100	96.2	96	ug/L	EPA 6020A
	Barium	100	106	106	ug/L	EPA 6020A
	Beryllium	40.0	37.9	95	ug/L	EPA 6020A
	Cadmium	100	97.7	98	ug/L	EPA 6020A
	Chromium	100	96.6	97	ug/L	EPA 6020A
	Lead	100	96.7	97	ug/L	EPA 6020A
	Mercury	800	796	100	ng/L	EPA 6020A
	Selenium	40.0	40.0	100	ug/L	EPA 6020A
	Silver	40.0	39.3	98	ug/L	EPA 6020A
9E24020-CCV3	Arsenic	100	95.4	95	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	39.3	98	ug/L	EPA 6020A
	Cadmium	100	98.1	98	ug/L	EPA 6020A
	Chromium	100	96.3	96	ug/L	EPA 6020A
	Lead	100	98.2	98	ug/L	EPA 6020A
	Mercury	800	810	101	ng/L	EPA 6020A
	Selenium	40.0	39.3	98	ug/L	EPA 6020A
	Silver	40.0	39.6	99	ug/L	EPA 6020A
9E24020-CCV4	Arsenic	100	96.7	97	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A
	Beryllium	40.0	39.1	98	ug/L	EPA 6020A
	Cadmium	100	98.8	99	ug/L	EPA 6020A
	Chromium	100	97.4	97	ug/L	EPA 6020A
	Lead	100	98.3	98	ug/L	EPA 6020A
	Mercury	800	812	101	ng/L	EPA 6020A
	Selenium	40.0	39.8	100	ug/L	EPA 6020A
	Silver	40.0	39.8	99	ug/L	EPA 6020A
9E24020-CCV5	Arsenic	100	95.4	95	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E24020-CCV5	Barium	100	103	103	ug/L	EPA 6020A
	Beryllium	40.0	39.7	99	ug/L	EPA 6020A
	Cadmium	100	99.6	100	ug/L	EPA 6020A
	Chromium	100	96.1	96	ug/L	EPA 6020A
	Lead	100	99.6	100	ug/L	EPA 6020A
	Mercury	800	815	102	ng/L	EPA 6020A
	Selenium	40.0	40.8	102	ug/L	EPA 6020A
	Silver	40.0	39.9	100	ug/L	EPA 6020A
9E24020-CCV6	Arsenic	100	90.7	91	ug/L	EPA 6020A
	Barium	100	102	102	ug/L	EPA 6020A
	Beryllium	40.0	39.1	98	ug/L	EPA 6020A
	Cadmium	100	99.2	99	ug/L	EPA 6020A
	Chromium	100	90.6	91	ug/L	EPA 6020A
	Lead	100	100	100	ug/L	EPA 6020A
	Mercury	800	841	105	ng/L	EPA 6020A
	Selenium	40.0	40.4	101	ug/L	EPA 6020A
	Silver	40.0	39.6	99	ug/L	EPA 6020A
9E24020-CCV7	Arsenic	100	96.7	97	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A
	Beryllium	40.0	37.7	94	ug/L	EPA 6020A
	Cadmium	100	99.6	100	ug/L	EPA 6020A
	Chromium	100	97.1	97	ug/L	EPA 6020A
	Lead	100	98.7	99	ug/L	EPA 6020A
	Mercury	800	796	100	ng/L	EPA 6020A
	Selenium	40.0	40.1	100	ug/L	EPA 6020A
	Silver	40.0	39.7	99	ug/L	EPA 6020A
9E24020-CCV8	Arsenic	100	94.7	95	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A
	Beryllium	40.0	38.7	97	ug/L	EPA 6020A
	Cadmium	100	99.0	99	ug/L	EPA 6020A
	Chromium	100	96.0	96	ug/L	EPA 6020A
	Lead	100	100	100	ug/L	EPA 6020A
	Mercury	800	850	106	ng/L	EPA 6020A
	Selenium	40.0	40.4	101	ug/L	EPA 6020A
	Silver	40.0	39.8	99	ug/L	EPA 6020A
9E24020-CCV9	Arsenic	100	94.4	94	ug/L	EPA 6020A
	Barium	100	102	102	ug/L	EPA 6020A
	Beryllium	40.0	38.1	95	ug/L	EPA 6020A
	Cadmium	100	101	101	ug/L	EPA 6020A
	Chromium	100	95.4	95	ug/L	EPA 6020A
	Lead	100	99.7	100	ug/L	EPA 6020A
	Mercury	800	832	104	ng/L	EPA 6020A
	Selenium	40.0	41.4	104	ug/L	EPA 6020A
	Silver	40.0	40.5	101	ug/L	EPA 6020A
9E24020-CCVA	Arsenic	100	97.4	97	ug/L	EPA 6020A
	Barium	100	102	102	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E24020-CCVA	Beryllium	40.0	37.8	95	ug/L	EPA 6020A
	Cadmium	100	98.5	99	ug/L	EPA 6020A
	Chromium	100	98.1	98	ug/L	EPA 6020A
	Lead	100	98.6	99	ug/L	EPA 6020A
	Mercury	800	820	103	ng/L	EPA 6020A
	Selenium	40.0	40.1	100	ug/L	EPA 6020A
	Silver	40.0	39.5	99	ug/L	EPA 6020A
9E24020-CCVB	Arsenic	100	90.9	91	ug/L	EPA 6020A
	Barium	100	101	101	ug/L	EPA 6020A
	Beryllium	40.0	39.0	97	ug/L	EPA 6020A
	Cadmium	100	98.7	99	ug/L	EPA 6020A
	Chromium	100	91.9	92	ug/L	EPA 6020A
	Lead	100	100	100	ug/L	EPA 6020A
	Mercury	800	811	101	ng/L	EPA 6020A
	Selenium	40.0	40.3	101	ug/L	EPA 6020A
	Silver	40.0	39.8	99	ug/L	EPA 6020A
9E24020-CCVC	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	39.2	98	ug/L	EPA 6020A
	Cadmium	100	100	100	ug/L	EPA 6020A
	Lead	100	100	100	ug/L	EPA 6020A
	Mercury	800	823	103	ng/L	EPA 6020A
	Selenium	40.0	41.0	102	ug/L	EPA 6020A
	Silver	40.0	40.3	101	ug/L	EPA 6020A
9E24020-CCVD	Arsenic	100	95.6	96	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	39.8	99	ug/L	EPA 6020A
	Cadmium	100	98.1	98	ug/L	EPA 6020A
	Chromium	100	96.0	96	ug/L	EPA 6020A
	Lead	100	97.7	98	ug/L	EPA 6020A
	Mercury	800	798	100	ng/L	EPA 6020A
	Selenium	40.0	40.0	100	ug/L	EPA 6020A
	Silver	40.0	39.7	99	ug/L	EPA 6020A
9E24020-CCVE	Arsenic	100	95.2	95	ug/L	EPA 6020A
	Barium	100	102	102	ug/L	EPA 6020A
	Beryllium	40.0	39.4	98	ug/L	EPA 6020A
	Cadmium	100	93.6	94	ug/L	EPA 6020A
	Chromium	100	95.1	95	ug/L	EPA 6020A
	Lead	100	97.1	97	ug/L	EPA 6020A
	Mercury	800	811	101	ng/L	EPA 6020A
	Selenium	40.0	38.2	96	ug/L	EPA 6020A
	Silver	40.0	37.7	94	ug/L	EPA 6020A

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-ICB1	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E23021-CCB1	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-CCB1	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E23021-CCB2	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-CCB3	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
9E23021-CCB4	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-CCB4	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
9E23021-CCB5	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
9E23021-CCB6	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-CCB6	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
9E23021-CCB7	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-CCB7	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E23021-CCB8	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
9E23021-CCB9	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-CCB9	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
9E23021-CCBA	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E23021
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E23021-CCBA	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A

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

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E24020
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E24020-ICB1	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E24020-CCB1	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E24020-CCB2	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E24020-CCB3	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E24020
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E24020-CCB3	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9E24020-CCB4	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
9E24020-CCB5	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
9E24020-CCB6	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
9E24020-CCB7	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E24020
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E24020-CCB7	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
9E24020-CCB8	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
9E24020-CCB9	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E24020-CCBA	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E24020
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E24020-CCBB	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
9E24020-CCBC	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E24020-CCBD	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
9E24020-CCBE	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: ICPMS6
Project: Mult 802 Decommissioning
Sequence: 9E24020
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E24020-CCBE	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (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: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRL1	Aluminum	9.00	9.51	106	ug/L	70 - 130
	Antimony	0.180	0.190	106	ug/L	70 - 130
	Arsenic	0.180	0.183	102	ug/L	70 - 130
	Barium	0.180	0.196	109	ug/L	70 - 130
	Beryllium	0.180	0.219	122	ug/L	70 - 130
	Cadmium	0.180	0.175	97	ug/L	70 - 130
	Calcium	9.00	10.0	111	ug/L	70 - 130
	Chromium	0.180	0.181	101	ug/L	70 - 130
	Copper	0.180	0.228	126	ug/L	70 - 130
	Iron	9.00	8.89	99	ug/L	70 - 130
	Lead	0.180	0.182	101	ug/L	70 - 130
	Manganese	0.180	0.175	97	ug/L	70 - 130
	Nickel	0.180	0.151	84	ug/L	70 - 130
	Potassium	9.00	9.31	103	ug/L	70 - 130
	Silver	0.180	0.189	105	ug/L	70 - 130
	Sodium	9.00	7.65	85	ug/L	70 - 130
	Thallium	0.180	0.185	103	ug/L	70 - 130
	Zinc	0.180	0.175	97	ug/L	70 - 130
9E23021-CRL2	Aluminum	45.0	46.1	102	ug/L	70 - 130
	Antimony	0.900	0.892	99	ug/L	70 - 130
	Arsenic	0.900	0.845	94	ug/L	70 - 130
	Barium	0.900	0.927	103	ug/L	70 - 130
	Beryllium	0.900	0.934	104	ug/L	70 - 130
	Cadmium	0.900	0.856	95	ug/L	70 - 130
	Calcium	45.0	45.3	101	ug/L	70 - 130
	Chromium	0.900	0.885	98	ug/L	70 - 130
	Copper	0.900	0.982	109	ug/L	70 - 130
	Iron	45.0	45.9	102	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRL2	Lead	0.900	0.902	100	ug/L	70 - 130
	Magnesium	45.0	48.8	108	ug/L	70 - 130
	Manganese	0.900	0.915	102	ug/L	70 - 130
	Mercury	36.0	42.1	117	ng/L	70 - 130
	Nickel	0.900	0.897	100	ug/L	70 - 130
	Potassium	45.0	45.9	102	ug/L	70 - 130
	Selenium	0.900	0.931	103	ug/L	70 - 130
	Silver	0.900	0.938	104	ug/L	70 - 130
	Sodium	45.0	45.0	100	ug/L	70 - 130
	Thallium	0.900	0.934	104	ug/L	70 - 130
	Vanadium	0.900	0.765	85	ug/L	70 - 130
	Zinc	0.900	0.996	111	ug/L	70 - 130
9E23021-CRL3	Aluminum	90.0	89.7	100	ug/L	70 - 130
	Antimony	1.80	1.73	96	ug/L	70 - 130
	Arsenic	1.80	1.78	99	ug/L	70 - 130
	Barium	1.80	1.87	104	ug/L	70 - 130
	Beryllium	1.80	1.71	95	ug/L	70 - 130
	Cadmium	1.80	1.76	98	ug/L	70 - 130
	Calcium	90.0	91.1	101	ug/L	70 - 130
	Chromium	1.80	1.76	98	ug/L	70 - 130
	Copper	1.80	1.94	108	ug/L	70 - 130
	Iron	90.0	90.7	101	ug/L	70 - 130
	Lead	1.80	1.77	98	ug/L	70 - 130
	Magnesium	90.0	99.4	110	ug/L	70 - 130
	Manganese	1.80	1.77	98	ug/L	70 - 130
	Mercury	72.0	71.4	99	ng/L	70 - 130
	Nickel	1.80	1.85	103	ug/L	70 - 130
	Potassium	90.0	90.8	101	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRL3	Selenium	1.80	1.73	96	ug/L	70 - 130
	Silver	1.80	1.83	102	ug/L	70 - 130
	Sodium	90.0	88.4	98	ug/L	70 - 130
	Thallium	1.80	1.81	101	ug/L	70 - 130
	Vanadium	1.80	1.63	90	ug/L	70 - 130
	Zinc	1.80	1.85	103	ug/L	70 - 130
9E23021-CRL4	Aluminum	9.00	9.40	104	ug/L	70 - 130
	Antimony	0.180	0.166	92	ug/L	70 - 130
	Arsenic	0.180	0.171	95	ug/L	70 - 130
	Barium	0.180	0.198	110	ug/L	70 - 130
	Cadmium	0.180	0.169	94	ug/L	70 - 130
	Calcium	9.00	8.66	96	ug/L	70 - 130
	Chromium	0.180	0.171	95	ug/L	70 - 130
	Copper	0.180	0.162	90	ug/L	70 - 130
	Iron	9.00	7.97	89	ug/L	70 - 130
	Lead	0.180	0.171	95	ug/L	70 - 130
	Manganese	0.180	0.152	85	ug/L	70 - 130
	Potassium	9.00	7.61	85	ug/L	70 - 130
	Selenium	0.180	0.174	97	ug/L	70 - 130
	Silver	0.180	0.187	104	ug/L	70 - 130
	Sodium	9.00	6.76	75	ug/L	70 - 130
	Thallium	0.180	0.185	103	ug/L	70 - 130
	Zinc	0.180	0.202	112	ug/L	70 - 130
9E23021-CRL5	Aluminum	45.0	43.6	97	ug/L	70 - 130
	Antimony	0.900	0.871	97	ug/L	70 - 130
	Arsenic	0.900	0.874	97	ug/L	70 - 130
	Barium	0.900	0.975	108	ug/L	70 - 130
	Cadmium	0.900	0.839	93	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRL5	Calcium	45.0	45.1	100	ug/L	70 - 130
	Chromium	0.900	0.860	96	ug/L	70 - 130
	Copper	0.900	0.961	107	ug/L	70 - 130
	Iron	45.0	44.5	99	ug/L	70 - 130
	Lead	0.900	0.873	97	ug/L	70 - 130
	Magnesium	45.0	40.3	90	ug/L	70 - 130
	Manganese	0.900	0.855	95	ug/L	70 - 130
	Mercury	36.0	42.0	117	ng/L	70 - 130
	Nickel	0.900	0.760	84	ug/L	70 - 130
	Potassium	45.0	43.0	95	ug/L	70 - 130
	Selenium	0.900	0.989	110	ug/L	70 - 130
	Silver	0.900	0.912	101	ug/L	70 - 130
	Sodium	45.0	42.3	94	ug/L	70 - 130
	Thallium	0.900	0.910	101	ug/L	70 - 130
	Vanadium	0.900	0.649	72	ug/L	70 - 130
	Zinc	0.900	0.891	99	ug/L	70 - 130
9E23021-CRL6	Aluminum	90.0	86.2	96	ug/L	70 - 130
	Antimony	1.80	1.68	93	ug/L	70 - 130
	Arsenic	1.80	1.76	98	ug/L	70 - 130
	Barium	1.80	1.86	104	ug/L	70 - 130
	Cadmium	1.80	1.71	95	ug/L	70 - 130
	Calcium	90.0	84.8	94	ug/L	70 - 130
	Chromium	1.80	1.75	97	ug/L	70 - 130
	Copper	1.80	1.97	110	ug/L	70 - 130
	Iron	90.0	89.9	100	ug/L	70 - 130
	Lead	1.80	1.71	95	ug/L	70 - 130
	Magnesium	90.0	89.2	99	ug/L	70 - 130
	Manganese	1.80	1.72	96	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRL6	Mercury	72.0	74.5	103	ng/L	70 - 130
	Nickel	1.80	1.70	95	ug/L	70 - 130
	Potassium	90.0	87.9	98	ug/L	70 - 130
	Selenium	1.80	1.69	94	ug/L	70 - 130
	Silver	1.80	1.78	99	ug/L	70 - 130
	Sodium	90.0	84.7	94	ug/L	70 - 130
	Thallium	1.80	1.78	99	ug/L	70 - 130
	Vanadium	1.80	1.58	88	ug/L	70 - 130
	Zinc	1.80	1.91	106	ug/L	70 - 130
9E23021-CRL7	Aluminum	180	172	95	ug/L	70 - 130
	Antimony	3.60	3.42	95	ug/L	70 - 130
	Arsenic	3.60	3.52	98	ug/L	70 - 130
	Barium	3.60	3.81	106	ug/L	70 - 130
	Cadmium	3.60	3.41	95	ug/L	70 - 130
	Calcium	180	174	97	ug/L	70 - 130
	Chromium	3.60	3.50	97	ug/L	70 - 130
	Copper	3.60	3.77	105	ug/L	70 - 130
	Iron	180	178	99	ug/L	70 - 130
	Lead	3.60	3.45	96	ug/L	70 - 130
	Magnesium	180	191	106	ug/L	70 - 130
	Manganese	3.60	3.47	96	ug/L	70 - 130
	Mercury	144	139	97	ng/L	70 - 130
	Nickel	3.60	3.49	97	ug/L	70 - 130
	Potassium	180	177	98	ug/L	70 - 130
	Selenium	3.60	3.70	103	ug/L	70 - 130
	Silver	3.60	3.62	101	ug/L	70 - 130
	Sodium	180	173	96	ug/L	70 - 130
	Thallium	3.60	3.60	100	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRL7	Vanadium	3.60	3.29	91	ug/L	70 - 130
	Zinc	3.60	3.66	102	ug/L	70 - 130
9E23021-CRL8	Aluminum	9.00	9.27	103	ug/L	70 - 130
	Antimony	0.180	0.170	94	ug/L	70 - 130
	Arsenic	0.180	0.147	82	ug/L	70 - 130
	Barium	0.180	0.182	101	ug/L	70 - 130
	Cadmium	0.180	0.168	93	ug/L	70 - 130
	Calcium	9.00	8.76	97	ug/L	70 - 130
	Chromium	0.180	0.132	73	ug/L	70 - 130
	Iron	9.00	7.93	88	ug/L	70 - 130
	Lead	0.180	0.168	93	ug/L	70 - 130
	Manganese	0.180	0.156	87	ug/L	70 - 130
	Potassium	9.00	6.87	76	ug/L	70 - 130
	Selenium	0.180	0.167	93	ug/L	70 - 130
	Silver	0.180	0.178	99	ug/L	70 - 130
	Sodium	9.00	6.98	78	ug/L	70 - 130
	Thallium	0.180	0.183	102	ug/L	70 - 130
	Zinc	0.180	0.182	101	ug/L	70 - 130
9E23021-CRL9	Aluminum	45.0	44.0	98	ug/L	70 - 130
	Antimony	0.900	0.871	97	ug/L	70 - 130
	Arsenic	0.900	0.854	95	ug/L	70 - 130
	Barium	0.900	0.972	108	ug/L	70 - 130
	Cadmium	0.900	0.837	93	ug/L	70 - 130
	Calcium	45.0	42.0	93	ug/L	70 - 130
	Chromium	0.900	0.868	96	ug/L	70 - 130
	Copper	0.900	0.914	102	ug/L	70 - 130
	Iron	45.0	43.0	96	ug/L	70 - 130
	Lead	0.900	0.844	94	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRL9	Magnesium	45.0	38.1	85	ug/L	70 - 130
	Manganese	0.900	0.843	94	ug/L	70 - 130
	Mercury	36.0	35.0	97	ng/L	70 - 130
	Nickel	0.900	0.668	74	ug/L	70 - 130
	Potassium	45.0	42.5	94	ug/L	70 - 130
	Selenium	0.900	0.781	87	ug/L	70 - 130
	Silver	0.900	0.888	99	ug/L	70 - 130
	Sodium	45.0	41.2	92	ug/L	70 - 130
	Thallium	0.900	0.897	100	ug/L	70 - 130
	Vanadium	0.900	0.639	71	ug/L	70 - 130
	Zinc	0.900	0.897	100	ug/L	70 - 130
9E23021-CRLA	Aluminum	90.0	85.7	95	ug/L	70 - 130
	Antimony	1.80	1.71	95	ug/L	70 - 130
	Arsenic	1.80	1.74	97	ug/L	70 - 130
	Barium	1.80	1.88	104	ug/L	70 - 130
	Cadmium	1.80	1.67	93	ug/L	70 - 130
	Calcium	90.0	84.4	94	ug/L	70 - 130
	Chromium	1.80	1.64	91	ug/L	70 - 130
	Copper	1.80	1.79	99	ug/L	70 - 130
	Iron	90.0	86.9	97	ug/L	70 - 130
	Lead	1.80	1.68	93	ug/L	70 - 130
	Magnesium	90.0	86.0	96	ug/L	70 - 130
	Manganese	1.80	1.72	96	ug/L	70 - 130
	Mercury	72.0	69.7	97	ng/L	70 - 130
	Nickel	1.80	1.66	92	ug/L	70 - 130
	Potassium	90.0	85.6	95	ug/L	70 - 130
	Selenium	1.80	1.69	94	ug/L	70 - 130
	Silver	1.80	1.78	99	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRLA	Sodium	90.0	82.2	91	ug/L	70 - 130
	Thallium	1.80	1.74	97	ug/L	70 - 130
	Vanadium	1.80	1.53	85	ug/L	70 - 130
	Zinc	1.80	1.81	101	ug/L	70 - 130
9E23021-CRLB	Aluminum	180	173	96	ug/L	70 - 130
	Antimony	3.60	3.42	95	ug/L	70 - 130
	Arsenic	3.60	3.42	95	ug/L	70 - 130
	Barium	3.60	3.83	106	ug/L	70 - 130
	Cadmium	3.60	3.32	92	ug/L	70 - 130
	Calcium	180	171	95	ug/L	70 - 130
	Chromium	3.60	3.43	95	ug/L	70 - 130
	Copper	3.60	3.76	104	ug/L	70 - 130
	Iron	180	176	98	ug/L	70 - 130
	Lead	3.60	3.35	93	ug/L	70 - 130
	Magnesium	180	184	102	ug/L	70 - 130
	Manganese	3.60	3.43	95	ug/L	70 - 130
	Mercury	144	133	93	ng/L	70 - 130
	Nickel	3.60	3.26	91	ug/L	70 - 130
	Potassium	180	174	97	ug/L	70 - 130
	Selenium	3.60	3.61	100	ug/L	70 - 130
	Silver	3.60	3.55	99	ug/L	70 - 130
	Sodium	180	167	93	ug/L	70 - 130
	Thallium	3.60	3.49	97	ug/L	70 - 130
	Vanadium	3.60	3.34	93	ug/L	70 - 130
	Zinc	3.60	3.56	99	ug/L	70 - 130
9E23021-CRLC	Aluminum	9.00	8.79	98	ug/L	70 - 130
	Antimony	0.180	0.191	106	ug/L	70 - 130
	Arsenic	0.180	0.157	87	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRLC	Barium	0.180	0.199	110	ug/L	70 - 130
	Cadmium	0.180	0.172	96	ug/L	70 - 130
	Calcium	9.00	10.0	111	ug/L	70 - 130
	Chromium	0.180	0.142	79	ug/L	70 - 130
	Copper	0.180	0.169	94	ug/L	70 - 130
	Iron	9.00	7.59	84	ug/L	70 - 130
	Lead	0.180	0.172	96	ug/L	70 - 130
	Manganese	0.180	0.152	84	ug/L	70 - 130
	Silver	0.180	0.180	100	ug/L	70 - 130
	Thallium	0.180	0.170	94	ug/L	70 - 130
	Zinc	0.180	0.180	100	ug/L	70 - 130
9E23021-CRLD	Aluminum	45.0	43.8	97	ug/L	70 - 130
	Antimony	0.900	0.878	98	ug/L	70 - 130
	Arsenic	0.900	0.890	99	ug/L	70 - 130
	Barium	0.900	0.910	101	ug/L	70 - 130
	Cadmium	0.900	0.819	91	ug/L	70 - 130
	Calcium	45.0	43.2	96	ug/L	70 - 130
	Chromium	0.900	0.818	91	ug/L	70 - 130
	Copper	0.900	0.932	104	ug/L	70 - 130
	Iron	45.0	43.6	97	ug/L	70 - 130
	Lead	0.900	0.829	92	ug/L	70 - 130
	Magnesium	45.0	36.0	80	ug/L	70 - 130
	Manganese	0.900	0.815	91	ug/L	70 - 130
	Mercury	36.0	35.3	98	ng/L	70 - 130
	Nickel	0.900	0.752	84	ug/L	70 - 130
	Potassium	45.0	42.2	94	ug/L	70 - 130
	Selenium	0.900	0.902	100	ug/L	70 - 130
	Silver	0.900	0.886	98	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRLD	Sodium	45.0	39.2	87	ug/L	70 - 130
	Thallium	0.900	0.853	95	ug/L	70 - 130
	Vanadium	0.900	0.717	80	ug/L	70 - 130
	Zinc	0.900	0.927	103	ug/L	70 - 130
9E23021-CRLE	Aluminum	90.0	87.3	97	ug/L	70 - 130
	Antimony	1.80	1.71	95	ug/L	70 - 130
	Arsenic	1.80	1.71	95	ug/L	70 - 130
	Barium	1.80	1.81	101	ug/L	70 - 130
	Cadmium	1.80	1.62	90	ug/L	70 - 130
	Calcium	90.0	92.4	103	ug/L	70 - 130
	Chromium	1.80	1.68	93	ug/L	70 - 130
	Copper	1.80	1.81	101	ug/L	70 - 130
	Iron	90.0	88.0	98	ug/L	70 - 130
	Lead	1.80	1.65	92	ug/L	70 - 130
	Magnesium	90.0	82.8	92	ug/L	70 - 130
	Manganese	1.80	1.67	93	ug/L	70 - 130
	Mercury	72.0	69.8	97	ng/L	70 - 130
	Nickel	1.80	1.53	85	ug/L	70 - 130
	Potassium	90.0	87.8	98	ug/L	70 - 130
	Selenium	1.80	1.89	105	ug/L	70 - 130
	Silver	1.80	1.74	97	ug/L	70 - 130
	Sodium	90.0	83.3	93	ug/L	70 - 130
	Thallium	1.80	1.71	95	ug/L	70 - 130
	Vanadium	1.80	1.53	85	ug/L	70 - 130
	Zinc	1.80	1.82	101	ug/L	70 - 130
9E23021-CRLF	Aluminum	180	173	96	ug/L	70 - 130
	Antimony	3.60	3.43	95	ug/L	70 - 130
	Arsenic	3.60	3.45	96	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E23021

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E23021-CRLF	Barium	3.60	3.81	106	ug/L	70 - 130
	Cadmium	3.60	3.32	92	ug/L	70 - 130
	Calcium	180	173	96	ug/L	70 - 130
	Chromium	3.60	3.44	96	ug/L	70 - 130
	Copper	3.60	3.59	100	ug/L	70 - 130
	Iron	180	177	98	ug/L	70 - 130
	Lead	3.60	3.36	93	ug/L	70 - 130
	Magnesium	180	184	102	ug/L	70 - 130
	Manganese	3.60	3.39	94	ug/L	70 - 130
	Mercury	144	137	95	ng/L	70 - 130
	Nickel	3.60	3.38	94	ug/L	70 - 130
	Potassium	180	176	98	ug/L	70 - 130
	Selenium	3.60	3.80	106	ug/L	70 - 130
	Silver	3.60	3.59	100	ug/L	70 - 130
	Sodium	180	167	93	ug/L	70 - 130
	Thallium	3.60	3.48	97	ug/L	70 - 130
	Vanadium	3.60	3.31	92	ug/L	70 - 130
	Zinc	3.60	3.49	97	ug/L	70 - 130

* Values outside of QC limits

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E24020-CRL1	Arsenic	0.180	0.190	105	ug/L	70 - 130
	Barium	0.180	0.200	111	ug/L	70 - 130
	Beryllium	0.180	0.174	97	ug/L	70 - 130
	Cadmium	0.180	0.182	101	ug/L	70 - 130
	Chromium	0.180	0.171	95	ug/L	70 - 130
	Lead	0.180	0.179	100	ug/L	70 - 130
	Selenium	0.180	0.163	91	ug/L	70 - 130
	Silver	0.180	0.179	100	ug/L	70 - 130
9E24020-CRL2	Arsenic	0.900	0.848	94	ug/L	70 - 130
	Barium	0.900	0.959	107	ug/L	70 - 130
	Beryllium	0.900	0.878	98	ug/L	70 - 130
	Cadmium	0.900	0.856	95	ug/L	70 - 130
	Chromium	0.900	0.888	99	ug/L	70 - 130
	Lead	0.900	0.877	97	ug/L	70 - 130
	Selenium	0.900	0.725	81	ug/L	70 - 130
	Silver	0.900	0.898	100	ug/L	70 - 130
9E24020-CRL3	Arsenic	1.80	1.79	99	ug/L	70 - 130
	Barium	1.80	1.91	106	ug/L	70 - 130
	Beryllium	1.80	1.77	98	ug/L	70 - 130
	Cadmium	1.80	1.73	96	ug/L	70 - 130
	Chromium	1.80	1.75	97	ug/L	70 - 130
	Lead	1.80	1.78	99	ug/L	70 - 130
	Mercury	72.0	81.2	113	ng/L	70 - 130
	Selenium	1.80	1.83	101	ug/L	70 - 130
	Silver	1.80	1.80	100	ug/L	70 - 130
9E24020-CRL4	Arsenic	0.180	0.180	100	ug/L	70 - 130
	Barium	0.180	0.189	105	ug/L	70 - 130
	Beryllium	0.180	0.181	101	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E24020-CRL4	Cadmium	0.180	0.189	105	ug/L	70 - 130
	Chromium	0.180	0.171	95	ug/L	70 - 130
	Lead	0.180	0.173	96	ug/L	70 - 130
	Selenium	0.180	0.135	75	ug/L	70 - 130
	Silver	0.180	0.176	98	ug/L	70 - 130
9E24020-CRL5	Arsenic	0.900	0.870	97	ug/L	70 - 130
	Barium	0.900	0.922	102	ug/L	70 - 130
	Beryllium	0.900	0.896	100	ug/L	70 - 130
	Cadmium	0.900	0.868	96	ug/L	70 - 130
	Chromium	0.900	0.837	93	ug/L	70 - 130
	Lead	0.900	0.866	96	ug/L	70 - 130
	Mercury	36.0	40.9	114	ng/L	70 - 130
	Selenium	0.900	0.829	92	ug/L	70 - 130
	Silver	0.900	0.878	98	ug/L	70 - 130
9E24020-CRL6	Arsenic	1.80	1.72	95	ug/L	70 - 130
	Barium	1.80	1.89	105	ug/L	70 - 130
	Beryllium	1.80	1.64	91	ug/L	70 - 130
	Cadmium	1.80	1.66	92	ug/L	70 - 130
	Chromium	1.80	1.73	96	ug/L	70 - 130
	Lead	1.80	1.71	95	ug/L	70 - 130
	Mercury	72.0	76.1	106	ng/L	70 - 130
	Selenium	1.80	1.70	95	ug/L	70 - 130
	Silver	1.80	1.76	98	ug/L	70 - 130
9E24020-CRL7	Arsenic	0.180	0.190	106	ug/L	70 - 130
	Barium	0.180	0.188	104	ug/L	70 - 130
	Beryllium	0.180	0.175	97	ug/L	70 - 130
	Cadmium	0.180	0.168	93	ug/L	70 - 130
	Chromium	0.180	0.149	83	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E24020-CRL7	Lead	0.180	0.182	101	ug/L	70 - 130
	Silver	0.180	0.180	100	ug/L	70 - 130
9E24020-CRL8	Arsenic	0.900	0.853	95	ug/L	70 - 130
	Barium	0.900	0.985	109	ug/L	70 - 130
	Beryllium	0.900	0.877	97	ug/L	70 - 130
	Cadmium	0.900	0.869	97	ug/L	70 - 130
	Chromium	0.900	0.844	94	ug/L	70 - 130
	Lead	0.900	0.878	98	ug/L	70 - 130
	Mercury	36.0	40.3	112	ng/L	70 - 130
	Selenium	0.900	0.829	92	ug/L	70 - 130
	Silver	0.900	0.898	100	ug/L	70 - 130
9E24020-CRL9	Arsenic	1.80	1.70	95	ug/L	70 - 130
	Barium	1.80	1.88	104	ug/L	70 - 130
	Beryllium	1.80	1.77	99	ug/L	70 - 130
	Cadmium	1.80	1.83	101	ug/L	70 - 130
	Chromium	1.80	1.68	93	ug/L	70 - 130
	Lead	1.80	1.78	99	ug/L	70 - 130
	Mercury	72.0	81.7	113	ng/L	70 - 130
	Selenium	1.80	1.74	96	ug/L	70 - 130
	Silver	1.80	1.81	100	ug/L	70 - 130
9E24020-CRLA	Arsenic	3.60	3.42	95	ug/L	70 - 130
	Barium	3.60	3.74	104	ug/L	70 - 130
	Beryllium	3.60	3.63	101	ug/L	70 - 130
	Cadmium	3.60	3.66	102	ug/L	70 - 130
	Chromium	3.60	3.40	94	ug/L	70 - 130
	Lead	3.60	3.64	101	ug/L	70 - 130
	Mercury	144	151	105	ng/L	70 - 130
	Selenium	3.60	3.67	102	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E24020-CRLA	Silver	3.60	3.69	103	ug/L	70 - 130
9E24020-CRLB	Arsenic	0.180	0.160	89	ug/L	70 - 130
	Barium	0.180	0.178	99	ug/L	70 - 130
	Beryllium	0.180	0.182	101	ug/L	70 - 130
	Cadmium	0.180	0.183	102	ug/L	70 - 130
	Chromium	0.180	0.161	89	ug/L	70 - 130
	Lead	0.180	0.181	101	ug/L	70 - 130
	Selenium	0.180	0.181	100	ug/L	70 - 130
	Silver	0.180	0.179	99	ug/L	70 - 130
9E24020-CRLC	Arsenic	0.900	0.869	97	ug/L	70 - 130
	Barium	0.900	0.953	106	ug/L	70 - 130
	Beryllium	0.900	0.869	97	ug/L	70 - 130
	Cadmium	0.900	0.861	96	ug/L	70 - 130
	Chromium	0.900	0.820	91	ug/L	70 - 130
	Lead	0.900	0.897	100	ug/L	70 - 130
	Mercury	36.0	45.9	127	ng/L	70 - 130
	Selenium	0.900	0.802	89	ug/L	70 - 130
	Silver	0.900	0.906	101	ug/L	70 - 130
9E24020-CRLD	Arsenic	1.80	1.68	93	ug/L	70 - 130
	Barium	1.80	1.96	109	ug/L	70 - 130
	Beryllium	1.80	1.72	95	ug/L	70 - 130
	Cadmium	1.80	1.74	97	ug/L	70 - 130
	Chromium	1.80	1.72	96	ug/L	70 - 130
	Lead	1.80	1.81	100	ug/L	70 - 130
	Mercury	72.0	84.3	117	ng/L	70 - 130
	Selenium	1.80	1.66	92	ug/L	70 - 130
	Silver	1.80	1.83	102	ug/L	70 - 130
9E24020-CRLE	Arsenic	3.60	3.46	96	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E24020-CRLE	Barium	3.60	3.86	107	ug/L	70 - 130
	Beryllium	3.60	3.63	101	ug/L	70 - 130
	Cadmium	3.60	3.58	99	ug/L	70 - 130
	Chromium	3.60	3.39	94	ug/L	70 - 130
	Lead	3.60	3.63	101	ug/L	70 - 130
	Mercury	144	163	113	ng/L	70 - 130
	Selenium	3.60	3.63	101	ug/L	70 - 130
	Silver	3.60	3.67	102	ug/L	70 - 130
9E24020-CRLF	Arsenic	0.180	0.163	90	ug/L	70 - 130
	Barium	0.180	0.181	100	ug/L	70 - 130
	Beryllium	0.180	0.177	99	ug/L	70 - 130
	Cadmium	0.180	0.153	85	ug/L	70 - 130
	Chromium	0.180	0.145	80	ug/L	70 - 130
	Lead	0.180	0.179	99	ug/L	70 - 130
	Silver	0.180	0.183	102	ug/L	70 - 130
9E24020-CRLG	Arsenic	0.900	0.827	92	ug/L	70 - 130
	Barium	0.900	0.934	104	ug/L	70 - 130
	Beryllium	0.900	0.852	95	ug/L	70 - 130
	Cadmium	0.900	0.880	98	ug/L	70 - 130
	Chromium	0.900	0.798	89	ug/L	70 - 130
	Lead	0.900	0.861	96	ug/L	70 - 130
	Mercury	36.0	42.3	117	ng/L	70 - 130
	Selenium	0.900	0.910	101	ug/L	70 - 130
	Silver	0.900	0.872	97	ug/L	70 - 130
9E24020-CRLH	Arsenic	1.80	1.76	98	ug/L	70 - 130
	Barium	1.80	1.92	107	ug/L	70 - 130
	Beryllium	1.80	1.76	98	ug/L	70 - 130
	Cadmium	1.80	1.73	96	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS6
Calibration: UNASSIGNED
Sequence: 9E24020

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E24020-CRLH	Chromium	1.80	1.73	96	ug/L	70 - 130
	Lead	1.80	1.74	97	ug/L	70 - 130
	Mercury	72.0	79.1	110	ng/L	70 - 130
	Selenium	1.80	1.66	92	ug/L	70 - 130
	Silver	1.80	1.76	98	ug/L	70 - 130
9E24020-CRLI	Arsenic	3.60	3.32	92	ug/L	70 - 130
	Barium	3.60	3.74	104	ug/L	70 - 130
	Beryllium	3.60	3.55	99	ug/L	70 - 130
	Cadmium	3.60	3.53	98	ug/L	70 - 130
	Chromium	3.60	3.33	93	ug/L	70 - 130
	Lead	3.60	3.54	98	ug/L	70 - 130
	Mercury	144	147	102	ng/L	70 - 130
	Selenium	3.60	3.51	97	ug/L	70 - 130
	Silver	3.60	3.65	101	ug/L	70 - 130

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 6020A

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

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
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/22/19 11:59	1.87	28.00	05/23/19 17:33	3.11	28.00	
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/22/19 11:59	1.87	180.00	05/23/19 17:33	3.11	180.00	
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/22/19 11:59	1.87	180.00	05/24/19 11:58	3.87	180.00	

Apex Laboratories

SDG: A9E0677

CLASS: WET

METHOD: D7511-12

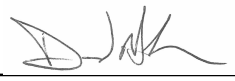
ANALYSES DATA PACKAGE COVER PAGE

D7511-12

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190520-006	A9E0677-01	Solid

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: 9/30/2019 3:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

D7511-12

Laboratory: Apex Laboratories **SDG:** A9E0677

Client: Hahn and Associates **Project:** Mult 802 Decommissioning

Batch Matrix: Solid

Analyte	MDL	MRL	Units
Cyanide, Total	0.0500	0.100	mg/kg

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

INORGANIC ANALYSIS DATA SHEET

D7511-12

2708-190520-006

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Matrix: Solid Laboratory ID: A9E0677-01RE2 File ID: 9E24012-053

Sampled: 05/20/19 15:00 Prepared: 05/24/19 07:10 Analyzed: 05/24/19 14:20

Solids: N/A Preparation: ASTM D7511-12mod (S) Initial/Final: 2.5415 g / 50 mL

Batch: 9051240 Sequence: 9E24012 Calibration: A9E2401 Instrument: OIA FS3000-2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
57-12-5	Cyanide, Total	0.846	5	D	D7511-12

PREPARATION BATCH SUMMARY

D7511-12

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Batch: 9051240 Batch Matrix: Solid Preparation: ASTM D7511-12mod (S)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051240-BLK1	9E24012-029	05/24/19 07:10	
LCS	9051240-BS1	9E24012-030	05/24/19 07:10	
2708-190520-006 (MS)	9051240-MS3	9E24012-055	05/24/19 07:10	
2708-190520-006 (MSD)	9051240-MSD3	9E24012-057	05/24/19 07:10	
2708-190520-006	A9E0677-01RE2	9E24012-053	05/24/19 07:10	

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

METHOD BLANK DATA SHEET
D7511-12

Laboratory:	Apex Laboratories			SDG:	A9E0677
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051240-BLK1	File ID:	9E24012-029
Prepared:	05/24/19 07:10	Preparation:	ASTM D7511-12mod (S)	Initial/Final:	2.5 g / 50 mL
Analyzed:	05/24/19 13:07	Instrument:	OIA FS3000-2		
Batch:	9051240	Sequence:	9E24012	Calibration:	A9E2401

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
57-12-5	Cyanide, Total	0.0500	U

LCS / LCS DUPLICATE RECOVERY

D7511-12

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051240	Laboratory ID:	9051240-BS1
Preparation:	ASTM D7511-12mod (S)	Initial/Final:	2.5 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Cyanide, Total	0.400	0.388	97	84 - 116

* = Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

D7511-12

2708-190520-006

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051240	Laboratory ID:	9051240-MS3
Preparation:	ASTM D7511-12mod (S)	Initial/Final:	2.5839 g / 50 mL

Source Sample Name: 2708-190520-006

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	MS CONCENTRATION (mg/kg)	MS % REC. (*=Out)	QC LIMITS REC.
Cyanide, Total	0.387	0.846	1.07	57 *	64 - 136

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

D7511-12

2708-190520-006

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051240	Laboratory ID:	9051240-MSD3
Preparation:	ASTM D7511-12mod (S)	Initial/Final:	2.5924 g / 50 mL

Source Sample Name: 2708-190520-006

COMPOUND	SPIKE ADDED (mg/kg)	MSD CONCENTRATION (mg/kg)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Cyanide, Total	0.386	1.44	154 *	30	47	64 - 136

ANALYSIS BATCH (SEQUENCE) SUMMARY

D7511-12

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E24012	Instrument:	OIA FS3000-2
Matrix:	Solid	Calibration:	A9E2401

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	9E24012-CAL2	9E24012-008	05/24/19 12:25
Cal Standard	9E24012-CAL3	9E24012-009	05/24/19 12:27
Cal Standard	9E24012-CAL4	9E24012-010	05/24/19 12:29
Cal Standard	9E24012-CAL5	9E24012-011	05/24/19 12:31
Cal Standard	9E24012-CAL6	9E24012-012	05/24/19 12:33
Cal Standard	9E24012-CAL7	9E24012-013	05/24/19 12:35
Initial Cal Check	9E24012-ICV1	9E24012-016	05/24/19 12:41
Initial Cal Blank	9E24012-ICB1	9E24012-017	05/24/19 12:43
Blank	9051240-BLK1	9E24012-029	05/24/19 13:07
LCS	9051240-BS1	9E24012-030	05/24/19 13:09
Calibration Check	9E24012-CCV1	9E24012-032	05/24/19 13:13
Calibration Blank	9E24012-CCB1	9E24012-033	05/24/19 13:15
Calibration Check	9E24012-CCV2	9E24012-041	05/24/19 13:31
Calibration Blank	9E24012-CCB2	9E24012-042	05/24/19 13:33
Calibration Check	9E24012-CCV3	9E24012-050	05/24/19 14:02
Calibration Blank	9E24012-CCB3	9E24012-051	05/24/19 14:04
2708-190520-006	A9E0677-01RE2	9E24012-053	05/24/19 14:20
2708-190520-006 (MS)	9051240-MS3	9E24012-055	05/24/19 14:24
2708-190520-006 (MSD)	9051240-MSD3	9E24012-057	05/24/19 14:28
Calibration Check	9E24012-CCV4	9E24012-059	05/24/19 14:32
Calibration Blank	9E24012-CCB4	9E24012-060	05/24/19 14:34

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

INITIAL CALIBRATION DATA (Summary)

D7511-12

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E2401 Date: 05/24/19 08:21 Instrument: OIA FS3000-2

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Cyanide, Total	39233.6	Q **	32.94379				0.9998533		

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

D7511-12

Laboratory:	Apex Laboratories	SDG:	A9E0677
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Calibration:	A9E2401	Instrument:	OIA FS3000-2
		Calibration Date:	05/24/19 08:21

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	1	15069	2	34242.5	5	43572.2	10	48740.5	25	47025.56	50	46751.86

INITIAL AND CONTINUING CALIBRATION CHECK

D7511-12

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: OIA FS3000-2
Calibration: A9E2401
Control Limt: +/- 10.00%
Sequence: 9E24012

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E24012-ICV1	Cyanide, Total	25.0	24.9	100	ug/L	D7511-12
9E24012-CCV1	Cyanide, Total	25.0	25.8	103	ug/L	D7511-12
9E24012-CCV2	Cyanide, Total	25.0	24.0	96	ug/L	D7511-12
9E24012-CCV3	Cyanide, Total	25.0	23.5	94	ug/L	D7511-12
9E24012-CCV4	Cyanide, Total	25.0	23.7	95	ug/L	D7511-12

* Values outside of QC limits

INSTRUMENT BLANKS
D7511-12

Laboratory: Apex Laboratories
SDG: A9E0677
Client: Hahn and Associates
Instrument ID: OIA FS3000-2
Project: Mult 802 Decommissioning
Sequence: 9E24012
Calibration: A9E2401

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E24012-ICB1	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12
9E24012-CCB1	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12
9E24012-CCB2	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12
9E24012-CCB3	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12
9E24012-CCB4	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12

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

HOLDING TIME SUMMARY

D7511-12

Laboratory: Apex Laboratories SDG: A9E0677

Client: Hahn and Associates Project: Mult 802 Decommissioning

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
2708-190520-006	05/20/19 15:00	05/21/19 12:09	05/24/19 07:10	3.67	14.00	05/24/19 14:20	3.97	14.00	

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

Raw Data

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

Diesel and /or Oil Hydrocarbons by NWTPH-Dx

Benchsheet & Analysis Sequence Data

Batch 9051229

Sequence 9E23033 (A9E0677-01)

Apex Laboratories

PREPARATION BENCH SHEET

JUN 14 2019

BATCH #: 9051229 (Solid)

Prep Method: EPA 3546 (Fuels)

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9051229-BLK1		QC	05/23/19 16:37	11	5				100					
	9051229-BS1		QC	05/23/19 16:37	10	5	A19E090		100	100					
	A9E0672-01	A	NWTPH-Dx (Diesel/Oil)	05/23/19 16:37	10.88	5				100	Carbon-01	provide c-grams Amy P will create			
	9051229-DUP1		QC	05/23/19 16:37	10.82	5		A9E0672-01		100					
	A9E0677-01	A	NWTPH-Dx (Diesel/Oil)	05/23/19 16:37	0.58	5				100	2708-190520-006	Strong Odor			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19D260	10/15/19	Sodium Sulfate Lot # Q098001

Analyte Spike(s)

Std ID	Exp. Date	Description
A19E090	11/04/19	NWTPH-DX Spike in Methanol

Surrogate(s)

Std ID	Exp. Date	Description
A19E238	08/31/19	NWTPH-DX Soil Surrogate in DCM

Method 3546 digestion time and temperature achieved.
Initial:

Witness: _____

Prepared By: _____ Date

Reviewed By: Keit 5/24/19 Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051229 (Solid)

Prep Method: EPA 3546 (Fuels)

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
1	9051229-BLK1		QC	05/23/19 16:37	~~10~~ 11.00	5 ✓				100					
2	9051229-BS1		QC	05/23/19 16:37	10	5 ✓	A19E090		100	100					
3	A9E0672-01	A	NWTPH-Dx (Diesel/Oil)	05/23/19 16:37	~~10~~ 10.88	5 ✓				100	Carbon-01	provide c-grams Amy P will create Soil			
4	9051229-DUP1		QC	05/23/19 16:37	~~10~~ 10.82	5 ✓		A9E0672-01		100		Soil			
5	A9E0677-01	A	NWTPH-Dx (Diesel/Oil)	05/23/19 16:37	~~10~~ 0.58	5 ✓				100	2708-190520-006	Strong Odor Tan			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19D260	10/15/19	Sodium Sulfate Lot # Q098001

Analyte Spike(s) CAS

Std ID	Exp. Date	Description
A19E090	11/04/19	NWTPH-DX Spike in Methanol

Surrogate(s) CAS

Std ID	Exp. Date	Description
A19E238	08/31/19	NWTPH-DX Soil Surrogate in DCM

Method 3546 digestion time and temperature achieved.
Initial: CAS

Witness: Mult 5/23/19

CAS 5/23/19
Prepared By: Date

CAH 5.23.19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9E23033**	Instrument:	**DUALFID4R**
Date:	**05/23/19 14:09**	Calibration:	**A9D1904**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E23033-RES1	Water	QC	QC				A19E278
2	9E23033-CCV1	Water	QC	QC				A19E193
3	9E23033-CCV2	Water	QC	QC				A19E192
4	9E23033-CCB1	Water	QC	QC				
5	A9E0647-01	Water	NWTPH-Dx (Diesel/Oil)		05/28/19	9051226		
6	A9E0650-01	Water	NWTPH-Dx (Diesel/Oil)		05/28/19	9051226		
7	A9E0721-01	Water	NWTPH-Dx (Diesel/Oil)		05/30/19	9051226		
8	9E23033-IBL1	Water	QC	QC				
9	9051229-BLK1	Solid	QC	QC		9051229		
10	9051229-BS1	Solid	QC	QC		9051229		
11	A9E0672-01	Solid	NWTPH-Dx (Diesel/Oil)		05/24/19	9051229		
12	9051229-DUP1	Solid	QC	QC		9051229		
13	A9E0677-01	Solid	NWTPH-Dx (Diesel/Oil)	Hahn and Associates	05/28/19	9051229		
14	9E23033-IBL2	Water	QC	QC				
15	9E23033-CCV3	Water	QC	QC				A19E192
16	9E23033-CCV4	Water	QC	QC				A19E193

Data Entered By: Kelt 5/24/19

Data Reviewed By: [signature] 5/24/19

Comments:

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052302.D Vial: 95
Acq On : 23 May 2019 20:04 Operator: KEH
Sample : 9E23033-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:55 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	390277067	342.193	ug/ml
2)	H	Diesel	6.00	390277067	342.193	ug/ml
3)	H	DRO(C12-C24)	6.00	325885426	285.735	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	266780171	311.656	ug/ml
5)	H	TPHd (C10-C25)	6.00	340369480	322.637	ug/ml
7)	H	Oil	9.00	243000698	231.585	ug/ml
8)	H	RRO (C24-C40)	9.00	69824552	66.544	ug/ml
9)	H	TPHmo (C25-C36)	8.00	62029828	97.793	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	106607438	160.034	ug/ml

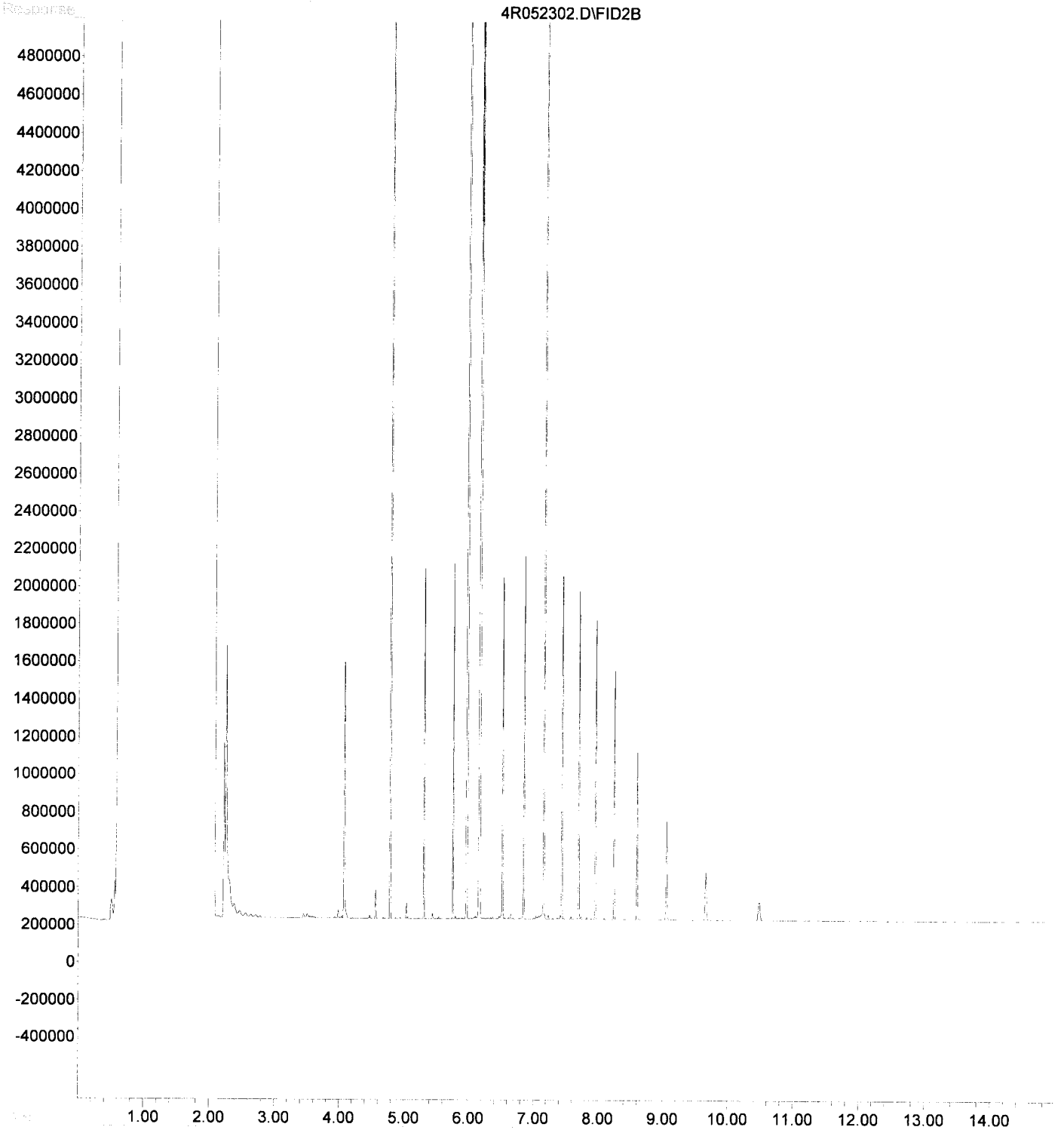
(f)=RT Delta > 1/2 Window (m) = manual int.

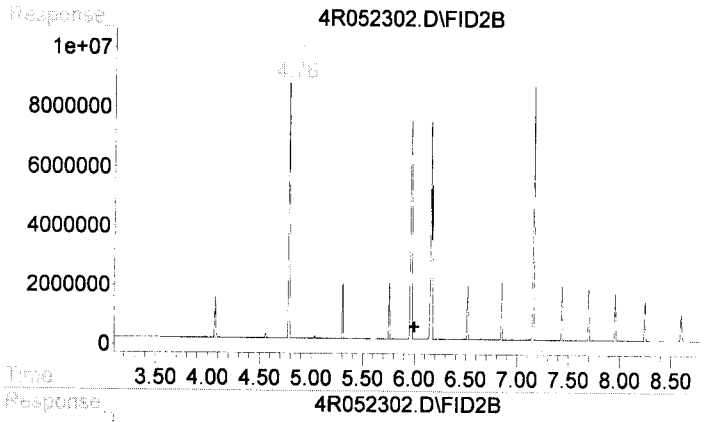
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052302.D Vial: 95
Acq On : 23 May 2019 20:04 Operator: KEH
Sample : 9E23033-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:55 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

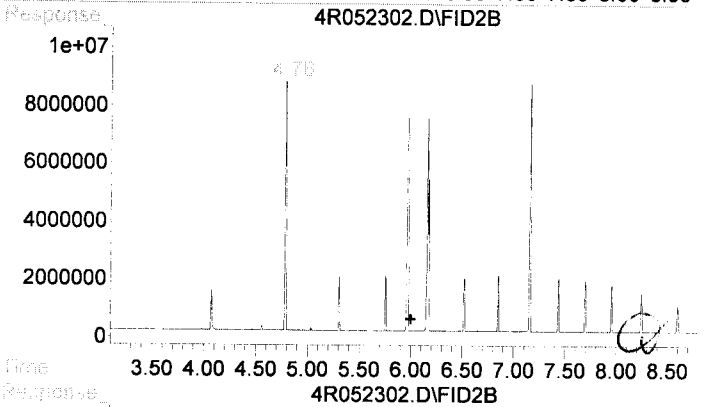
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





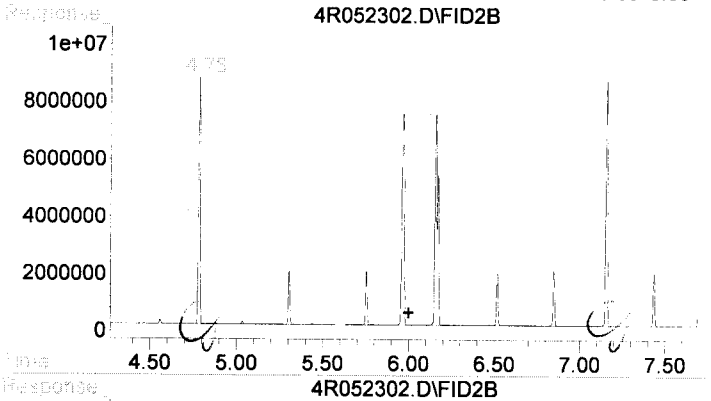
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 390277067
Conc: 342.19 ug/ml m



#2 Diesel

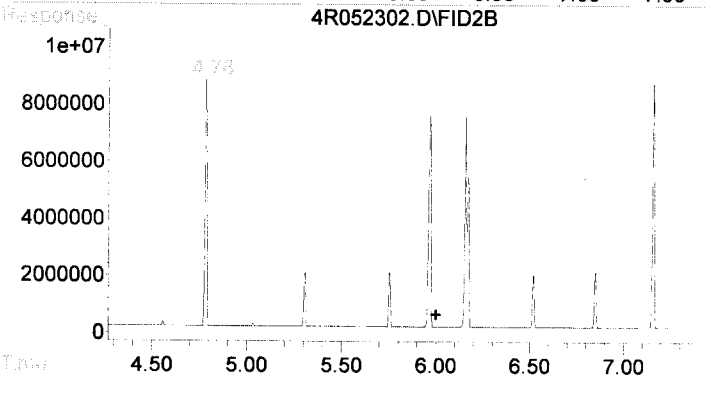
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 390277067
Conc: 342.19 ug/ml m



#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 325885426
Conc: 285.73 ug/ml m

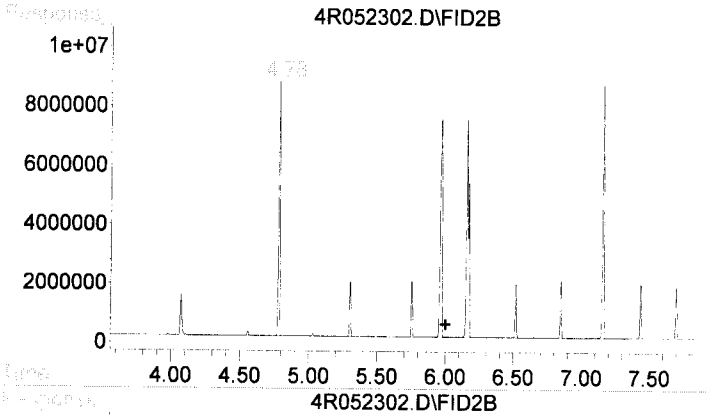
KEH 5/24/19



#4 CA LUFT DRO (C12-C22)

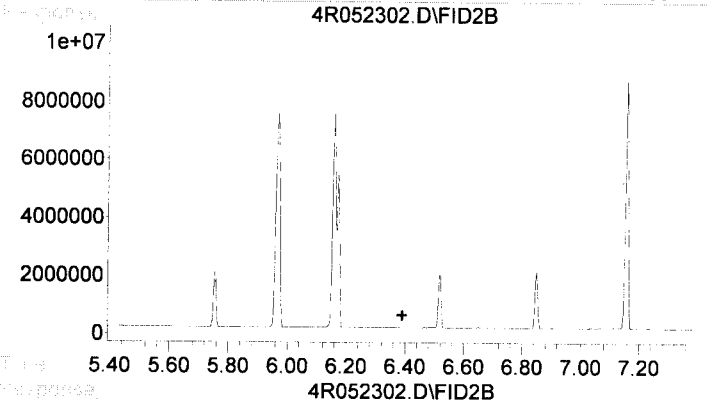
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 266780171
Conc: 311.66 ug/ml m

J



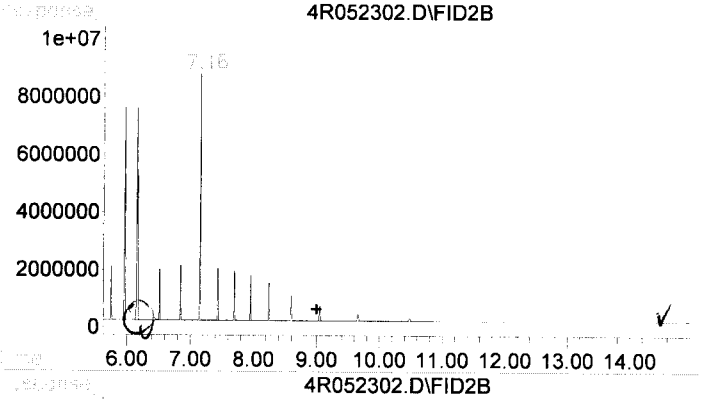
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 340369480
Conc: 322.64 ug/ml m



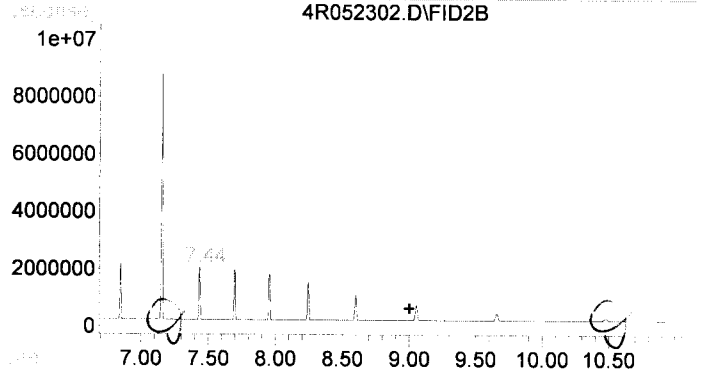
#6 o-Terphenyl

R.T.: 0.000 min
Exp R.T. : 6.390 min
Response: 0
Conc: N.D.



#7 Oil

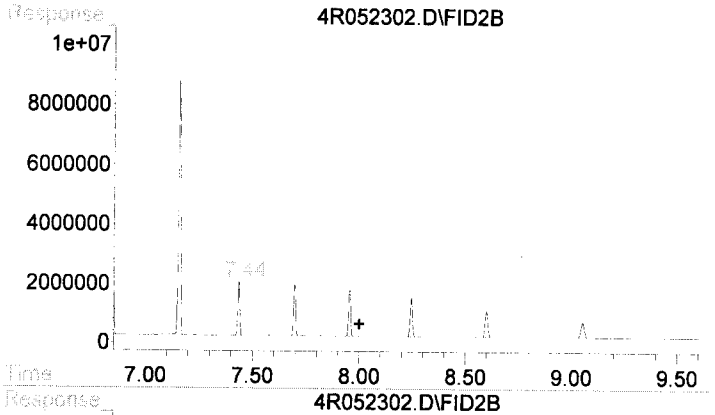
R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 243000698
Conc: 231.59 ug/ml m



#8 RRO (C24-C40)

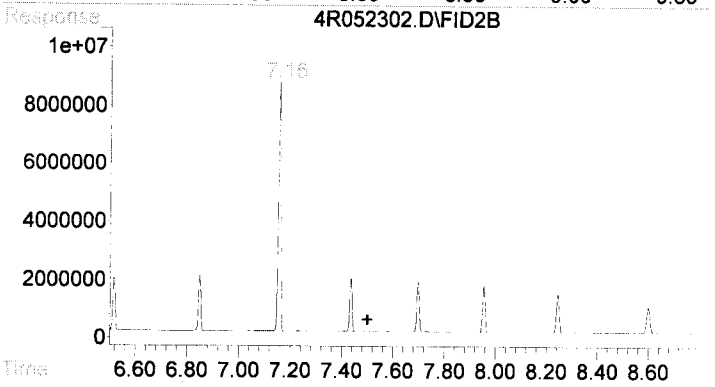
R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 69824552
Conc: 66.54 ug/ml m

RCH 5/24/19



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 62029828
Conc: 97.79 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 106607438
Conc: 160.03 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052302.D Vial: 95
Acq On : 23 May 2019 20:04 Operator: KEH
Sample : 9E23033-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:59 2019 Quant Results File: 4R90418W.RES

Quant Method : G:\4\METHODS\4R90418W.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:58:37 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.M

KEH 5/24/19

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	BFB (Surr)	0.00	0	N.D.	ug/ml
7)	S	o-Terphenyl	0.00	0	N.D.	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	390277067	342.193	ug/ml
2)	H	Diesel	6.00	390277067	342.193	ug/ml
3)	H	DRO(C12-C24)	6.00	325885426	285.735	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	266780171	311.656	ug/ml
5)	H	TPHd (C10-C25)	6.00	340369480	322.637	ug/ml
8)	H	Oil	9.00	243000698	231.585	ug/ml
9)	H	RRO (C24-C40)	9.00	69824552	66.544	ug/ml
10)	H	TPHmo (C25-C36)	8.00	62037548	97.805	ug/ml
11)	H	CA LUFT ORO (C23-C32)	7.50	106619304	160.052	ug/ml

✓

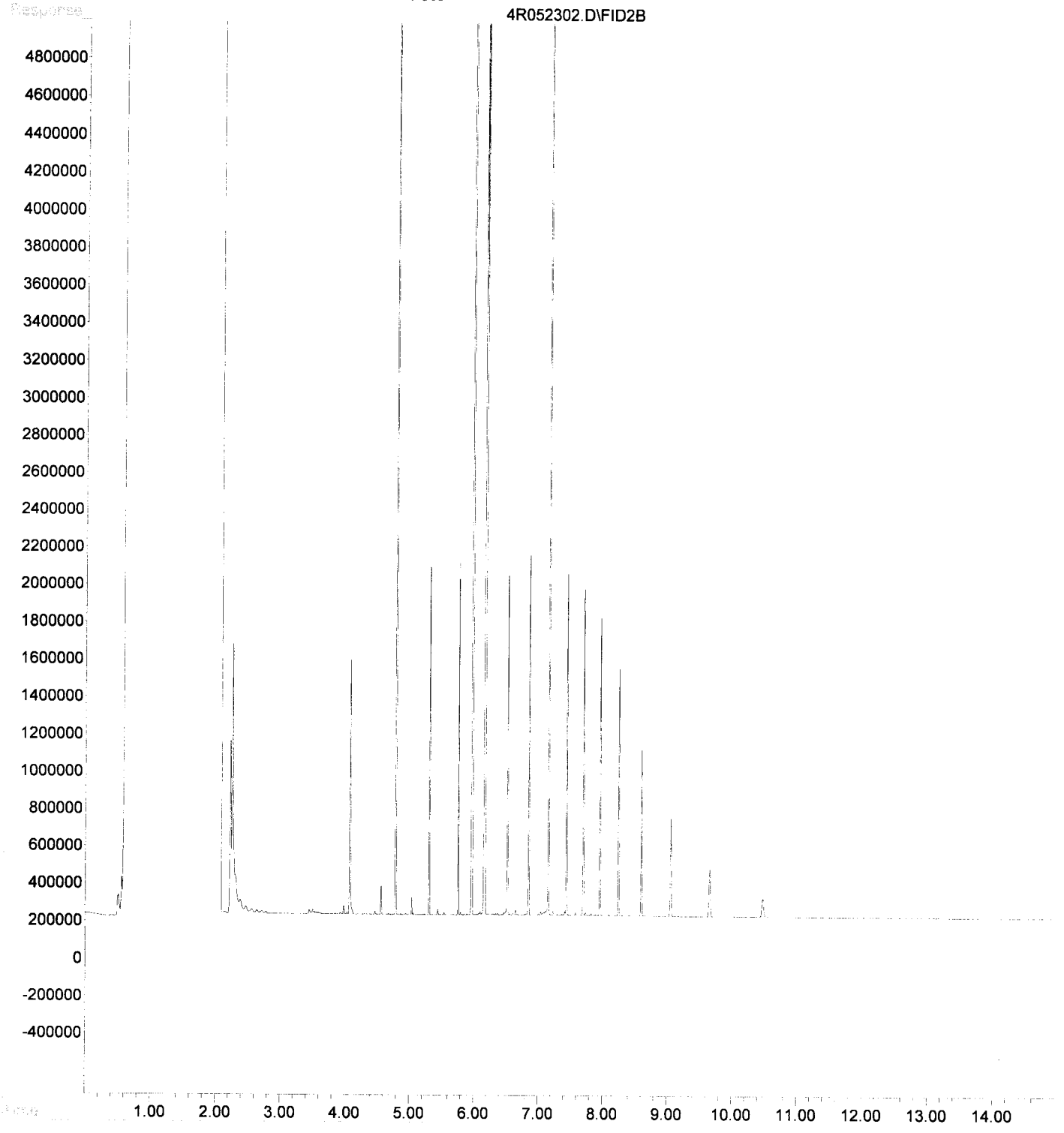
(f)=RT Delta > 1/2 window (m)=manual int.

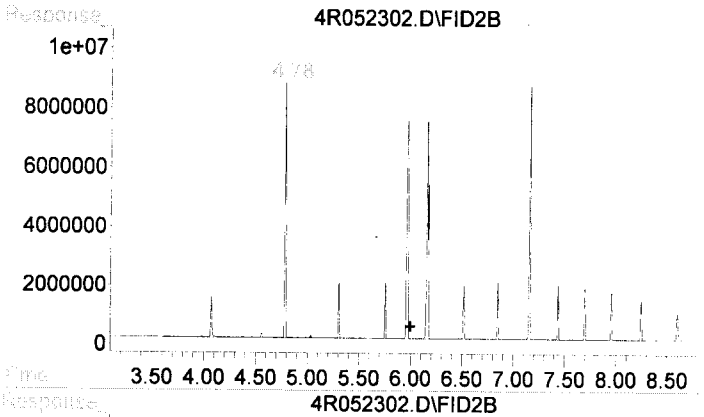
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052302.D Vial: 95
Acq On : 23 May 2019 20:04 Operator: KEH
Sample : 9E23033-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:59 2019 Quant Results File: 4R90418W.RES

Quant Method : G:\4\METHODS\4R90418W.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:58:37 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

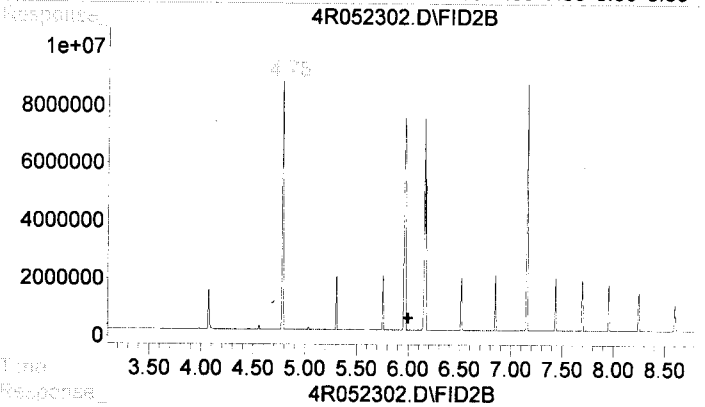
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





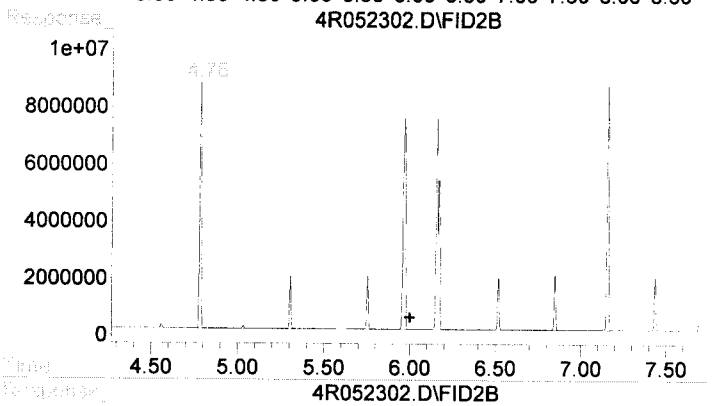
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 390277067
Conc: 342.19 ug/ml m



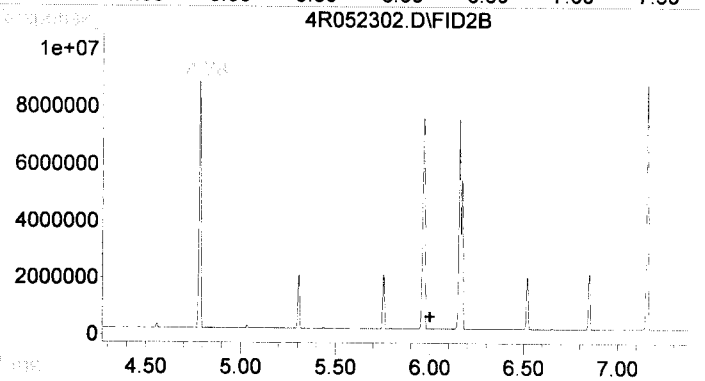
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 390277067
Conc: 342.19 ug/ml m



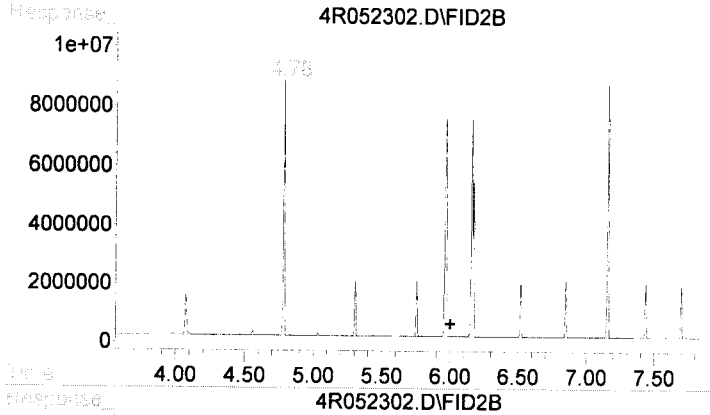
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 325885426
Conc: 285.73 ug/ml m



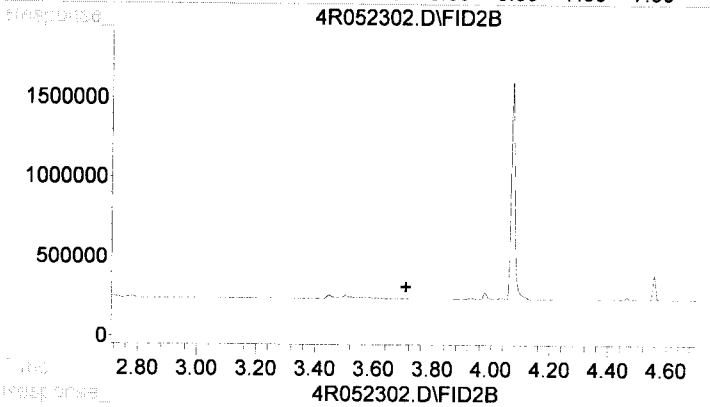
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 266780171
Conc: 311.66 ug/ml m



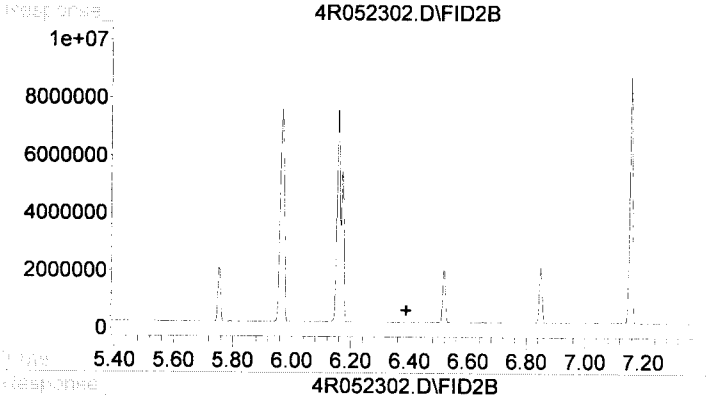
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 340369480
Conc: 322.64 ug/ml m



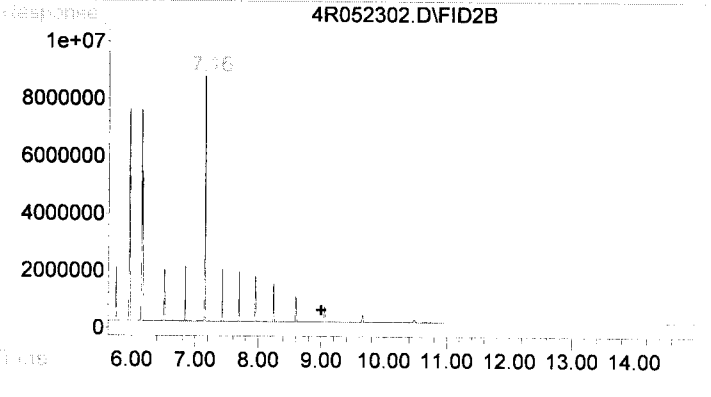
#6 BFB (Surr)

R.T.: 0.000 min
Exp R.T. : 3.710 min
Response: 0
Conc: N.D.



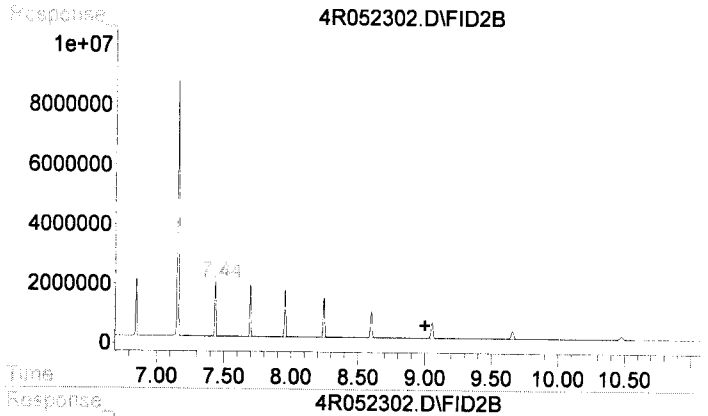
#7 o-Terphenyl

R.T.: 0.000 min
Exp R.T. : 6.389 min
Response: 0
Conc: N.D.



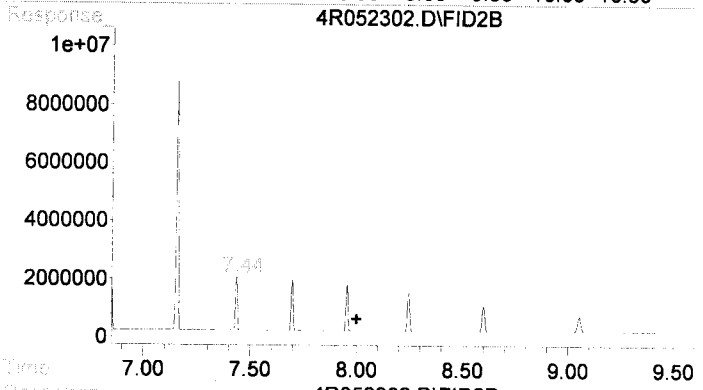
#8 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 243000698
Conc: 231.59 ug/ml m



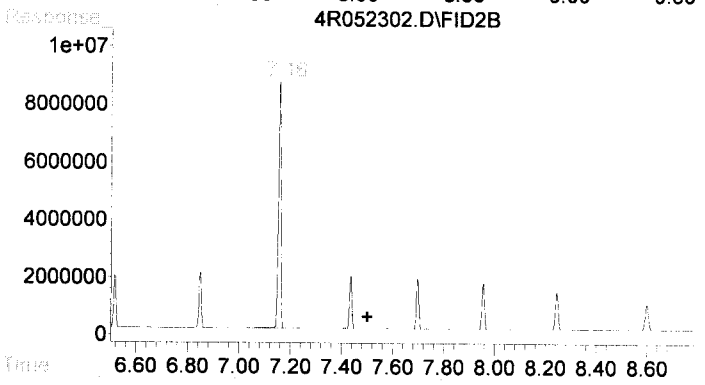
#9 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 69824552
Conc: 66.54 ug/ml m



#10 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 62037548
Conc: 97.80 ug/ml m



#11 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 106619304
Conc: 160.05 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E23033\4R052303.D
Acq On : 23 May 2019 20:25
Sample : 9E23033-CCV1
Misc :
IntFile : SUR.E

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

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 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	314.407	0.0	92	0.00
2	H	Diesel	-1.000	314.407	0.0	92	0.00
3	H	DRO(C12-C24)	-1.000	76.242	0.0	22	0.00
4	H	CA LUFT DRO (C12-C22)	-1.000	34.294	0.0	93	0.00
5	H	TPHd (C10-C25)	-1.000	123.990	0.0	94	0.00
6	S	o-Terphenyl	-1.000	45.992	0.0	0	0.00
7	H	Oil	500.000	450.301	9.9	91	0.00
8	H	RRO (C24-C40)	500.000	352.368	29.5#	71	0.00
9	H	TPHmo (C25-C36)	500.000	443.755	11.2	90	0.00
10	H	CA LUFT ORO (C23-C32)	500.000	461.202	7.8	92	0.00

KEH 5/24/19

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052303.D Vial: 2
Acq On : 23 May 2019 20:25 Operator: KEH
Sample : 9E23033-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:55 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.38	58023467	45.992 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	358586020	314.407 ug/ml
2)	H	Diesel	6.00	358586020	314.407 ug/ml
3)	H	DRO(C12-C24)	6.00	86955334	76.242 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	29356068	34.294 ug/ml
5)	H	TPHd (C10-C25)	6.00	130805153	123.990 ug/ml
7)	H	Oil	9.00	472497314	450.301 ug/ml ✓
8)	H	RRO (C24-C40)	9.00	369737679	352.368 ug/ml
9)	H	TPHmo (C25-C36)	8.00	281473244	443.755 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	307231528	461.202 ug/ml

KEH 5/24/19

✓

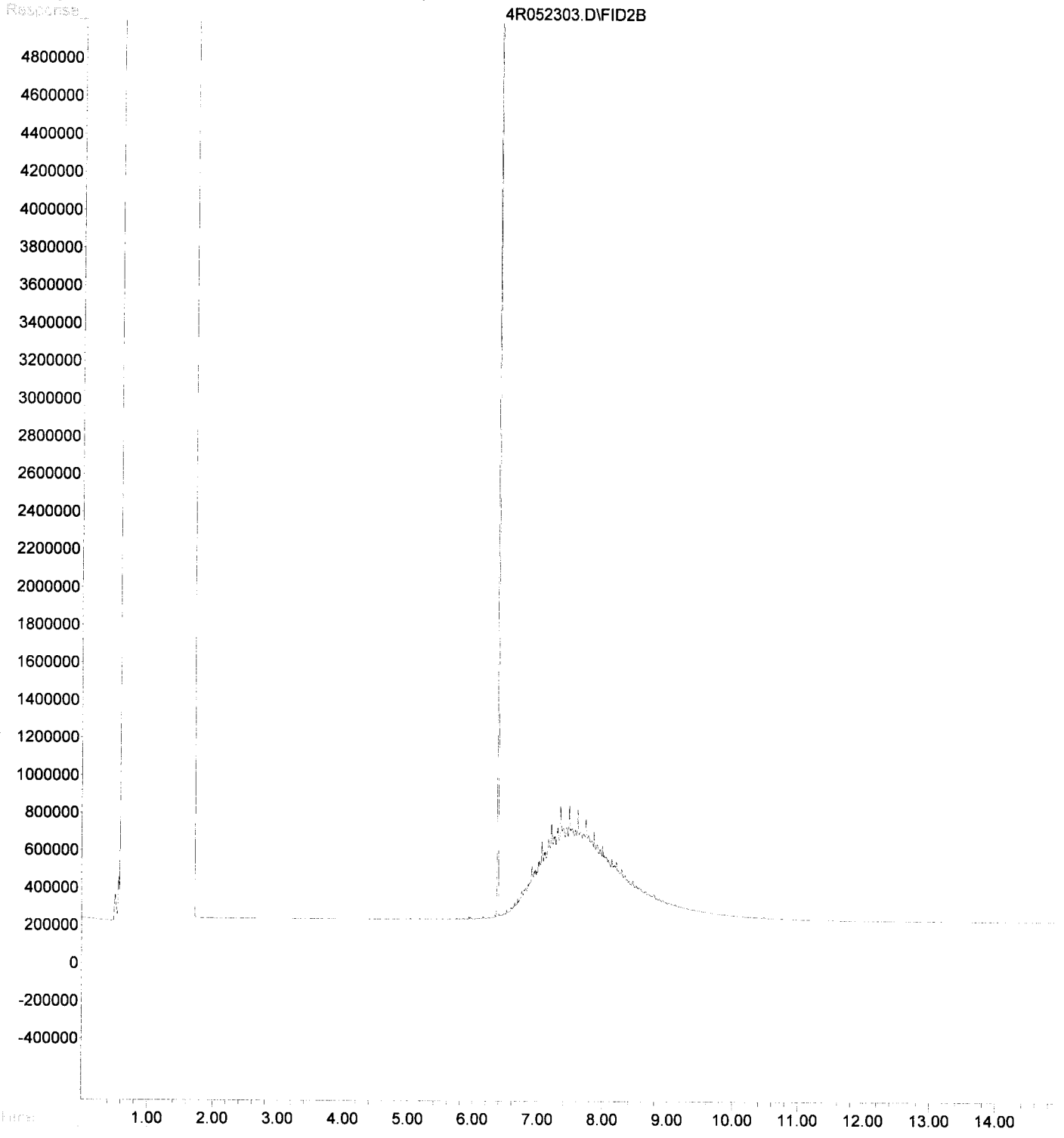
(f)=RT Delta > 1/2 Window (m)=manual int.

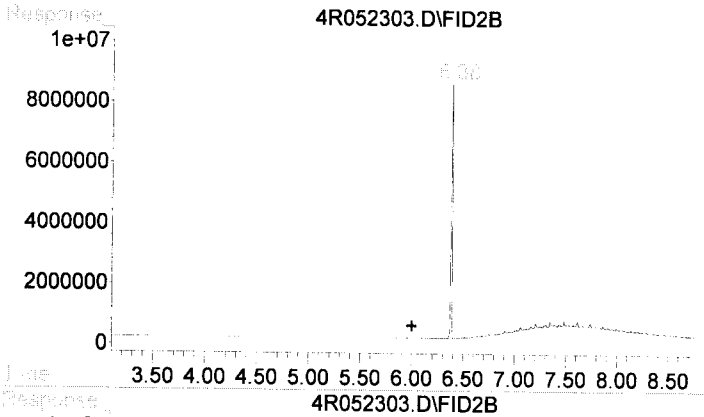
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052303.D Vial: 2
Acq On : 23 May 2019 20:25 Operator: KEH
Sample : 9E23033-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:55 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

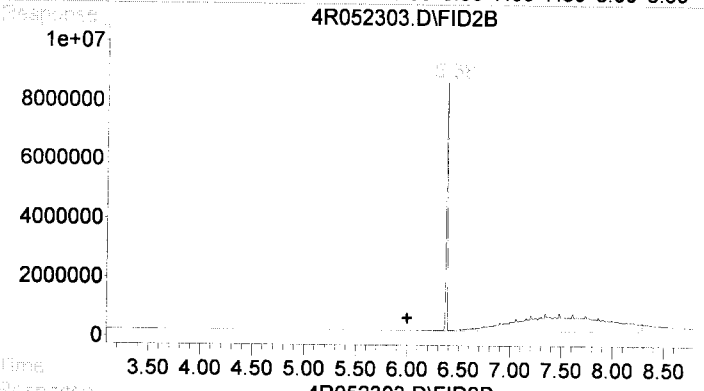
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





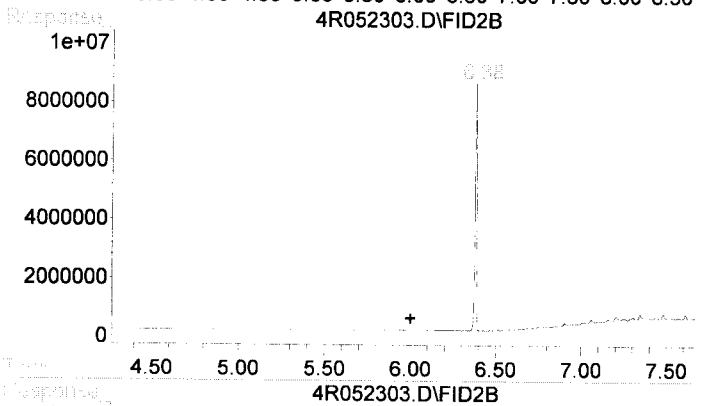
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 358586020
Conc: 314.41 ug/ml m



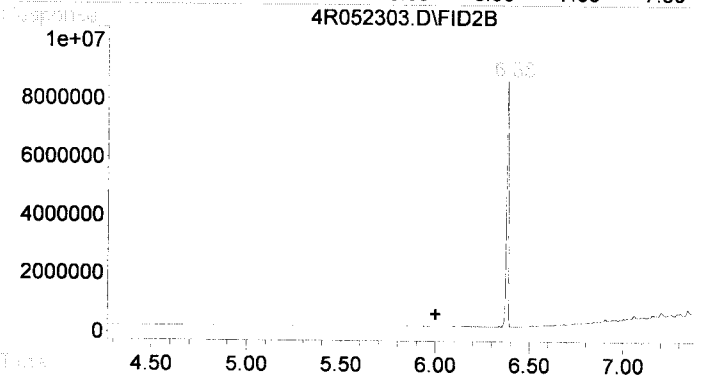
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 358586020
Conc: 314.41 ug/ml m



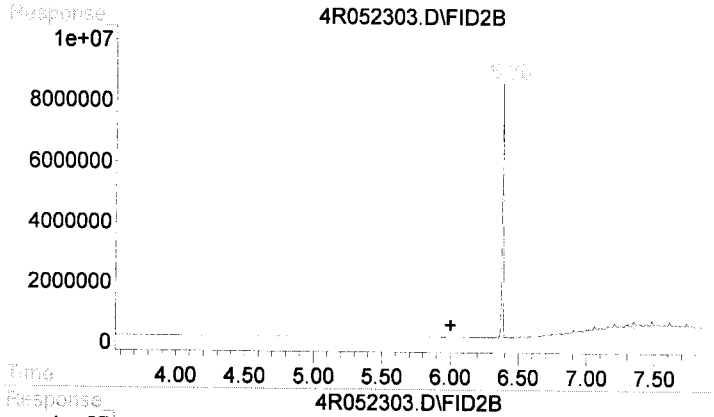
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 86955334
Conc: 76.24 ug/ml m



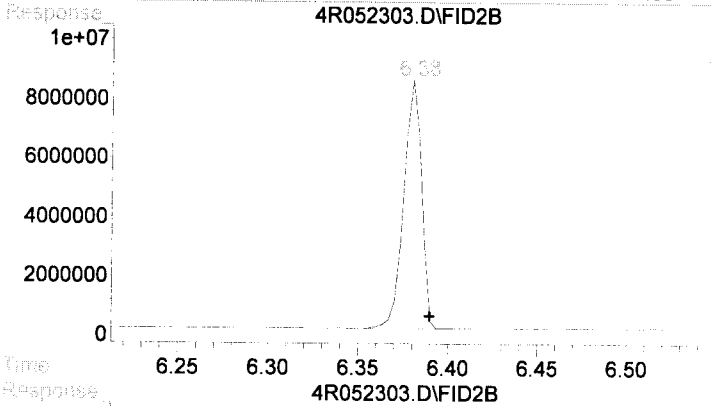
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 29356068
Conc: 34.29 ug/ml m



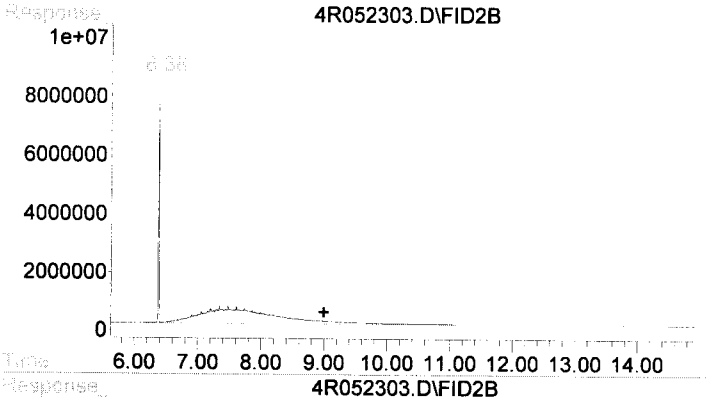
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 130805153
Conc: 123.99 ug/ml m



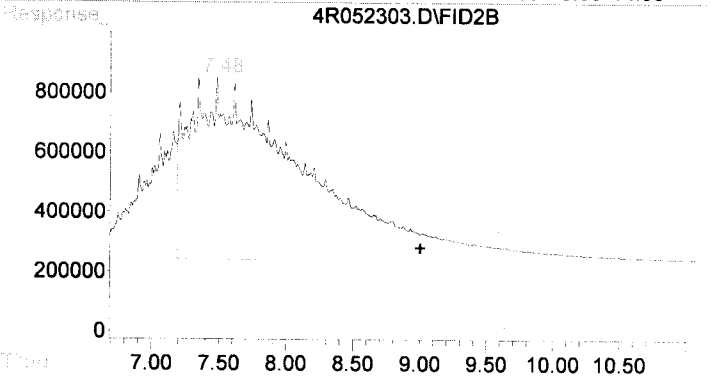
#6 o-Terphenyl

R.T.: 6.382 min
Delta R.T.: -0.008 min
Response: 58023467
Conc: 45.99 ug/ml



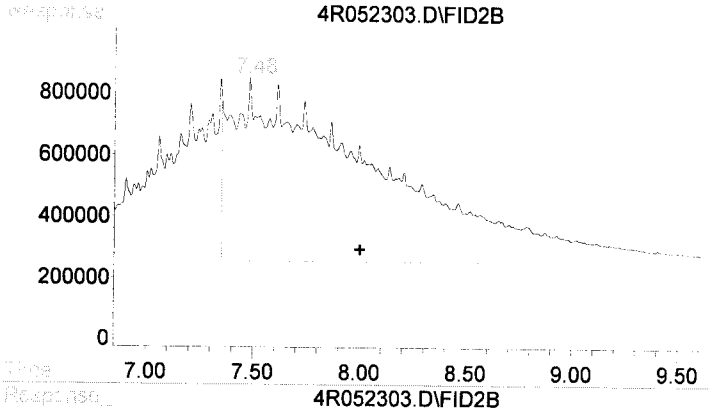
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 472497314
Conc: 450.30 ug/ml m



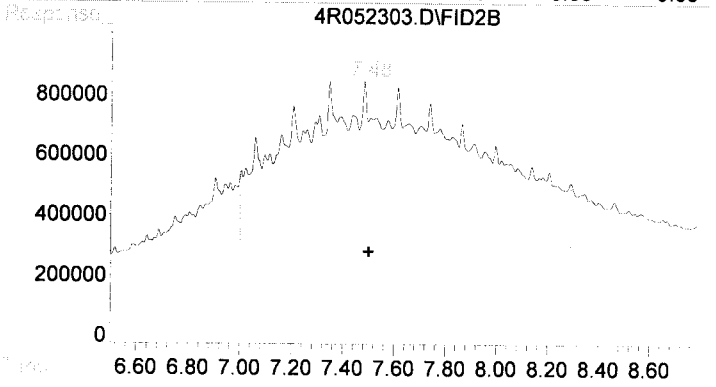
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 369737679
Conc: 352.37 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 281473244
Conc: 443.75 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 307231528
Conc: 461.20 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E23033\4R052304.D
Acq On : 23 May 2019 20:47
Sample : 9E23033-CCV2
Misc :
IntFile : SUR.E

Vial: 1
Operator: KEH
Inst : HP G1530A
Multiplr: 1.00

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 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	909.215	9.1	93	0.00
2	H	Diesel	1000.000	909.215	9.1	93	0.00
3	H	DRO(C12-C24)	1000.000	736.117	26.4#	75	0.00
4	H	CA LUFT DRO (C12-C22)	1000.000	938.225	6.2	93	0.00
5	H	TPHd (C10-C25)	1000.000	931.212	6.9	93	0.00
6	S	o-Terphenyl	-1.000	48.894	0.0	0	0.00
7	H	Oil	-1.000	281.467	0.0	0	0.00
8	H	RRO (C24-C40)	-1.000	19.195	0.0	0	0.00
9	H	TPHmo (C25-C36)	-1.000	17.008	0.0	78	0.00
10	H	CA LUFT ORO (C23-C32)	-1.000	48.643	0.0	87	0.00

KEH 5/24/19

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052304.D Vial: 1
Acq On : 23 May 2019 20:47 Operator: KEH
Sample : 9E23033-CCV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:55 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.38	61683546	48.894	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	1036975266	909.215	ug/ml
2)	H	Diesel	6.00	1036975266	909.215	ug/ml
3)	H	DRO(C12-C24)	6.00	839553722	736.117	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	803128321	938.225	ug/ml
5)	H	TPHd (C10-C25)	6.00	982392619	931.212	ug/ml
7)	H	Oil	9.00	295341183	281.467	ug/ml
8)	H	RRO (C24-C40)	9.00	20140756	19.195	ug/ml
9)	H	TPHmo (C25-C36)	8.00	10788163	17.008	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	32403871	48.643	ug/ml

KEH 5/24/19

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

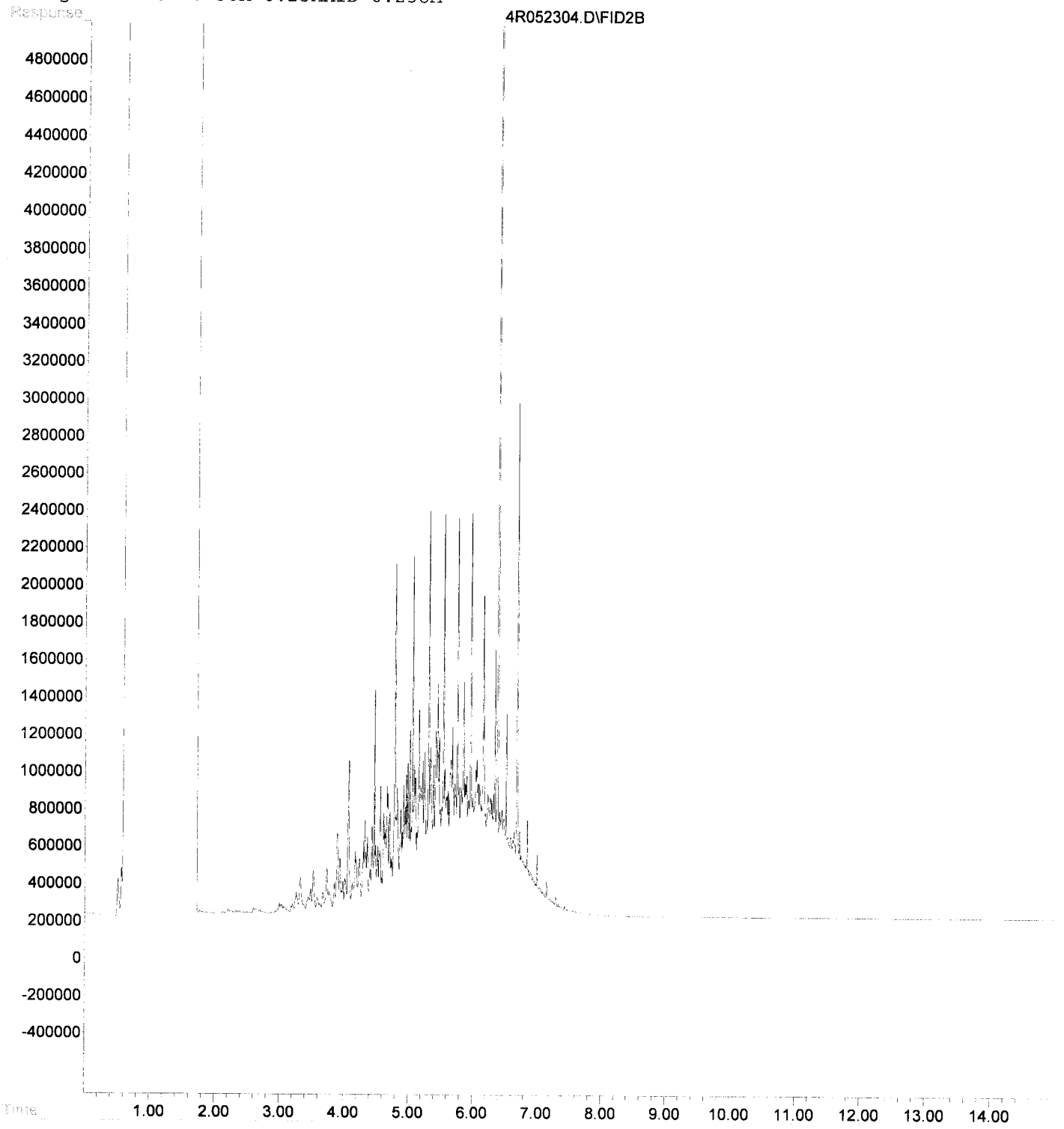
4R052304.D 4R90418D.M Fri May 24 07:55:59 2019 SV-GCMS3

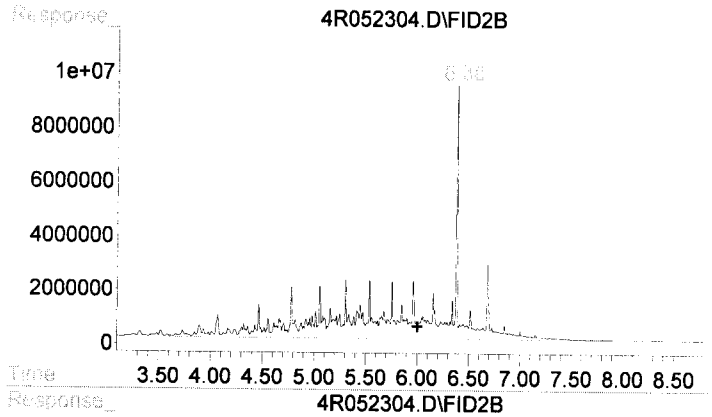
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052304.D Vial: 1
Acq On : 23 May 2019 20:47 Operator: KEH
Sample : 9E23033-CCV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:55 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

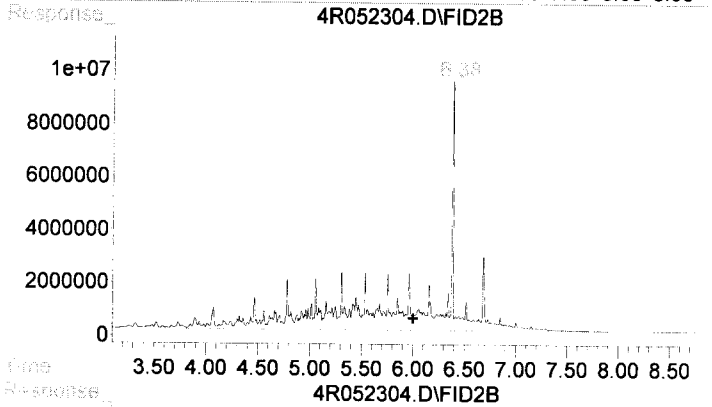
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





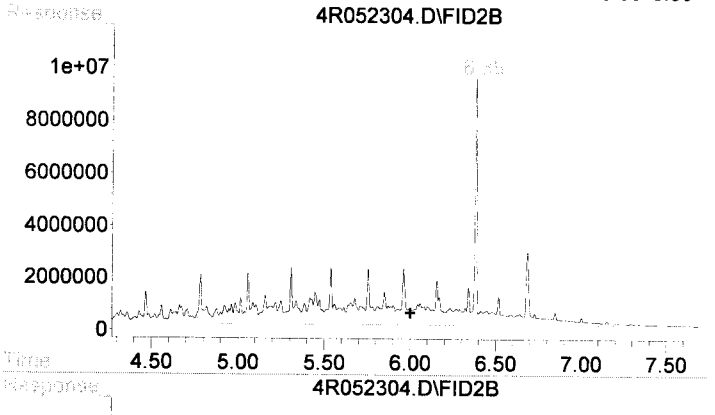
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1036975266
Conc: 909.21 ug/ml m



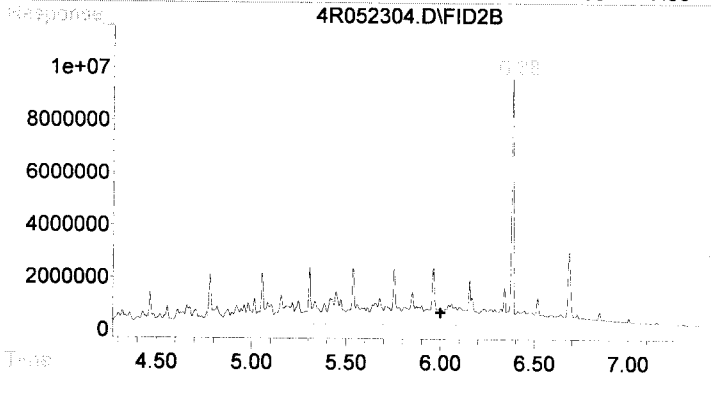
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1036975266
Conc: 909.21 ug/ml m



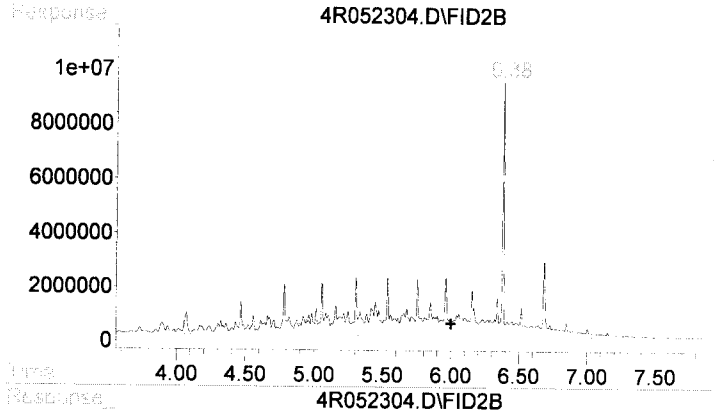
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 839553722
Conc: 736.12 ug/ml m



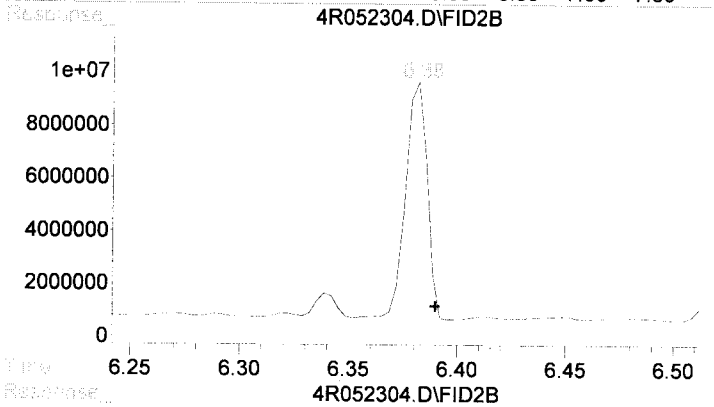
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 803128321
Conc: 938.23 ug/ml m



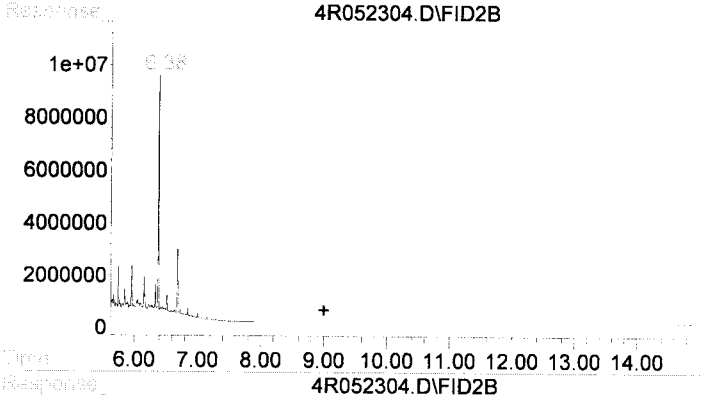
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 982392619
Conc: 931.21 ug/ml m



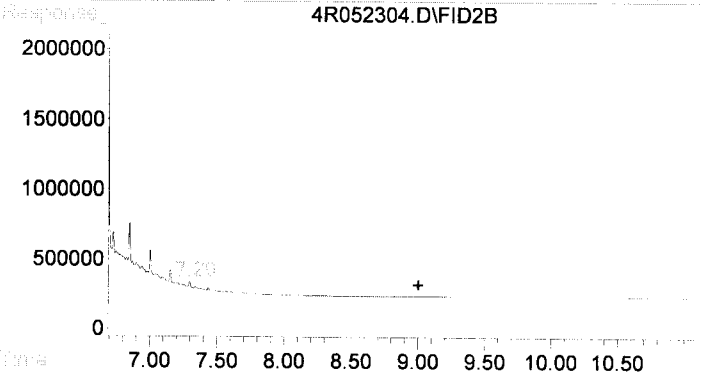
#6 o-Terphenyl

R.T.: 6.382 min
Delta R.T.: -0.008 min
Response: 61683546
Conc: 48.89 ug/ml



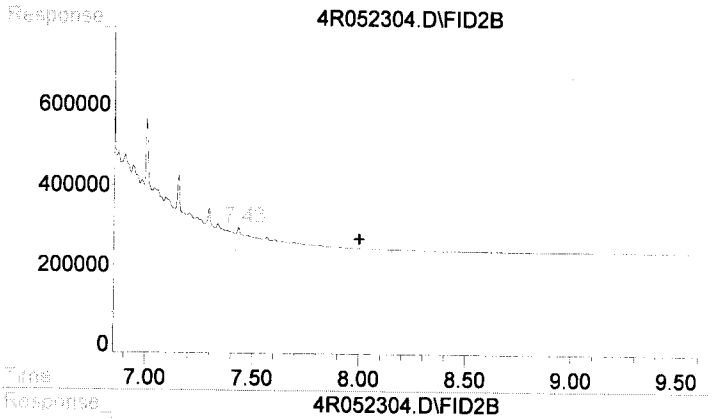
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 295341183
Conc: 281.47 ug/ml m



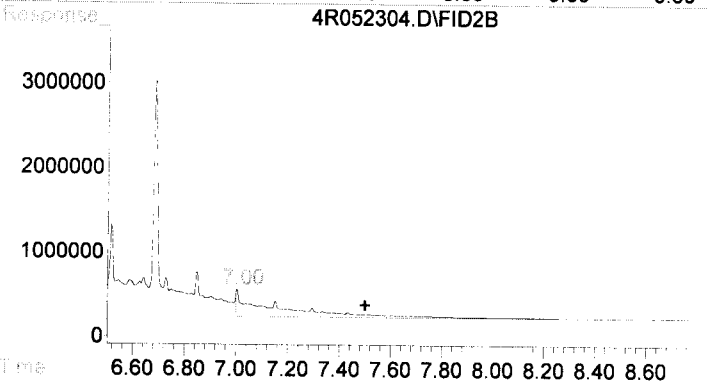
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 20140756
Conc: 19.19 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 10788163
Conc: 17.01 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 32403871
Conc: 48.64 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052305.D Vial: 100
Acq On : 23 May 2019 23:28 Operator: KEH
Sample : 9E23033-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:59 2019 Quant Results File: 4R90418W.RES

Quant Method : G:\4\METHODS\4R90418W.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:58:37 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	0.00	0	N.D.	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	3393786	2.976	ug/ml
2)	H	Diesel	6.00	3393786	2.976	ug/ml
3)	H	DRO(C12-C24)	6.00	602783	0.529	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	535027	0.625	ug/ml
5)	H	TPHd (C10-C25)	6.00	1050703	0.996	ug/ml
8)	H	Oil	9.00	3444563	3.283	ug/ml
9)	H	RRO (C24-C40)	9.00	1574604	1.501	ug/ml
10)	H	TPHmo (C25-C36)	8.00	969552	1.529	ug/ml
11)	H	CA LUFT ORO (C23-C32)	7.50	926859	1.391	ug/ml

1/2 mdl

KEH 5/24/19

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

4R052305.D 4R90418W.M Fri May 24 07:59:14 2019 SV-GCMS3

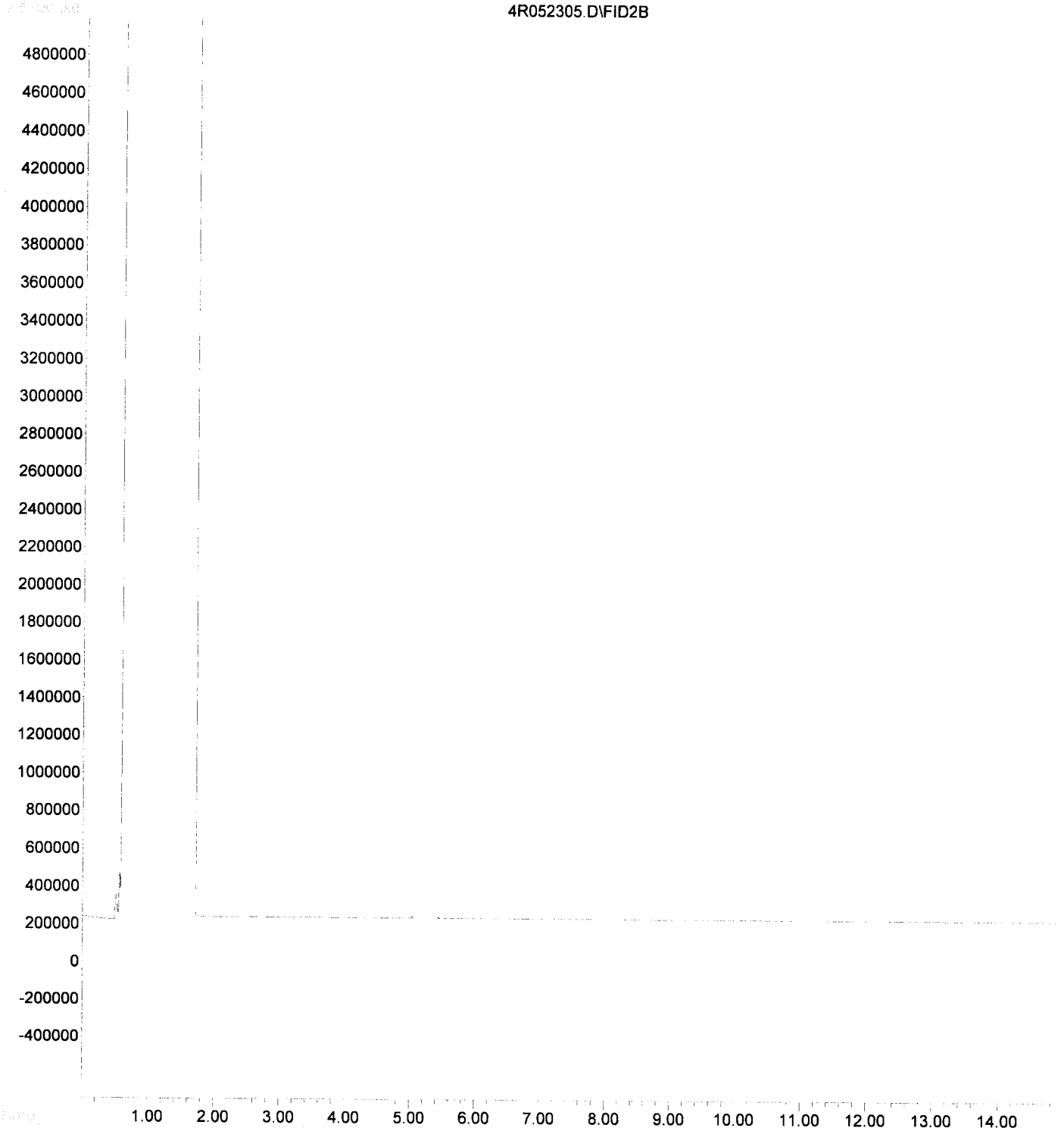
Quantitation Report (Not Reviewed)

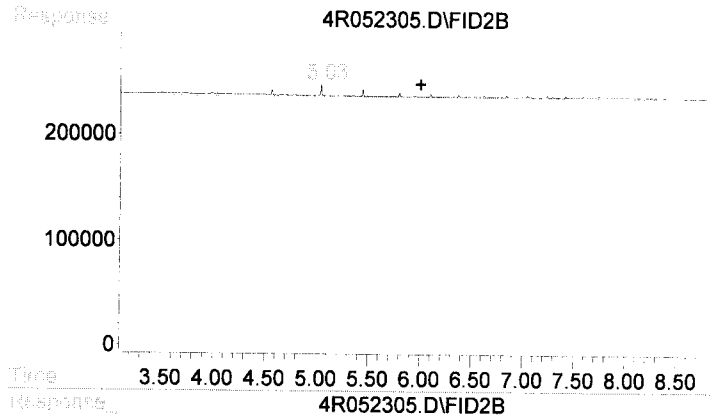
Data File : G:\4\DATA\2019-05\9E23033\4R052305.D Vial: 100
Acq On : 23 May 2019 23:28 Operator: KEH
Sample : 9E23033-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:59 2019 Quant Results File: 4R90418W.RES

Quant Method : G:\4\METHODS\4R90418W.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:58:37 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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

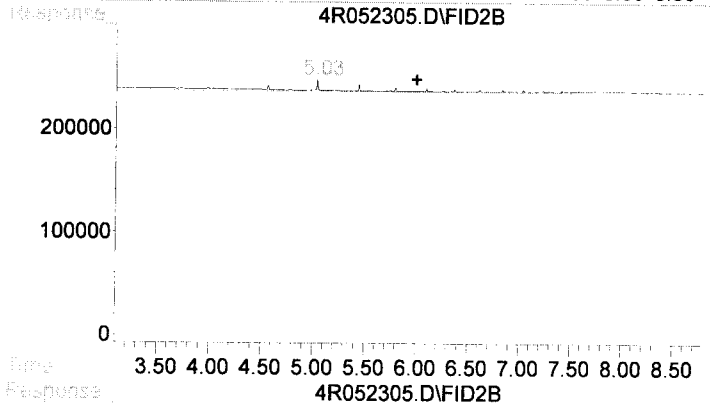
4R052305.D\FID2B





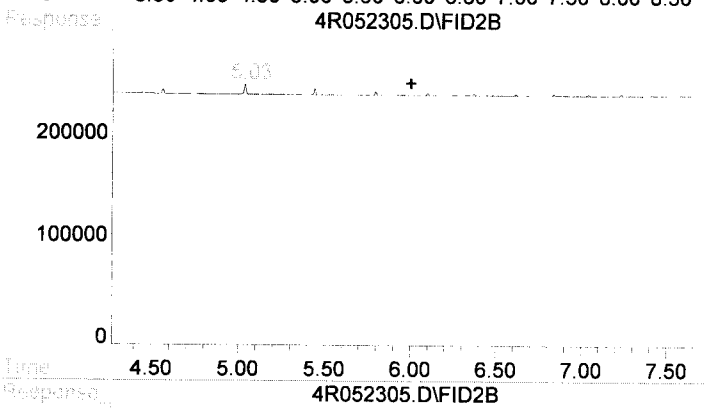
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 3393786
Conc: 2.98 ug/ml m



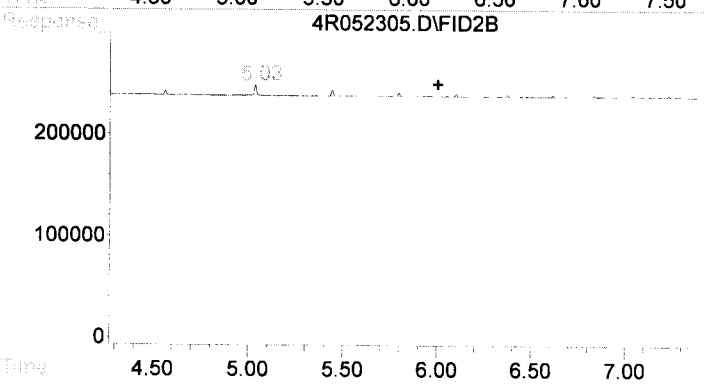
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 3393786
Conc: 2.98 ug/ml m



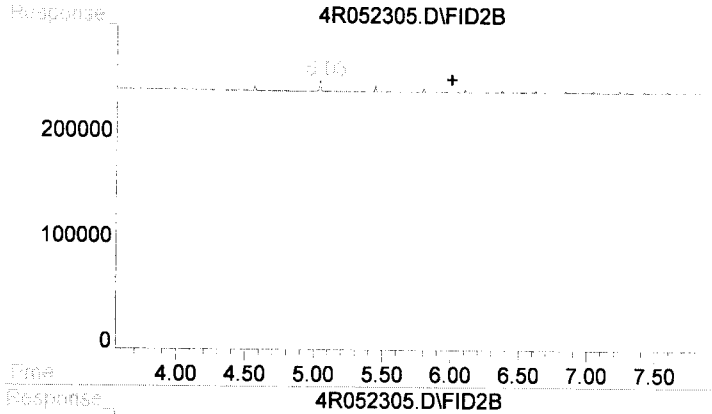
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 602783
Conc: 0.53 ug/ml m



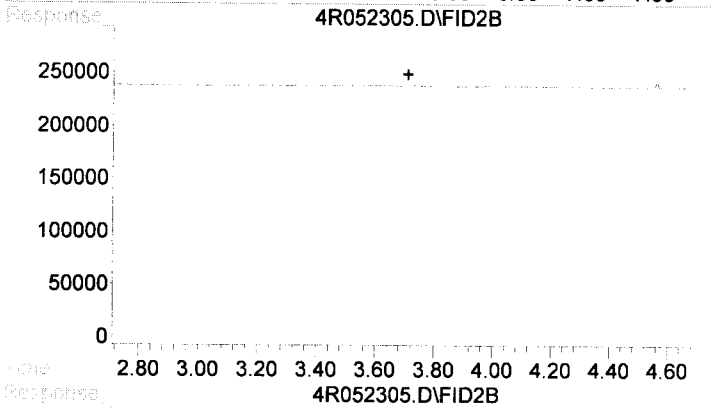
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 535027
Conc: 0.63 ug/ml m



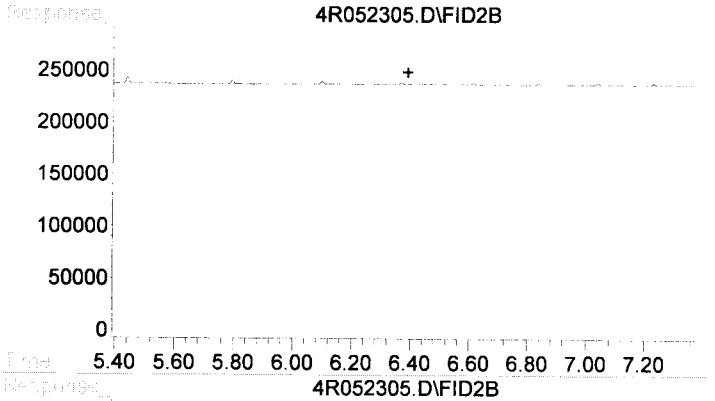
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1050703
Conc: 1.00 ug/ml m



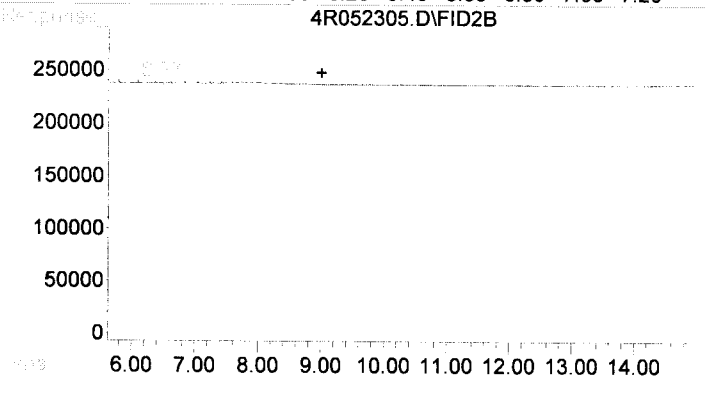
#6 BFB (Surr)

R.T.: 0.000 min
Exp R.T. : 3.710 min
Response: 0
Conc: N.D.



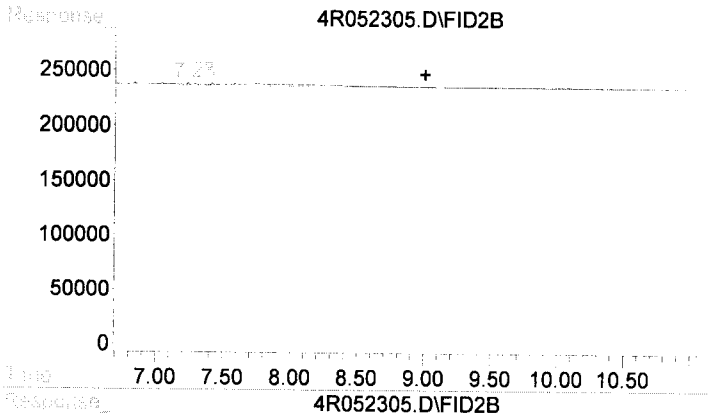
#7 o-Terphenyl

R.T.: 0.000 min
Exp R.T. : 6.389 min
Response: 0
Conc: N.D.



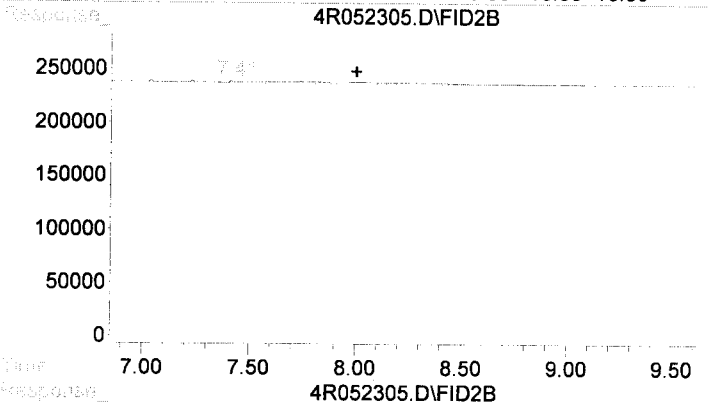
#8 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 3444563
Conc: 3.28 ug/ml m



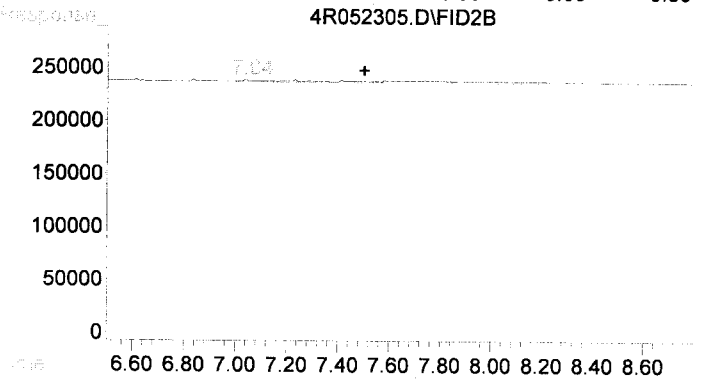
#9 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 1574604
Conc: 1.50 ug/ml m



#10 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 969552
Conc: 1.53 ug/ml m



#11 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 926859
Conc: 1.39 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052305.D Vial: 100
Acq On : 23 May 2019 23:28 Operator: KEH
Sample : 9E23033-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	3393786	2.976	ug/ml
2)	H	Diesel	6.00	3393786	2.976	ug/ml
3)	H	DRO(C12-C24)	6.00	602783	0.529	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	535027	0.625	ug/ml
5)	H	TPHd (C10-C25)	6.00	1050703	0.996	ug/ml
7)	H	Oil	9.00	3444563	3.283	ug/ml
8)	H	RRO (C24-C40)	9.00	1574604	1.501	ug/ml
9)	H	TPHmo (C25-C36)	8.00	969105	1.528	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	920818	1.382	ug/ml

< 1/3 mRL

KEH 5/24/19

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

4R052305.D 4R90418D.M Fri May 24 07:56:02 2019 SV-GCMS3

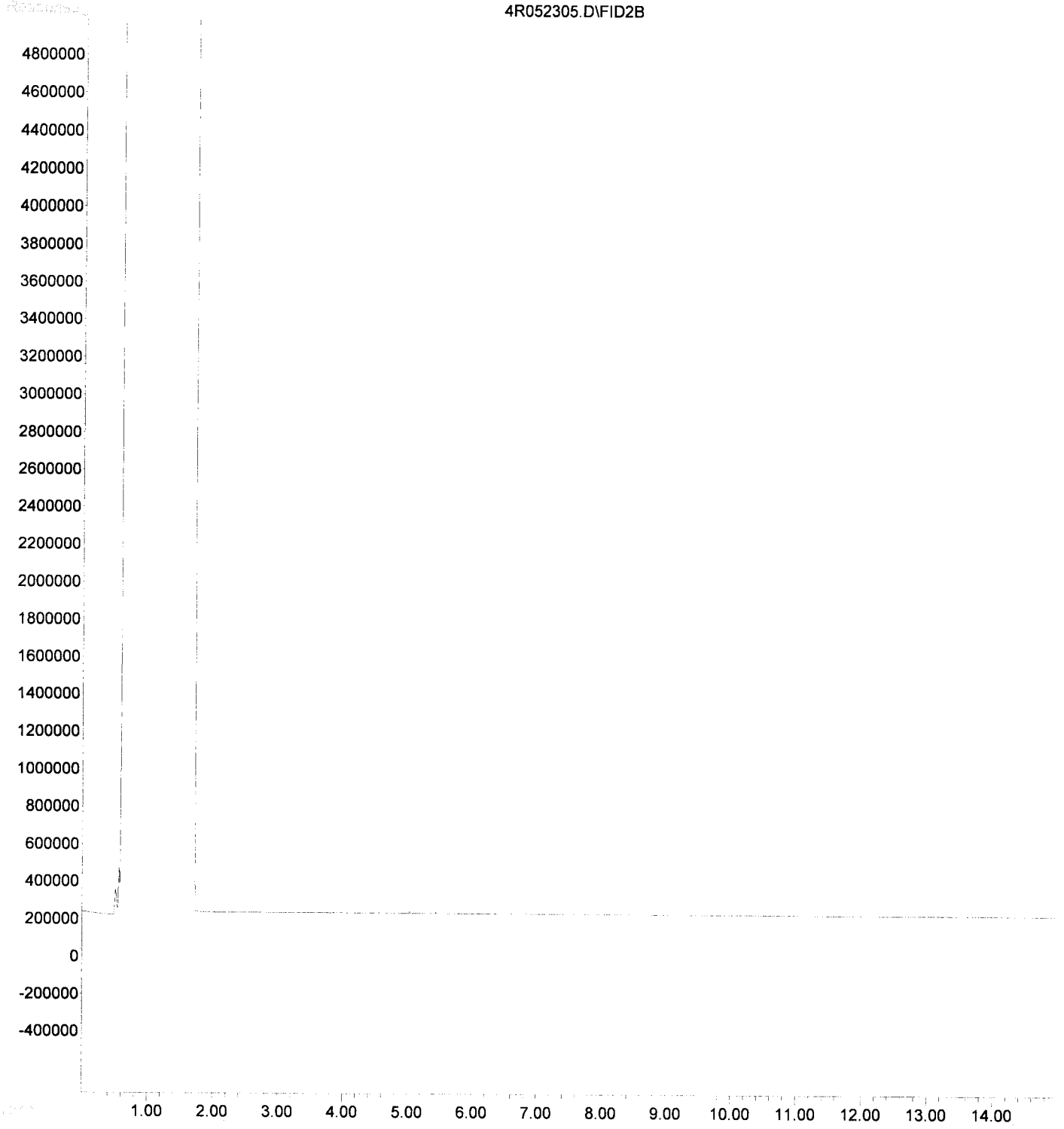
Quantitation Report (Not Reviewed)

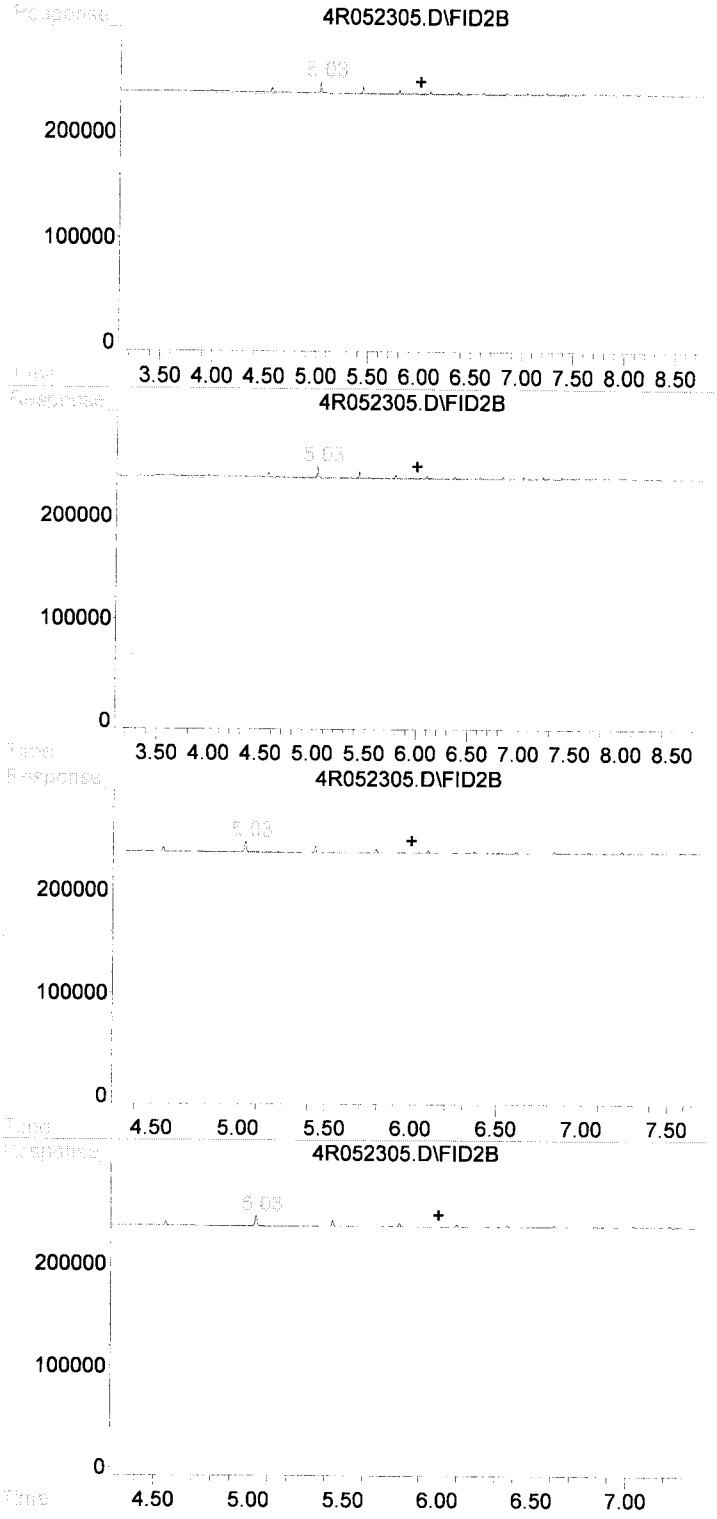
Data File : G:\4\DATA\2019-05\9E23033\4R052305.D Vial: 100
Acq On : 23 May 2019 23:28 Operator: KEH
Sample : 9E23033-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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

4R052305.D\FID2B





#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 3393786
Conc: 2.98 ug/ml m

#2 Diesel

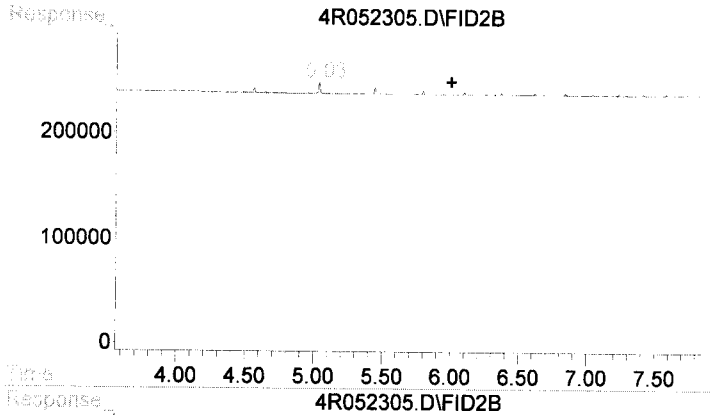
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 3393786
Conc: 2.98 ug/ml m

#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 602783
Conc: 0.53 ug/ml m

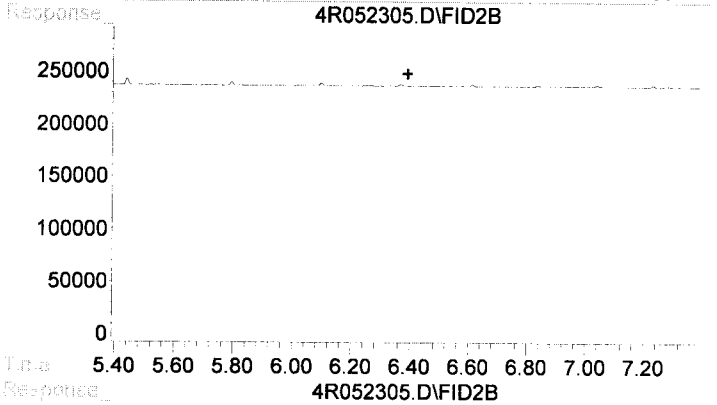
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 535027
Conc: 0.63 ug/ml m



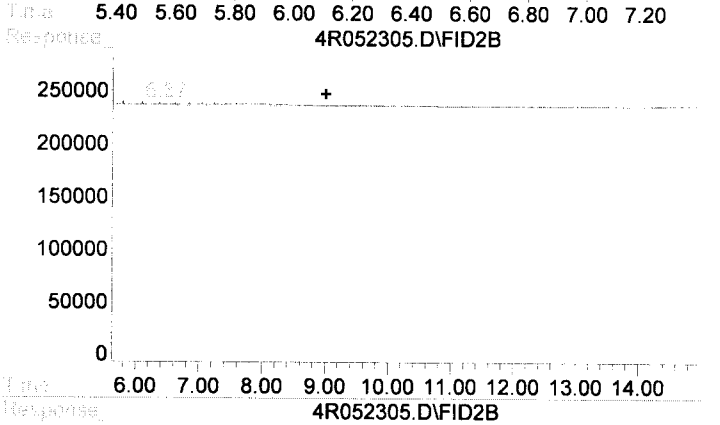
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1050703
Conc: 1.00 ug/ml m



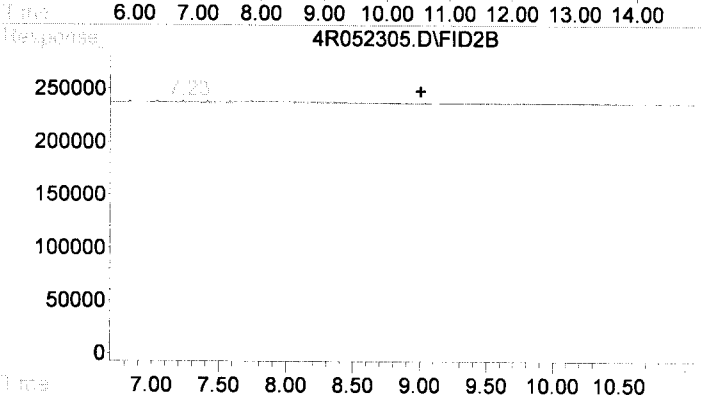
#6 o-Terphenyl

R.T.: 0.000 min
Exp R.T. : 6.390 min
Response: 0
Conc: N.D.



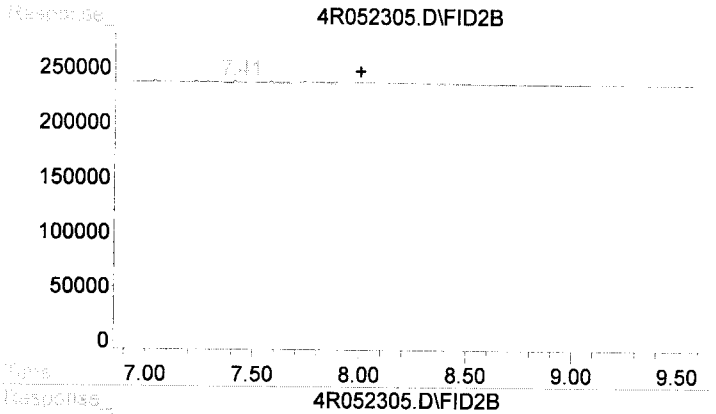
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 3444563
Conc: 3.28 ug/ml m



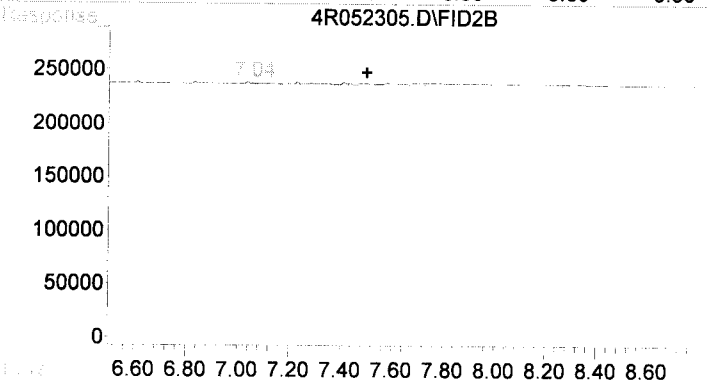
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 1574604
Conc: 1.50 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 969105
Conc: 1.53 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 920818
Conc: 1.38 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052310.D Vial: 54
Acq On : 24 May 2019 1:14 Operator: KEH
Sample : 9051229-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.38	56957086	45.147 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	5315316	4.660 ug/ml
2)	H	Diesel	6.00	5315316	4.660 ug/ml
3)	H	DRO(C12-C24)	6.00	2729867	2.394 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	2341445	2.735 ug/ml
5)	H	TPHd (C10-C25)	6.00	3659594	3.469 ug/ml
7)	H	Oil	9.00	6597660	6.288 ug/ml
8)	H	RRO (C24-C40)	9.00	3626343	3.456 ug/ml
9)	H	TPHmo (C25-C36)	8.00	1524461	2.403 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1465806	2.200 ug/ml

2½ mL

KEH 5/24/19

✓

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

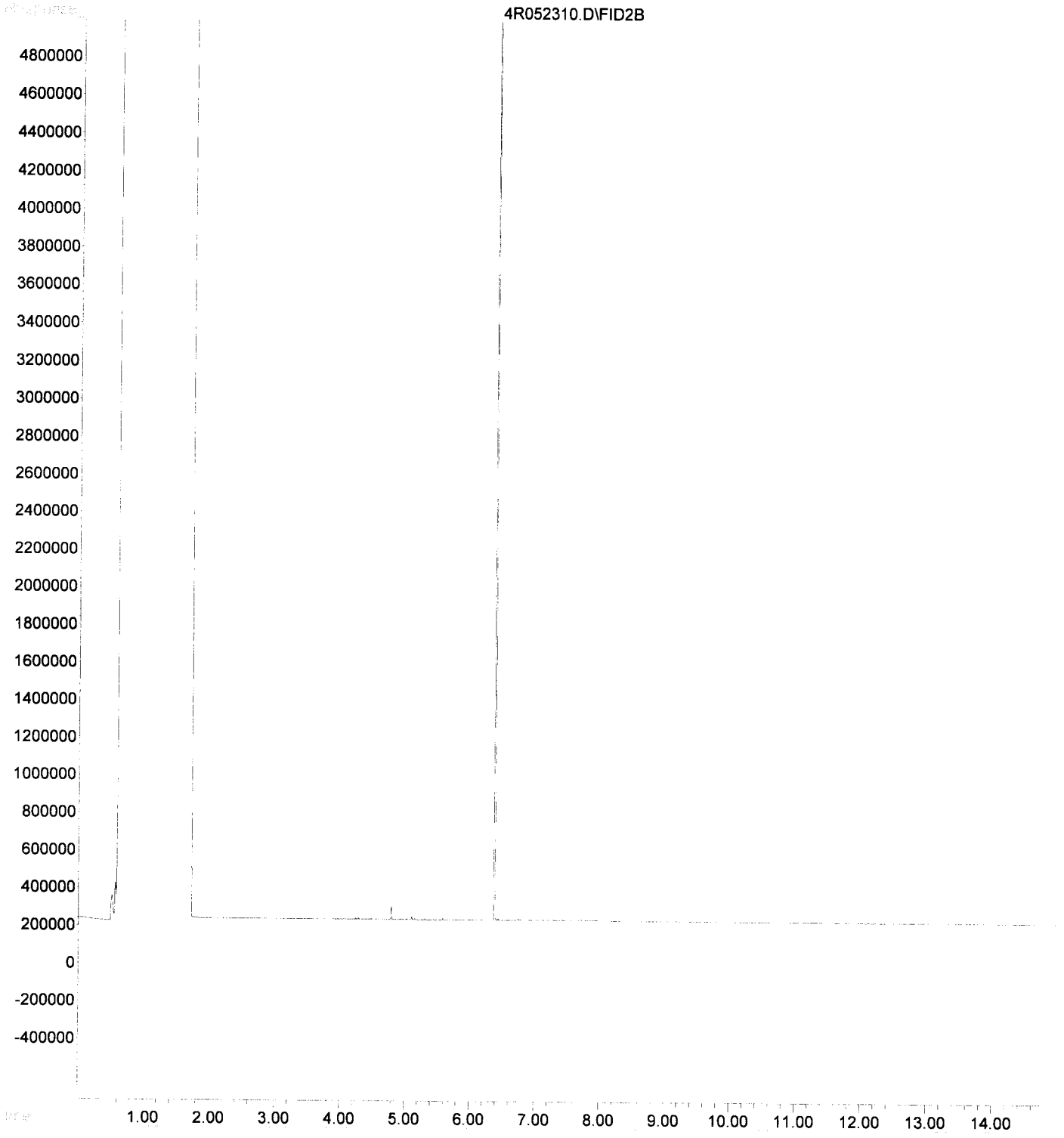
4R052310.D 4R90418D.M Fri May 24 07:56:05 2019 SV-GCMS3

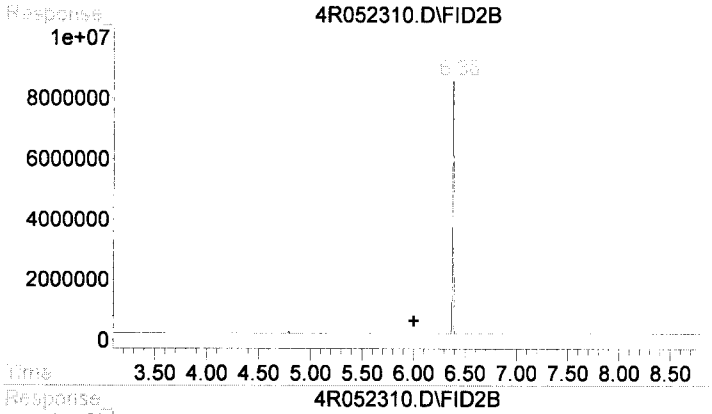
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052310.D Vial: 54
Acq On : 24 May 2019 1:14 Operator: KEH
Sample : 9051229-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

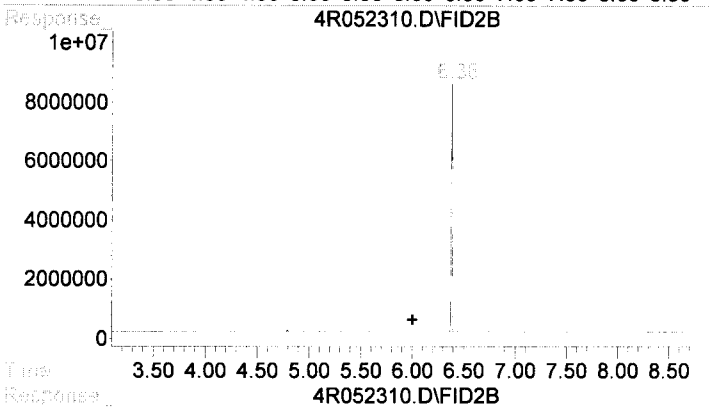
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





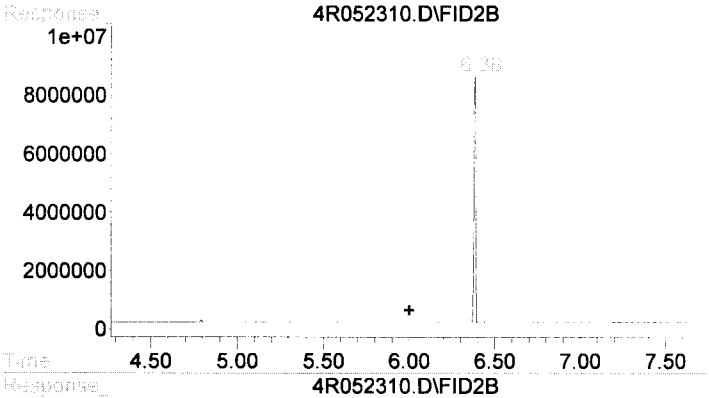
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 5315316
Conc: 4.66 ug/ml m



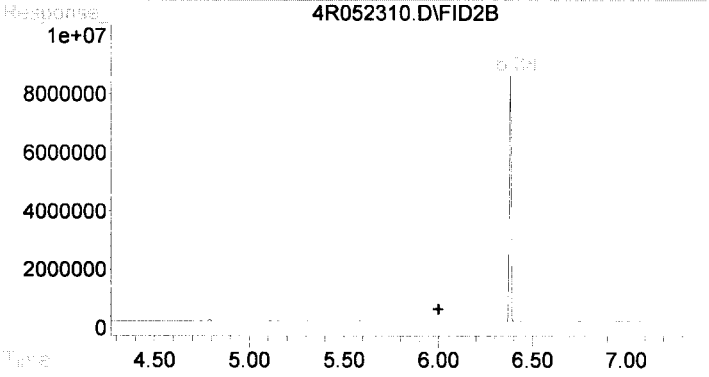
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 5315316
Conc: 4.66 ug/ml m



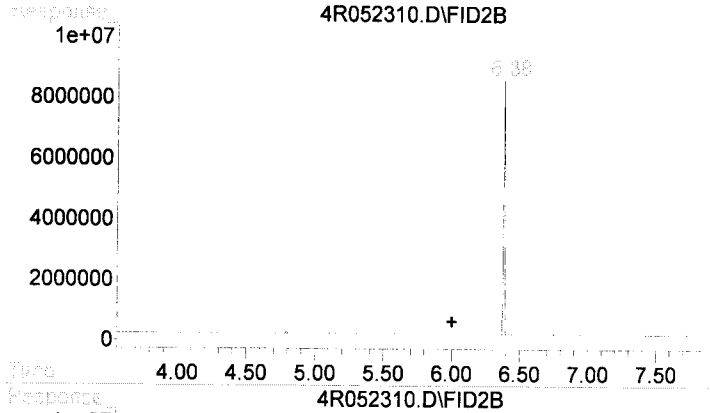
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2729867
Conc: 2.39 ug/ml m



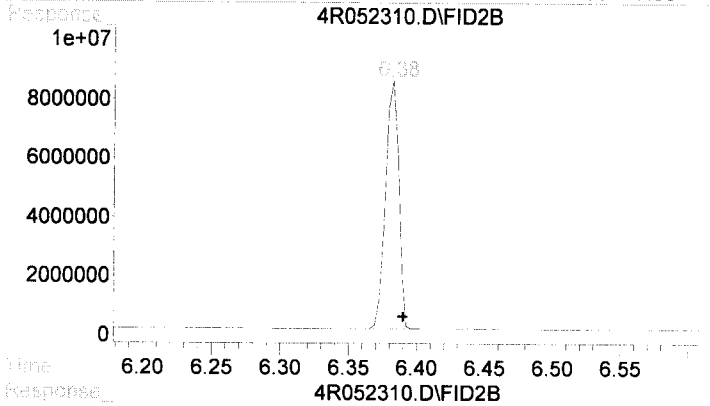
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2341445
Conc: 2.74 ug/ml m



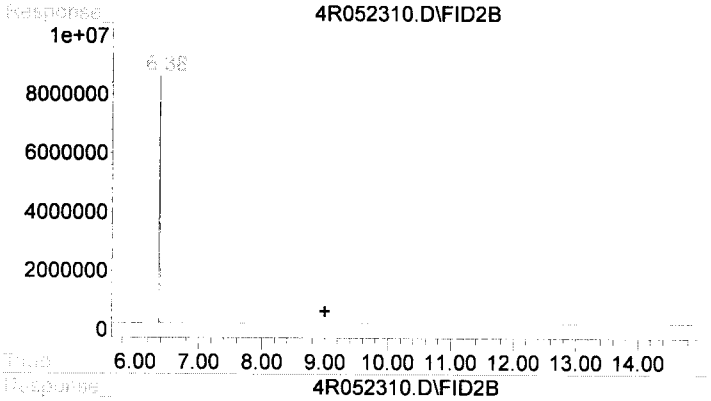
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 3659594
Conc: 3.47 ug/ml m



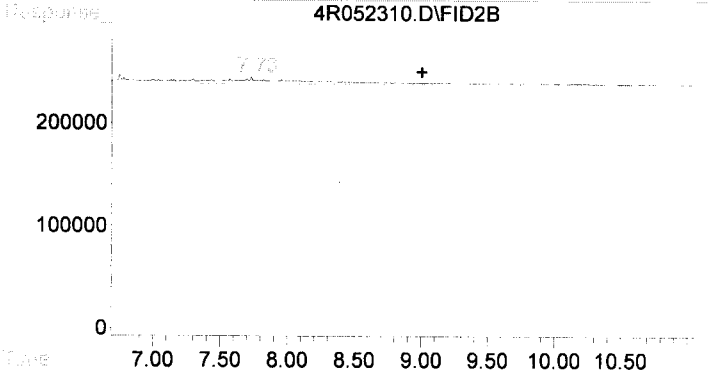
#6 o-Terphenyl

R.T.: 6.383 min
Delta R.T.: -0.007 min
Response: 56957086
Conc: 45.15 ug/ml



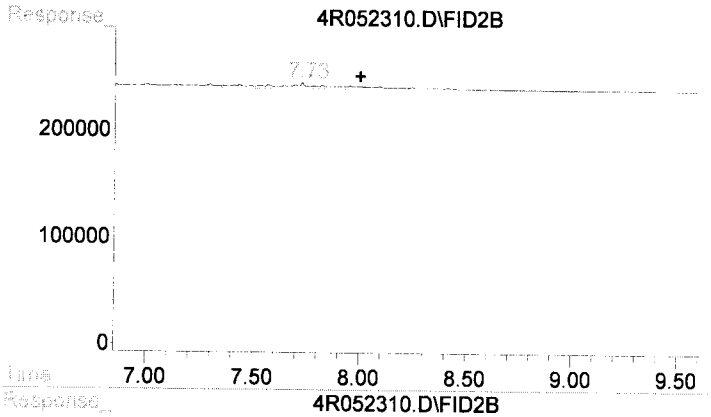
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 6597660
Conc: 6.29 ug/ml m



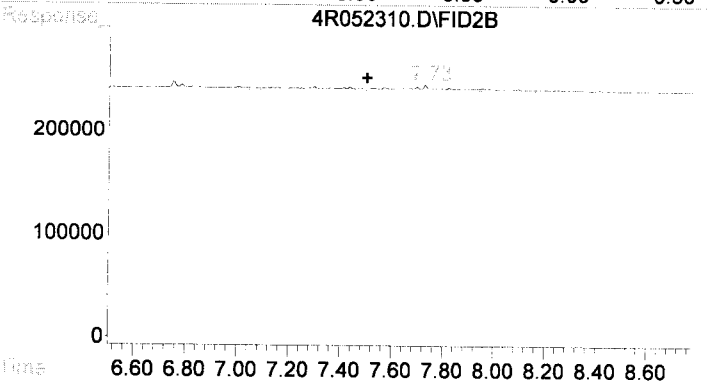
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 3626343
Conc: 3.46 ug/ml m



#9 TPHmo (C25-C36)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	1524461
Conc:	2.40 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.:	7.500 min
Delta R.T.:	0.000 min
Response:	1465806
Conc:	2.20 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052311.D Vial: 55
Acq On : 24 May 2019 1:36 Operator: KEH
Sample : 9051229-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.38	60028719	47.582	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	274302870	240.507	ug/ml
2)	H	Diesel	6.00	274302870	240.507	ug/ml
3)	H	DRO(C12-C24)	6.00	223688695	196.129	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	213158205	249.014	ug/ml
5)	H	TPHd (C10-C25)	6.00	259344712	245.833	ug/ml
7)	H	Oil	9.00	84587942	80.614	ug/ml
8)	H	RRO (C24-C40)	9.00	8304547	7.914	ug/ml
9)	H	TPHmo (C25-C36)	8.00	4148998	6.541	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	9791296	14.698	ug/ml

KEH 5/24/19

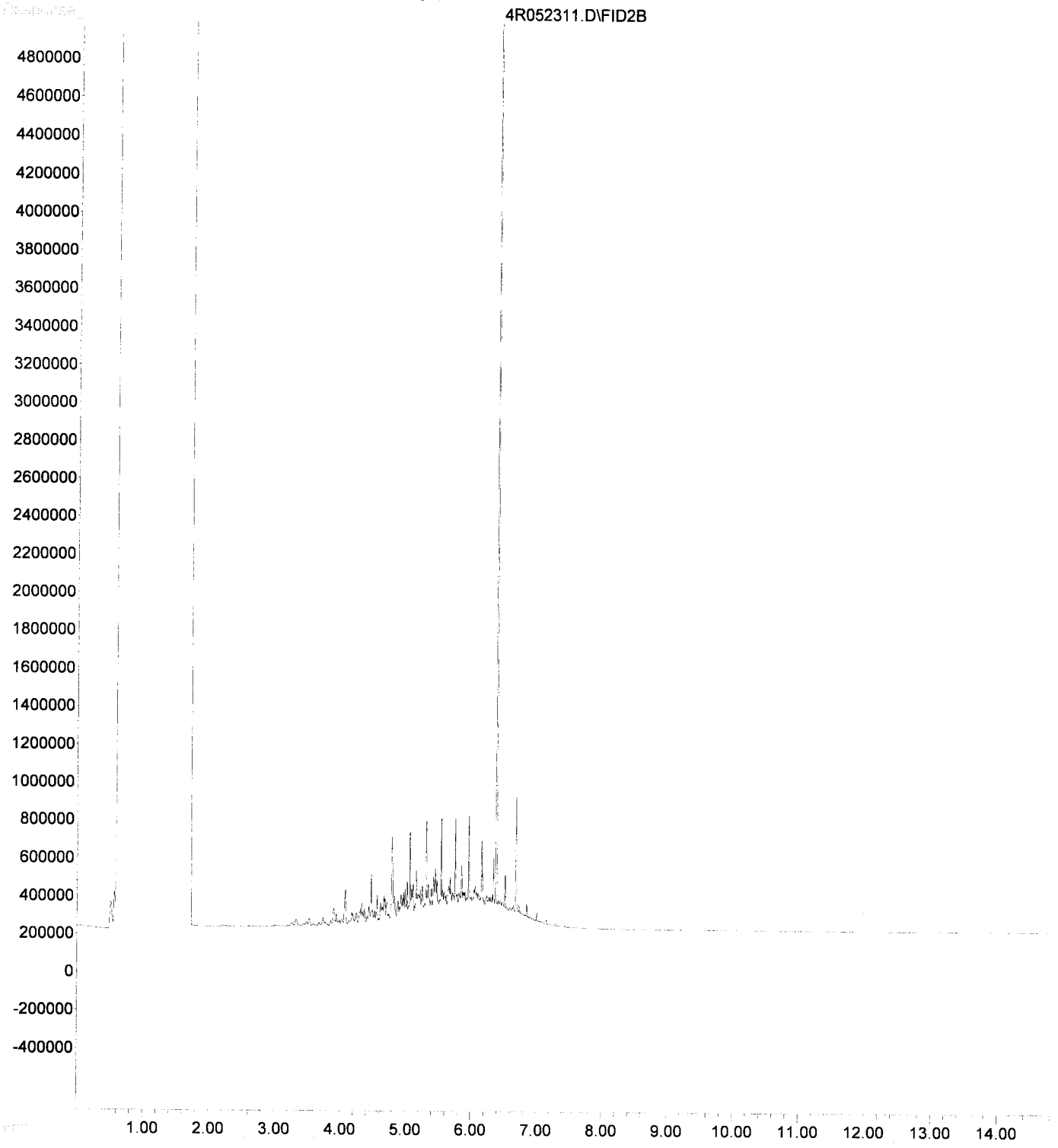
(f)=RT Delta > 1/2 Window (m)=manual int.

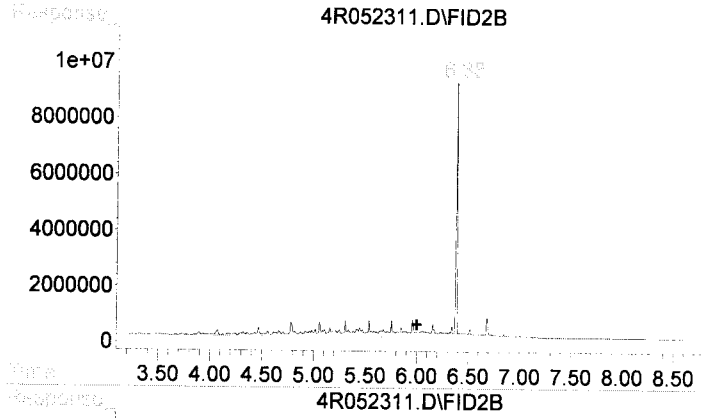
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052311.D Vial: 55
Acq On : 24 May 2019 1:36 Operator: KEH
Sample : 9051229-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

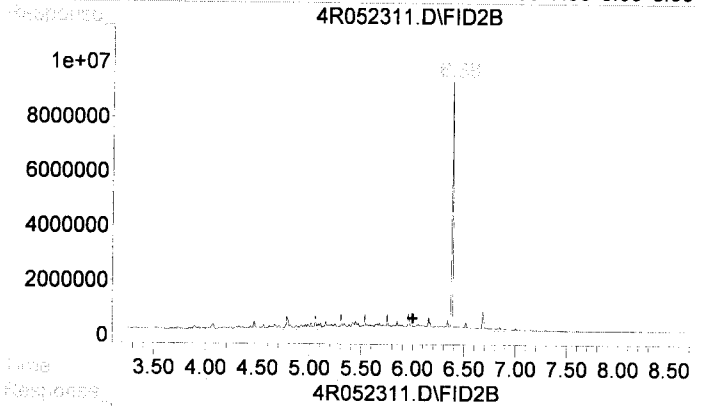
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





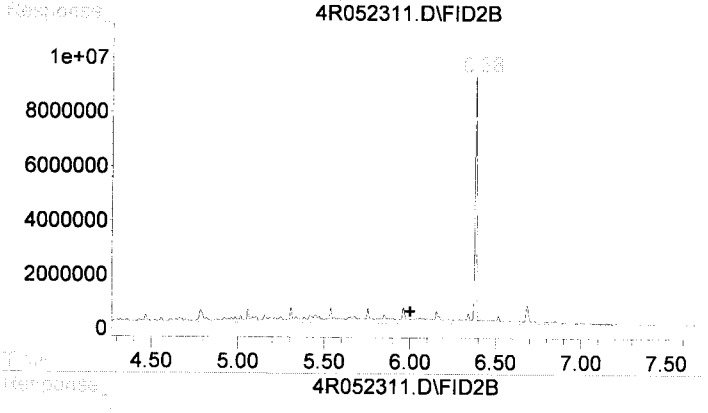
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 274302870
Conc: 240.51 ug/ml m



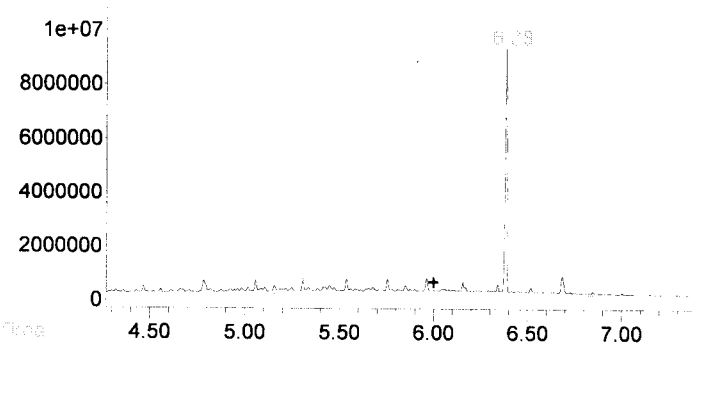
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 274302870
Conc: 240.51 ug/ml m



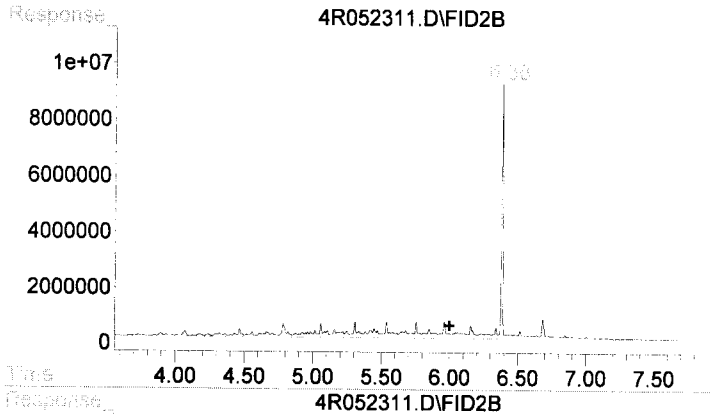
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 223688695
Conc: 196.13 ug/ml m



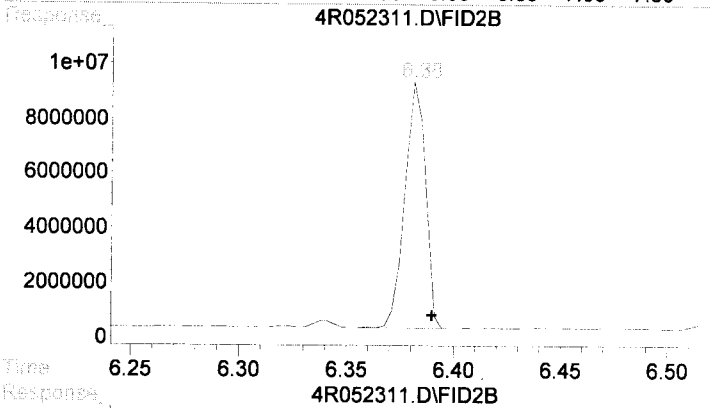
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 213158205
Conc: 249.01 ug/ml m



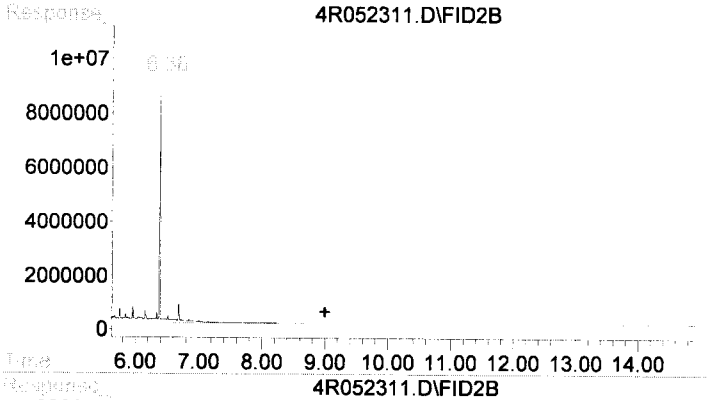
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 259344712
Conc: 245.83 ug/ml m



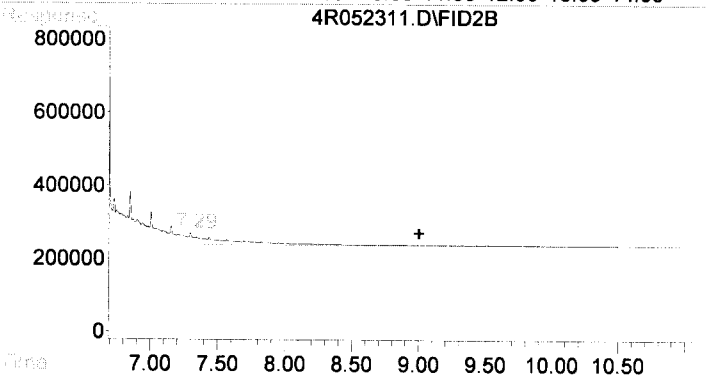
#6 o-Terphenyl

R.T.: 6.383 min
Delta R.T.: -0.007 min
Response: 60028719
Conc: 47.58 ug/ml



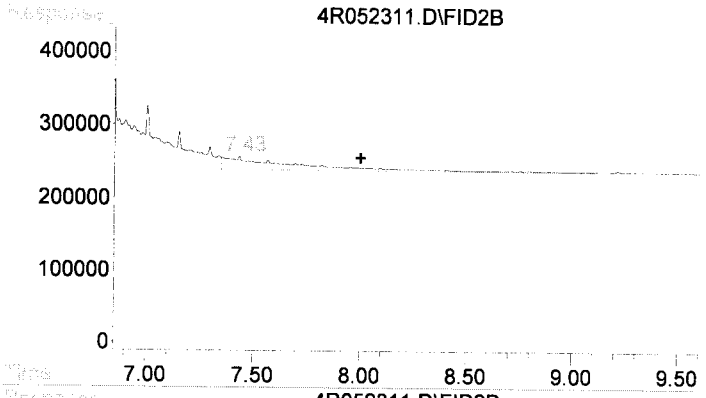
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 84587942
Conc: 80.61 ug/ml m



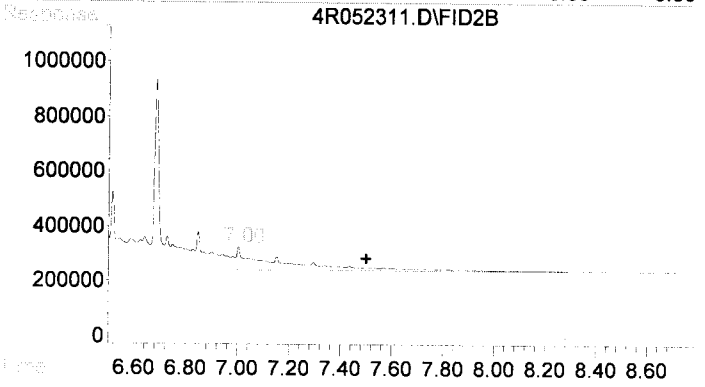
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 8304547
Conc: 7.91 ug/ml m



#9 TPHmo (C25-C36)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	4148998
Conc:	6.54 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.:	7.500 min
Delta R.T.:	0.000 min
Response:	9791296
Conc:	14.70 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052314.D Vial: 58
Acq On : 24 May 2019 2:39 Operator: KEH
Sample : A9E0677-01@100 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.38	1435731	1.138 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	531186432	465.742 ug/ml
2)	H	Diesel	6.00	531186432	465.742 ug/ml
3)	H	DRO(C12-C24)	6.00	403569651	353.848 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	379439946	443.267 ug/ml
5)	H	TPHd (C10-C25)	6.00	427491285	405.220 ug/ml
7)	H	Oil	9.00	390234991	371.903 ug/ml
8)	H	RRO (C24-C40)	9.00	160767459	153.215 ug/ml
9)	H	TPHmo (C25-C36)	8.00	127369141	200.803 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	108088657	162.258 ug/ml

5.01

F-17

F-17

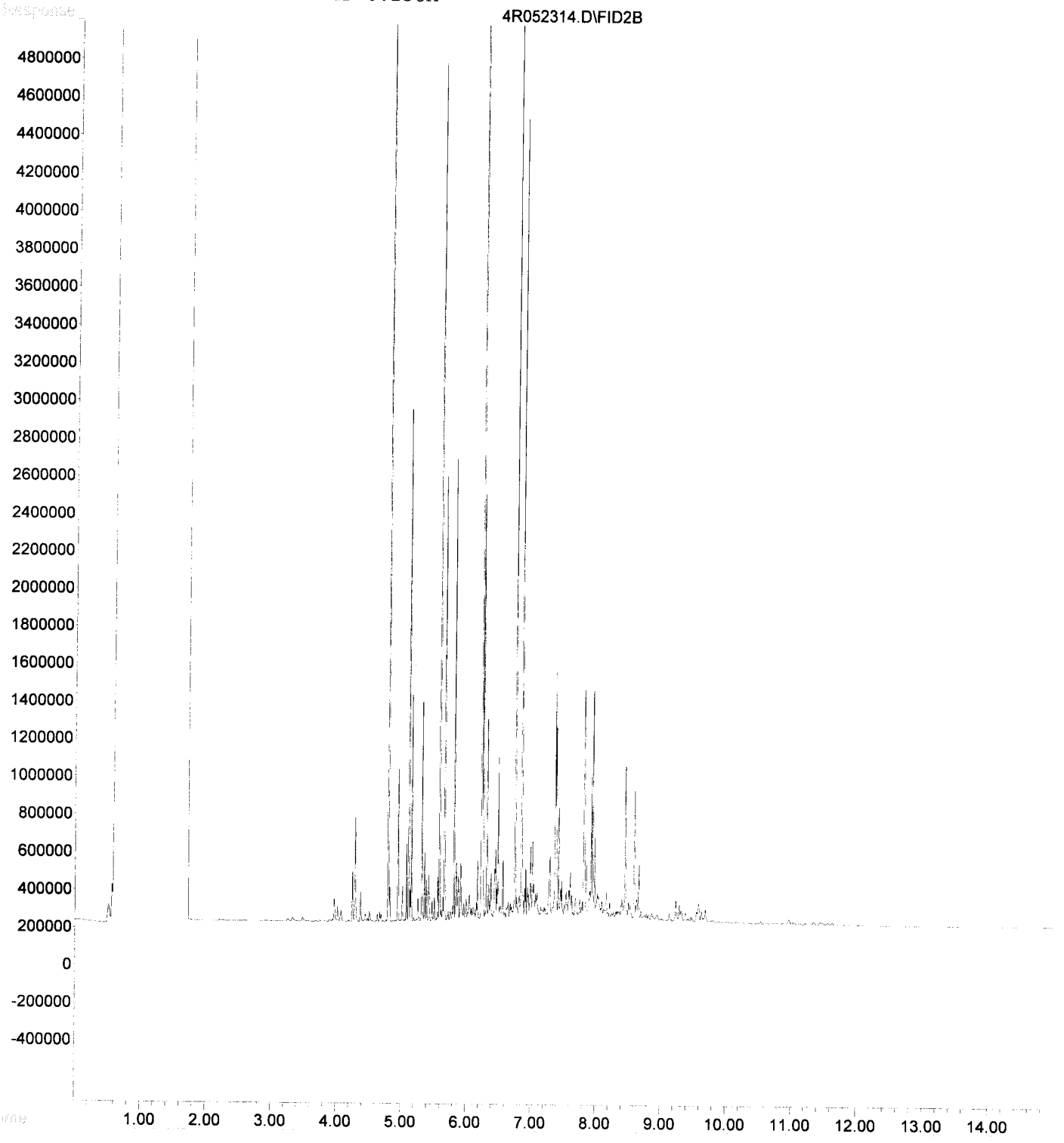
creosote -> PRO/RRO
KEH 5/24/19

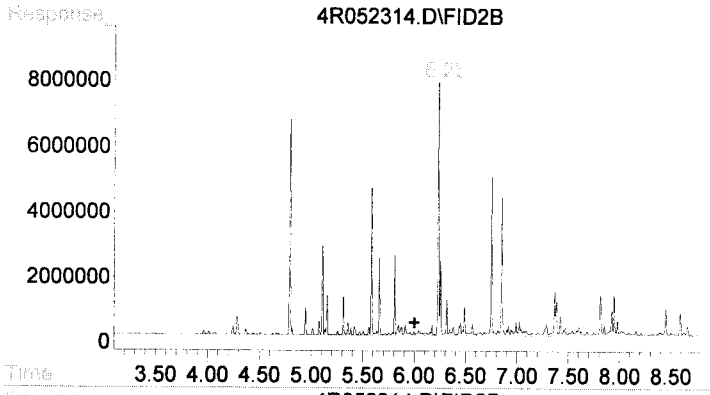
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052314.D Vial: 58
Acq On : 24 May 2019 2:39 Operator: KEH
Sample : A9E0677-01@100 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

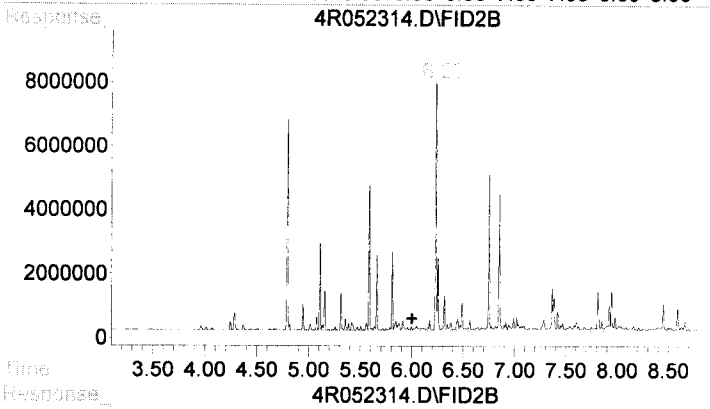
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





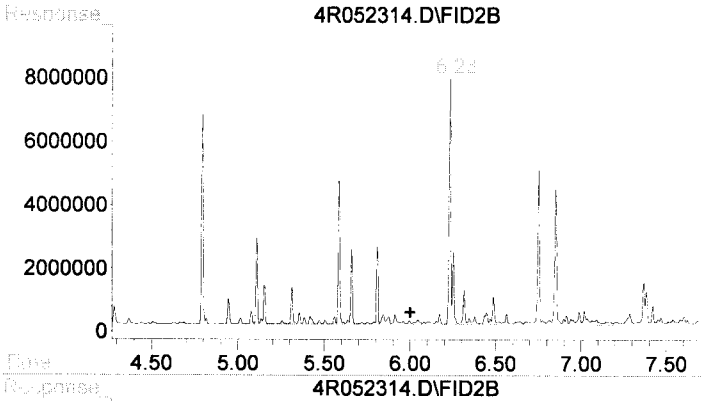
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 531186432
Conc: 465.74 ug/ml m



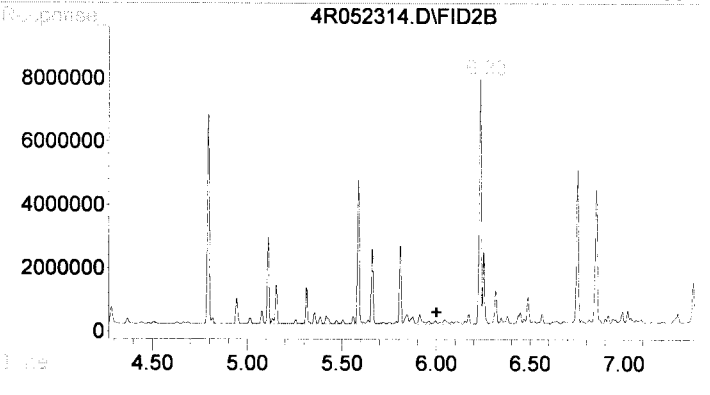
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 531186432
Conc: 465.74 ug/ml m



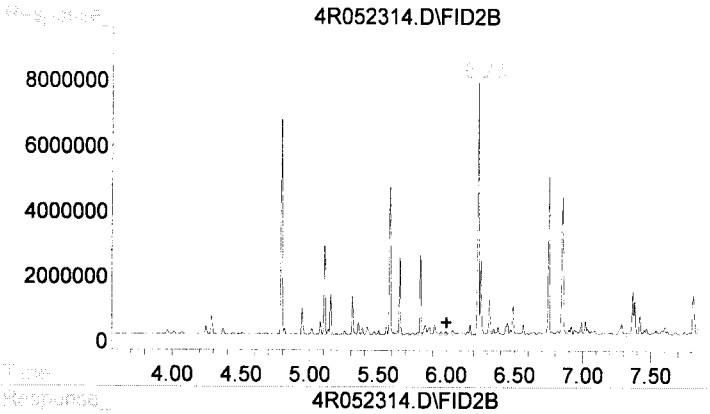
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 403569651
Conc: 353.85 ug/ml m



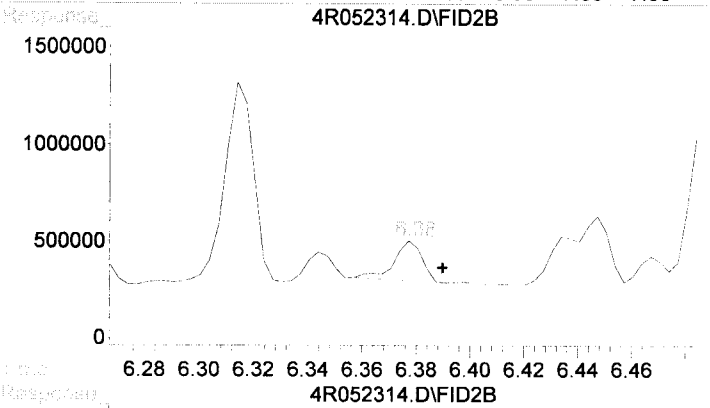
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 379439946
Conc: 443.27 ug/ml m



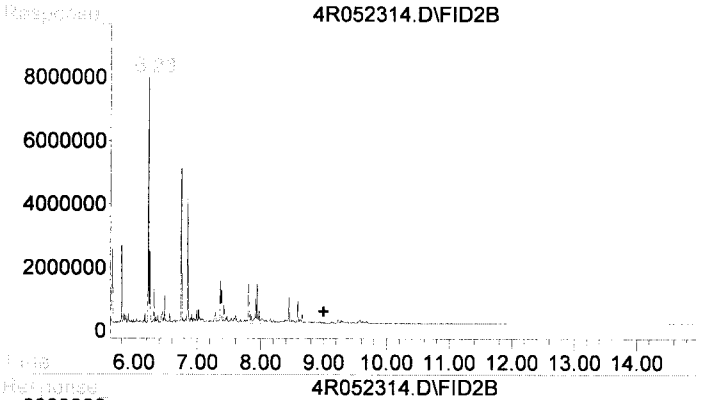
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 427491285
Conc: 405.22 ug/ml m



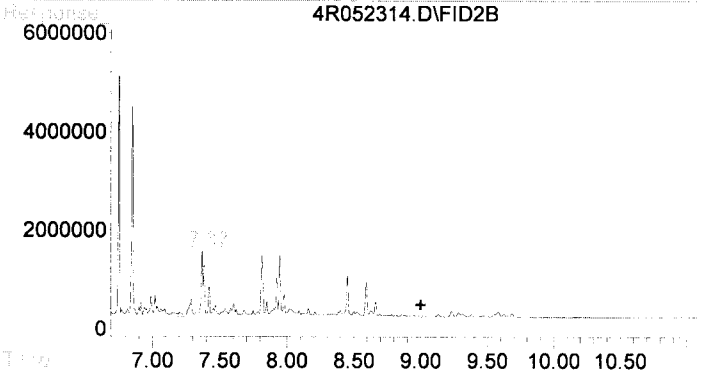
#6 o-Terphenyl

R.T.: 6.379 min
Delta R.T.: -0.011 min
Response: 1435731
Conc: 1.14 ug/ml



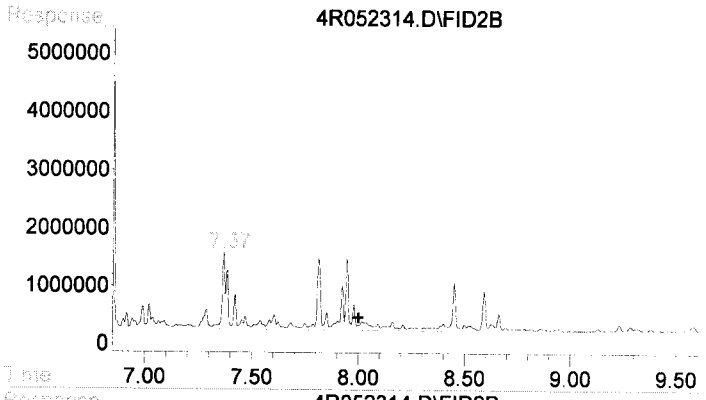
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 390234991
Conc: 371.90 ug/ml m



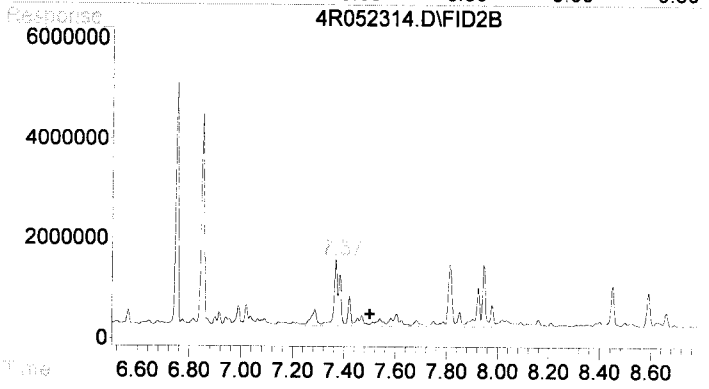
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 160767459
Conc: 153.22 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 127369141
Conc: 200.80 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 108088657
Conc: 162.26 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E23033\4R052316.D
Acq On : 24 May 2019 3:22
Sample : 9E23033-CCV3
Misc :
IntFile : SUR.E

Vial: 59
Operator: KEH
Inst : HP G1530A
Multiplr: 1.00

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 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	921.144	7.9	94	0.00
2	H	Diesel	1000.000	921.144	7.9	94	0.00
3	H	DRO(C12-C24)	1000.000	746.363	25.4#	76	0.00
4	H	CA LUFT DRO (C12-C22)	1000.000	951.569	4.8	95	0.00
5	H	TPHd (C10-C25)	1000.000	943.671	5.6	94	0.00
6	S	o-Terphenyl	-1.000	49.714	0.0	0	0.00
7	H	Oil	-1.000	285.986	0.0	0	0.00
8	H	RRO (C24-C40)	-1.000	18.939	0.0	0	0.00
9	H	TPHmo (C25-C36)	-1.000	17.776	0.0	82	0.00
10	H	CA LUFT ORO (C23-C32)	-1.000	49.466	0.0	88	0.00

KEH 5/24/19

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052316.D Vial: 59
Acq On : 24 May 2019 3:22 Operator: KEH
Sample : 9E23033-CCV3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.38	62717900	49.714	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	1050580449	921.144	ug/ml
2)	H	Diesel	6.00	1050580449	921.144	ug/ml
3)	H	DRO(C12-C24)	6.00	851240366	746.363	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	814550843	951.569	ug/ml
5)	H	TPHd (C10-C25)	6.00	995537022	943.671	ug/ml
7)	H	Oil	9.00	300083153	285.986	ug/ml
8)	H	RRO (C24-C40)	9.00	19872923	18.939	ug/ml
9)	H	TPHmo (C25-C36)	8.00	11275422	17.776	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	32951628	49.466	ug/ml

KEH 5/24/19

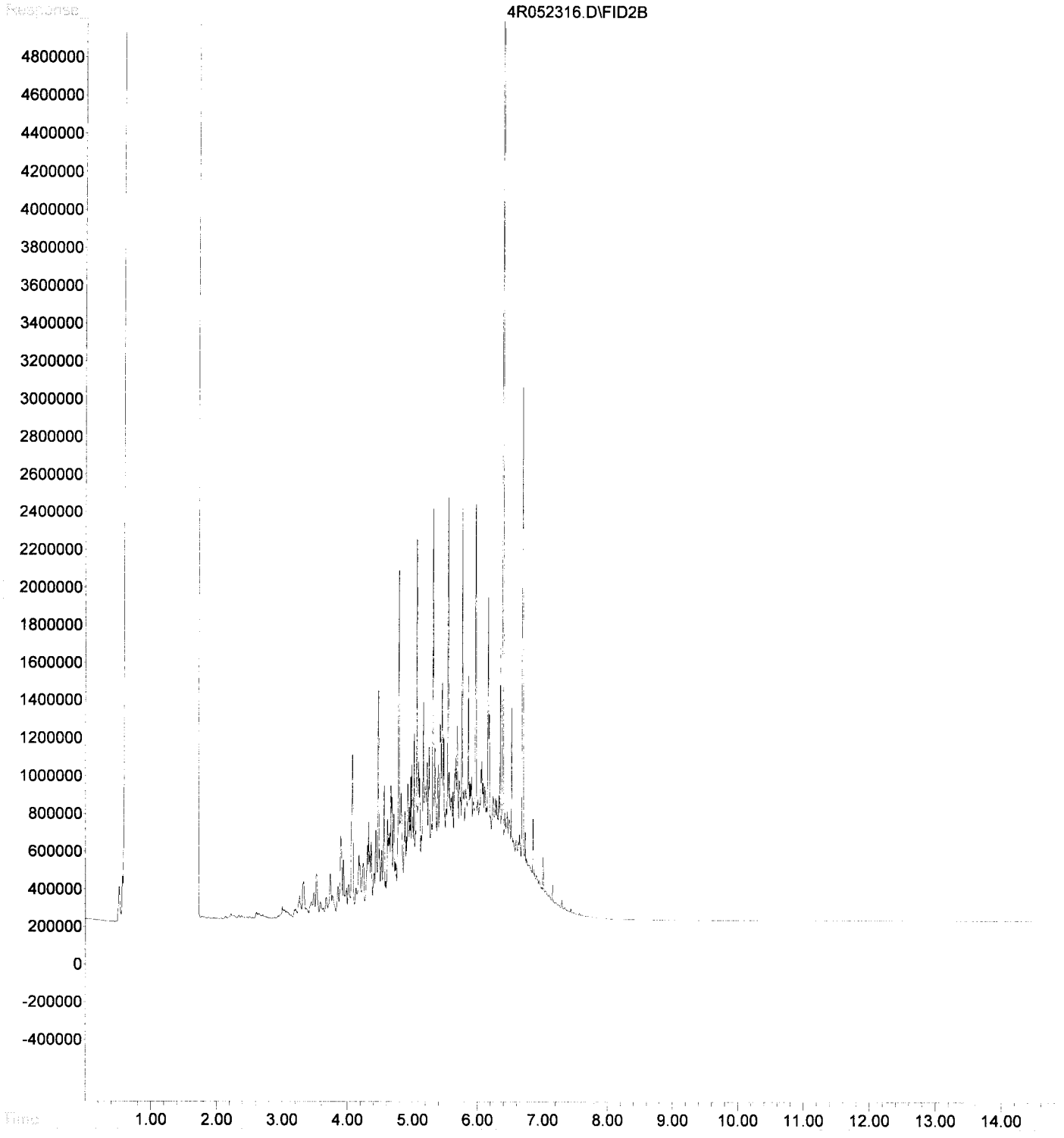
(f)=RT Delta > 1/2 window (m)=manual int.

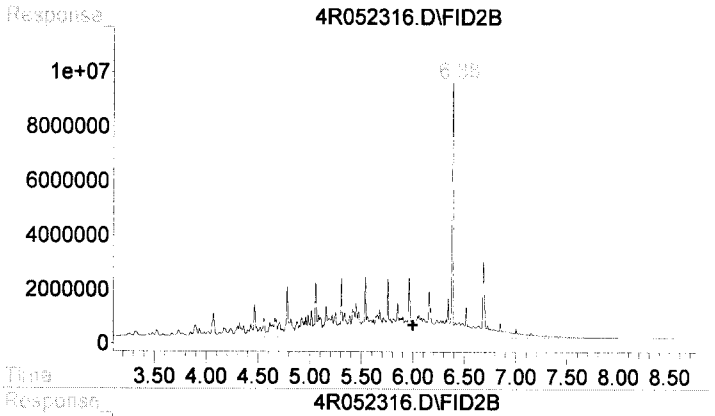
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052316.D Vial: 59
Acq On : 24 May 2019 3:22 Operator: KEH
Sample : 9E23033-CCV3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

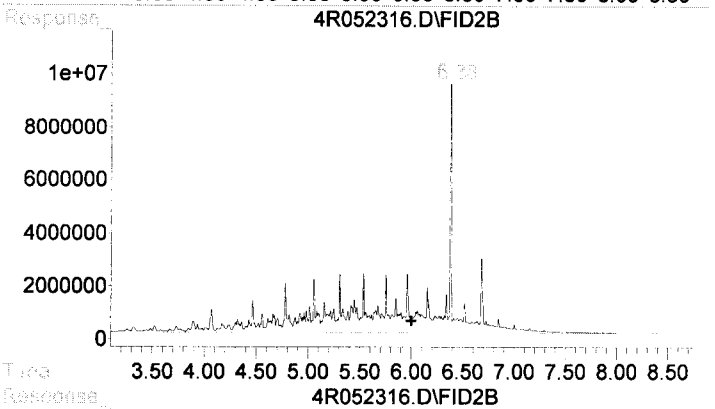
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





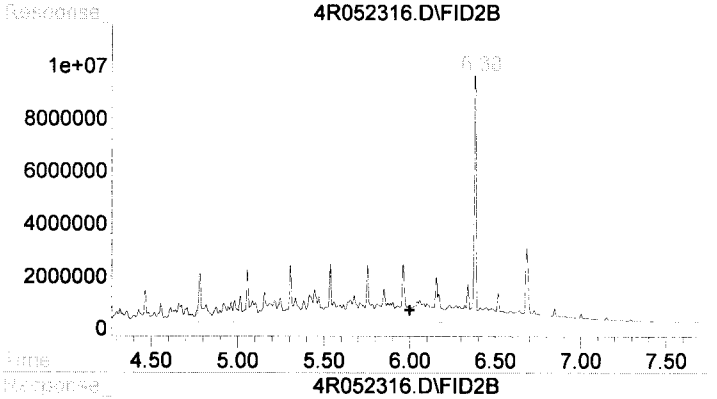
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1050580449
Conc: 921.14 ug/ml m



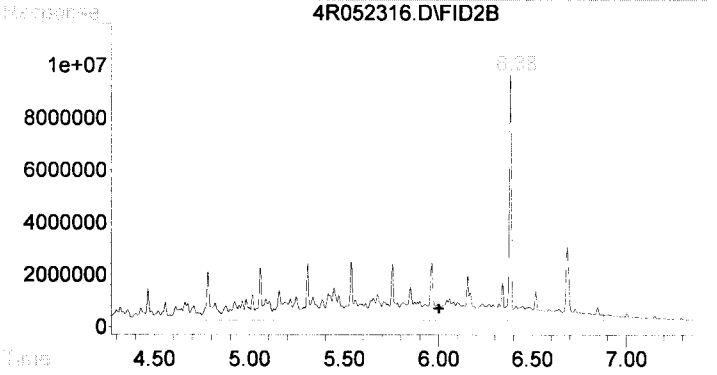
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1050580449
Conc: 921.14 ug/ml m



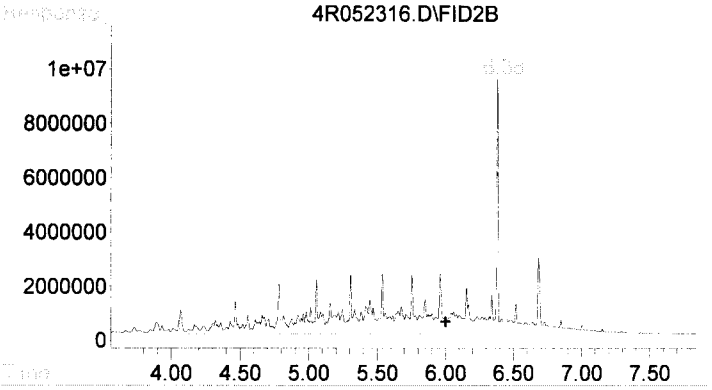
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 851240366
Conc: 746.36 ug/ml m



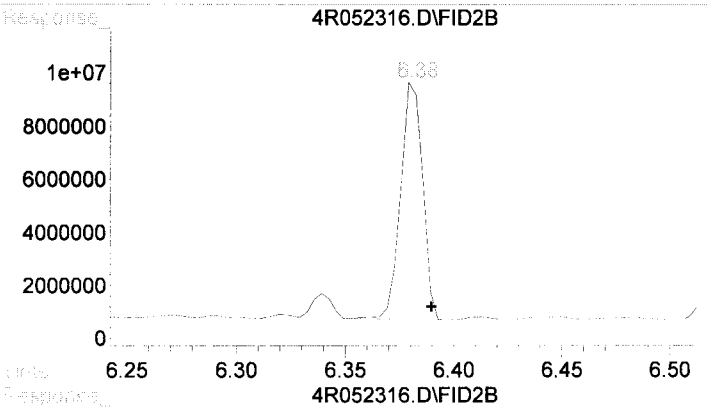
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 814550843
Conc: 951.57 ug/ml m



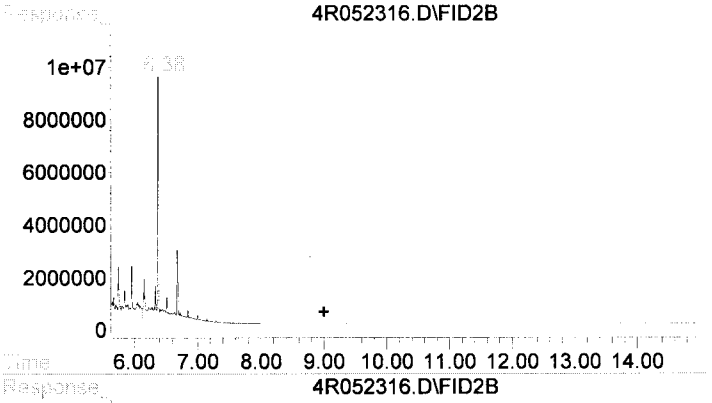
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 995537022
Conc: 943.67 ug/ml m



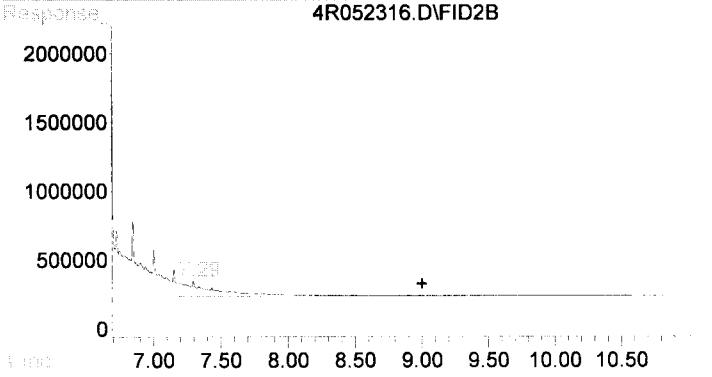
#6 o-Terphenyl

R.T.: 6.382 min
Delta R.T.: -0.008 min
Response: 62717900
Conc: 49.71 ug/ml



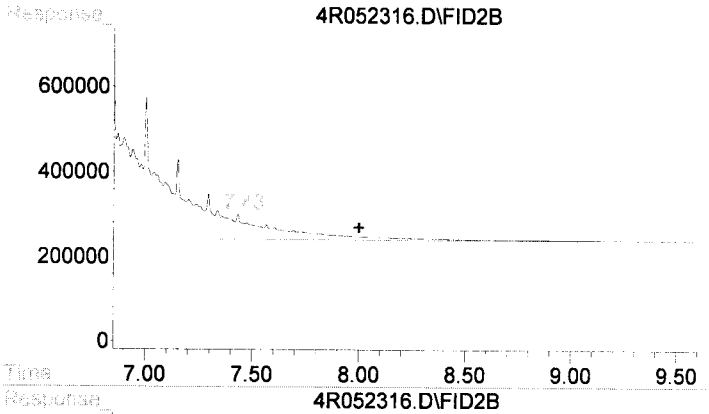
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 300083153
Conc: 285.99 ug/ml m



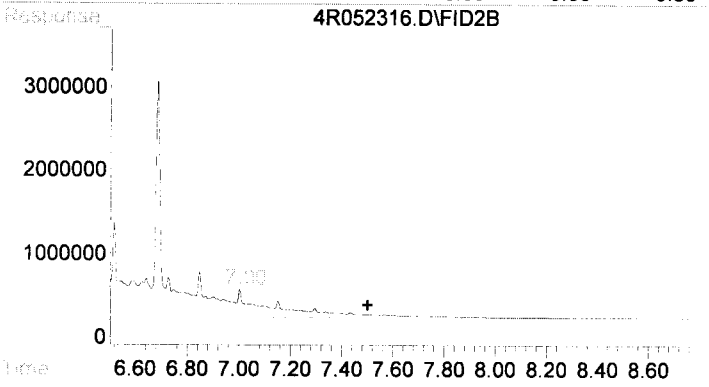
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 19872923
Conc: 18.94 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 11275422
Conc: 17.78 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 32951628
Conc: 49.47 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E23033\4R052317.D Vial: 60
Acq On : 24 May 2019 3:43 Operator: KEH
Sample : 9E23033-CCV4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 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	325.236	0.0	95	0.00
2	H	Diesel	-1.000	325.236	0.0	95	0.00
3	H	DRO(C12-C24)	-1.000	78.671	0.0	23	0.00
4	H	CA LUFT DRO (C12-C22)	-1.000	35.644	0.0	97	0.00
5	H	TPHd (C10-C25)	-1.000	128.182	0.0	98	0.00
6	S	o-Terphenyl	-1.000	47.251	0.0	0	0.00
7	H	Oil	500.000	468.339	6.3	95	0.00
8	H	RRO (C24-C40)	500.000	360.398	27.9#	73	0.00
9	H	TPHmo (C25-C36)	500.000	462.396	7.5	93	0.00
10	H	CA LUFT ORO (C23-C32)	500.000	477.131	4.6	95	0.00

KEH 5/24/19

✓

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052317.D Vial: 60
Acq On : 24 May 2019 3:43 Operator: KEH
Sample : 9E23033-CCV4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.38	59611113	47.251	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	370937249	325.236	ug/ml
2)	H	Diesel	6.00	370937249	325.236	ug/ml
3)	H	DRO(C12-C24)	6.00	89726128	78.671	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	30511471	35.644	ug/ml
5)	H	TPHd (C10-C25)	6.00	135227097	128.182	ug/ml
7)	H	Oil	9.00	491424768	468.339	ug/ml
8)	H	RRO (C24-C40)	9.00	378163054	360.398	ug/ml
9)	H	TPHmo (C25-C36)	8.00	293297509	462.396	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	317842446	477.131	ug/ml

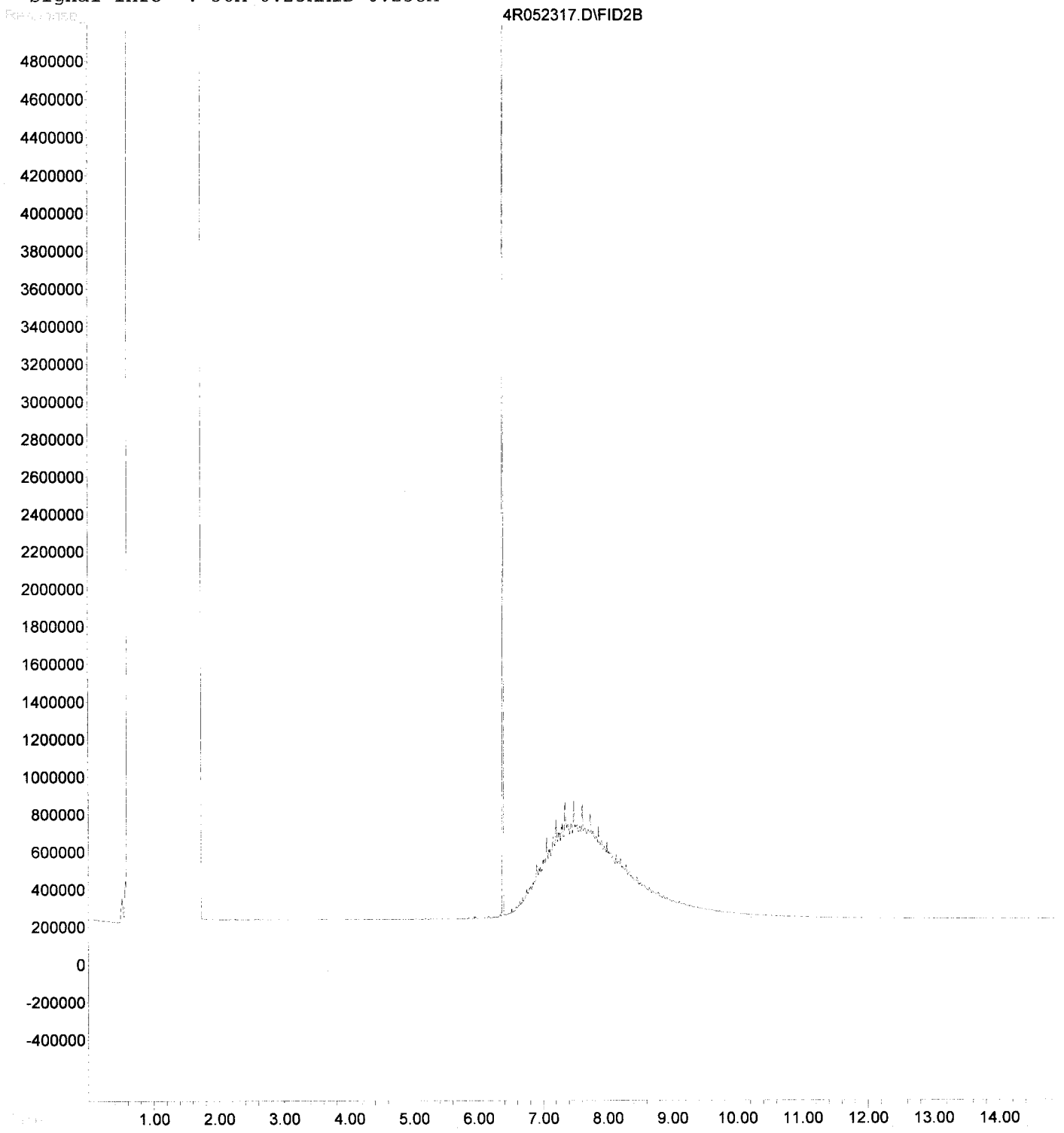
KEH 5/24/19

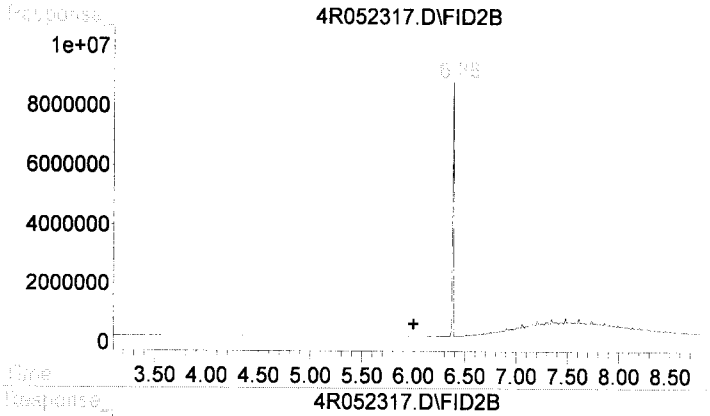
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E23033\4R052317.D Vial: 60
Acq On : 24 May 2019 3:43 Operator: KEH
Sample : 9E23033-CCV4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 24 7:56 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri May 24 07:53:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

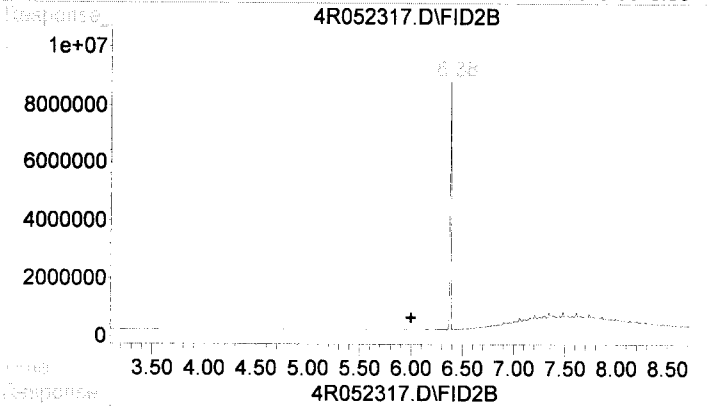
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





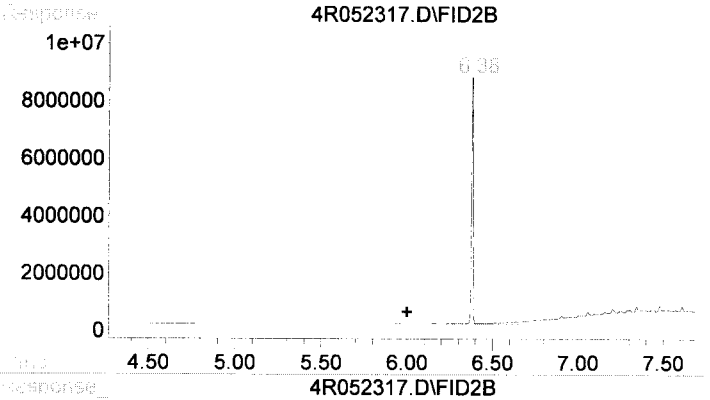
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 370937249
Conc: 325.24 ug/ml m



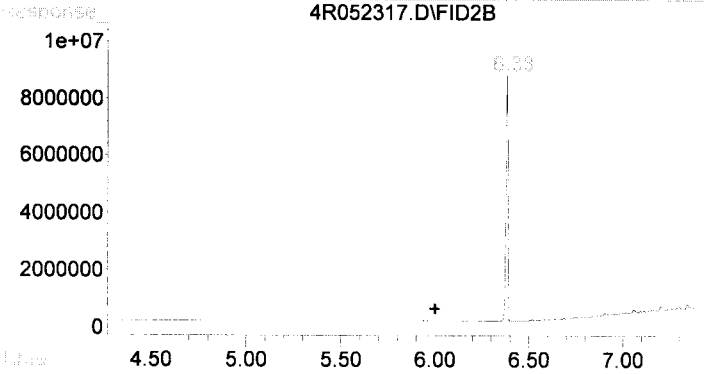
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 370937249
Conc: 325.24 ug/ml m



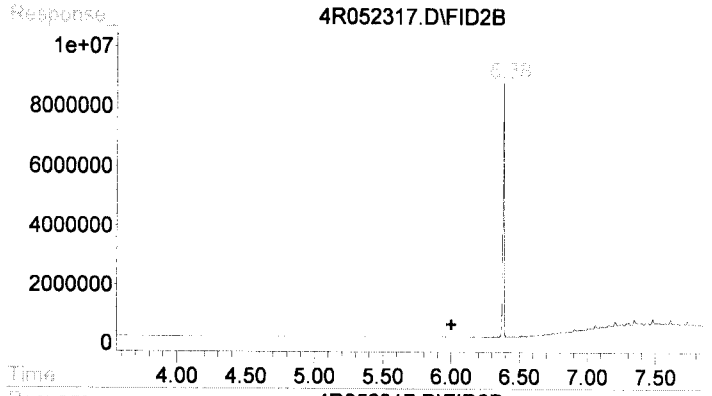
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 89726128
Conc: 78.67 ug/ml m



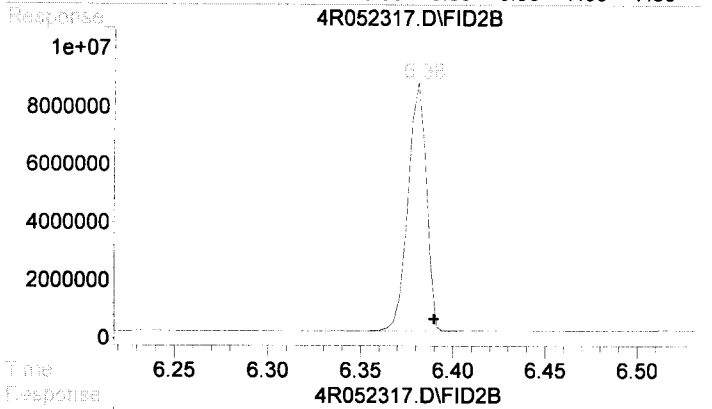
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 30511471
Conc: 35.64 ug/ml m



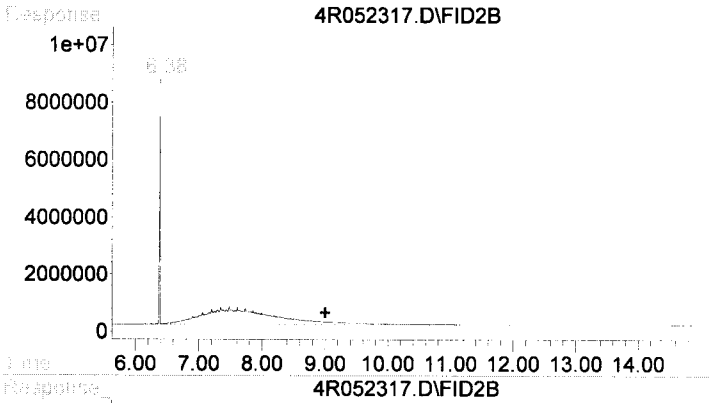
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 135227097
Conc: 128.18 ug/ml m



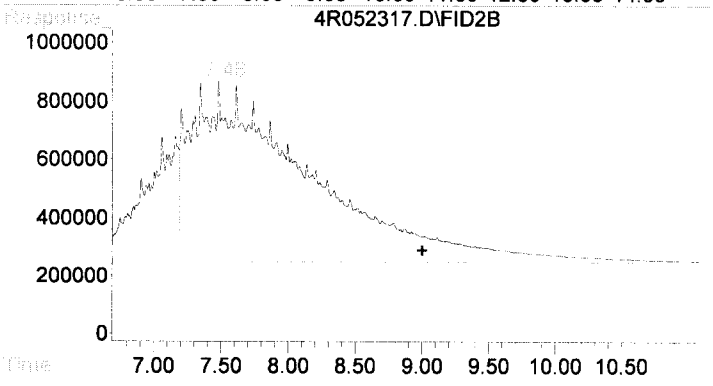
#6 o-Terphenyl

R.T.: 6.382 min
Delta R.T.: -0.008 min
Response: 59611113
Conc: 47.25 ug/ml



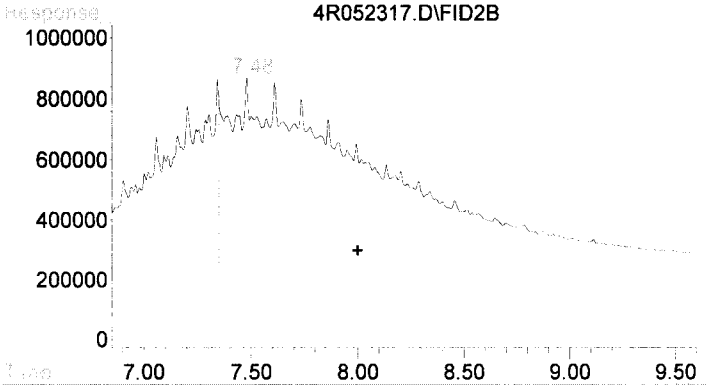
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 491424768
Conc: 468.34 ug/ml m



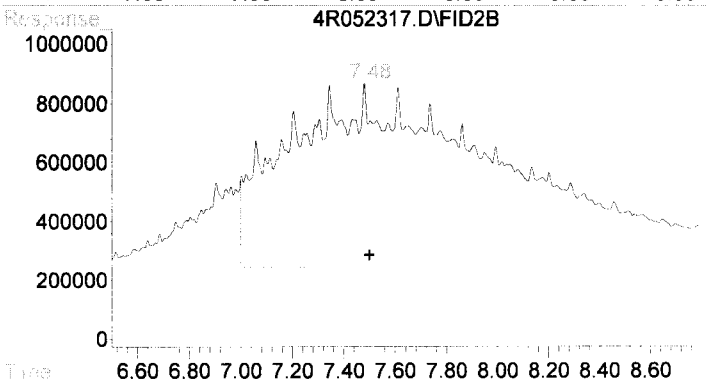
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 378163054
Conc: 360.40 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 293297509
Conc: 462.40 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 317842446
Conc: 477.13 ug/ml m

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

Diesel and /or Oil Hydrocarbons by NWTPH-Dx

Calibration Data

Sequence 9D18031 (Cal ID A9D1904) DUALFID4R

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9D18031**	Instrument:	**DUALFID4R**
Date:	**04/18/19 11:35**	Calibration:	**A9D1904**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9D18031-RES1	Soil	QC	QC				A19C198
2	9D18031-ICB1	Soil	QC	QC				
3	9D18031-CAL1	Soil	QC	QC				A19C305
4	9D18031-CAL2	Soil	QC	QC				A19C306
5	9D18031-CAL3	Soil	QC	QC				A19C307
6	9D18031-CAL4	Soil	QC	QC				A19C308
7	9D18031-CAL5	Soil	QC	QC				A19C309
8	9D18031-CAL6	Soil	QC	QC				A19C310
9	9D18031-CAL7	Soil	QC	QC				A19C311
10	9D18031-CAL8	Soil	QC	QC				A19C204
11	9D18031-CAL9	Soil	QC	QC				A19D191
12	9D18031-CALA	Soil	QC	QC				A19D192
13	9D18031-CALB	Soil	QC	QC				A19D193
14	9D18031-CALC	Soil	QC	QC				A19D194
15	9D18031-CALD	Soil	QC	QC				A19C210
16	9D18031-CALE	Soil	QC	QC				A19C365
17	9D18031-CALF	Soil	QC	QC				A19C366
18	9D18031-CALG	Soil	QC	QC				A19C367
19	9D18031-CALH	Soil	QC	QC				A19C368
20	9D18031-CALI	Soil	QC	QC				A19C373
21	9D18031-CALJ	Soil	QC	QC				A19C370
22	9D18031-IBL1	Soil	QC	QC				
23	9D18031-CALK	Soil	QC	QC				A19C364
24	9D18031-IBL2	Soil	QC	QC				
25	9D18031-ICV1	Soil	QC	QC				A19D271
26	9D18031-ICV2	Soil	QC	QC				A19D272

Data Entered By: kcH 4/19/19

Data Reviewed By: [signature] 4/19/19

Comments:

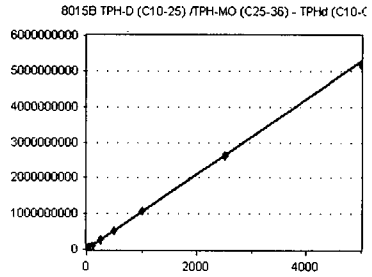
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **8015B TPH-D (C10-25) /TPH·** Instrument Cal ID: **4R90418D.m**

TPHd (C10-C25)

Curve Fit: **AVERAGE RF**

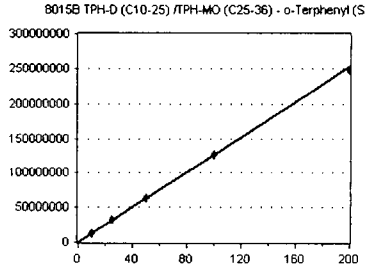


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	!.67869E+07	1071476.000	6.00
9D18031-CAL2	40	208758E+07	1052190.000	6.00
9D18031-CAL3	100	045048E+08	1045048.000	6.00
9D18031-CAL4	250	669609E+08	1067844.000	6.00
9D18031-CAL5	500	295566E+08	1059113.000	6.00
9D18031-CAL6	1000	055236E+09	1055236.000	6.00
9D18031-CAL7	2500	526371E+09	1050548.000	6.00
9D18031-CAL8	5000	191186E+09	1038237.000	6.00

AVE RF **1054961.000** RF RSD **1.05** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

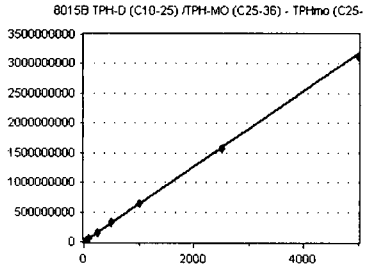


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	!.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

TPHmo (C25-C36)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D18031-CALE	40	664826E+07	666206.500	8.00
9D18031-CALF	80	058855E+07	632356.900	8.00
9D18031-CALG	250	546685E+08	618674.000	8.00
9D18031-CALH	500	143661E+08	628732.300	8.00
9D18031-CALI	1000	364105E+08	636410.500	8.00
9D18031-CALJ	2500	.57951E+09	631804.000	8.00
9D18031-CALK	5000	129553E+09	625910.600	8.00

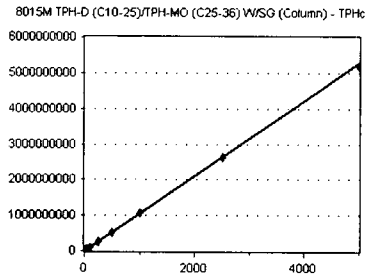
AVE RF **634299.200** RF RSD **2.39** AVE RT **8.00**

Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **8015M TPH-D (C10-25)/TPH-** Instrument Cal ID: **4R90418D.m**

TPHd (C10-C25)

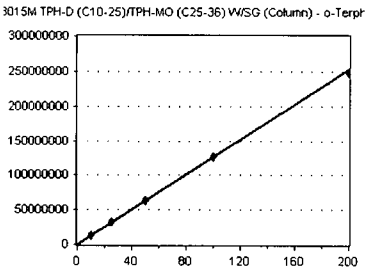


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	!.67869E+07	1071476.000	6.00
9D18031-CAL2	40	208758E+07	1052190.000	6.00
9D18031-CAL3	100	045048E+08	1045048.000	6.00
9D18031-CAL4	250	669609E+08	1067844.000	6.00
9D18031-CAL5	500	295566E+08	1059113.000	6.00
9D18031-CAL6	1000	055236E+09	1055236.000	6.00
9D18031-CAL7	2500	626371E+09	1050548.000	6.00
9D18031-CAL8	5000	191186E+09	1038237.000	6.00

AVE RF **1054961.000** RF RSD **1.05** AVE RT **6.00**

o-Terphenyl (Surr)

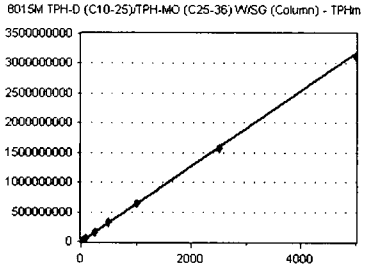


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	!.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

TPHmo (C25-C36)



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D18031-CALE	40	564826E+07	666206.500	8.00
9D18031-CALF	80	058855E+07	632356.900	8.00
9D18031-CALG	250	546685E+08	618674.000	8.00
9D18031-CALH	500	143661E+08	628732.300	8.00
9D18031-CALI	1000	364105E+08	636410.500	8.00
9D18031-CALJ	2500	.57951E+09	631804.000	8.00
9D18031-CALK	5000	129553E+09	625910.600	8.00

AVE RF **634299.200** RF RSD **2.39** AVE RT **8.00**

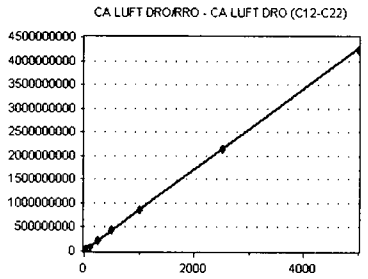
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **CA LUFT DRO/RRO** Instrument Cal ID: **4R90418D.m**

CA LUFT DRO (C12-C22)

Curve Fit: **AVERAGE RF**

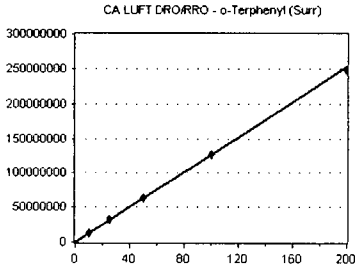


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	1.17237E+07	868948.000	6.00
9D18031-CAL2	40	390809E+07	847702.200	6.00
9D18031-CAL3	100	406751E+07	840675.100	6.00
9D18031-CAL4	250	161329E+08	864531.600	6.00
9D18031-CAL5	500	1.30197E+08	860394.000	6.00
9D18031-CAL6	1000	599682E+08	859968.200	6.00
9D18031-CAL7	2500	144994E+09	857997.600	6.00
9D18031-CAL8	5000	1.23923E+09	847846.000	6.00

AVE RF **856007.800** RF RSD **1.13** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

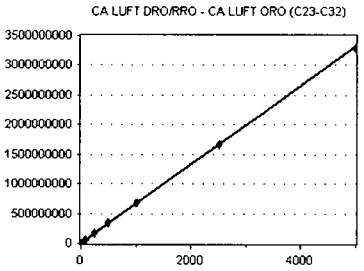


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

CA LUFT ORO (C23-C32)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D18031-CALE	40	517726E+07	654431.500	7.50
9D18031-CALF	80	389286E+07	673660.800	7.50
9D18031-CALG	250	1.65375E+08	661500.100	7.50
9D18031-CALH	500	348875E+08	669775.000	7.50
9D18031-CALI	1000	1.76161E+08	676161.000	7.50
9D18031-CALJ	2500	672335E+09	668934.000	7.50
9D18031-CALK	5000	293064E+09	658612.800	7.50

AVE RF **666153.600** RF RSD **1.22** AVE RT **7.50**

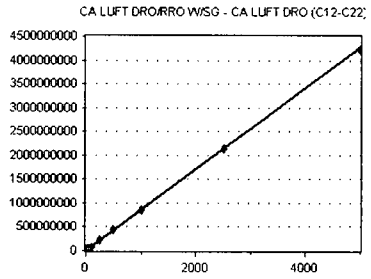
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **CA LUFT DRO/RRO W/SG** Instrument Cal ID: **4R90418D.m**

CA LUFT DRO (C12-C22)

Curve Fit: **AVERAGE RF**

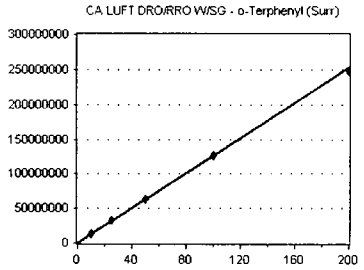


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	1.17237E+07	868948.000	6.00
9D18031-CAL2	40	390809E+07	847702.200	6.00
9D18031-CAL3	100	406751E+07	840675.100	6.00
9D18031-CAL4	250	161329E+08	864531.600	6.00
9D18031-CAL5	500	1.30197E+08	860394.000	6.00
9D18031-CAL6	1000	599682E+08	859968.200	6.00
9D18031-CAL7	2500	144994E+09	857997.600	6.00
9D18031-CAL8	5000	1.23923E+09	847846.000	6.00

AVE RF **856007.800** RF RSD **1.13** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

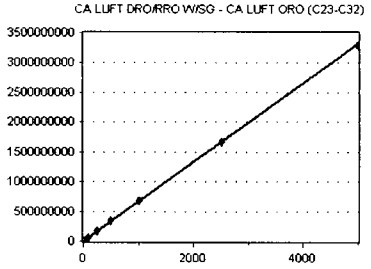


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

CA LUFT ORO (C23-C32)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D18031-CALE	40	517726E+07	654431.500	7.50
9D18031-CALF	80	389286E+07	673660.800	7.50
9D18031-CALG	250	1.65375E+08	661500.100	7.50
9D18031-CALH	500	348875E+08	669775.000	7.50
9D18031-CALI	1000	1.76161E+08	676161.000	7.50
9D18031-CALJ	2500	672335E+09	668934.000	7.50
9D18031-CALK	5000	293064E+09	658612.800	7.50

AVE RF **666153.600** RF RSD **1.22** AVE RT **7.50**

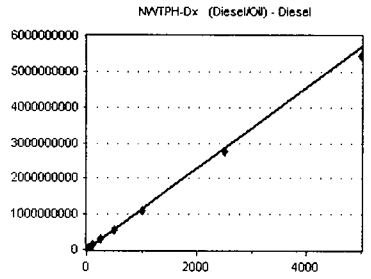
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **NWTPH-Dx (Diesel/Oil)** Instrument Cal ID: **4R90418D.m**

Diesel

Curve Fit: **AVERAGE RF**

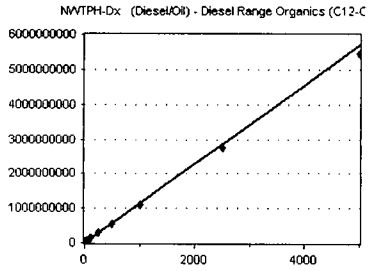


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	589096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

Diesel Range Organics (C12-C24)

Curve Fit: **AVERAGE RF**

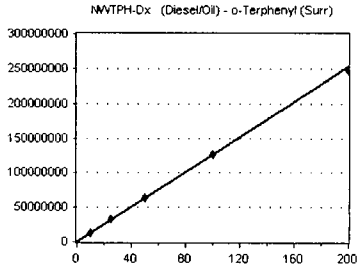


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	589096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

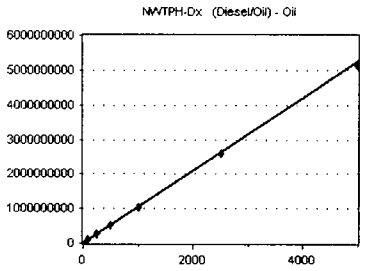


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

Oil

Curve Fit: **AVERAGE RF**

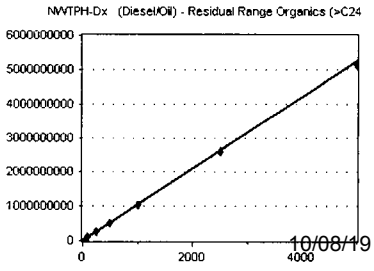


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

Residual Range Organics (>C24)

Curve Fit: **AVERAGE RF** ✓



Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

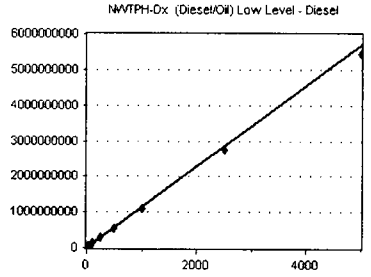
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) Low** Instrument Cal ID: **4R90418D.m**

Diesel

Curve Fit: **AVERAGE RF**

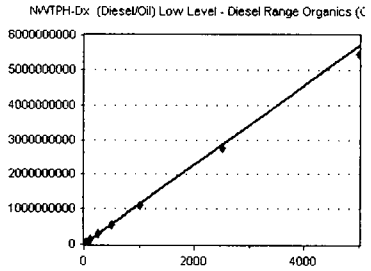


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

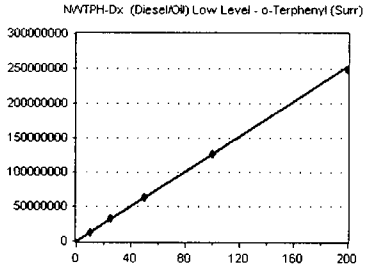


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

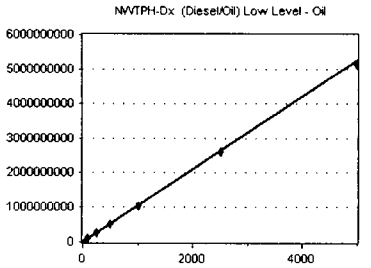


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	2.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

Oil

Curve Fit: **AVERAGE RF**

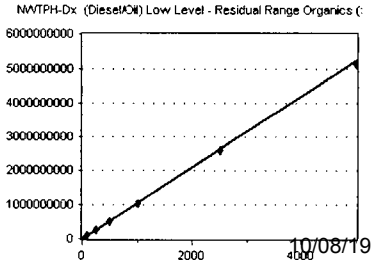


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~927874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	9.86643E+07	1108304.000	9.00
9D18031-CALG	250	506622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~927874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	9.86643E+07	1108304.000	9.00
9D18031-CALG	250	506622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

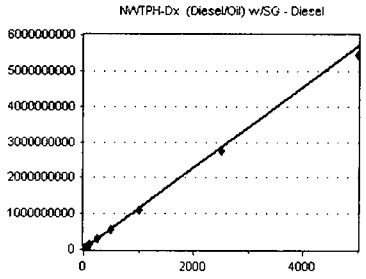
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) w/S** Instrument Cal ID: **4R90418D.m**

Diesel

Curve Fit: **AVERAGE RF**

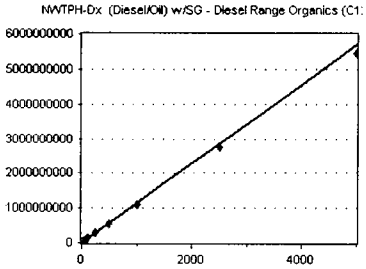


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

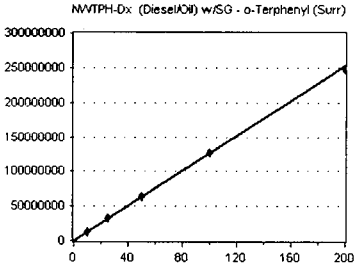


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

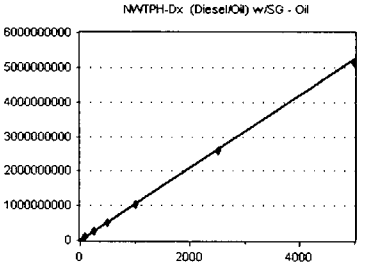


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

Oil

Curve Fit: **AVERAGE RF**

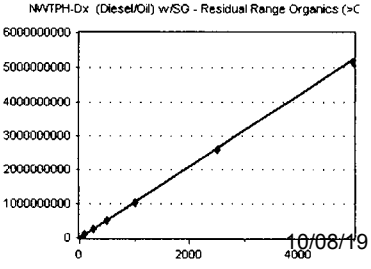


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	1.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	1.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

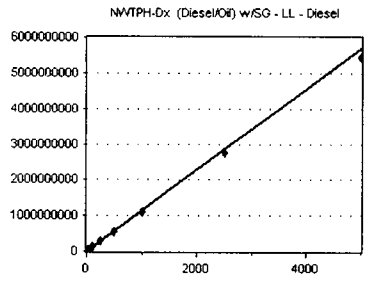
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) w/S** Instrument Cal ID: **4R90418D.m**

Diesel

Curve Fit: **AVERAGE RF**

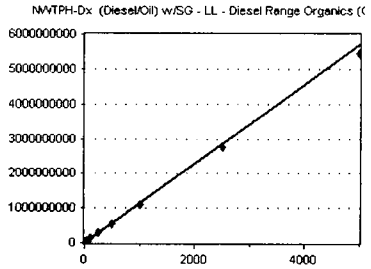


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

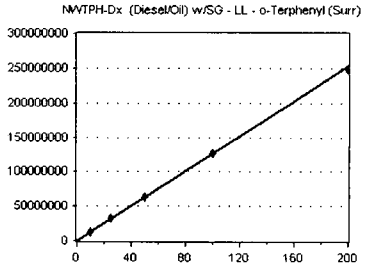


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

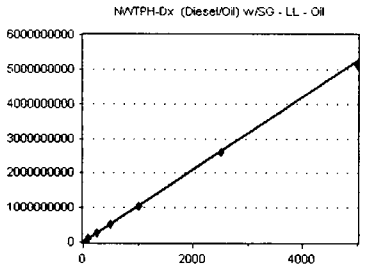


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	2.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

Oil

Curve Fit: **AVERAGE RF**

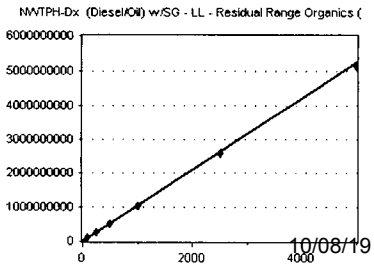


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	1.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	1.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

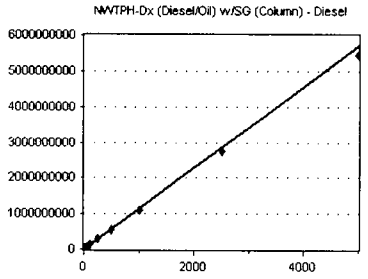
Element Calibration Review Sheet

Calibration ID: **A9D1904** Instrument: **DUALFID4R** Calibration Date: **04/19/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) w/SG** Instrument Cal ID: **4R90418D.m**

Diesel

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
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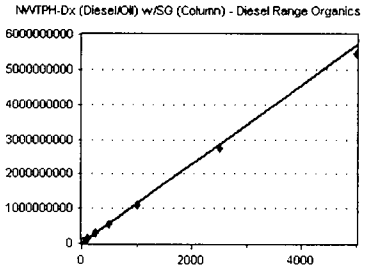
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

Diesel Range Organics (C12-C24)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
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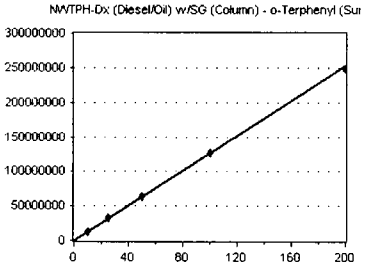
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	1113983.000	6.00
9D18031-CAL7	2500	765587E+09	1106235.000	6.00
9D18031-CAL8	5000	461189E+09	1092238.000	6.00

AVE RF **1140517.000** RF RSD **4.20** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

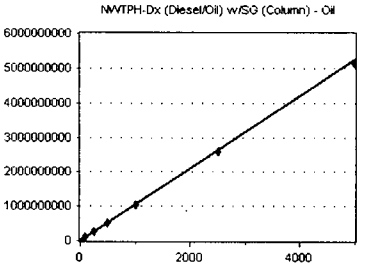


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	2.48367E+08	1241835.000	6.40

AVE RF **1261586.000** RF RSD **1.02** AVE RT **6.39**

Oil

Curve Fit: **AVERAGE RF**

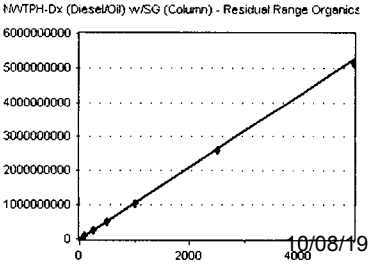


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~927874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	9.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

Residual Range Organics (>C24)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~927874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	9.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	2500	583642E+09	1033457.000	9.00
9D18031-CALK	5000	131005E+09	1026201.000	9.00

AVE RF **1049293.000** RF RSD **2.83** AVE RT **9.00**

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D18031 **Seq. Date: 4/19/2019**

SEQUENCE LOG

SampleID	Analysis	Matrix	STDID	Analyzed
9D18031-ICB1	8015B TPH-D (C10-25) /TPH-MO	Soil		4/18/2019 5:05:00PM
"	+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 (	"		"
9D18031-CAL1	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C305	4/18/2019 5:26:00PM
"	+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	"
9D18031-CAL2	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C306	4/18/2019 5:48:00PM
"	+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	"
9D18031-CAL3	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C307	4/18/2019 6:10:00PM
"	+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	"
9D18031-CAL4	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C308	4/18/2019 6:31:00PM
"	+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: 9D18031 **Seq. Date: 4/19/2019**

9D18031-CAL5	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C309	4/18/2019	6:53:00PM
"	+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		"
9D18031-CAL6	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C310	4/18/2019	7:14:00PM
"	+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		"
9D18031-CAL7	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C311	4/18/2019	7:36:00PM
"	+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		"
9D18031-CAL8	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C204	4/18/2019	7:57:00PM
"	+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		"
9D18031-CAL9	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D191	4/18/2019	8:19:00PM
"	+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		"
9D18031-CALA	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D192	4/18/2019	8:40:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D192		"
"	+CA LUFT DRO/RRO	"	A19D192		"
"	+CA LUFT DRO/RRO W/SG	"	A19D192		"

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D18031 **Seq. Date: 4/19/2019**

"	+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		"
9D18031-CALB	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D193	4/18/2019	9:02:00PM
"	+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		"
9D18031-CALC	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D194	4/18/2019	9:23:00PM
"	+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		"
9D18031-CALD	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C210	4/18/2019	9:45:00PM
"	+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		"
9D18031-CALE	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C365	4/18/2019	10:06:00PM
"	+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		"
9D18031-CALF	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C366	4/18/2019	10:28:00PM
"	+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		"

"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C366	"
9D18031-CALG	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C367	4/18/2019 10:49:00PM
"	+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	"
9D18031-CALH	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C368	4/18/2019 11:10:00PM
"	+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	"
9D18031-CALI	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C373	4/18/2019 11:31:00PM
"	+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	"
9D18031-CALJ	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C370	4/18/2019 11:53:00PM
"	+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	"
9D18031-CALK	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C364	4/19/2019 12:36:00AM
"	+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	"
9D18031-ICV1	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D271	4/19/2019 1:18:00AM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D271	"
"	+CA LUFT DRO/RRO	"	A19D271	"

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D18031 **Seq. Date: 4/19/2019**

"	+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		"
9D18031-ICV2	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D272	4/19/2019 1:40:00AM	
"	+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: **A9D1904** Instrument: **DUALFID4R**

8015B TPH-D (C10-25) /TPH- Sequence: **9D18031** Matrix: **Soil**

9D18031-CAL1	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CAL2	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CAL3	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CAL4	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CAL5	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CAL6	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CAL7	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CAL8	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-CALJ	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D18031-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: 9D18031 Seq. Date: 4/19/2019

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: **A9D1904** Instrument: **DUALFID4R**

NWTPH-Dx (Diesel/Oil) w/SG Sequence: **9D18031** Matrix: **Soil**

9D18031-ICV1	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**
9D18031-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 : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 2019
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	D1	25.00	0.00	G:\4\DATA\2019-04\9D18031\4R041805.D
2	D2	40.00	0.00	G:\4\DATA\2019-04\9D18031\4R041806.D
3	D3	100.00	0.00	G:\4\DATA\2019-04\9D18031\4R041807.D
4	D4	250.00	0.00	G:\4\DATA\2019-04\9D18031\4R041808.D
5	D5	500.00	0.00	G:\4\DATA\2019-04\9D18031\4R041809.D
6	D6	1000.00	0.00	G:\4\DATA\2019-04\9D18031\4R041810.D
7	D7	2500.00	0.00	G:\4\DATA\2019-04\9D18031\4R041811.D
8	D8	5000.00	0.00	G:\4\DATA\2019-04\9D18031\4R041812.D
9	S1	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041813.D
10	S2	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041814.D
11	S3	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041815.D
12	S4	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041816.D
13	S5	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041817.D
14	O1	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041818.D
15	O2	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041819.D
16	O3	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041820.D
17	O4	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041821.D
18	O5	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041822.D
19	O6	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041823.D
20	O7	-1.00	0.00	G:\4\DATA\2019-04\9D18031\4R041825.D

A9D1904

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#	ID	Update Time	Quant Time	Acquisition Time
1	D1	Apr 19 14:40 2019	Apr 19 14:19 2019	18 Apr 2019 17:26
2	D2	Apr 19 14:40 2019	Apr 19 14:20 2019	18 Apr 2019 17:48
3	D3	Apr 19 14:41 2019	Apr 19 14:20 2019	18 Apr 2019 18:10
4	D4	Apr 19 14:41 2019	Apr 19 14:21 2019	18 Apr 2019 18:31
5	D5	Apr 19 14:41 2019	Apr 19 14:21 2019	18 Apr 2019 18:53
6	D6	Apr 19 14:41 2019	Apr 19 14:22 2019	18 Apr 2019 19:14
7	D7	Apr 19 14:41 2019	Apr 19 14:22 2019	18 Apr 2019 19:36
8	D8	Apr 19 14:42 2019	Apr 19 14:23 2019	18 Apr 2019 19:57
9	S1	Apr 19 14:42 2019	Apr 19 14:24 2019	18 Apr 2019 20:19
10	S2	Apr 19 14:42 2019	Apr 19 14:24 2019	18 Apr 2019 20:40
11	S3	Apr 19 14:43 2019	Apr 19 14:24 2019	18 Apr 2019 21:02
12	S4	Apr 19 14:44 2019	Apr 19 14:24 2019	18 Apr 2019 21:23
13	S5	Apr 19 14:44 2019	Apr 19 14:24 2019	18 Apr 2019 21:45
14	O1	Apr 19 14:44 2019	Apr 19 14:25 2019	18 Apr 2019 22:06
15	O2	Apr 19 14:44 2019	Apr 19 14:25 2019	18 Apr 2019 22:28
16	O3	Apr 19 14:45 2019	Apr 19 14:26 2019	18 Apr 2019 22:49
17	O4	Apr 19 14:45 2019	Apr 19 14:27 2019	18 Apr 2019 23:10
18	O5	Apr 19 14:45 2019	Apr 19 14:27 2019	18 Apr 2019 23:31
19	O6	Apr 19 14:45 2019	Apr 19 14:28 2019	18 Apr 2019 23:53
20	O7	Apr 19 14:46 2019	Apr 19 14:28 2019	19 Apr 2019 00:36

4R90418D.M Fri Apr 19 14:55:09 2019 SV-GCMS3

Response Factor Report HP G1530A

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 2019

Calibration Files
D1 =4R041805.D D2 =4R041806.D D3 =4R041807.D
D4 =4R041808.D D5 =4R041809.D D6 =4R041810.D

		Compound	D1	D2	D3	D4	D5	D6	Avg		%RSD
1)	H	Mineral Oil	1.243	1.172	1.136	1.141	1.120	1.114	1.141	E6	4.20
2)	H	Diesel	1.243	1.172	1.136	1.141	1.120	1.114	1.141	E6	4.20
3)	H	DRO(C12-C24)	1.243	1.172	1.136	1.141	1.120	1.114	1.141	E6	4.20
4)	H	CA LUFT DRO (C12-C2	8.689	8.477	8.407	8.645	8.604	8.600	8.560	E5	1.13
5)	H	TPHd (C10-C25)	1.071	1.052	1.045	1.068	1.059	1.055	1.055	E6	1.05
6)	S	o-Terphenyl							1.262	E6	1.02
7)	H	Oil							1.049	E6	2.83
8)	H	RRO (C24-C40)							1.049	E6	2.83
9)	H	TPHmo (C25-C36)							6.343	E5	2.39
10)	H	CA LUFT ORO (C23-C3							6.662	E5	1.22

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(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report HP G1530A

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 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	6.39	1.000	A	A	R
7	H	Oil	9.00	1.000	A	A	A
8	H	RRO (C24-C40)	9.00	1.000	A	A	A
9	H	TPHmo (C25-C36)	8.00	1.000	A	A	A
10	H	CA LUFT ORO (C23-C32)	7.50	1.000	A	A	A

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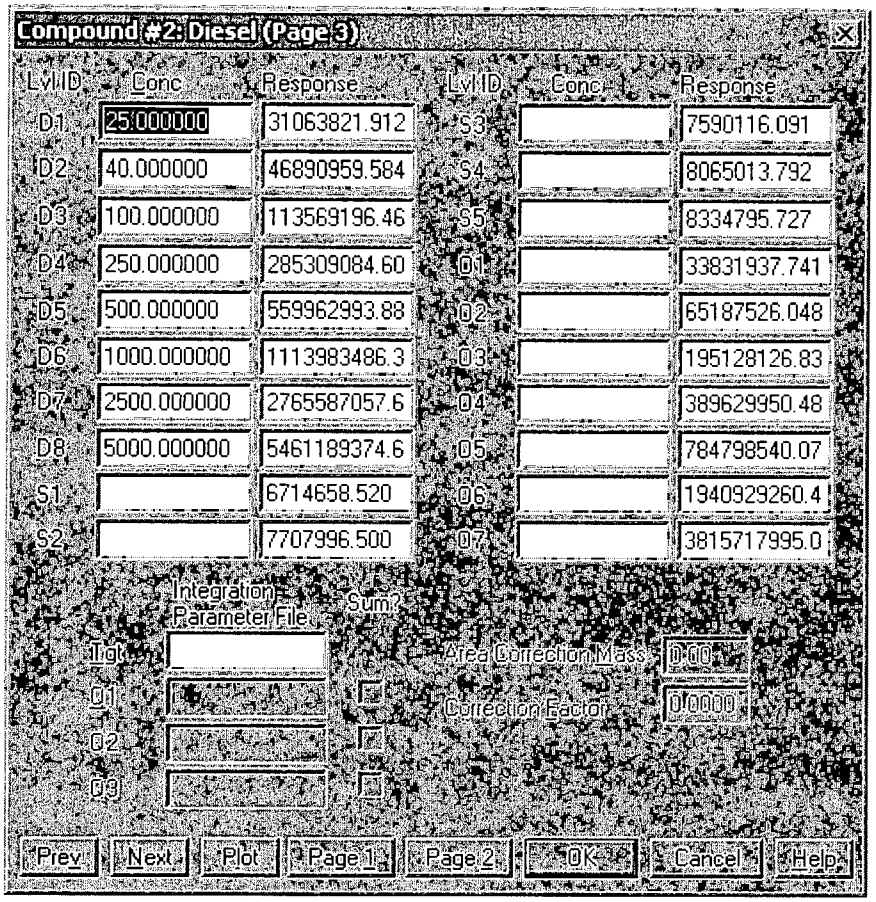
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

4R90418D.M Fri Apr 19 14:56:04 2019 SV-GCMS3


Compound #2: Diesel (Page 3)
Lvl ID
Conc
Response
D1 25.000000 31063821.912
D2 40.000000 46890959.584
D3 100.000000 113569196.46
D4 250.000000 285309084.60
D5 500.000000 559962993.88
D6 1000.000000 1113983486.3
D7 2500.000000 2765587057.6
D8 5000.000000 5461189374.6
S1 6714658.520
S2 7707996.500
S3 7590116.091
S4 8065013.792
S5 8334795.727
Q1 33831937.741
Q2 65187526.048
Q3 195128126.83
Q4 389629950.48
Q5 784798540.07
Q6 1940929260.4
Q7 3815717995.0
Integration Parameter File
Sum?
Lgt
Q1
Q2
Q3
Area Correction Mass
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Correction Factor
0.0000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

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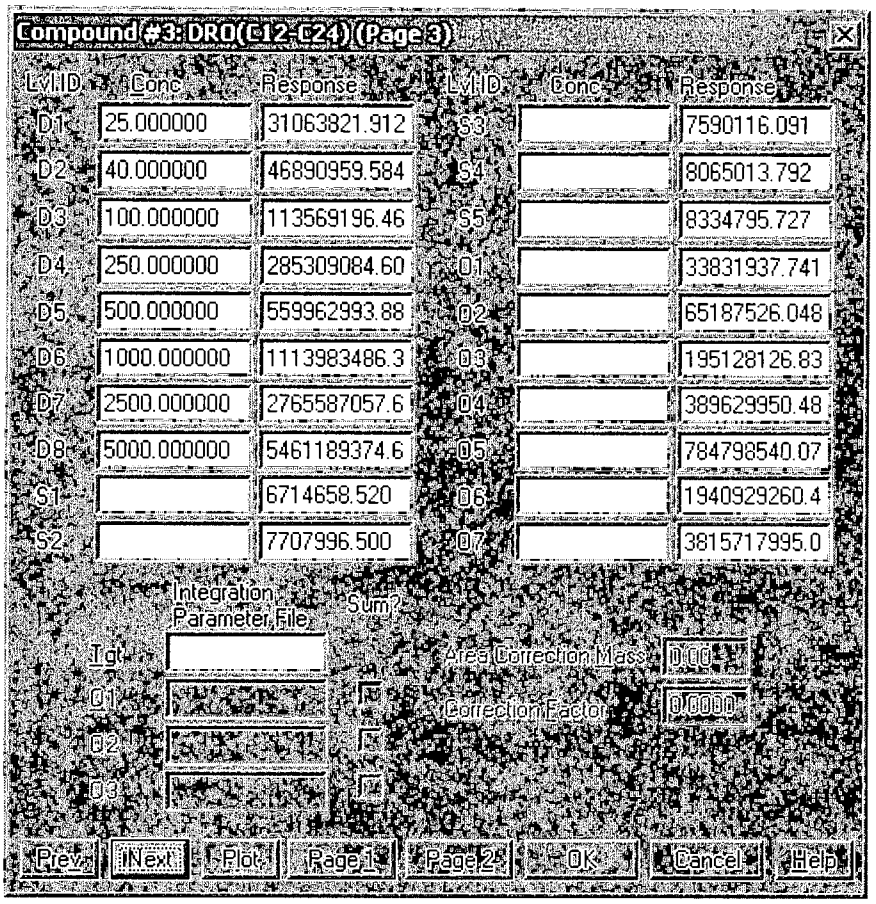
Compound #3: DRO(C12-C24) (Page 3)
Lvl ID
Conc
Response
D1 25.000000 31063821.912
D2 40.000000 46890959.584
D3 100.000000 113569196.46
D4 250.000000 285309084.60
D5 500.000000 559962993.88
D6 1000.000000 1113983486.3
D7 2500.000000 2765587057.6
D8 5000.000000 5461189374.6
S1 6714658.520
S2 7707996.500
S3 7590116.091
S4 8065013.792
S5 8334795.727
O1 33831937.741
O2 65187526.048
O3 195128126.83
O4 389629950.48
O5 784798540.07
O6 1940929260.4
O7 3815717995.0
Integration Parameter File
Sum?
Tgt
O1
O2
O3
Area Correction Mass
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Correction Factor
0.0000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

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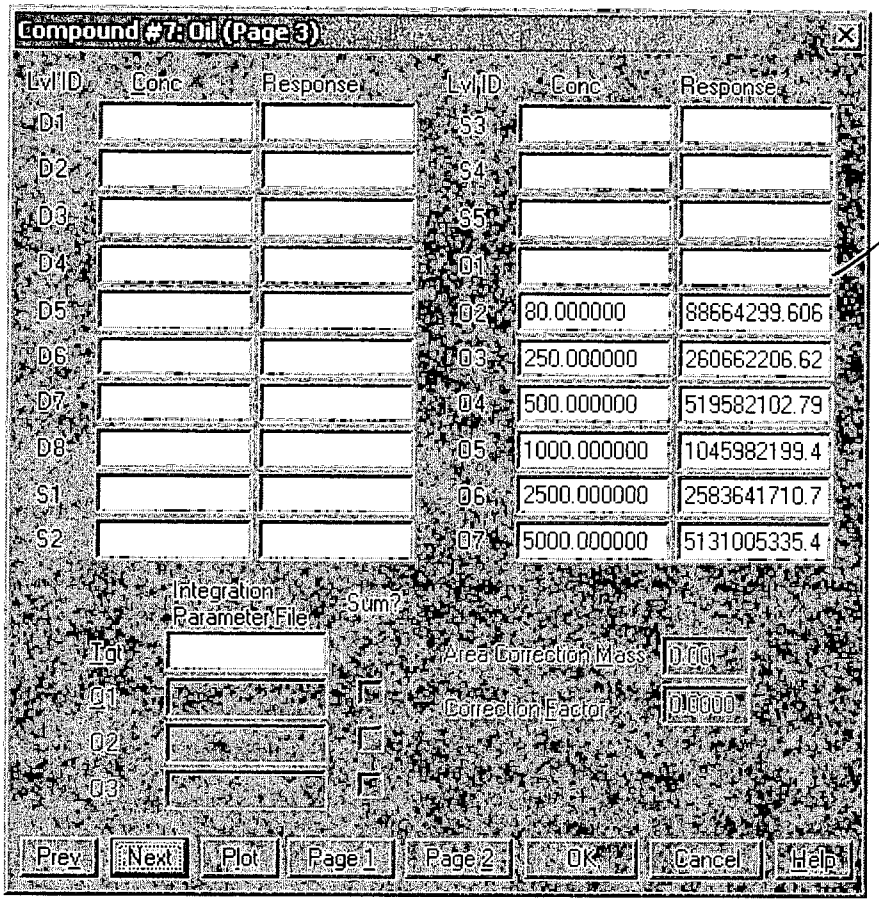
Compound #7: Oil (Page 3)
Lvl ID
Conc
Response
Lvl ID
Conc
Response
D1
D2
D3
D4
D5
D6
D7
D8
S1
S2
S3
S4
S5
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Q2
Q3
Q4
Q5
Q6
Q7
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250.000000
260662206.62
500.000000
519582102.79
1000.000000
1045982199.4
2500.000000
2583641710.7
5000.000000
5131005335.4
Integration Parameter File
Sum?
Tgt
Q1
Q2
Q3
Area Correction Mass
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Correction Factor
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Page 1
Page 2
OK
Cancel
Help

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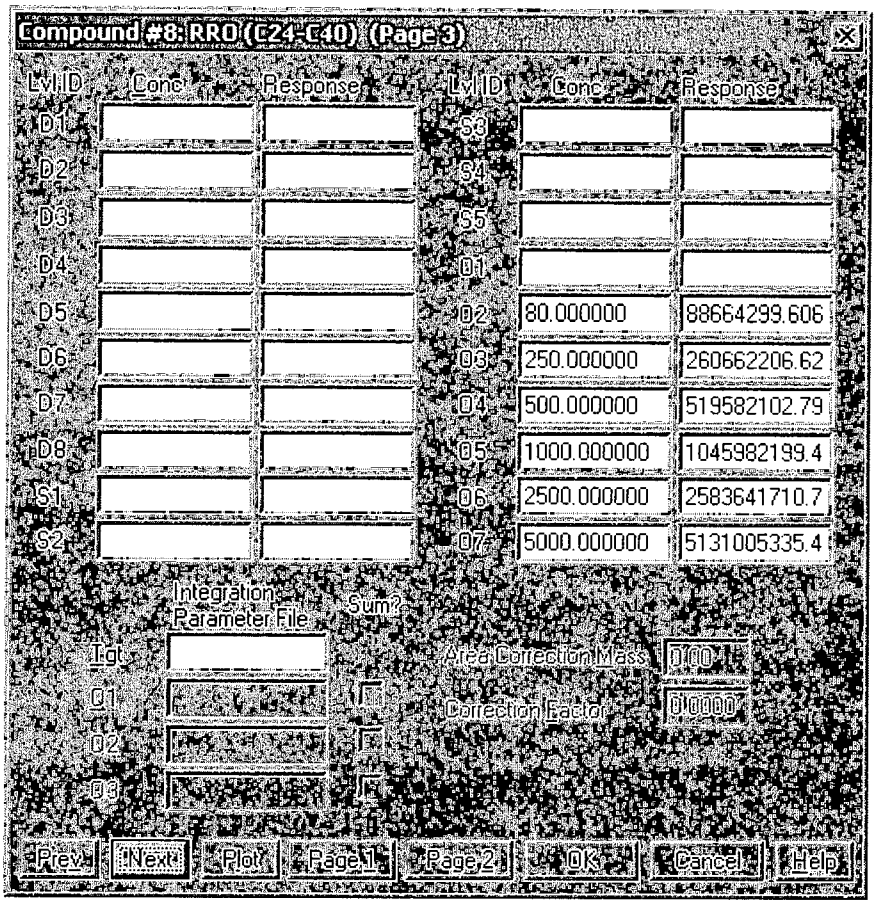
Compound #8: RRO (C24-C40) (Page 3)
Lvl ID
Conc
Response
D1
D2
D3
D4
D5
D6
D7
D8
S1
S2
Lvl ID
Conc
Response
S3
S4
S5
01
02
80.000000
88664299.606
03
250.000000
260662206.62
04
500.000000
519582102.79
05
1000.000000
1045982199.4
06
2500.000000
2583641710.7
07
5000.000000
5131005335.4
Integration Parameter File
Sum?
Tgt
Area Correction Mass
0.0 lb
01
Correction Factor
1.0000
02
03
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

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✓

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\REQUANTR\4R041804.D Vial: 100
Acq On : 18 Apr 2019 17:05 Operator: KEH
Sample : 9D18031-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:57 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	3973901	3.484	ug/ml
2)	H	Diesel	6.00	3973901	3.484	ug/ml
3)	H	DRO(C12-C24)	6.00	3973901	3.484	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1244158	1.453	ug/ml
5)	H	TPHd (C10-C25)	6.00	2193902	2.080	ug/ml
7)	H	Oil	9.00	7733397	7.370	ug/ml
8)	H	RRO (C24-C40)	9.00	7733397	7.370	ug/ml
9)	H	TPHmo (C25-C36)	8.00	2558020	4.033	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1594461	2.394	ug/ml

< 1/2 MRL

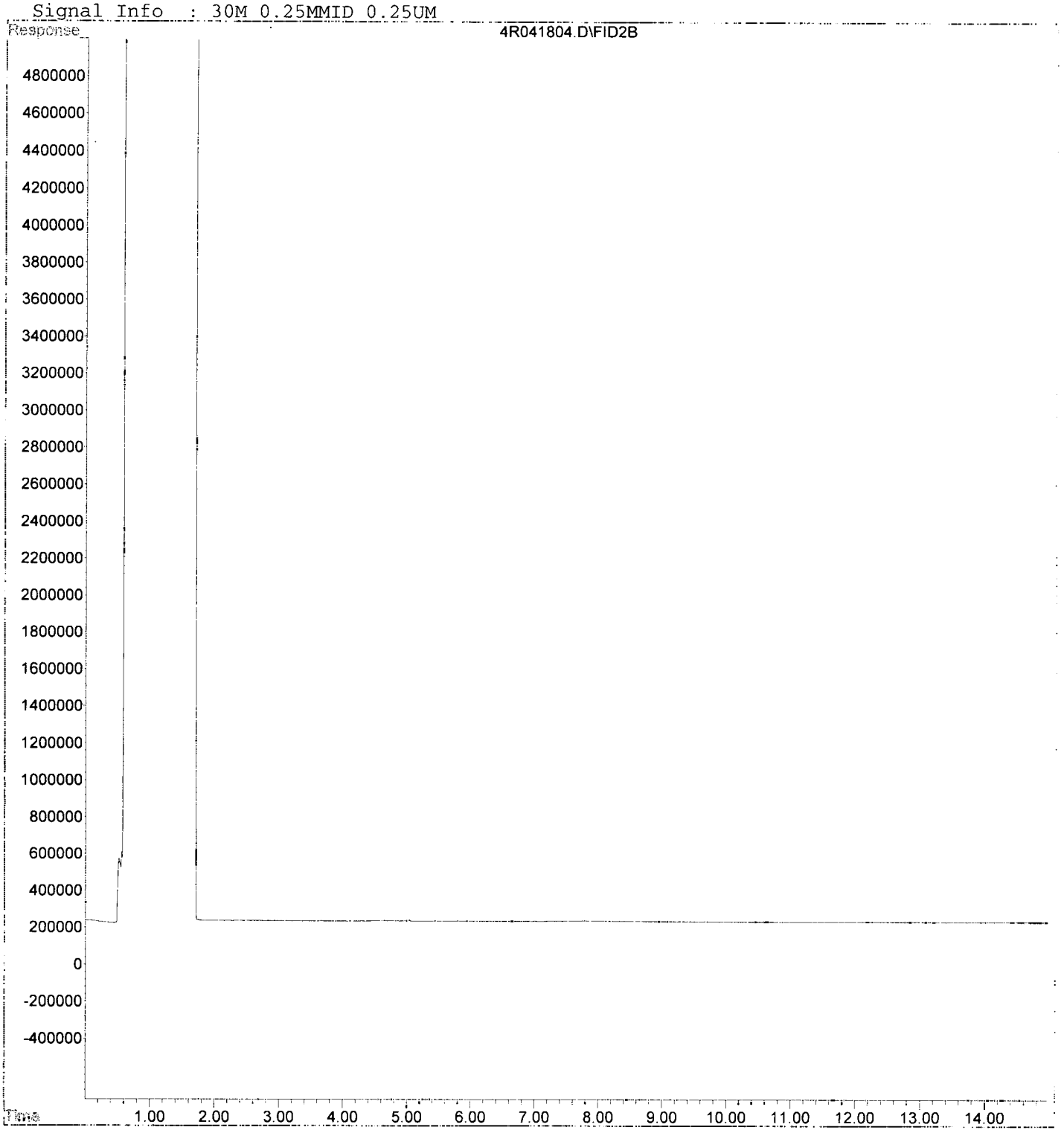
Kat 4/19/19

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\REQUANTR\4R041804.D Vial: 100
Acq On : 18 Apr 2019 17:05 Operator: KEH
Sample : 9D18031-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:57 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-04\9D18031\REQUANTR\4R041827.D Vial: 21
Acq On : 19 Apr 2019 1:18 Operator: KEH
Sample : 9D18031-ICV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 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	922.687	7.7	94	0.00
2	H	Diesel	1000.000	922.687	7.7	94	0.00
3	H	DRO(C12-C24)	1000.000	922.687	7.7	94	0.00
4	H	CA LUFT DRO (C12-C22)	1000.000	950.926	4.9	95	0.00
5	H	TPHd (C10-C25)	1000.000	945.634	5.4	95	0.00
7	H	Oil	-1.000	290.707	0.0	0	0.00
8	H	RRO (C24-C40)	-1.000	290.707	0.0	0	0.00
9	H	TPHmo (C25-C36)	-1.000	21.324	0.0	98	0.00
10	H	CA LUFT ORO (C23-C32)	-1.000	53.949	0.0	96	0.00

4/19/19

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

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-04\9D18031\REQUANTR\4R041828.D Vial: 22
Acq On : 19 Apr 2019 1:40 Operator: KEH
Sample : 9D18031-ICV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 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	694.325	0.0	101	0.00
2	H	Diesel	-1.000	694.325	0.0	101	0.00
3	H	DRO(C12-C24)	-1.000	694.325	0.0	101	0.00
4	H	CA LUFT DRO (C12-C22)	-1.000	92.059	0.0	125	0.00
5	H	TPHd (C10-C25)	-1.000	285.484	0.0	108	0.00
7	H	Oil	1000.000	966.397	3.4	97	0.00
8	H	RRO (C24-C40)	1000.000	966.397	3.4	97	0.00
9	H	TPHmo (C25-C36)	1000.000	918.692	8.1	92	0.00
10	H	CA LUFT ORO (C23-C32)	1000.000	993.245	0.7	98	0.00

4/19/19

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

Sequence: C:\HPCHEM\4\SEQUENCE\9D18030.S

Sequence Table (Front Injector):

Method and Injection Info Part:

Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 99	DCM	A4F60831	1	Sample		
2	Vial 94	9D18030-RES1	A4F60831	1	Sample		
3	Vial 99	9D18030-ICB1	A4F60831	1	Sample		
4	Vial 1	9D18030-CAL1	A4F60831	1	Sample		
5	Vial 2	9D18030-CAL2	A4F60831	1	Sample		
6	Vial 3	9D18030-CAL3	A4F60831	1	Sample		
7	Vial 4	9D18030-CAL4	A4F60831	1	Sample		
8	Vial 5	9D18030-CAL5	A4F60831	1	Sample		
9	Vial 6	9D18030-CAL6	A4F60831	1	Sample		
10	Vial 7	9D18030-CAL7	A4F60831	1	Sample		
11	Vial 8	9D18030-CAL8	A4F60831	1	Sample		
12	Vial 9	9D18030-CAL9	A4F60831	1	Sample		
13	Vial 10	9D18030-CALA	A4F60831	1	Sample		
14	Vial 11	9D18030-CALB	A4F60831	1	Sample		
15	Vial 12	9D18030-CALC	A4F60831	1	Sample		
16	Vial 13	9D18030-CALD	A4F60831	1	Sample		
17	Vial 14	9D18030-CALE	A4F60831	1	Sample		
18	Vial 15	9D18030-CALF	A4F60831	1	Sample		
19	Vial 16	9D18030-CALG	A4F60831	1	Sample		
20	Vial 17	9D18030-CALH	A4F60831	1	Sample		
21	Vial 18	9D18030-CALI	A4F60831	1	Sample		
22	Vial 19	9D18030-CALJ	A4F60831	1	Sample		
23	Vial 99	9D18030-IBL1	A4F60831	1	Sample		
24	Vial 20	9D18030-CALK	A4F60831	1	Sample		
25	Vial 99	9D18030-IBL2	A4F60831	1	Sample		
26	Vial 21	9D18030-ICV1	A4F60831	1	Sample		
27	Vial 22	9D18030-ICV2	A4F60831	1	Sample		
28	Vial 99	DCM	A4F60831	1	Sample		
29	Vial 99	DCM	A4F60831	1	Sample		

Sequence Table (Back Injector):

Method and Injection Info Part:

Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 100	DCM	A4F60831	1	Sample		
2	Vial 100	DCM	A4F60831	1	Sample		
3	Vial 95	9D18031-RES1	A4F60831	1	Sample		
4	Vial 100	9D18031-ICB1	A4F60831	1	Sample		
5	Vial 1	9D18031-CAL1	A4F60831	1	Sample		
6	Vial 2	9D18031-CAL2	A4F60831	1	Sample		
7	Vial 3	9D18031-CAL3	A4F60831	1	Sample		
8	Vial 4	9D18031-CAL4	A4F60831	1	Sample		
9	Vial 5	9D18031-CAL5	A4F60831	1	Sample		
10	Vial 6	9D18031-CAL6	A4F60831	1	Sample		
11	Vial 7	9D18031-CAL7	A4F60831	1	Sample		
12	Vial 8	9D18031-CAL8	A4F60831	1	Sample		
13	Vial 9	9D18031-CAL9	A4F60831	1	Sample		
14	Vial 10	9D18031-CALA	A4F60831	1	Sample		
15	Vial 11	9D18031-CALB	A4F60831	1	Sample		
16	Vial 12	9D18031-CALC	A4F60831	1	Sample		
17	Vial 13	9D18031-CALD	A4F60831	1	Sample		
18	Vial 14	9D18031-CALE	A4F60831	1	Sample		
19	Vial 15	9D18031-CALF	A4F60831	1	Sample		
20	Vial 16	9D18031-CALG	A4F60831	1	Sample		
21	Vial 17	9D18031-CALH	A4F60831	1	Sample		

KEH 4/19/19

Sequence: C:\HPCHEM\4\SEQUENCE\9D18030.S

Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
22	Vial 18	9D18031-CALI	A4F60831	1	Sample		
23	Vial 19	9D18031-CALJ	A4F60831	1	Sample		
24	Vial 100	9D18031-IBL1	A4F60831	1	Sample		
25	Vial 20	9D18031-CALK	A4F60831	1	Sample		
26	Vial 100	9D18031-IBL2	A4F60831	1	Sample		
27	Vial 21	9D18031-ICV1	A4F60831	1	Sample		
28	Vial 22	9D18031-ICV2	A4F60831	1	Sample		
29	Vial 100	DCM	A4F60831	1	Sample		

Injection Log

Directory: G:\4\DATA\2019-04\9D18031

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	4r041801.d	1.	DCM		18 Apr 2019 16:00
2	100	4r041802.d	1.	DCM		18 Apr 2019 16:21
3	95	4r041803.d	1.	9D18031-RES1		18 Apr 2019 16:43
4	100	4r041804.d	1.	9D18031-ICB1		18 Apr 2019 17:05
5	1	4r041805.d	1.	9D18031-CAL1		18 Apr 2019 17:26
6	2	4r041806.d	1.	9D18031-CAL2		18 Apr 2019 17:48
7	3	4r041807.d	1.	9D18031-CAL3		18 Apr 2019 18:10
8	4	4r041808.d	1.	9D18031-CAL4		18 Apr 2019 18:31
9	5	4r041809.d	1.	9D18031-CAL5		18 Apr 2019 18:53
10	6	4r041810.d	1.	9D18031-CAL6		18 Apr 2019 19:14
11	7	4r041811.d	1.	9D18031-CAL7		18 Apr 2019 19:36
12	8	4r041812.d	1.	9D18031-CAL8		18 Apr 2019 19:57
13	9	4r041813.d	1.	9D18031-CAL9		18 Apr 2019 20:19
14	10	4r041814.d	1.	9D18031-CALA		18 Apr 2019 20:40
15	11	4r041815.d	1.	9D18031-CALB		18 Apr 2019 21:02
16	12	4r041816.d	1.	9D18031-CALC		18 Apr 2019 21:23
17	13	4r041817.d	1.	9D18031-CALD		18 Apr 2019 21:45
18	14	4r041818.d	1.	9D18031-CALE		18 Apr 2019 22:06
19	15	4r041819.d	1.	9D18031-CALF		18 Apr 2019 22:28
20	16	4r041820.d	1.	9D18031-CALG		18 Apr 2019 22:49
21	17	4r041821.d	1.	9D18031-CALH		18 Apr 2019 23:10
22	18	4r041822.d	1.	9D18031-CALI		18 Apr 2019 23:31
23	19	4r041823.d	1.	9D18031-CALJ		18 Apr 2019 23:53
24	100	4r041824.d	1.	9D18031-IBL1		19 Apr 2019 00:14
25	20	4r041825.d	1.	9D18031-CALK		19 Apr 2019 00:36
26	100	4r041826.d	1.	9D18031-IBL2		19 Apr 2019 00:57
27	21	4r041827.d	1.	9D18031-ICV1		19 Apr 2019 01:18
28	22	4r041828.d	1.	9D18031-ICV2		19 Apr 2019 01:40
29	100	4r041829.d	1.	DCM		19 Apr 2019 02:01

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041803.D Vial: 95
Acq On : 18 Apr 2019 16:43 Operator: KEH
Sample : 9D18031-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:18 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.M

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

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		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.53	10509629	6.141	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	355127746	244.988	ug/ml
2)	H	Diesel	6.00	355127746	244.988	ug/ml
3)	H	DRO(C12-C24)	6.00	355127746	244.988	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	241662170	225.493	ug/ml
5)	H	TPHd (C10-C25)	6.00	310330619	230.175	ug/ml
7)	H	Oil	9.00	227725877	169.173	ug/ml
8)	H	RRO (C24-C40)	9.00	227725877	169.173	ug/ml
9)	H	TPHmo (C25-C36)	8.00	61273482	74.120	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	99577230	113.283	ug/ml

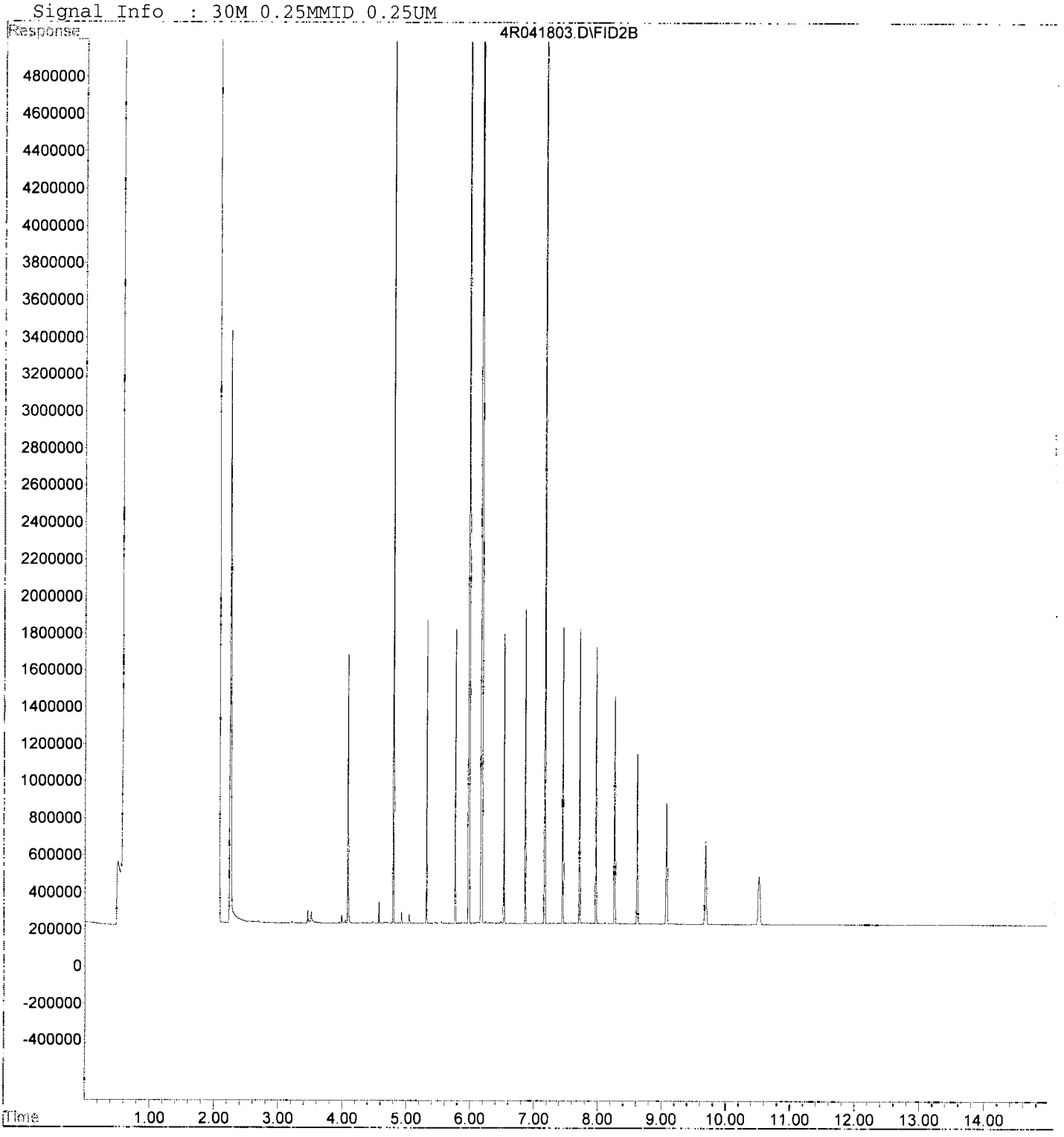
(f)=RT Delta > 1/2 Window (m)=manual int.

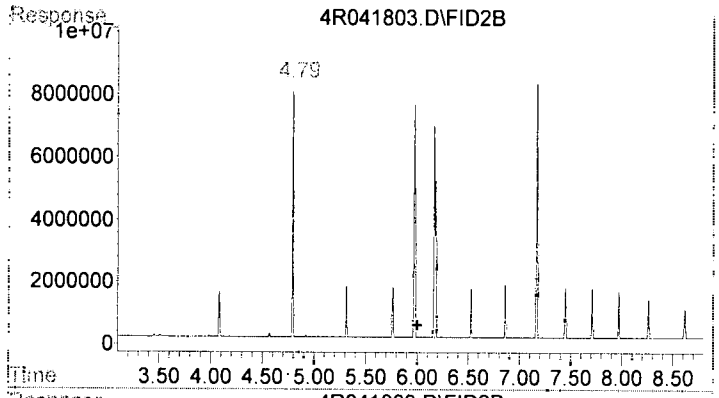
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041803.D Vial: 95
Acq On : 18 Apr 2019 16:43 Operator: KEH
Sample : 9D18031-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:18 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

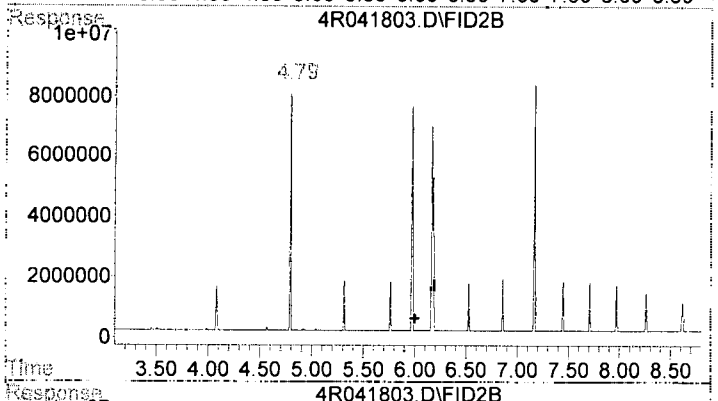
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





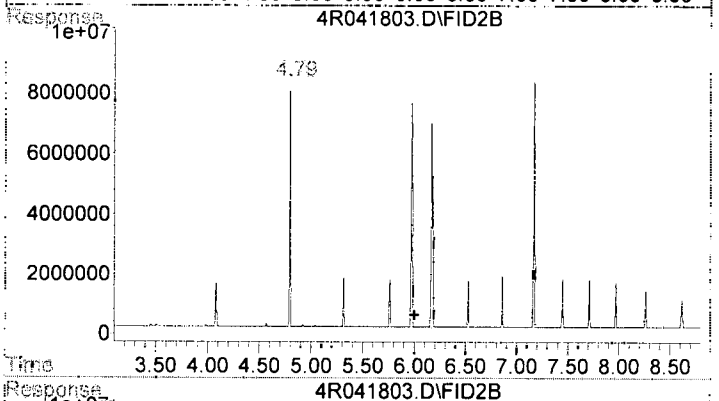
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 355127746
Conc: 244.99 ug/ml m



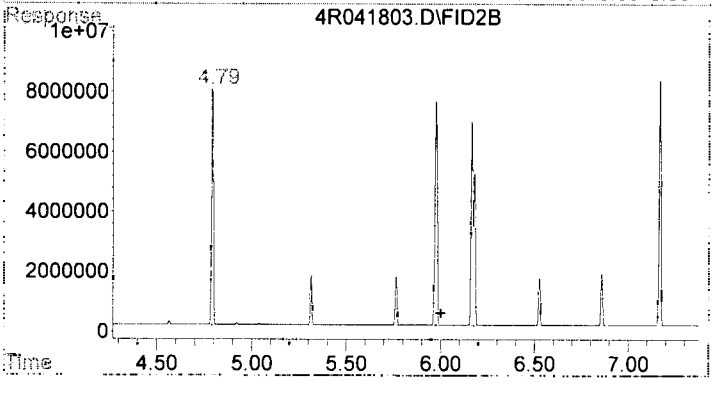
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 355127746
Conc: 244.99 ug/ml m



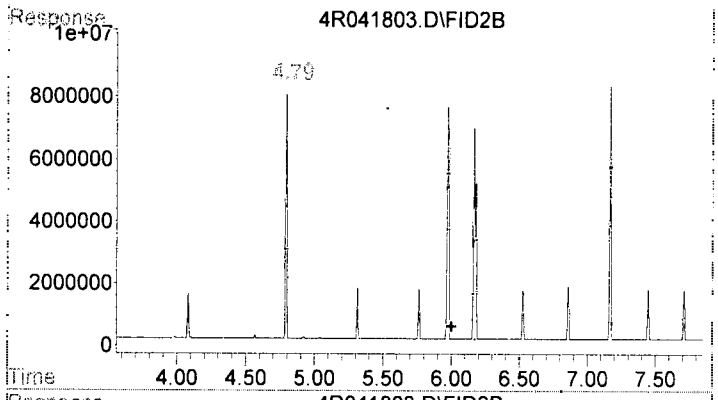
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 355127746
Conc: 244.99 ug/ml m



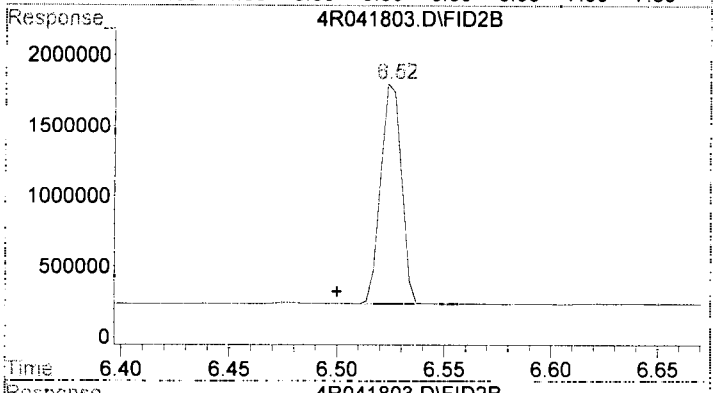
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 241662170
Conc: 225.49 ug/ml m



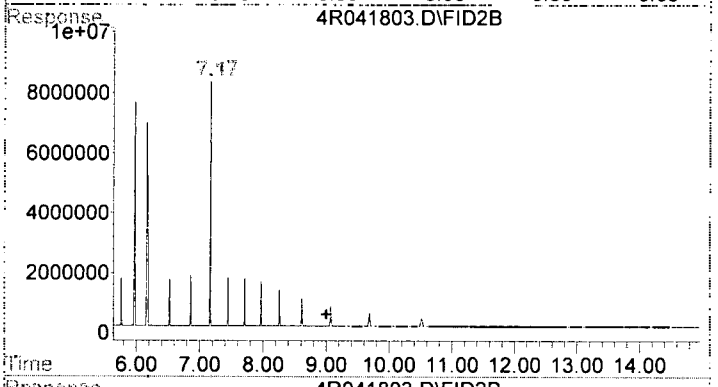
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 310330619
Conc: 230.17 ug/ml m



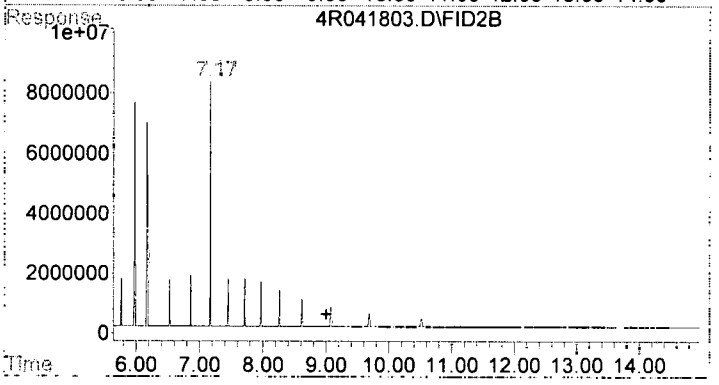
#6 o-Terphenyl

R.T.: 6.526 min
Delta R.T.: 0.026 min
Response: 10509629
Conc: 6.14 ug/ml



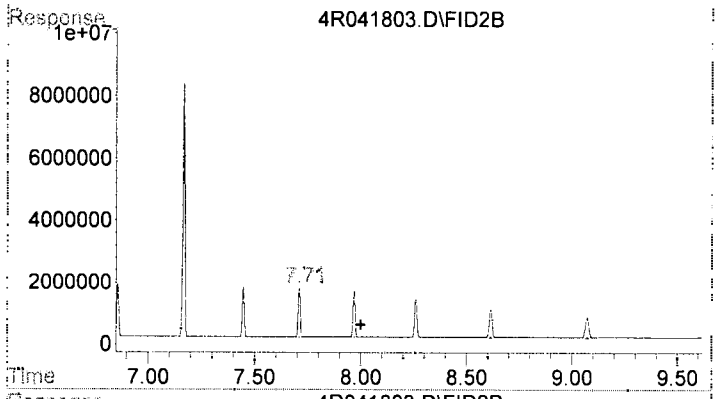
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 227725877
Conc: 169.17 ug/ml m



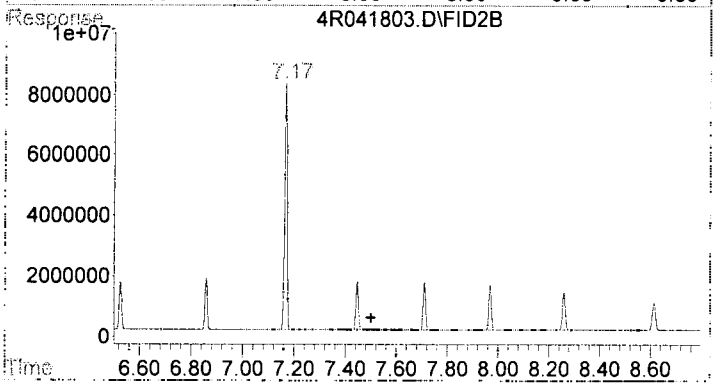
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 227725877
Conc: 169.17 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 61273482
Conc: 74.12 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 99577230
Conc: 113.28 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041804.D Vial: 100
Acq On : 18 Apr 2019 17:05 Operator: KEH
Sample : 9D18031-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:19 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	3973901	2.741	ug/ml
2)	H	Diesel	6.00	3973901	2.741	ug/ml
3)	H	DRO(C12-C24)	6.00	3973901	2.741	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1244158	1.161	ug/ml
5)	H	TPHd (C10-C25)	6.00	2193902	1.627	ug/ml
7)	H	Oil	9.00	7733397	5.745	ug/ml
8)	H	RRO (C24-C40)	9.00	7733397	5.745	ug/ml
9)	H	TPHmo (C25-C36)	8.00	2558020	3.094	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1594461	1.814	ug/ml

KAT 4/19/19

✓

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

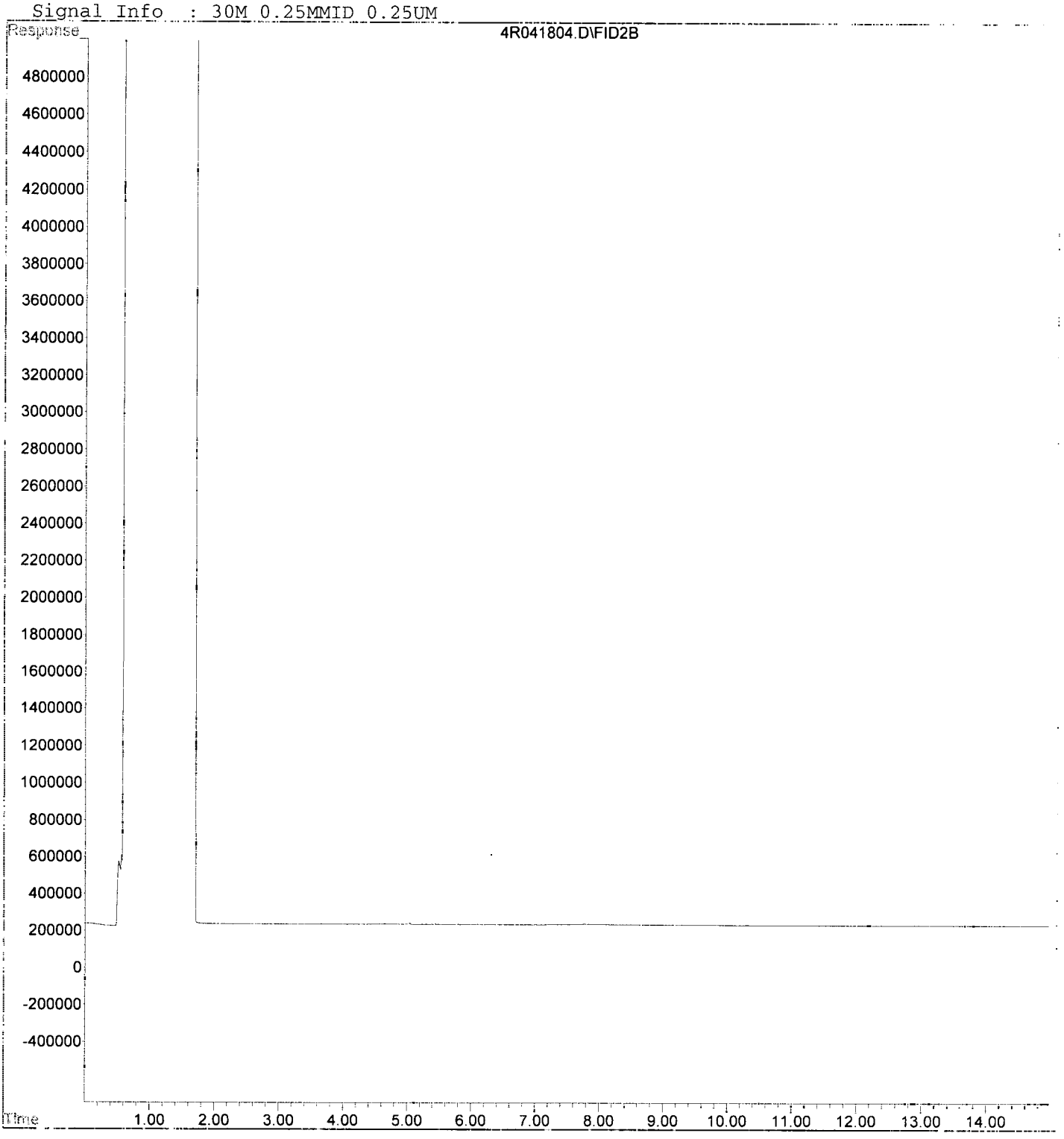
4R041804.D 4R90406D.M Fri Apr 19 14:30:31 2019 SV-GCMS3

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041804.D Vial: 100
Acq On : 18 Apr 2019 17:05 Operator: KEH
Sample : 9D18031-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:19 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041805.D Vial: 1
Acq On : 18 Apr 2019 17:26 Operator: KEH
Sample : 9D18031-CAL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:19 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	31063822	21.430	ug/ml
2)	H	Diesel	6.00	31063822	21.430	ug/ml
3)	H	DRO(C12-C24)	6.00	31063822	21.430	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	21723696	20.270	ug/ml
5)	H	TPHd (C10-C25)	6.00	26786901	19.868	ug/ml
7)	H	Oil	9.00	14828815	11.016	ug/ml
8)	H	RRO (C24-C40)	9.00	14828815	11.016	ug/ml
9)	H	TPHmo (C25-C36)	8.00	2951222	3.570	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	2586250	2.942	ug/ml

4/19/19

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

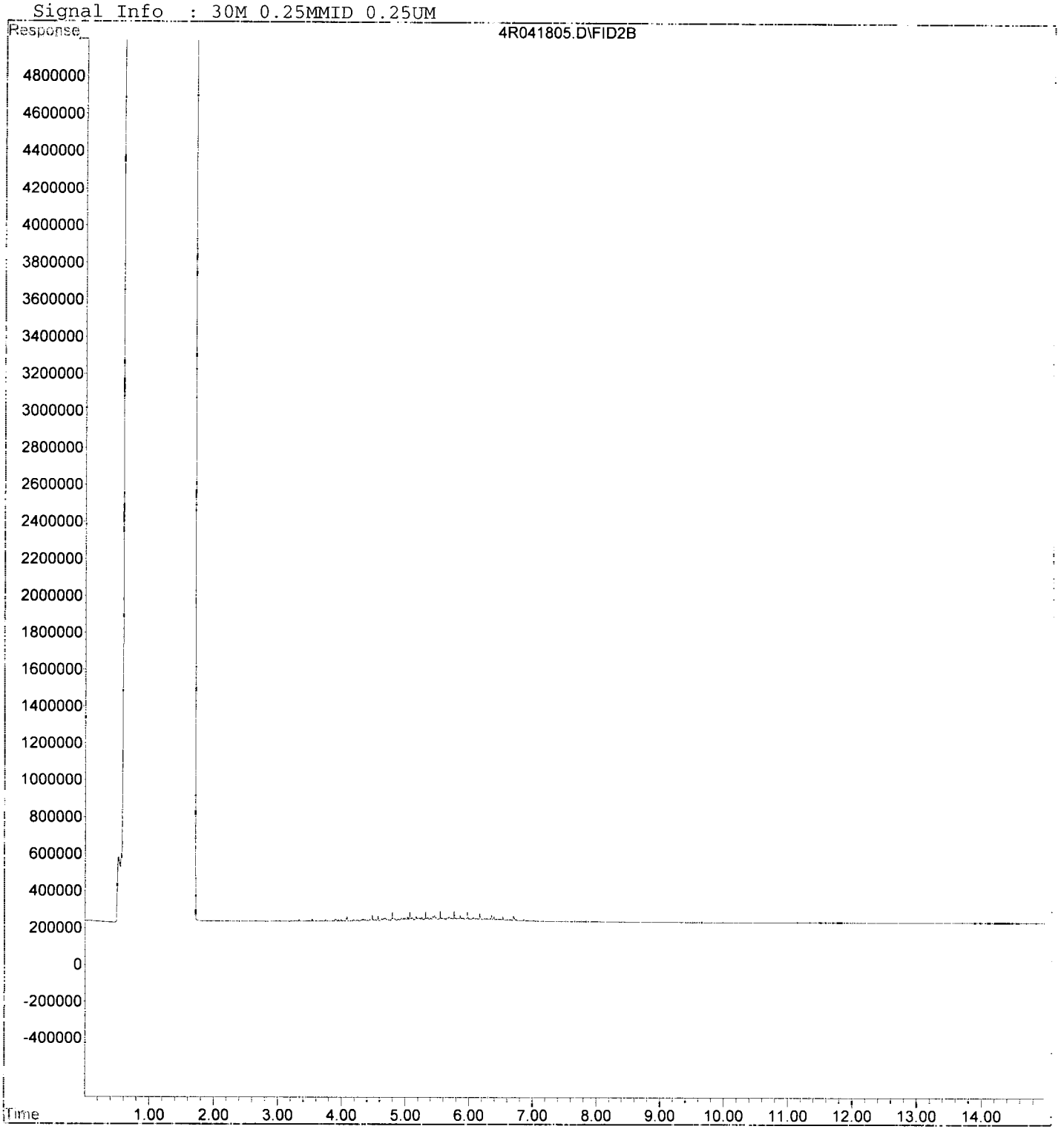
4R041805.D 4R90406D.M Fri Apr 19 14:30:32 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041805.D Vial: 1
Acq On : 18 Apr 2019 17:26 Operator: KEH
Sample : 9D18031-CAL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:19 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041806.D Vial: 2
Acq On : 18 Apr 2019 17:48 Operator: KEH
Sample : 9D18031-CAL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:20 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	46890960	32.348	ug/ml
2)	H	Diesel	6.00	46890960	32.348	ug/ml
3)	H	DRO(C12-C24)	6.00	46890960	32.348	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	33908092	31.639	ug/ml
5)	H	TPHd (C10-C25)	6.00	42087582	31.217	ug/ml
7)	H	Oil	9.00	18724217	13.910	ug/ml
8)	H	RRO (C24-C40)	9.00	18724217	13.910	ug/ml
9)	H	TPHmo (C25-C36)	8.00	3472325	4.200	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	3035856	3.454	ug/ml

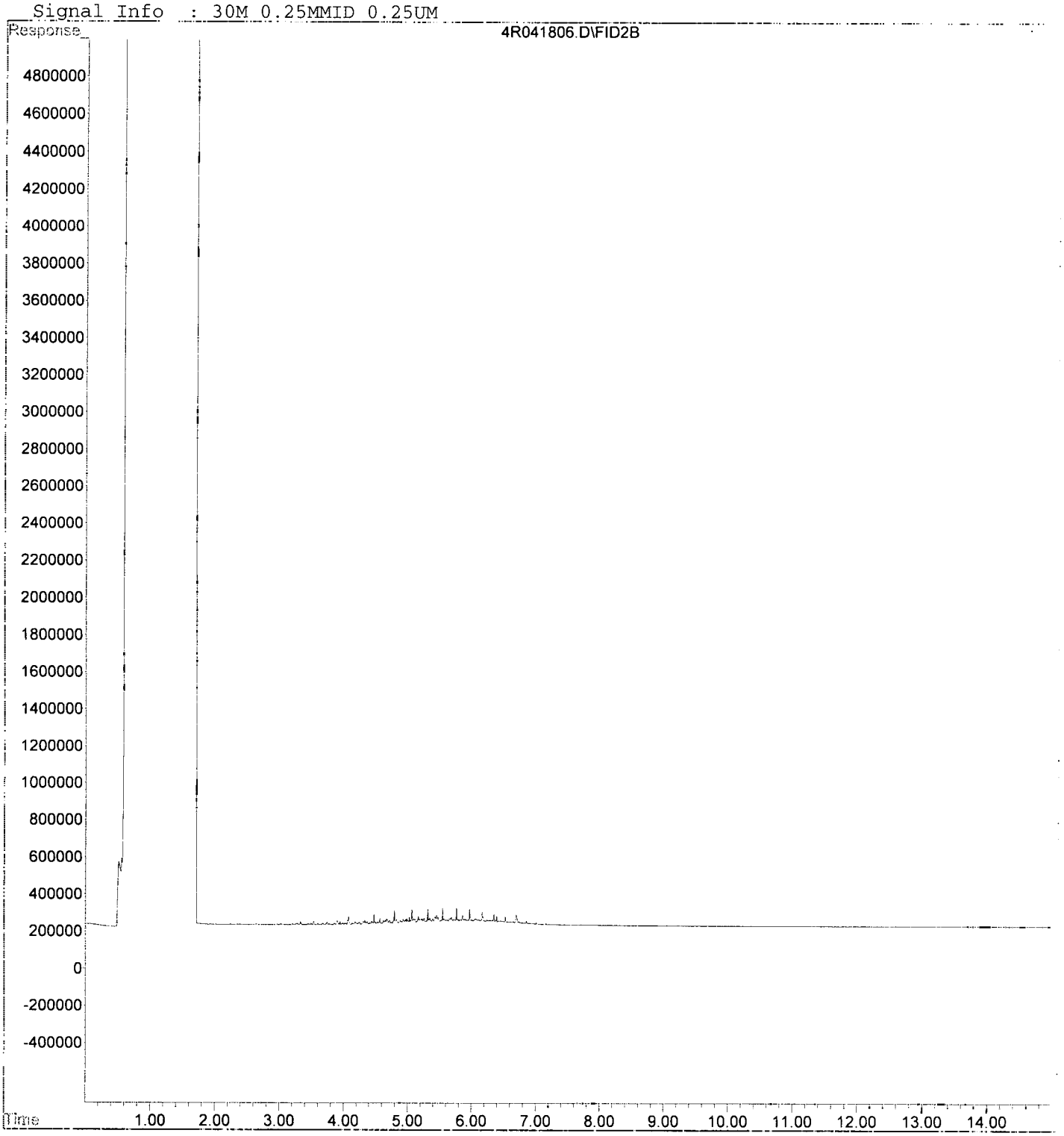
KEH 4/19/19

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041806.D Vial: 2
Acq On : 18 Apr 2019 17:48 Operator: KEH
Sample : 9D18031-CAL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:20 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041807.D Vial: 3
Acq On : 18 Apr 2019 18:10 Operator: KEH
Sample : 9D18031-CAL3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:20 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	113569196	78.347	ug/ml
2)	H	Diesel	6.00	113569196	78.347	ug/ml
3)	H	DRO(C12-C24)	6.00	113569196	78.347	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	84067512	78.443	ug/ml
5)	H	TPHd (C10-C25)	6.00	104504849	77.512	ug/ml
7)	H	Oil	9.00	38665515	28.724	ug/ml
8)	H	RRO (C24-C40)	9.00	38665515	28.724	ug/ml
9)	H	TPHmo (C25-C36)	8.00	3540479	4.283	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	5067074	5.765	ug/ml

KGH 4/19/19

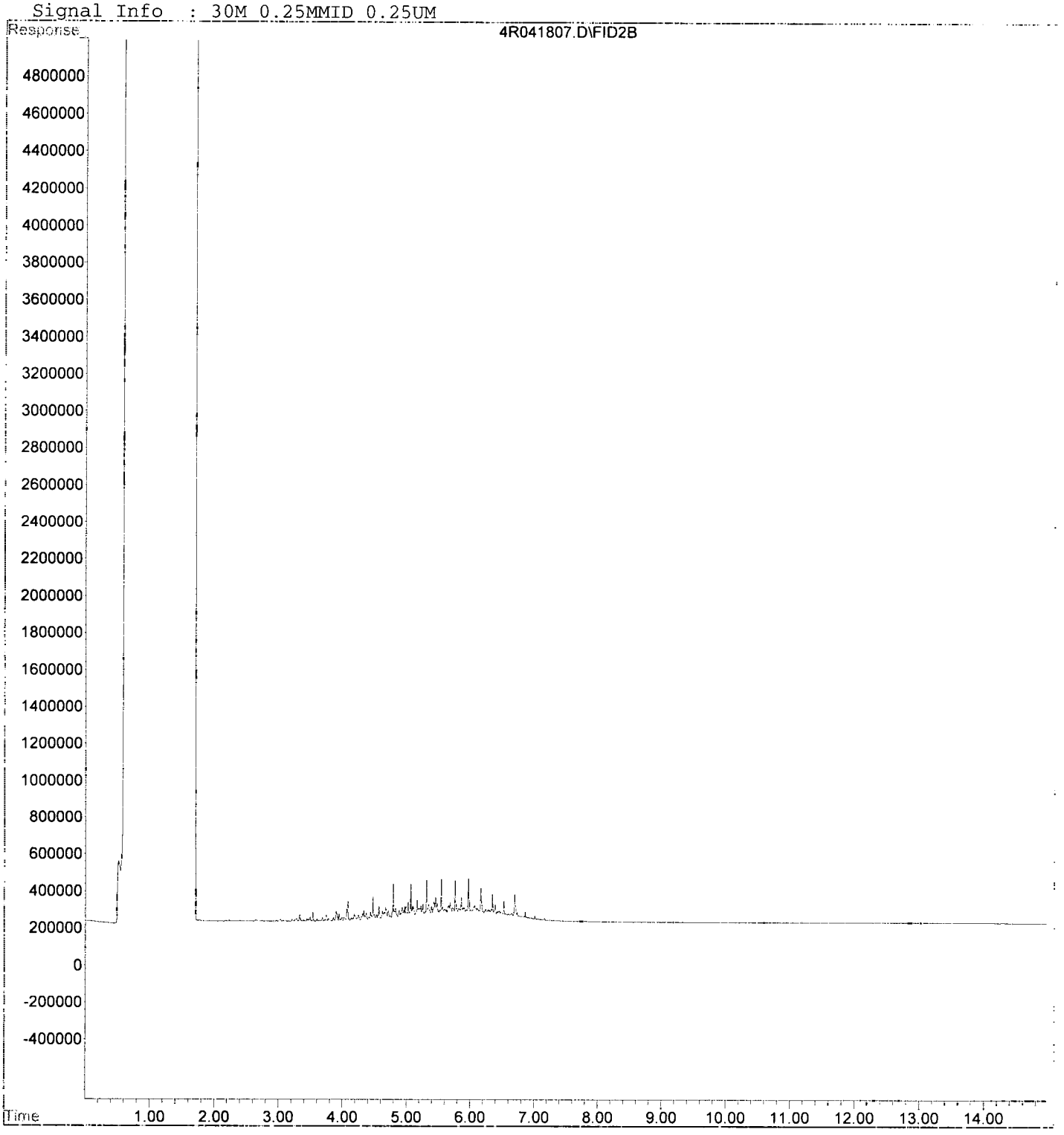
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041807.D Vial: 3
Acq On : 18 Apr 2019 18:10 Operator: KEH
Sample : 9D18031-CAL3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:20 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041808.D Vial: 4
Acq On : 18 Apr 2019 18:31 Operator: KEH
Sample : 9D18031-CAL4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:21 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	285309085	196.823	ug/ml
2)	H	Diesel	6.00	285309085	196.823	ug/ml
3)	H	DRO(C12-C24)	6.00	285309085	196.823	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	216132868	201.672	ug/ml
5)	H	TPHd (C10-C25)	6.00	266960886	198.007	ug/ml
7)	H	Oil	9.00	84532286	62.797	ug/ml
8)	H	RRO (C24-C40)	9.00	84532286	62.797	ug/ml
9)	H	TPHmo (C25-C36)	8.00	5384184	6.513	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	10683444	12.154	ug/ml

KSH 4/19/19

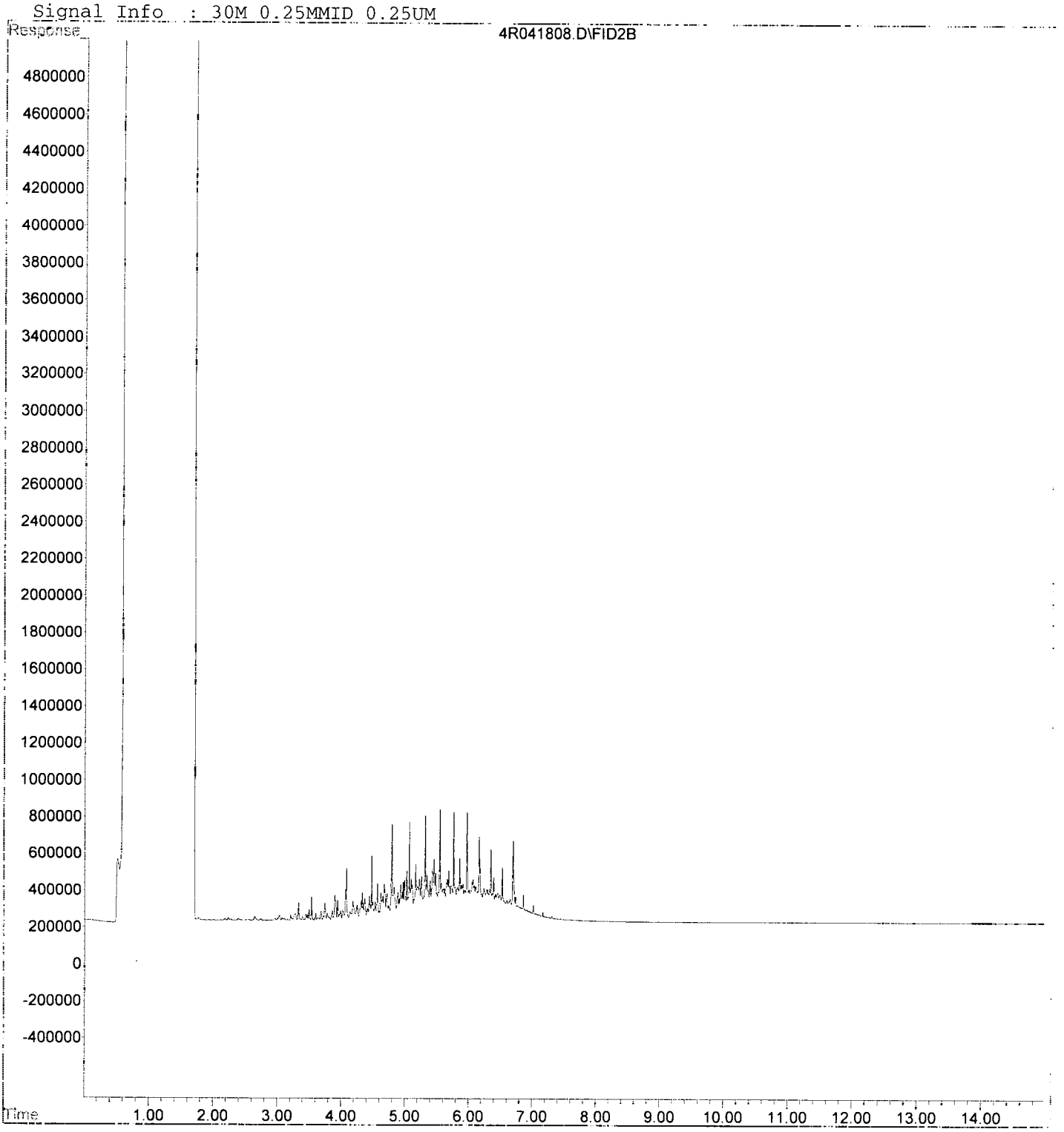
(f)=RT Delta > 1/2 Window (h)=Manual Int.

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041808.D Vial: 4
Acq On : 18 Apr 2019 18:31 Operator: KEH
Sample : 9D18031-CAL4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:21 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041809.D Vial: 5
Acq On : 18 Apr 2019 18:53 Operator: KEH
Sample : 9D18031-CAL5 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:21 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	559962994	386.295	ug/ml
2)	H	Diesel	6.00	559962994	386.295	ug/ml
3)	H	DRO(C12-C24)	6.00	559962994	386.295	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	430197001	401.414	ug/ml
5)	H	TPHd (C10-C25)	6.00	529556606	392.776	ug/ml
7)	H	Oil	9.00	161146941	119.713	ug/ml
8)	H	RRO (C24-C40)	9.00	161146941	119.713	ug/ml
9)	H	TPHmo (C25-C36)	8.00	7909206	9.567	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	19109281	21.740	ug/ml

KEH 4/19/19

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

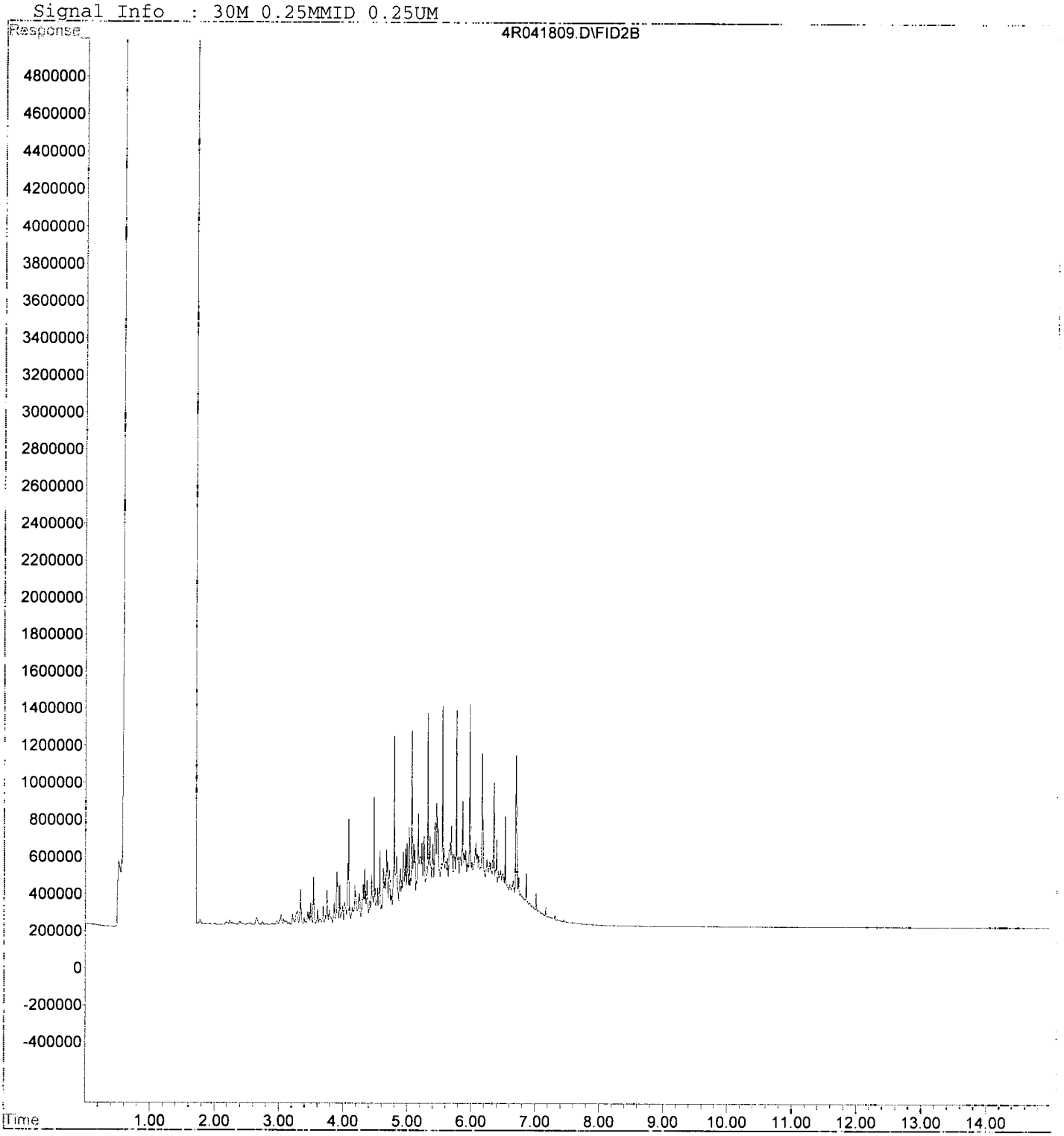
4R041809.D 4R90406D.M Fri Apr 19 14:30:35 2019 SV-GCMS3

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041809.D Vial: 5
Acq On : 18 Apr 2019 18:53 Operator: KEH
Sample : 9D18031-CAL5 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:21 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041810.D Vial: 6
Acq On : 18 Apr 2019 19:14 Operator: KEH
Sample : 9D18031-CAL6 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:22 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	1113983486	768.491	ug/ml
2)	H	Diesel	6.00	1113983486	768.491	ug/ml
3)	H	DRO(C12-C24)	6.00	1113983486	768.491	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	859968164	802.430	ug/ml
5)	H	TPHd (C10-C25)	6.00	1055235950	782.677	ug/ml
7)	H	Oil	9.00	316731417	235.293	ug/ml
8)	H	RRO (C24-C40)	9.00	316731417	235.293	ug/ml
9)	H	TPHmo (C25-C36)	8.00	13816994	16.714	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	37404444	42.553	ug/ml

KEH 4/19/19

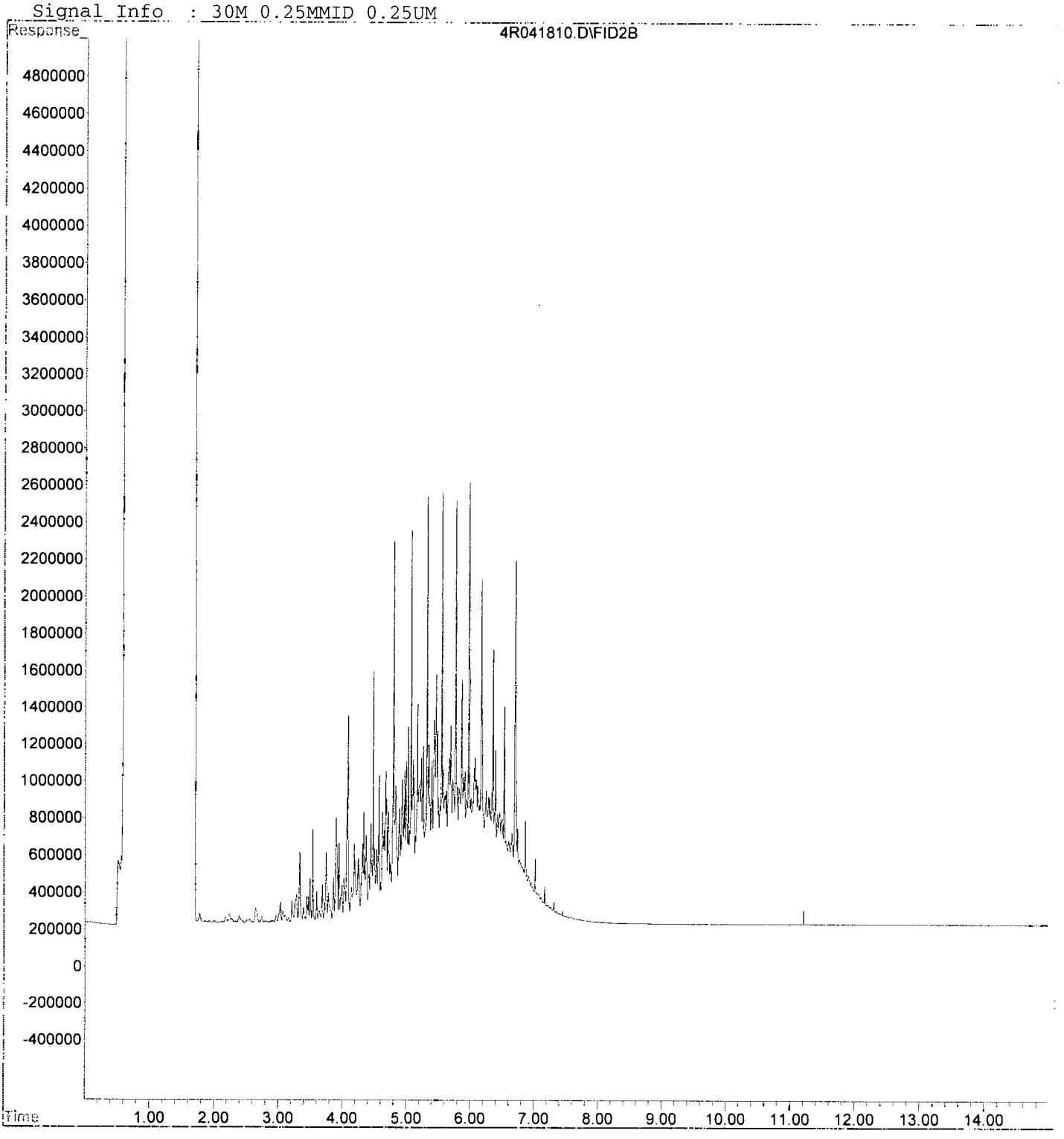
(f)=RT Delta > 1/2 window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041810.D Vial: 6
Acq On : 18 Apr 2019 19:14 Operator: KEH
Sample : 9D18031-CAL6 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:22 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041811.D Vial: 7
Acq On : 18 Apr 2019 19:36 Operator: KEH
Sample : 9D18031-CAL7 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:22 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	2765587058	1907.865	ug/ml
2)	H	Diesel	6.00	2765587058	1907.865	ug/ml
3)	H	DRO(C12-C24)	6.00	2765587058	1907.865	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	2144994079	2001.478	ug/ml
5)	H	TPHd (C10-C25)	6.00	2626370489	1947.999	ug/ml
7)	H	Oil	9.00	781321350	580.427	ug/ml
8)	H	RRO (C24-C40)	9.00	781321350	580.427	ug/ml
9)	H	TPHmo (C25-C36)	8.00	30150852	36.472	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	90438866	102.887	ug/ml

KH 4/19/19

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

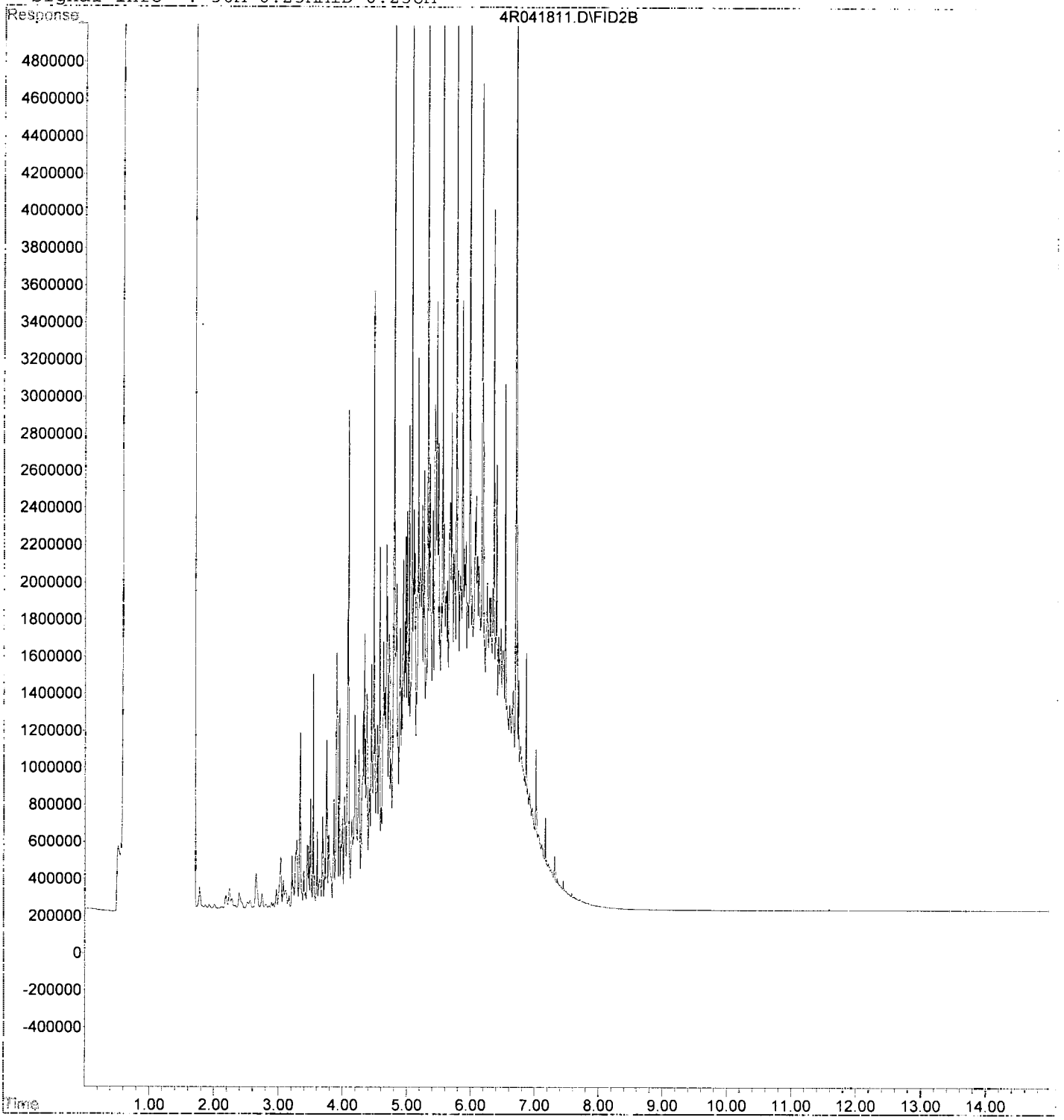
4R041811.D 4R90406D.M Fri Apr 19 14:30:36 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041811.D Vial: 7
Acq On : 18 Apr 2019 19:36 Operator: KEH
Sample : 9D18031-CAL7 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:22 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041812.D Vial: 8
Acq On : 18 Apr 2019 19:57 Operator: KEH
Sample : 9D18031-CAL8 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:23 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	5461189375	3767.450	ug/ml
2)	H	Diesel	6.00	5461189375	3767.450	ug/ml
3)	H	DRO(C12-C24)	6.00	5461189375	3767.450	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	4239230034	3955.595	ug/ml
5)	H	TPHd (C10-C25)	6.00	5191186662	3850.343	ug/ml
7)	H	Oil	9.00	1541796568	1145.367	ug/ml
8)	H	RRO (C24-C40)	9.00	1541796568	1145.367	ug/ml
9)	H	TPHmo (C25-C36)	8.00	56714707	68.606	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	176024383	200.253	ug/ml

KEH 4/19/19

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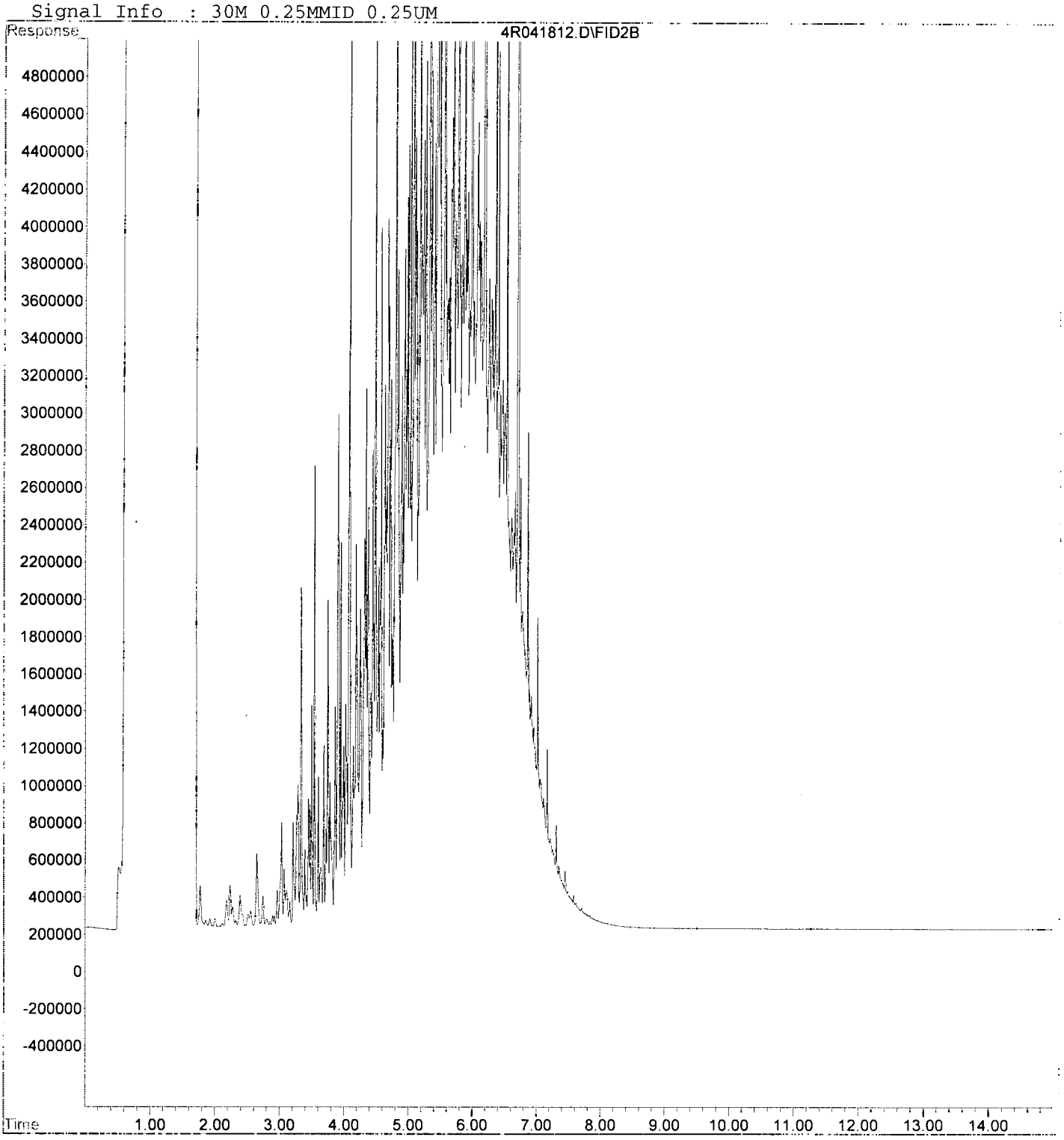
Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041812.D Vial: 8
Acq On : 18 Apr 2019 19:57 Operator: KEH
Sample : 9D18031-CAL8 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:23 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:18:14 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041813.D Vial: 9
Acq On : 18 Apr 2019 20:19 Operator: KEH
Sample : 9D18031-CAL9 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.39	12550742	7.334 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	6714659	4.632 ug/ml
2)	H	Diesel	6.00	6714659	4.632 ug/ml
3)	H	DRO(C12-C24)	6.00	6714659	4.632 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1021353	0.953 ug/ml
5)	H	TPHd (C10-C25)	6.00	3211833	2.382 ug/ml
7)	H	Oil	9.00	6839852	5.081 ug/ml
8)	H	RRO (C24-C40)	9.00	6839852	5.081 ug/ml
9)	H	TPHmo (C25-C36)	8.00	2167342	2.622 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1641437	1.867 ug/ml

KH 4/19/19

J

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

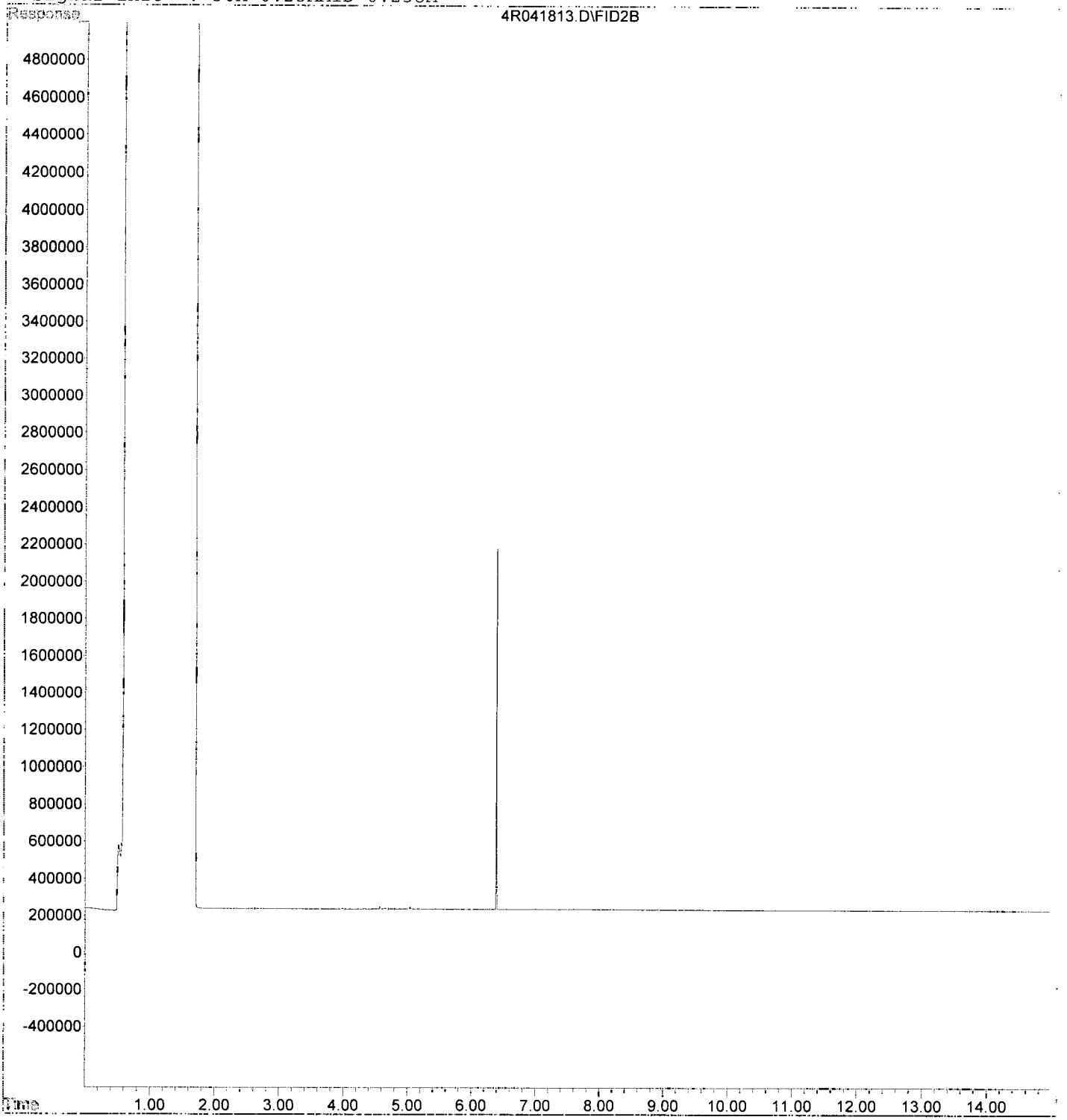
4R041813.D 4R90406D.M Fri Apr 19 14:30:37 2019 SV-GCMS3 Page 1

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041813.D Vial: 9
Acq On : 18 Apr 2019 20:19 Operator: KEH
Sample : 9D18031-CAL9 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041814.D Vial: 10
Acq On : 18 Apr 2019 20:40 Operator: KEH
Sample : 9D18031-CALA Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.39	31746450	18.551 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	7707996	5.317 ug/ml
2)	H	Diesel	6.00	7707996	5.317 ug/ml
3)	H	DRO(C12-C24)	6.00	7707996	5.317 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1626532	1.518 ug/ml
5)	H	TPHd (C10-C25)	6.00	3727896	2.765 ug/ml
7)	H	Oil	9.00	8172173	6.071 ug/ml
8)	H	RRO (C24-C40)	9.00	8172173	6.071 ug/ml
9)	H	TPHmo (C25-C36)	8.00	2472518	2.991 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1811288	2.061 ug/ml

KEH 4/19/19

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

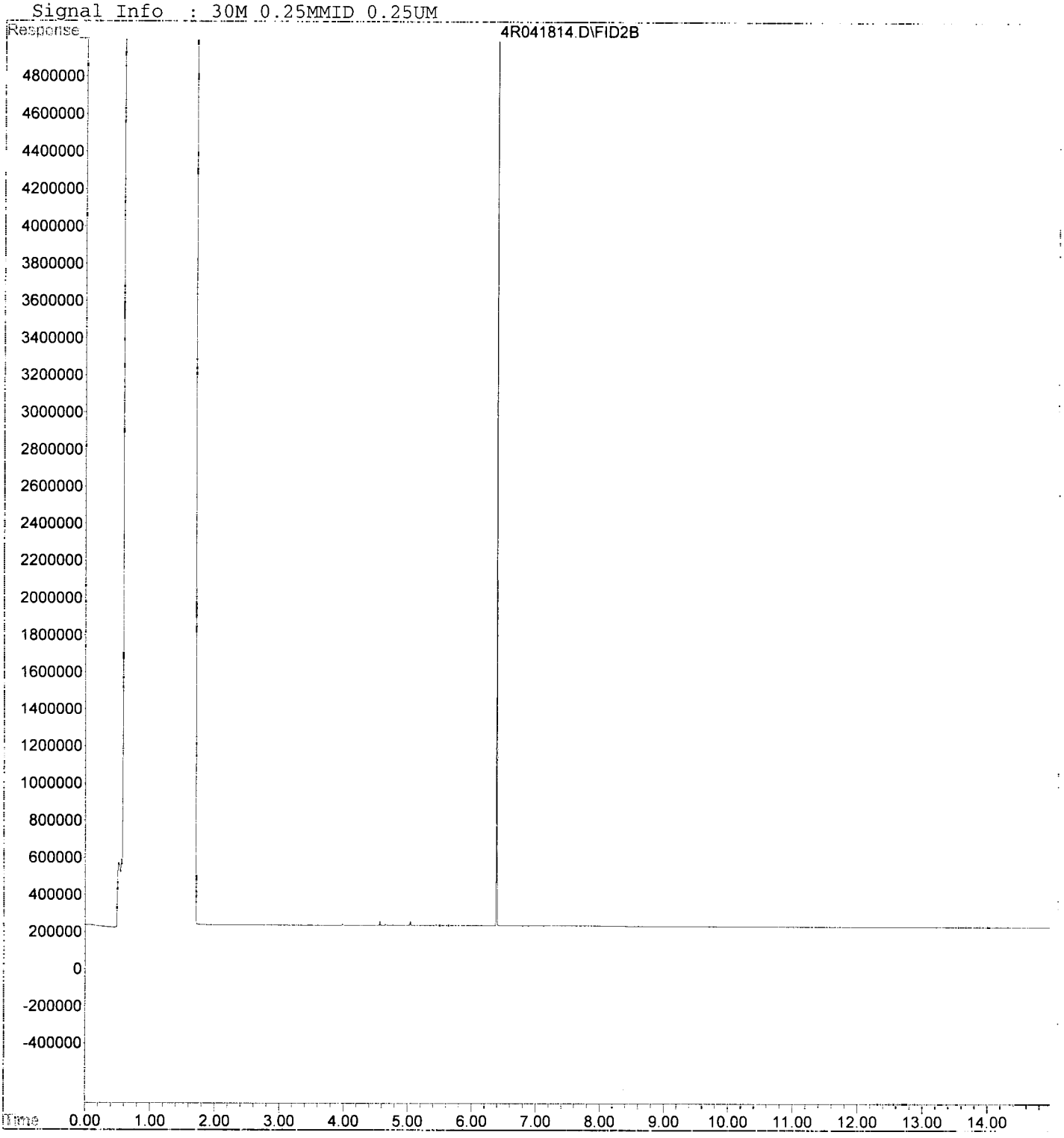
4R041814.D 4R90406D.M Fri Apr 19 14:30:38 2019 SV-GCMS3 Page 1

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041814.D Vial: 10
Acq On : 18 Apr 2019 20:40 Operator: KEH
Sample : 9D18031-CALA Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041815.D Vial: 11
Acq On : 18 Apr 2019 21:02 Operator: KEH
Sample : 9D18031-CALB Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.39	63480632	37.095 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	7590116	5.236 ug/ml
2)	H	Diesel	6.00	7590116	5.236 ug/ml
3)	H	DRO(C12-C24)	6.00	7590116	5.236 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1726279	1.611 ug/ml
5)	H	TPHd (C10-C25)	6.00	3815550	2.830 ug/ml
7)	H	Oil	9.00	7720331	5.735 ug/ml
8)	H	RRO (C24-C40)	9.00	7720331	5.735 ug/ml
9)	H	TPHmo (C25-C36)	8.00	2441284	2.953 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1954026	2.223 ug/ml

KEH 4/19/19

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Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041815.D Vial: 11
Acq On : 18 Apr 2019 21:02 Operator: KEH
Sample : 9D18031-CALB Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041816.D Vial: 12
Acq On : 18 Apr 2019 21:23 Operator: KEH
Sample : 9D18031-CALC Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.39	127155147	74.303 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	8065014	5.564 ug/ml
2)	H	Diesel	6.00	8065014	5.564 ug/ml
3)	H	DRO(C12-C24)	6.00	8065014	5.564 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1504302	1.404 ug/ml
5)	H	TPHd (C10-C25)	6.00	3952102	2.931 ug/ml
7)	H	Oil	9.00	7784729	5.783 ug/ml
8)	H	RRO (C24-C40)	9.00	7784729	5.783 ug/ml
9)	H	TPHmo (C25-C36)	8.00	2292236	2.773 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1961237	2.231 ug/ml

Ret 4/19/19

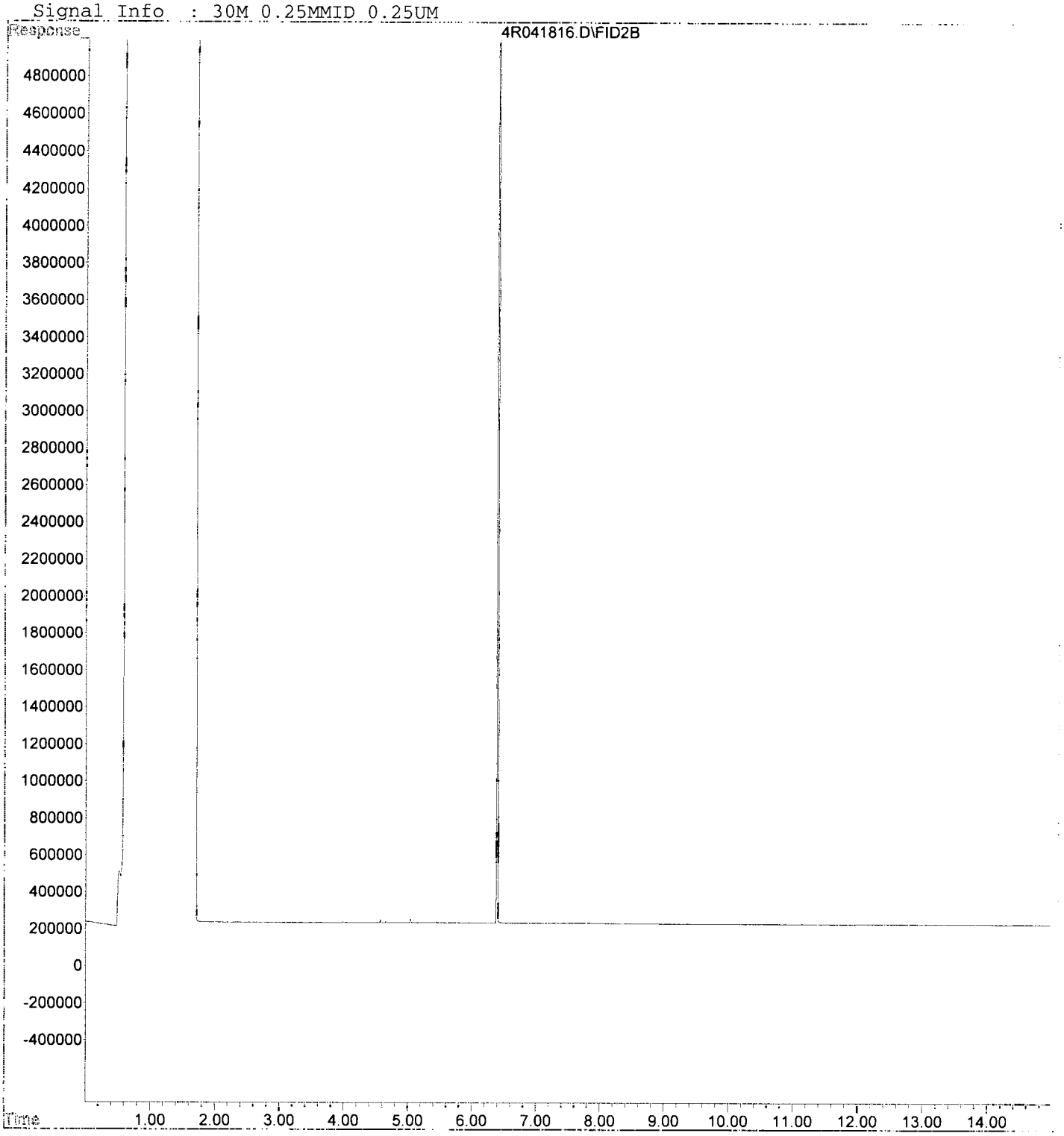
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041816.D Vial: 12
Acq On : 18 Apr 2019 21:23 Operator: KEH
Sample : 9D18031-CALC Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041817.D Vial: 13
Acq On : 18 Apr 2019 21:45 Operator: KEH
Sample : 9D18031-CALD Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6.40	248366958	145.133 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	8334796	5.750 ug/ml
2)	H	Diesel	6.00	8334796	5.750 ug/ml
3)	H	DRO(C12-C24)	6.00	8334796	5.750 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1840398	1.717 ug/ml
5)	H	TPHd (C10-C25)	6.00	4587572	3.403 ug/ml
7)	H	Oil	9.00	7408869	5.504 ug/ml
8)	H	RRO (C24-C40)	9.00	7408869	5.504 ug/ml
9)	H	TPHmo (C25-C36)	8.00	2165719	2.620 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1957828	2.227 ug/ml

KAH 4/19/19

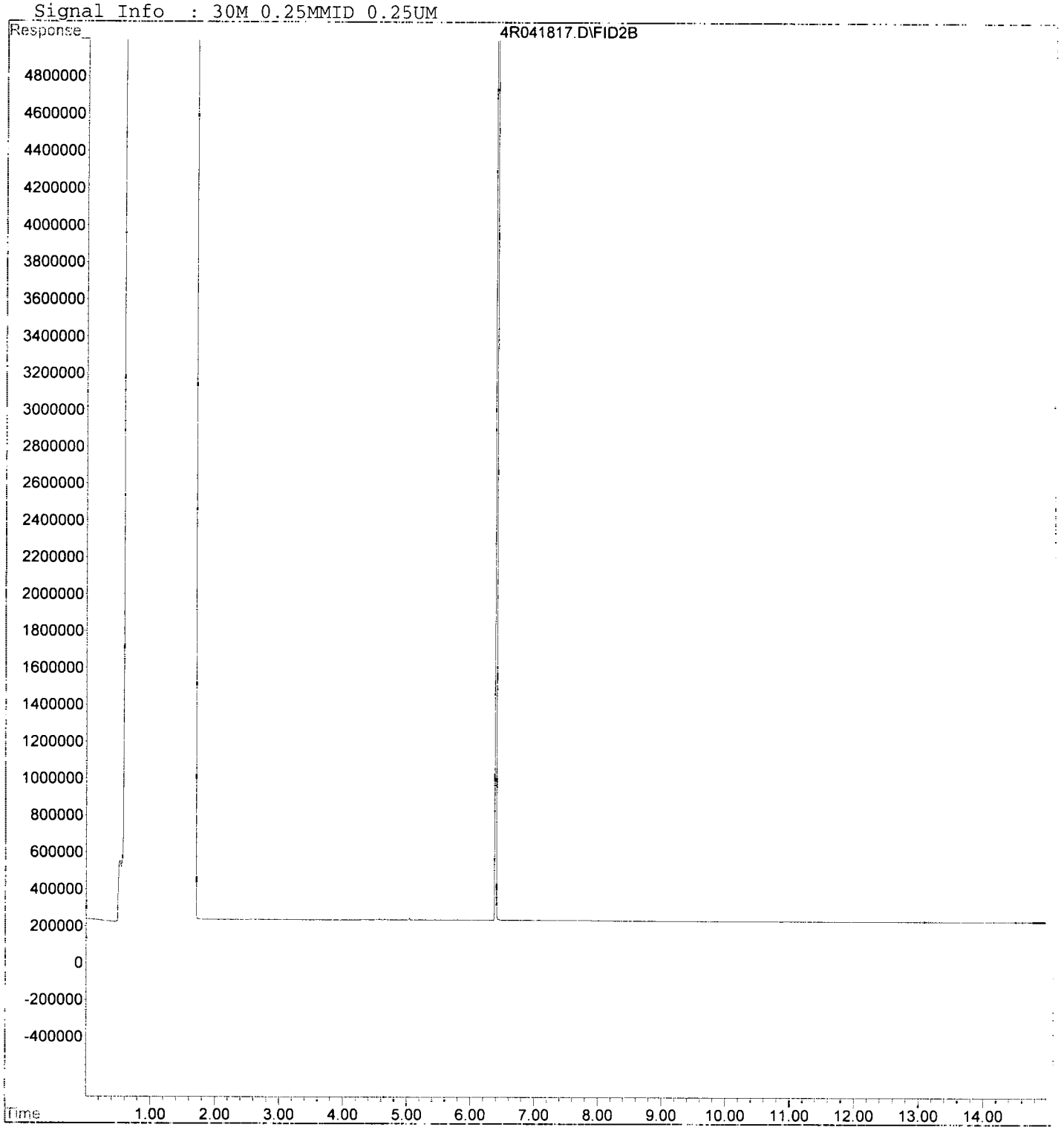
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041817.D Vial: 13
Acq On : 18 Apr 2019 21:45 Operator: KEH
Sample : 9D18031-CALD Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:24 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041818.D Vial: 14
Acq On : 18 Apr 2019 22:06 Operator: KEH
Sample : 9D18031-CALE Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:25 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	33831938	23.339	ug/ml
2)	H	Diesel	6.00	33831938	23.339	ug/ml
3)	H	DRO(C12-C24)	6.00	33831938	23.339	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	4208882	3.927	ug/ml
5)	H	TPHd (C10-C25)	6.00	13541300	10.044	ug/ml
7)	H	Oil	9.00	50278734	37.351	ug/ml
8)	H	RRO (C24-C40)	9.00	50278734	37.351	ug/ml
9)	H	TPHmo (C25-C36)	8.00	26648263	32.236	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	26177260	29.780	ug/ml

KEH 4/19/19

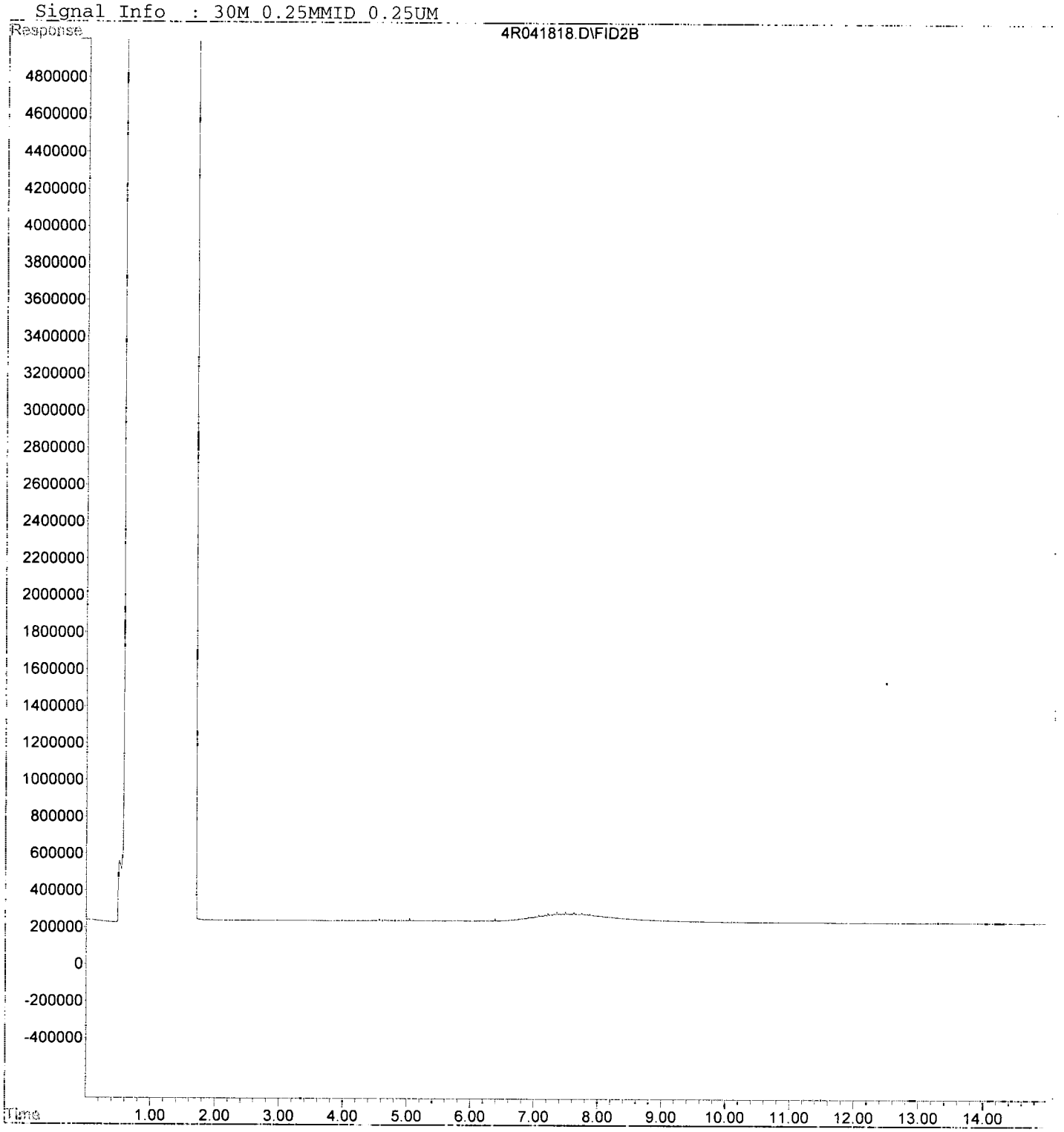
(f)=RT Delta > 1/2 window (m)=manual int.
4R041818.D 4R90406D.M Fri Apr 19 14:30:40 2019 SV-GCMS3

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041818.D Vial: 14
Acq On : 18 Apr 2019 22:06 Operator: KEH
Sample : 9D18031-CALE Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:25 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041819.D Vial: 15
Acq On : 18 Apr 2019 22:28 Operator: KEH
Sample : 9D18031-CALF Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:25 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	65187526	44.970	ug/ml
2)	H	Diesel	6.00	65187526	44.970	ug/ml
3)	H	DRO(C12-C24)	6.00	65187526	44.970	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	6355685	5.930	ug/ml
5)	H	TPHd (C10-C25)	6.00	24241743	17.980	ug/ml
7)	H	Oil	9.00	88664300	65.867	ug/ml
8)	H	RRO (C24-C40)	9.00	88664300	65.867	ug/ml
9)	H	TPHmo (C25-C36)	8.00	50588553	61.195	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	53892862	61.311	ug/ml

KEH 4/19/19

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

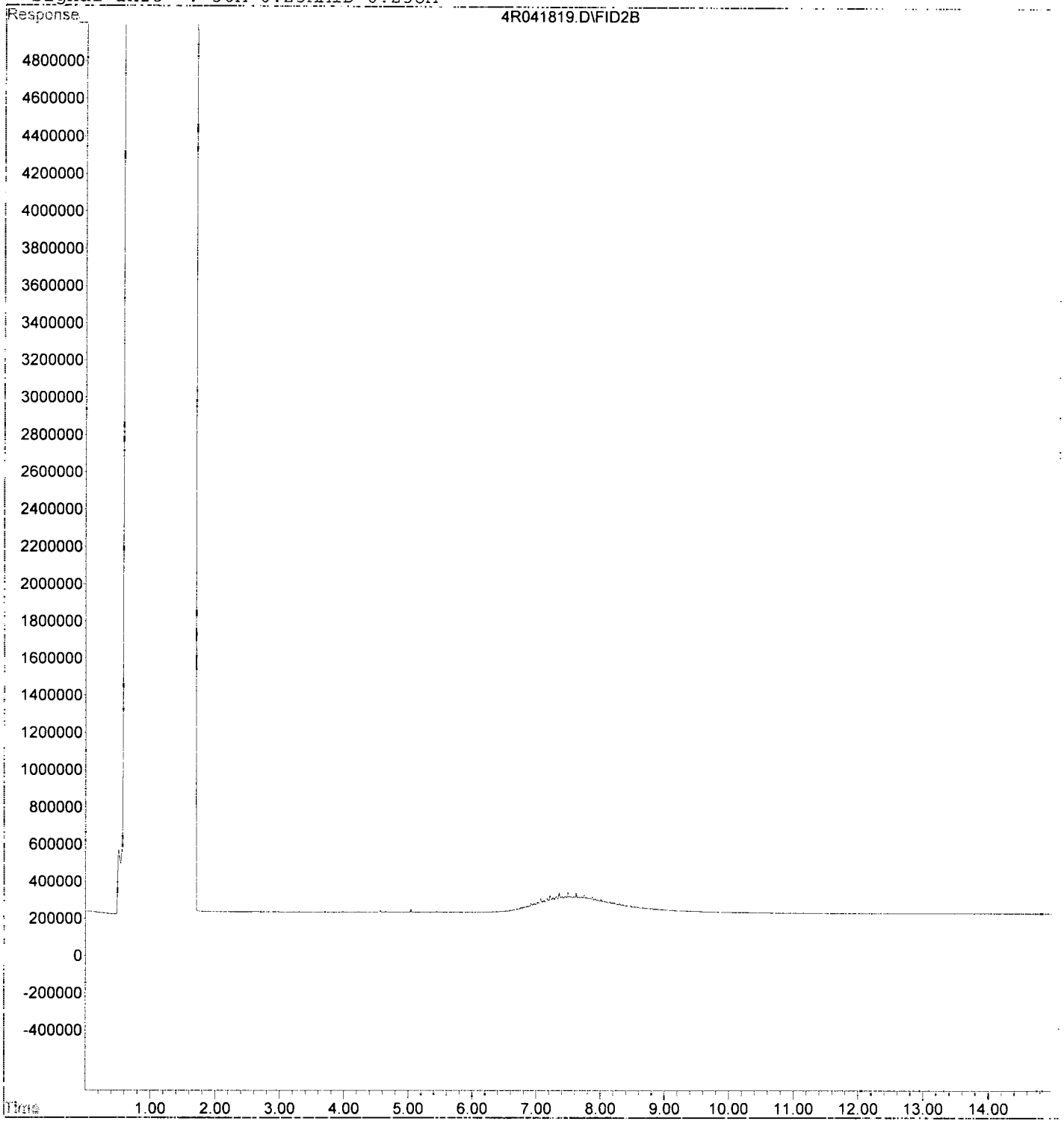
4R041819.D 4R90406D.M Fri Apr 19 14:30:41 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041819.D Vial: 15
Acq On : 18 Apr 2019 22:28 Operator: KEH
Sample : 9D18031-CALF Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:25 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041820.D Vial: 16
Acq On : 18 Apr 2019 22:49 Operator: KEH
Sample : 9D18031-CALG Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:26 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	195128127	134.611	ug/ml
2)	H	Diesel	6.00	195128127	134.611	ug/ml
3)	H	DRO(C12-C24)	6.00	195128127	134.611	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	16890564	15.760	ug/ml
5)	H	TPHd (C10-C25)	6.00	70169110	52.045	ug/ml
7)	H	Oil	9.00	260662207	193.640	ug/ml
8)	H	RRO (C24-C40)	9.00	260662207	193.640	ug/ml
9)	H	TPHmo (C25-C36)	8.00	154668552	187.097	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	165374964	188.138	ug/ml

KEH 4/19/19

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(f)=RT Delta > 1/2 Window (m)=Manual Int.

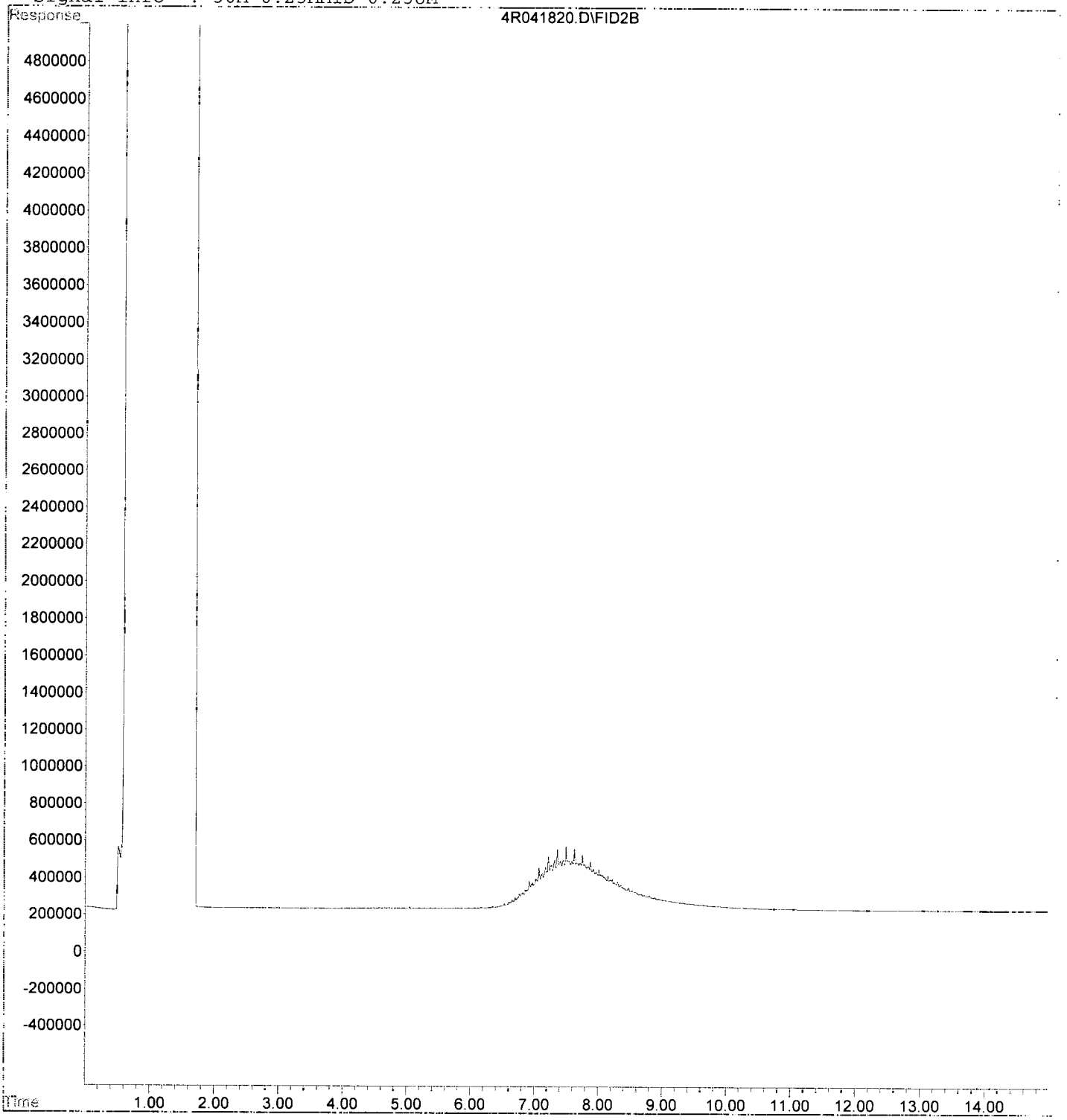
4R041820.D 4R90406D.M Fri Apr 19 14:30:41 2019 SV-GCMS3 Page 1

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041820.D Vial: 16
Acq On : 18 Apr 2019 22:49 Operator: KEH
Sample : 9D18031-CALG Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:26 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041821.D Vial: 17
Acq On : 18 Apr 2019 23:10 Operator: KEH
Sample : 9D18031-CALH Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:27 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	389629950	268.790	ug/ml
2)	H	Diesel	6.00	389629950	268.790	ug/ml
3)	H	DRO(C12-C24)	6.00	389629950	268.790	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	31581225	29.468	ug/ml
5)	H	TPHd (C10-C25)	6.00	138610255	102.808	ug/ml
7)	H	Oil	9.00	519582103	385.986	ug/ml
8)	H	RRO (C24-C40)	9.00	519582103	385.986	ug/ml
9)	H	TPHmo (C25-C36)	8.00	314366076	380.278	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	334887504	380.983	ug/ml

KEH 4/19/19

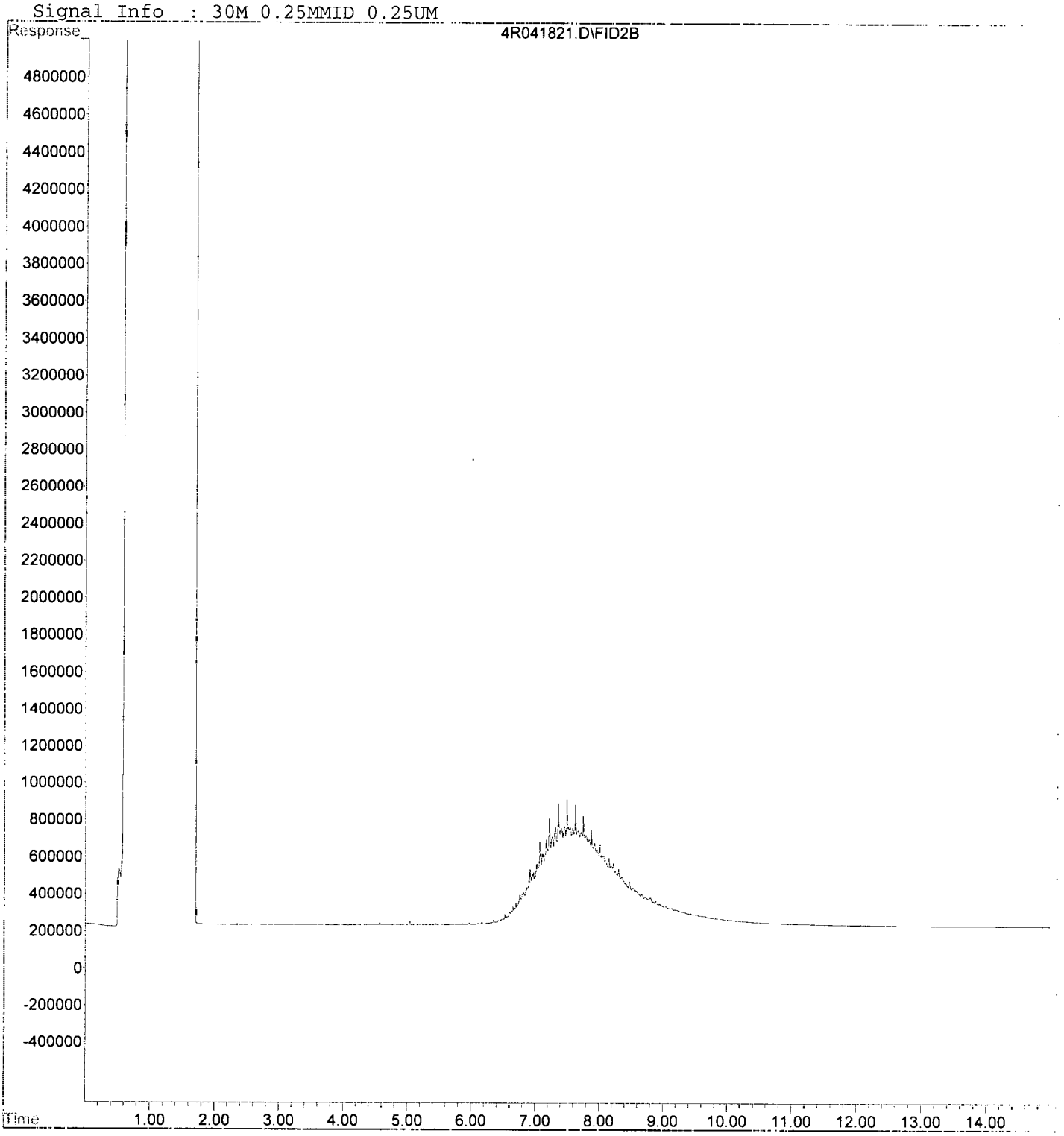
✓

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041821.D Vial: 17
Acq On : 18 Apr 2019 23:10 Operator: KEH
Sample : 9D18031-CALH Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:27 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041822.D Vial: 18
Acq On : 18 Apr 2019 23:31 Operator: KEH
Sample : 9D18031-CALI Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:27 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	784798540	541.400	ug/ml
2)	H	Diesel	6.00	784798540	541.400	ug/ml
3)	H	DRO(C12-C24)	6.00	784798540	541.400	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	63159064	58.933	ug/ml
5)	H	TPHd (C10-C25)	6.00	279016441	206.949	ug/ml
7)	H	Oil	9.00	1045982199	777.037	ug/ml
8)	H	RRO (C24-C40)	9.00	1045982199	777.037	ug/ml
9)	H	TPHmo (C25-C36)	8.00	636410473	769.844	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	676161034	769.231	ug/ml

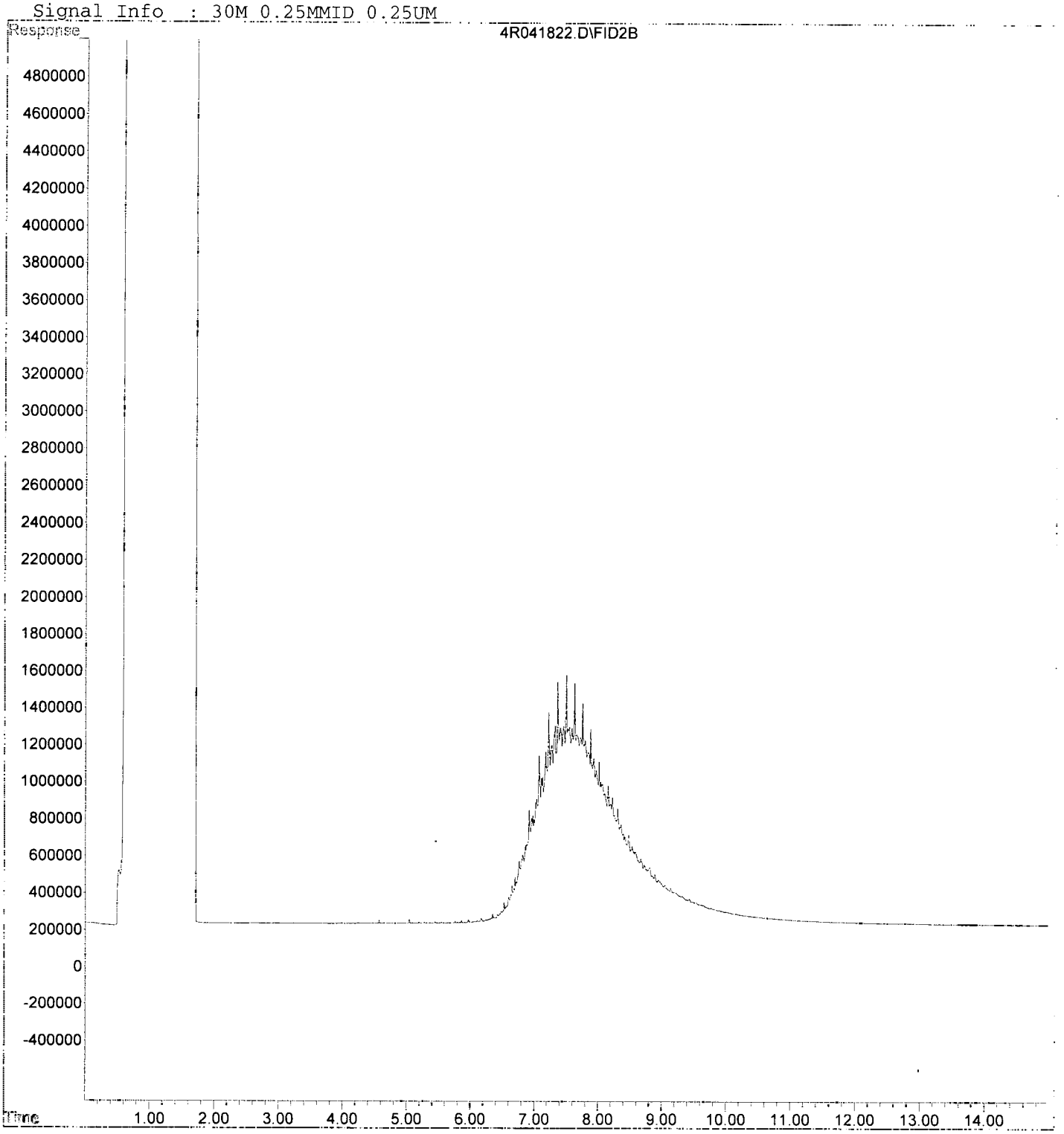
KEH 4/19/19

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041822.D Vial: 18
Acq On : 18 Apr 2019 23:31 Operator: KEH
Sample : 9D18031-CALI Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:27 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041823.D Vial: 19
Acq On : 18 Apr 2019 23:53 Operator: KEH
Sample : 9D18031-CALJ Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:28 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	1940929260	1338.967	ug/ml
2)	H	Diesel	6.00	1940929260	1338.967	ug/ml
3)	H	DRO(C12-C24)	6.00	1940929260	1338.967	ug/ml
4)	H	CA LUFT DRO (C12-C22)	0.00	0	N.D.	ug/ml
5)	H	TPHd (C10-C25)	6.00	690398516	512.074	ug/ml
7)	H	Oil	9.00	2583641711	1919.331	ug/ml
8)	H	RRO (C24-C40)	9.00	2583641711	1919.331	ug/ml
9)	H	TPHmo (C25-C36)	8.00	1579509857	1910.679	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1672335453	1902.523	ug/ml

KEK 4/19/19

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

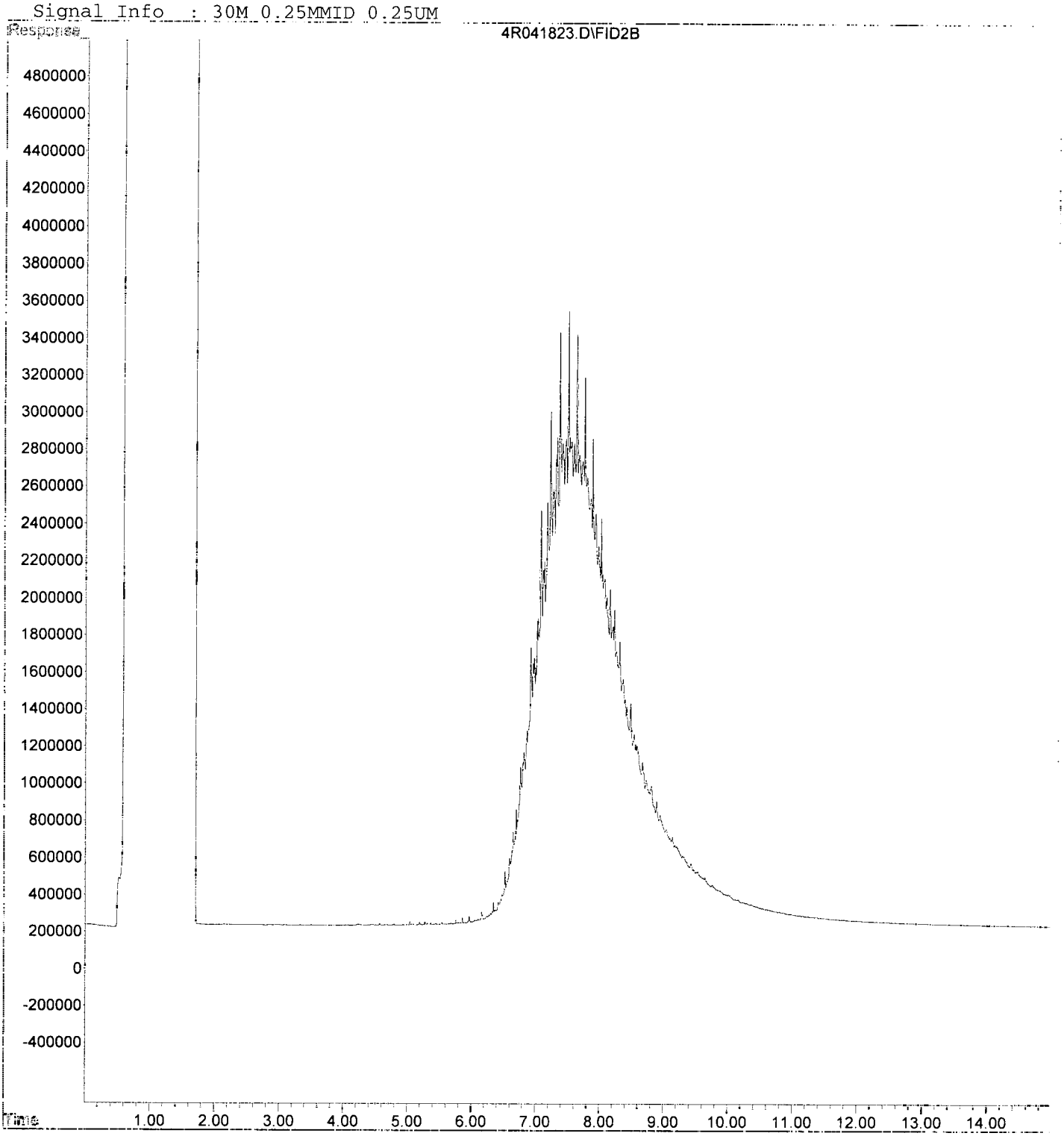
4R041823.D 4R90406D.M Fri Apr 19 14:30:43 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041823.D Vial: 19
Acq On : 18 Apr 2019 23:53 Operator: KEH
Sample : 9D18031-CALJ Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:28 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041824.D Vial: 100
Acq On : 19 Apr 2019 00:14 Operator: KEH
Sample : 9D18031-IBL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:28 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	6652230	4.589	ug/ml
2)	H	Diesel	6.00	6652230	4.589	ug/ml
3)	H	DRO(C12-C24)	6.00	6652230	4.589	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	2049113	1.912	ug/ml
5)	H	TPHd (C10-C25)	6.00	3474071	2.577	ug/ml
7)	H	Oil	9.00	15400229	11.440	ug/ml
8)	H	RRO (C24-C40)	9.00	15400229	11.440	ug/ml
9)	H	TPHmo (C25-C36)	8.00	4759249	5.757	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	3531749	4.018	ug/ml

NP
KEH 4/19/19

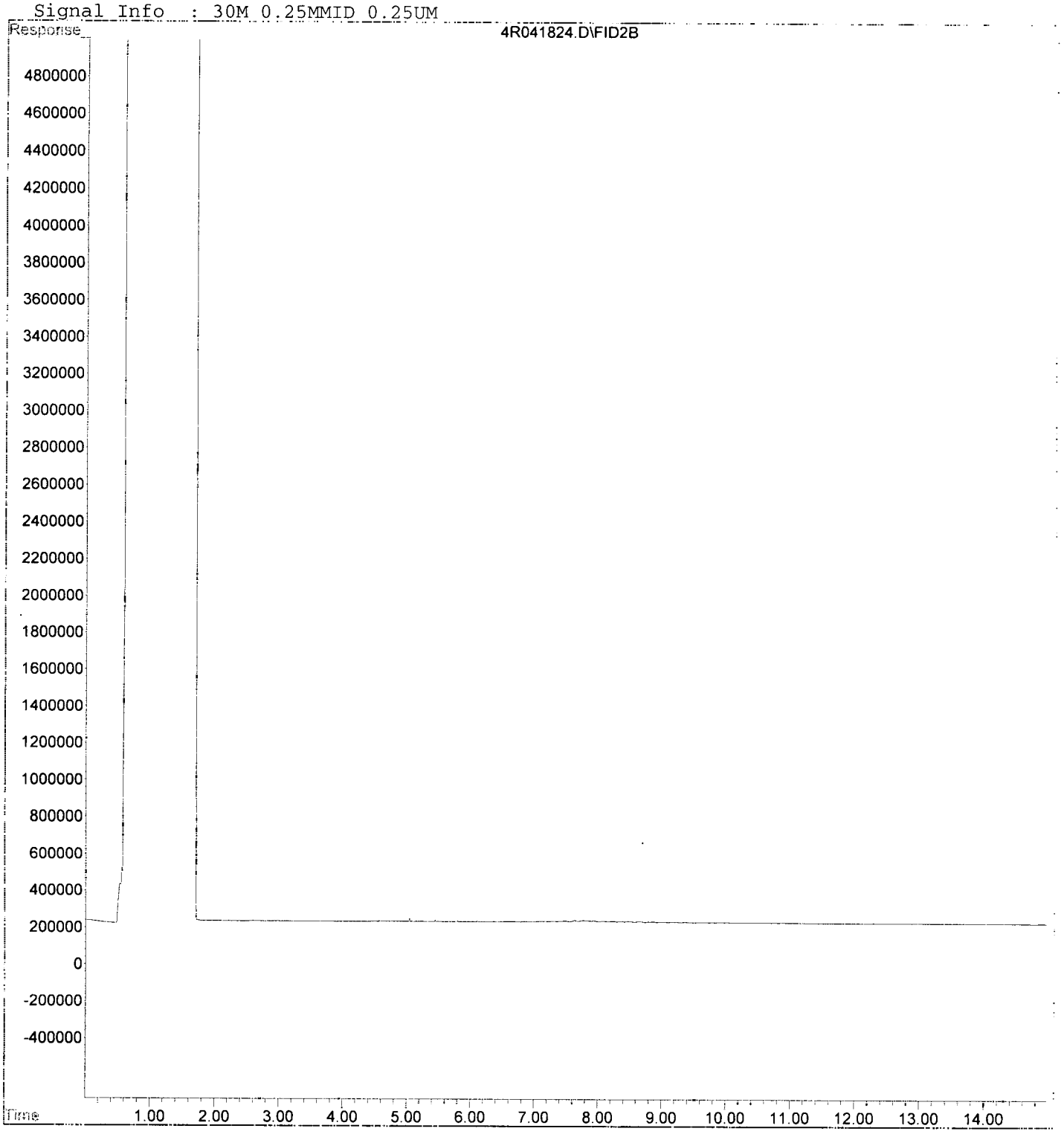
(f)=RT Delta > 1/2 Window (m)=manual int.
4R041824.D 4R90406D.M Fri Apr 19 14:30:44 2019 SV-GCMS3

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041824.D Vial: 100
Acq On : 19 Apr 2019 00:14 Operator: KEH
Sample : 9D18031-IBL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:28 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041825.D Vial: 20
Acq On : 19 Apr 2019 00:36 Operator: KEH
Sample : 9D18031-CALK Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:28 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	3815717995	2632.307	ug/ml
2)	H	Diesel	6.00	3815717995	2632.307	ug/ml
3)	H	DRO(C12-C24)	6.00	3815717995	2632.307	ug/ml
4)	H	CA LUFT DRO (C12-C22)	0.00	0	N.D.	ug/ml
5)	H	TPHd (C10-C25)	6.00	1336624381	991.384	ug/ml
7)	H	Oil	9.00	5131005335	3811.712	ug/ml
8)	H	RRO (C24-C40)	9.00	5131005335	3811.712	ug/ml
9)	H	TPHmo (C25-C36)	8.00	3129553252	3785.714	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	3293063992	3746.336	ug/ml

KAH 4/19/19

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

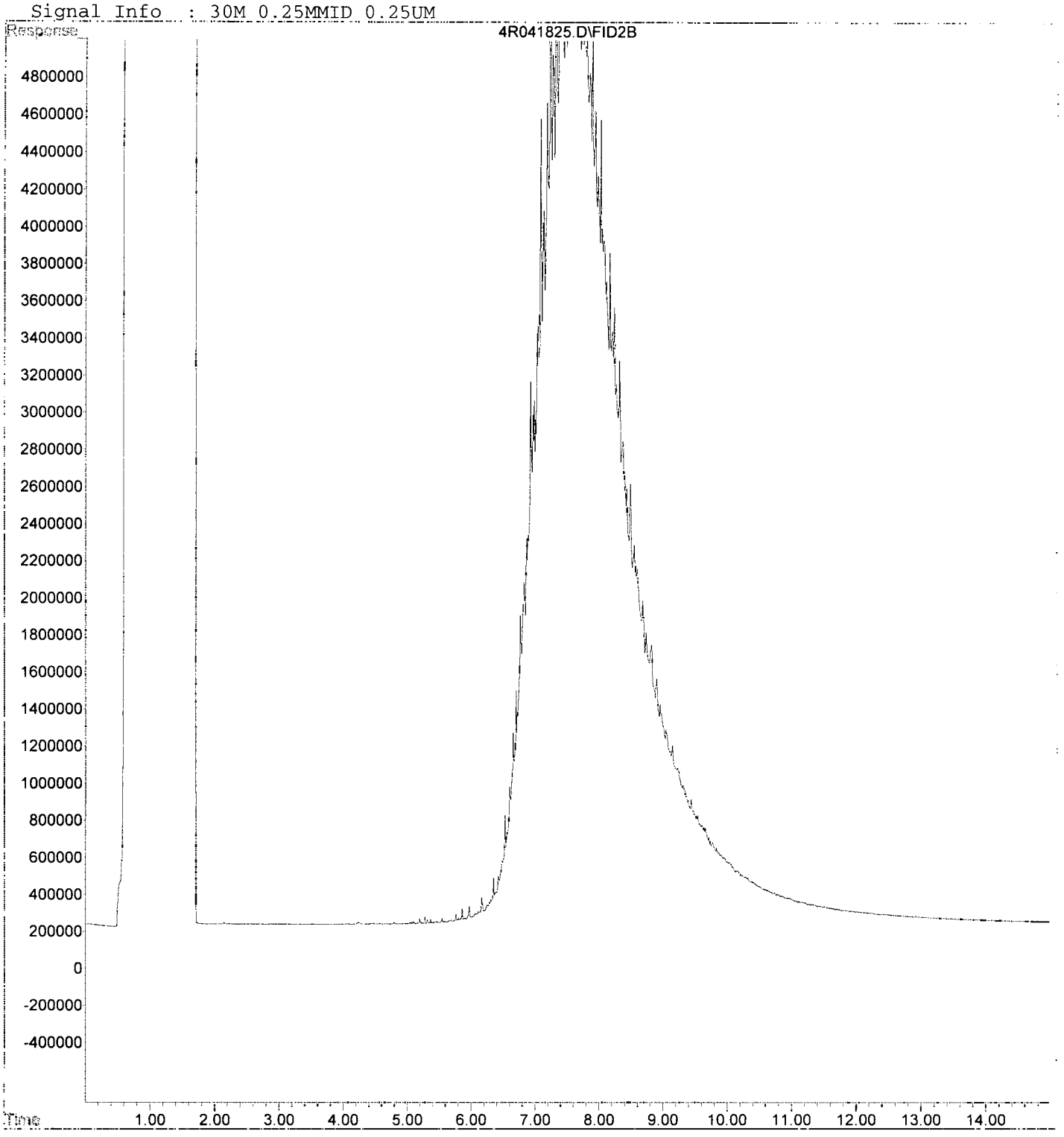
4R041825.D 4R90406D.M Fri Apr 19 14:30:44 2019 SV-GCMS3

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041825.D Vial: 20
Acq On : 19 Apr 2019 00:36 Operator: KEH
Sample : 9D18031-CALK Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:28 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041826.D Vial: 100
Acq On : 19 Apr 2019 00:57 Operator: KEH
Sample : 9D18031-IBL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:29 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	12242588	8.446	ug/ml
2)	H	Diesel	6.00	12242588	8.446	ug/ml
3)	H	DRO(C12-C24)	6.00	12242588	8.446	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	2987451	2.788	ug/ml
5)	H	TPHd (C10-C25)	6.00	5346048	3.965	ug/ml
7)	H	Oil	9.00	26283677	19.526	ug/ml
8)	H	RRO (C24-C40)	9.00	26283677	19.526	ug/ml
9)	H	TPHmo (C25-C36)	8.00	8955444	10.833	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	7198138	8.189	ug/ml

NR
KEH 4/19/19

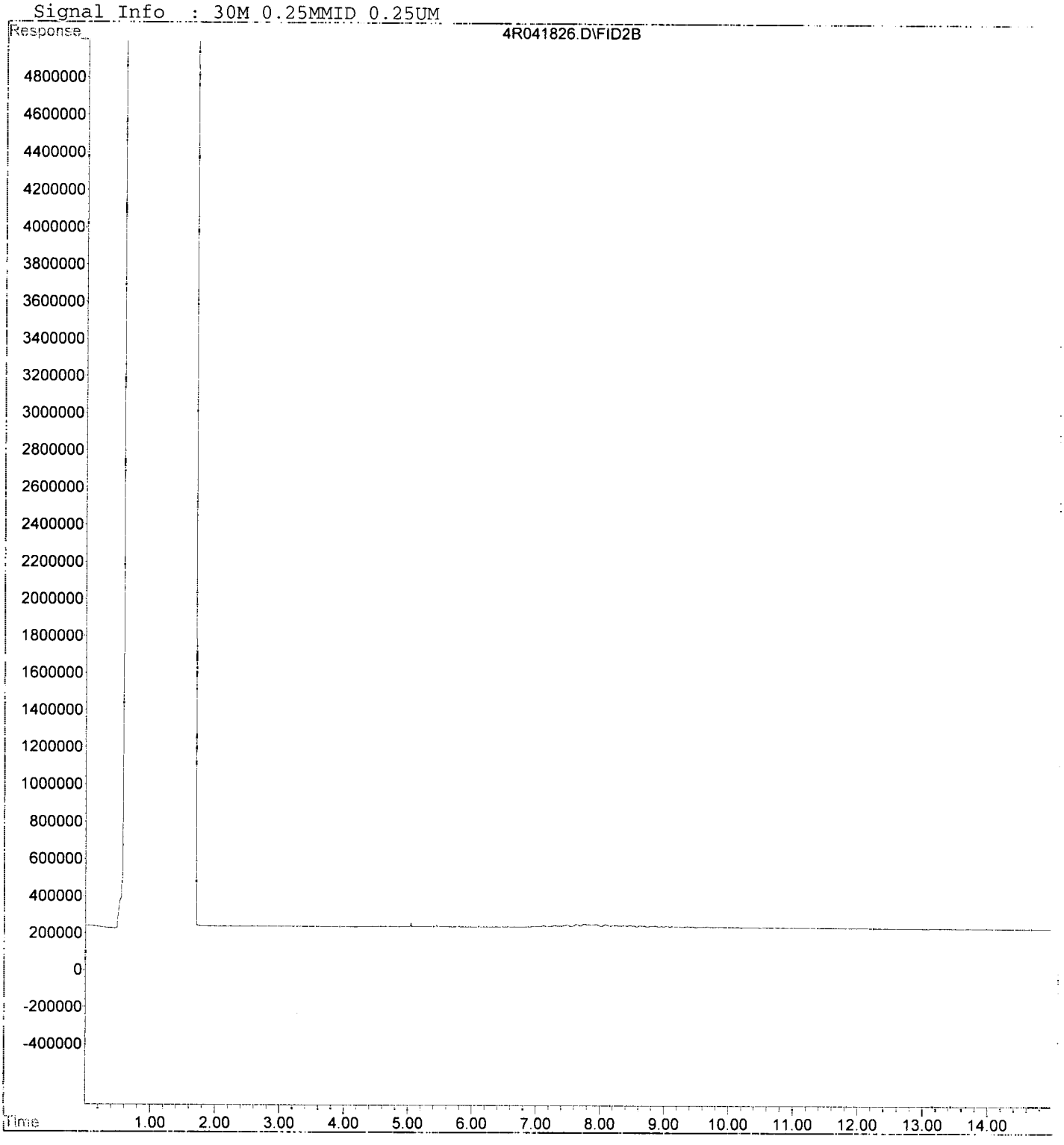
(f)=RT Delta > 1/2 Window (m) = manual int.

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041826.D Vial: 100
Acq On : 19 Apr 2019 00:57 Operator: KEH
Sample : 9D18031-IBL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:29 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041827.D Vial: 21
Acq On : 19 Apr 2019 1:18 Operator: KEH
Sample : 9D18031-ICV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:29 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	1052340698	725.967	ug/ml
2)	H	Diesel	6.00	1052340698	725.967	ug/ml
3)	H	DRO(C12-C24)	6.00	1052340698	725.967	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	813999920	759.537	ug/ml
5)	H	TPHd (C10-C25)	6.00	997607792	739.933	ug/ml
7)	H	Oil	9.00	305036934	226.605	ug/ml
8)	H	RRO (C24-C40)	9.00	305036934	226.605	ug/ml
9)	H	TPHmo (C25-C36)	8.00	13525850	16.362	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	35938638	40.885	ug/ml

KEH 4/19/19

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

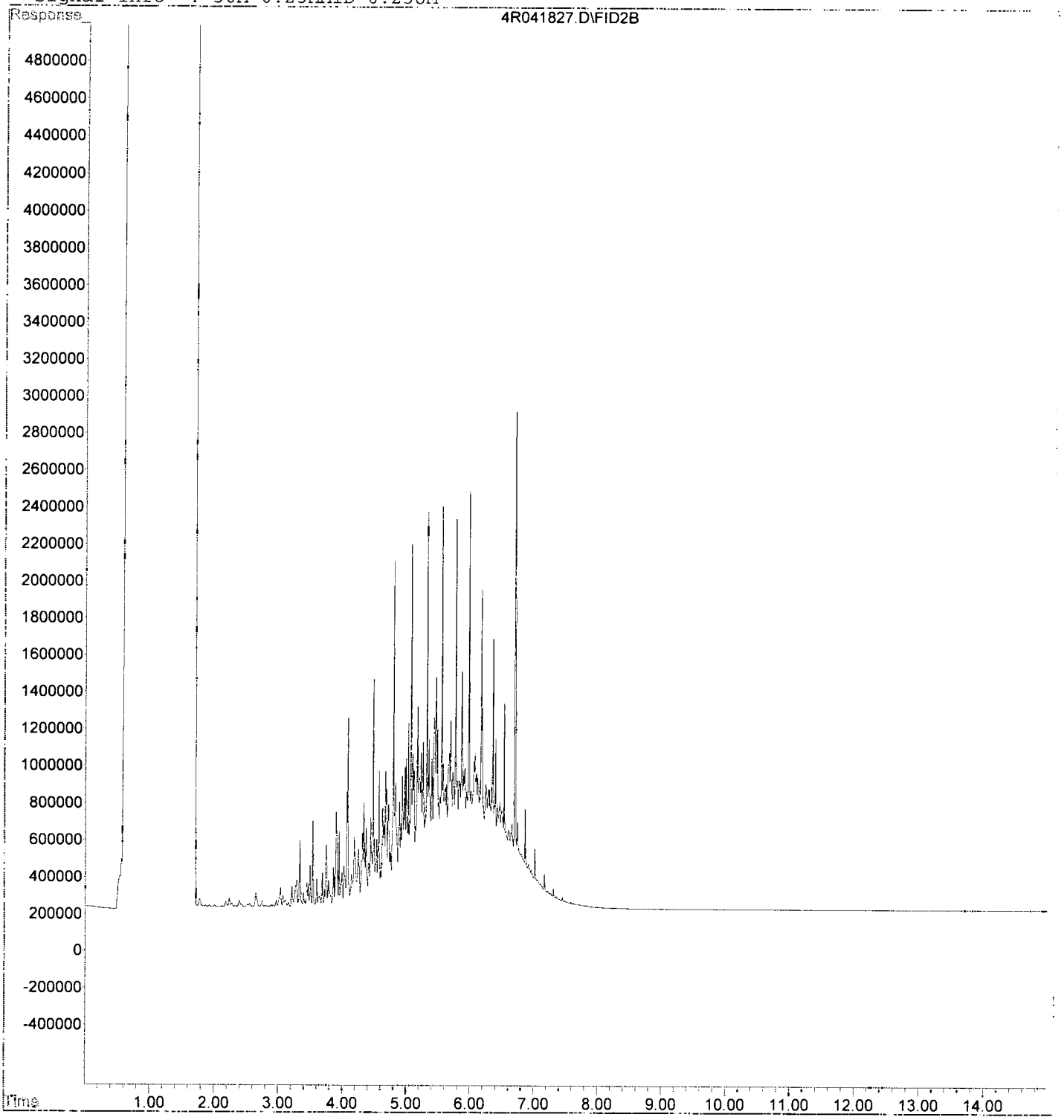
4R041827.D 4R90406D.M Fri Apr 19 14:30:46 2019 SV-GCMS3

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041827.D Vial: 21
Acq On : 19 Apr 2019 1:18 Operator: KEH
Sample : 9D18031-ICV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:29 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041828.D Vial: 22
Acq On : 19 Apr 2019 1:40 Operator: KEH
Sample : 9D18031-ICV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:30 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Initial Calibration
DataAcq Meth : A4F60831.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	791889949	546.292	ug/ml
2)	H	Diesel	6.00	791889949	546.292	ug/ml
3)	H	DRO(C12-C24)	6.00	791889949	546.292	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	78803389	73.531	ug/ml
5)	H	TPHd (C10-C25)	6.00	301175012	223.384	ug/ml
7)	H	Oil	9.00	1014033369	753.303	ug/ml
8)	H	RRO (C24-C40)	9.00	1014033369	753.303	ug/ml
9)	H	TPHmo (C25-C36)	8.00	582725417	704.903	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	661653772	752.727	ug/ml

KAH 4/19/19

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

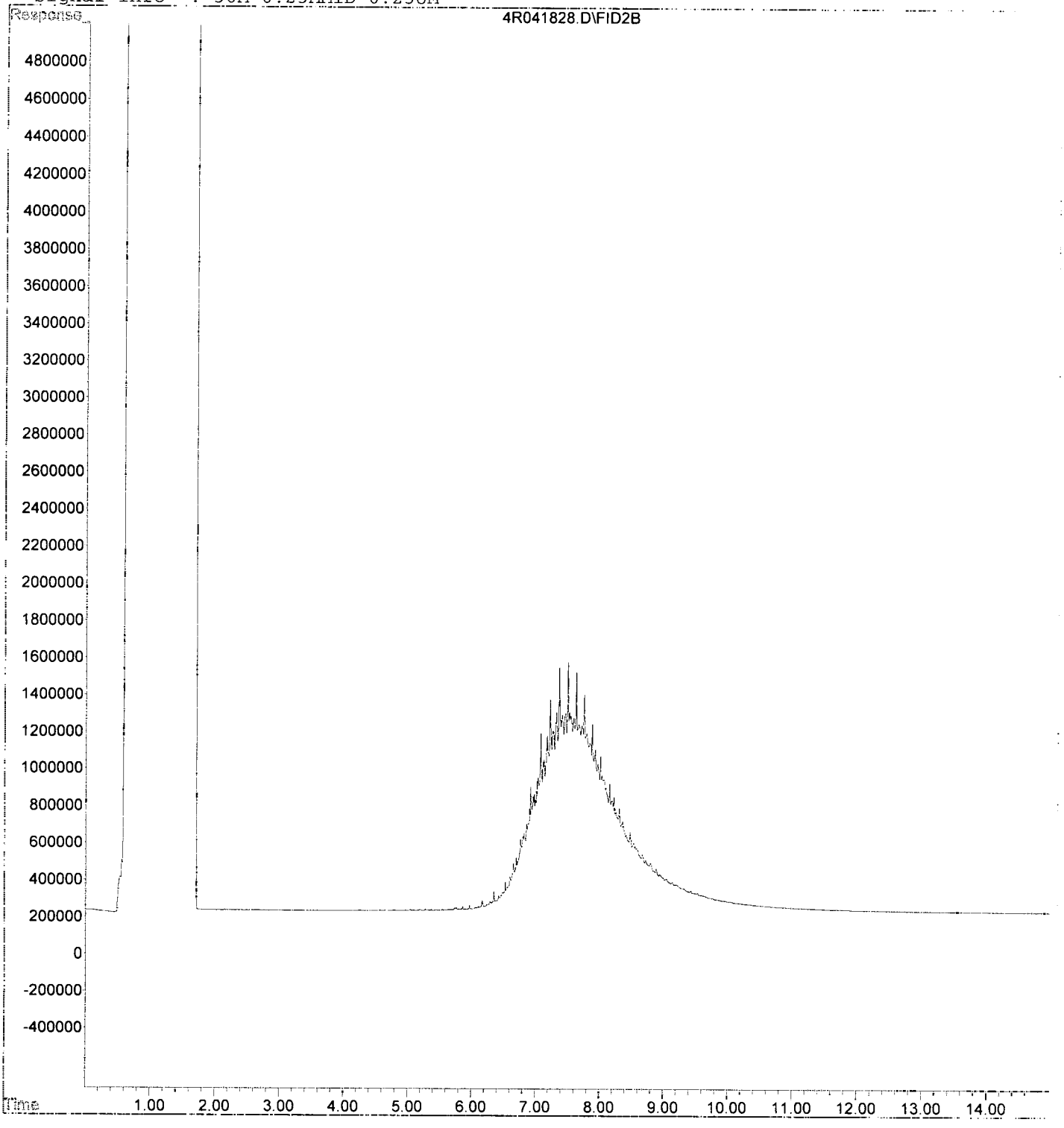
4R041828.D 4R90406D.M Fri Apr 19 14:30:46 2019 SV-GCMS3

Quantitation Report (QT Reviewed)

Data File : G:\4\DATA\2019-04\9D18031\4R041828.D Vial: 22
Acq On : 19 Apr 2019 1:40 Operator: KEH
Sample : 9D18031-ICV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 19 14:30 2019 Quant Results File: 4R90406D.RES

Quant Method : G:\4\METHODS\4R90406D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:23:52 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

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



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

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

Benchsheet & Analysis Sequence Data

Batch 9051092

Sequence 9E21036 (A9E0677-01)

PREPARATION BENCH SHEET

BATCH #: 9051092 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9051092-BLK1		QC	05/21/19 11:00	7.5	5							
9051092-BS1		QC	05/21/19 11:00	5	5	A19E231		250				
9051092-BS2		QC	05/21/19 11:00	5	5	A19E163		250				
A9E0427-01RE1	A	NWTPH-Gx	05/20/19 15:10	6.54	5					Gasoline in Soil - PT	MOD, PT, 1000X RR2 Due to prov	
A9E0427-01RE1	A	CA LUFT GRO	05/20/19 15:10	6.54	5					Gasoline in Soil - PT	MOD, PT, 1000X RR2 Due to prov	
A9E0427-01RE1	A	8015D-Mod Gasoline (C6-C1	05/20/19 15:10	6.54	5					Gasoline in Soil - PT	MOD, PT, 1000X RR2 Due to prov	
A9E0502-01RE1	C	8260C Full List	05/15/19 16:25	3.01	5					134947	MOD 100,000X 111TCA and DCM	
A9E0515-01	B	8260C RBDM List	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8260C BTEX+N	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	NWTPH-Gx	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	CA LUFT GRO	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8015D-Mod Gasoline (C6-C1	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8260C BTEX	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8260C Full List	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP	
9051092-DUP1		QC	05/15/19 10:30	4.92	5		A9E0515-01					
A9E0515-05	B	8260C Full List	(Date Sampled)	5.49	5					HA-1(12-12.5)	FP	
A9E0515-06	B	8260C Full List	(Date Sampled)	5.09	5					HA-1(15-15.5)	FP	
A9E0515-07	B	8260C BTEX	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	8260C RBDM List	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	NWTPH-Gx	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	8015D-Mod Gasoline (C6-C1	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	CA LUFT GRO	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	

Prepared By: [signature] 5/22/19 Date

Reviewed By: [signature] 5/22/19 Date

PREPARATION BENCH SHEET

BATCH #: 9051092 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
A9E0515-07	B	8260C Full List	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP	
A9E0515-07	B	8260C BTEX+N	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
9051092-MS1		QC	05/15/19 14:15	4.77	5	A19E231	A9E0515-07	282			DW=86.5% @50X	
A9E0575-01	B	8260C BTEX+N	(Date Sampled)	5.11	5					13-8.8	FP	
A9E0582-01RE1	C	NWTPH-Gx	(Date Sampled)	3.42	5					2708-190515-005	FP 20,000 RR1	
A9E0582-01RE1	C	8260C Full List	(Date Sampled)	3.42	5					2708-190515-005	FP 20,000 RR1	
A9E0586-02RE1	B	8260C BTEX+N	(Date Sampled)	5.34	5					SS-5-1.5	FP 50X RR3	
A9E0670-05	B	NWTPH-Gx	05/21/19 12:15	21.38	40					SW Solids-Comp	MOD COMP	
A9E0672-01	B	NWTPH-Gx	(Date Sampled)	3.09	5					Carbon-01	FP, Custom list OUT OF TEMP	
A9E0672-01	B	8260C RBDM List	(Date Sampled)	3.09	5					Carbon-01	FP, Custom list OUT OF TEMP	
A9E0675-01	D	8260C BTEX	05/21/19 13:00	5.64	5					Catch Basin Composite	MOD	
A9E0677-01	E	8260C Full List	05/21/19 13:35	3.13	5					2708-190520-006	MOD	
A9E0677-01	E	NWTPH-Gx	05/21/19 13:35	3.13	5					2708-190520-006	MOD	

*pH <2 verified_____

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A16L123	11/30/23	Sample Prep Bal 3
A19C375	09/25/19	Methanol - Fisher (P/T) #185562

Analyte Spike(s)

Std ID	Exp. Date	Description
A19E163	11/09/19	Prim NWTPH-Gx Spike (500 ug/mL)
A19E231	11/09/19	8260B Cal. Std. B VOC Spike Mix (20-40ug/ml

Surrogate(s)

Std ID	Exp. Date	Description

SOIL MS6

Prepared By: _____ Date 5/22/19

Reviewed By: _____ Date

Worksheet

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

Sample ID	Container	Container Weight (g)	Tare Weight (g)	Net Sample Weight (g)	Formula Check
A9E0515-01	B	39.06	33.89	5.17	
A9E0515-01	C DUP	38.58	33.66	4.92	
A9E0515-05	B	39.11	33.62	5.49	
A9E0515-06	B	38.87	33.78	5.09	
A9E0515-07	B	38.44	33.67	4.77	
A9E0575-01	B	38.59	33.48	5.11	
A9E0672-01	B	36.2	33.11	3.09	

5/22/19

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

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

Batch: 9051092

Matrix Spike

Sample Weight	Final Volume	Dilution	Dry Weight
g	mL		%
4.770	5	50	86.5
			0.865

Final Spike Level	**Spike Amount**
ug/kg	**ul**
1367.88	**282**

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

A9E0515-07

5/22/19

Volatiles Composite Worksheet
Validated 5/13/16

Save file a

Sample ID	Container ID	Weight (g)		Final Volume (mL)
A9E0670-01	B	5.350		10
A9E0670-02	B	5.190		10
A9E0670-03	B	5.280		10
A9E0670-04	B	5.560		10
Composite Total Weight (g)	A9E0670-05	**21.38**		**40**

5/21/19

A9E0675

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9E0675-01	Catch Basin Composite						Sampled:	05/15/19 10:00
D Solid	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used: A	Sample Weight (g): 5.64	Volume MeOH (mL): 5 10 15	Prepared By: TAM	Prepared date/time: @ 5-21-19 13:30	Within 48 hours? Y (N)	Notes: mos

8260C BTEX Expires: 05/17/19 10:00 Due: 05/28/19 17:00

Comments: soil mg/kg

Methanol Reagent ID: A19C375~ Balance ID: A18J327~

A9E0677

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9E0677-01	2708-190520-006	Sampled: 05/20/19 15:00

		Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
E Solid	40 mL VOA - In House Prep - 5035 (MeOH)	X	3.13	(5) 10 15	MS @	13:35	(Y) N	MOD, Strong Odor

8260C Full List Expires: 05/22/19 15:00 Due: 05/23/19 17:00
Comments: Strong Odor

NWTPH-Gx Expires: 05/22/19 15:00 Due: 05/28/19 17:00
Comments: Strong Odor

A9E0515

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0515-01 HA-1(2-2.5) Sampled: **05/15/19 10:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.06	Tare Weight (g): 33.89	Volume MeOH (mL): 5 10 15 Other	Notes:
Dup C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.58	Tare Weight (g): 33.66	Volume MeOH (mL): 5 10 15 Other	Notes:

8260 Due: TAT:

A9E0515-02 HA-1(5-5.5) Sampled: **05/15/19 11:00**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.05	Tare Weight (g): 33.83	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 37.31	Tare Weight (g): 33.24	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: TAT:

A9E0515-03 HA-1(8-8.5) Sampled: **05/15/19 11:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.29	Tare Weight (g): 33.81	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.88	Tare Weight (g): 33.90	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: TAT:

A9E0515-04 HA-1(9.5-10) Sampled: **05/15/19 12:00**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 37.98	Tare Weight (g): 33.77	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.59	Tare Weight (g): 33.79	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: TAT:

A9E0515-05 HA-1(12-12.5) Sampled: **05/15/19 12:45**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.11	Tare Weight (g): 33.62	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.07	Tare Weight (g): 33.76	Volume MeOH (mL): 5 10 15 Other	Notes:

8260 Due: TAT:

Weighed by: _____ @ 5/18/19 1955

Methanol Reagent ID: A19C375~ Balance ID: A18J327~

A9E0515

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0515-06 — **HA-1(15-15.5)** — Sampled: **05/15/19 13:15**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
(B)	Soil	40 mL VOA - 5035 (MeOH)	38.87	33.78	(5) 10 15 Other	
C	Soil	40 mL VOA - 5035 (MeOH)	39.00	33.64	(5) 10 15 Other	

8260

Due: TAT:

A9E0515-07 — **HA-2(2-2.5)** — Sampled: **05/15/19 14:15**

MS

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
(B)	Soil	40 mL VOA - 5035 (MeOH)	38.44	33.67	(5) 10 15 Other	DW=@ 6.5%
C	Soil	40 mL VOA - 5035 (MeOH)	38.51	33.76	(5) 10 15 Other	

Due: TAT:

A9E0515-08 — **HA-2(5-5.5)** — Sampled: **05/15/19 14:45**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B	Soil	40 mL VOA - 5035 (MeOH)	38.53	33.63	(5) 10 15 Other	
C	Soil	40 mL VOA - 5035 (MeOH)	38.70	33.54	(5) 10 15 Other	

Due: TAT:

A9E0515-09 — **HA-2(7-7.5)** — Sampled: **05/15/19 15:15**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B	Soil	40 mL VOA - 5035 (MeOH)	38.72	33.93	(5) 10 15 Other	
C	Soil	40 mL VOA - 5035 (MeOH)	38.27	33.69	(5) 10 15 Other	

Due: TAT:

A9E0515-10 — **HA-2(9.5-10)** — Sampled: **05/15/19 15:30**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B	Soil	40 mL VOA - 5035 (MeOH)	38.37	33.95	(5) 10 15 Other	
C	Soil	40 mL VOA - 5035 (MeOH)	38.77	33.53	(5) 10 15 Other	

Due: TAT:

Weighed by: _____ @ 5/15/19 1955

Methanol Reagent ID: A19C375~ Balance ID: A18J327~

A9E0575

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0575-01 | **13-8.8** | Sampled: **05/16/19 09:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.59	Tare Weight (g): 33.48	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.83	Tare Weight (g): 33.50	Volume MeOH (mL): 5 10 15 Other	Notes:

BTEXN | Due: | TAT:

A9E0575-02 | **14-8.2** | Sampled: **05/16/19 10:00**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.77	Tare Weight (g): 33.55	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.80	Tare Weight (g): 33.57	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: | TAT:

A9E0575-03 | **15-8.7** | Sampled: **05/16/19 10:10**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.38	Tare Weight (g): 33.47	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.73	Tare Weight (g): 33.43	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: | TAT:

A9E0575-04 | **16-8.8** | Sampled: **05/16/19 10:20**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.01	Tare Weight (g): 33.58	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 40.10	Tare Weight (g): 34.09	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: | TAT:

A9E0575-05 | **17-8.9** | Sampled: **05/16/19 10:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 42.30	Tare Weight (g): 34.11	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.8019	Tare Weight (g): 33.59	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: 5/17 | TAT:

Weighed by: MD @ 5/17/19 10:52

Methanol Reagent ID: A19C375~ Balance ID: A18J327~

A9E0672

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0672-01		Carbon-01			Sampled: 05/17/19 09:00
B Solid	40 mL VOA - 5035 (MeOH)	Container Weight (g): 36.20	Tare Weight (g): 33.11	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Solid	40 mL VOA - 5035 (MeOH)	Container Weight (g): 36.55	Tare Weight (g): 33.48	Volume MeOH (mL): (5) 10 15 Other	Notes:

GX RBOM Due: TAT: DW cancelled

out of temp

Weighed by: _____ @ 5/21/19 1235

Methanol Reagent ID: A19C379 Balance ID: A16J327

A9E0670

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9E0670-01 — **SW Solids-1A** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.34 S acc 5/21/19	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, HS, absorbent

Expires: acc 5/21/19 Due:

A9E0670-02 — **SW Solids-1B** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.19	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, odor, absorbent

Expires: acc 5/21/19 Due:

A9E0670-03 — **SW Solids-1C** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.28	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, absorbent

Expires: acc 5/21/19 Due:

A9E0670-04 — **SW Solids-1D** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.56	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, absorbent

Expires: acc 5/21/19 Due:

A9E0670-05 — **SW Solids-Comp** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B				5 10 15	@	acc 5/21/19	Y N	

NWTPH-Gx — Expires: 05/27/19 10:00 Due: 05/21/19 17:00

VOLS COMPOSITE

6X

Item Analyte Ranges

GASOLINE IN SOIL - PT

Item Number: SPE008-30G

VPH Aliphatic >C6-C8	0 to 1000 mg/Kg
Benzene	0 to 100 mg/Kg
Ethylbenzene	0 to 100 mg/Kg
Methyl tert-butyl ether (MTBE)	0 to 100 mg/Kg
Naphthalene	0 to 100 mg/Kg
Toluene	0 to 100 mg/Kg
Total Purgeable Hydrocarbons	15 to 2000 mg/Kg
m+p-Xylene	0 to 300 mg/Kg
o-Xylene	0 to 100 mg/Kg
Xylene, total	0 to 300 mg/Kg
VPH Aliphatic >C8-C10	0 to 1000 mg/Kg
VPH Aliphatic C5-C6	0 to 1000 mg/Kg
VPH Aliphatic C5-C8	0 to 1500 mg/Kg
VPH Aliphatic C5-C8 Unadjusted	0 to 1500 mg/Kg
VPH Aliphatic C9-C12	0 to 1500 mg/Kg
VPH Aliphatic C9-C12 Unadjusted	0 to 1500 mg/Kg
VPH Aromatic >C8-C10	0 to 1000 mg/Kg
VPH Aromatic C9-C10	0 to 1500 mg/Kg
VPH Aromatic >C10-C12	0 to 1500 mg/Kg
VPH Aromatic C8-C10	0 to 1000 mg/Kg
VPH Aliphatic >C10-C12	0 to 1500 mg/Kg
C10-C12 Aliphatic Hydrocarbons	0 to 2000 mg/Kg
C10-C12 Aromatics Hydrocarbons	0 to 2000 mg/Kg
VPH Aromatics >C12-C13	0 to 2000 mg/Kg
Gasoline Range Organics (GRO)	100 to 2000 mg/kg 1370
Gasoline range organics (GRO), C4-C12	100 to 2000 mg/Kg
Gasoline range organics (GRO), C5-C10	100 to 2000 mg/Kg
Gasoline Range Organics, C6-C10	10 to 2000 mg/Kg 1260
Gasoline Range Organics, C6-C12	100 to 2000 mg/Kg
Total VPH	100 to 2000 mg/Kg

End of SPE008-30G ranges

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9E21036**	Instrument:	**VOA-GCMS6**
Date:	**05/21/19 10:39**	Calibration:	**A9E0804**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E21036-IBL1	Soil	QC	QC			A19D196	
2	9E21036-TUN1	Soil	QC	QC			A19D196	
3	9E21036-CCV1	Soil	QC	QC			A19D196	
4	9051092-BS1	Soil	QC	QC		9051092	A19D196	
5	9E21036-CCV2	Soil	QC	QC			A19D196	
6	9051092-BS2	Soil	QC	QC		9051092	A19D196	
7	9051092-BLK1	Soil	QC	QC		9051092	A19D196	
8	9E21036-IBL2	Soil	QC	QC			A19D196	
9	A9E0586-02RE1	Soil	8260C BTEX+N		05/24/19	9051092	A19D196	
10	A9E0427-01RE1	Soil	8015D-Mod Gasoline (C6-C10) by GC		05/21/19	9051092	A19D196	
"	"	Soil	CA LUFT GRO	"	05/21/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/21/19	9051092	A19D196	
11	A9E0575-01	Soil	8260C BTEX+N		05/22/19	9051092	A19D196	
12	9E21036-IBL3	Soil	QC	QC			A19D196	
13	A9E0515-01	Soil	8260C Full List		05/29/19	9051092	A19D196	
"	"	Soil	8015D-Mod Gasoline (C6-C10) by GC	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX+N	(QC Source)		9051092	A19D196	
"	"	Soil	8260C RBDM List	(QC Source)		9051092	A19D196	
"	"	Soil	CA LUFT GRO	(QC Source)		9051092	A19D196	
"	"	Soil	NWTPH-Gx	(QC Source)		9051092	A19D196	
14	9051092-DUP1	Soil	QC	QC		9051092	A19D196	
15	A9E0515-05	Soil	8260C Full List		05/29/19	9051092	A19D196	
16	A9E0515-06	Soil	8260C Full List		05/29/19	9051092	A19D196	
17	A9E0515-07	Soil	8260C Full List		05/29/19	9051092	A19D196	
"	"	Soil	8015D-Mod Gasoline (C6-C10) by GC	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX+N	(QC Source)		9051092	A19D196	
"	"	Soil	8260C RBDM List	(QC Source)		9051092	A19D196	
"	"	Soil	CA LUFT GRO	(QC Source)		9051092	A19D196	
"	"	Soil	NWTPH-Gx	(QC Source)		9051092	A19D196	
18	9051092-MS1	Soil	QC	QC		9051092	A19D196	
19	9E21036-IBL4	Soil	QC	QC			A19D196	
20	A9E0582-01RE1	Soil	8260C Full List	Hahn and Associates	05/22/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/22/19	9051092	A19D196	
21	9E21036-IBL5	Soil	QC	QC			A19D196	
22	A9E0672-01	Soil	8260C RBDM List		05/24/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/24/19	9051092	A19D196	
23	A9E0670-05	Soil	NWTPH-Gx		05/24/19	9051092	A19D196	
24	9E21036-IBL6	Soil	QC	QC			A19D196	
25	A9E0502-01RE1	Soil	8260C Full List		05/22/19	9051092	A19D196	
26	A9E0675-01	Soil	8260C BTEX		05/28/19	9051092	A19D196	
27	A9E0677-01	Soil	8260C Full List	Hahn and Associates	05/23/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/28/19	9051092	A19D196	
28	9E21036-IBL7	Soil	QC	QC			A19D196	

Comments: TMDL MRL for 1112 TCA, $CHBrCl_2$, $CHBr_3$, CCl_4

TMDL = MRL for DCM (Q55)

Data Entered By: 5/22/19

Data Reviewed By: 5/22/19

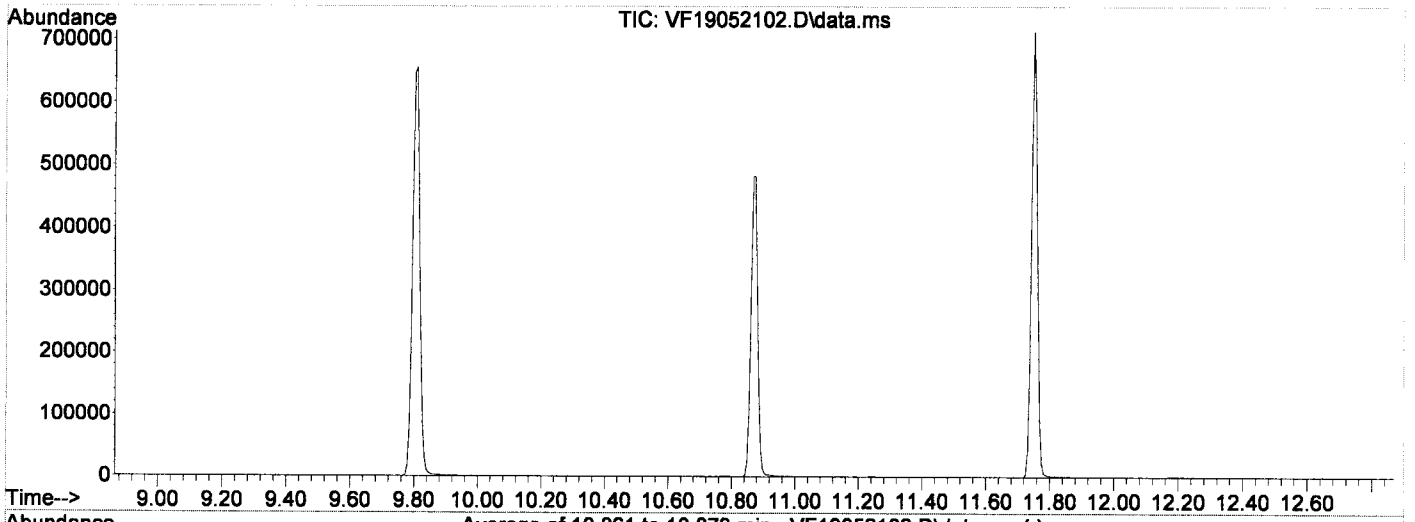
BFB

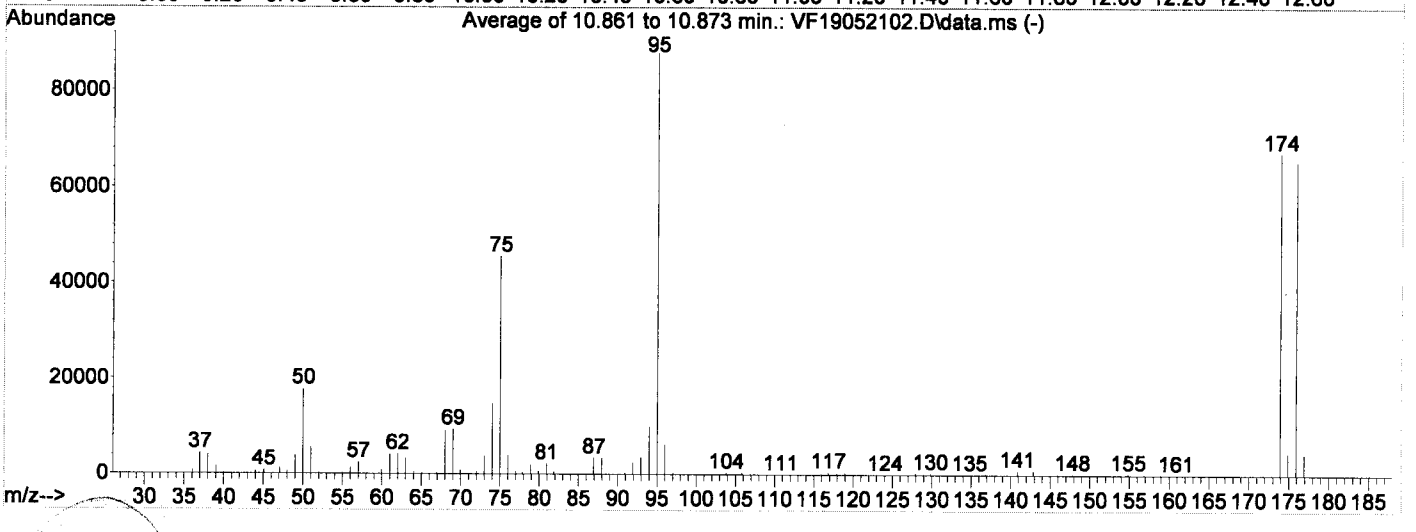
Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 13:32:58 2019

5/22/19





AutoFind: Scans 1524, 1525, 1526; Background Corrected with Scan 1518

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	20.2	17747	PASS
75	95	30	60	51.9	45544	PASS
95	95	100	100	100.0	87738	PASS
96	95	5	9	7.1	6197	PASS
173	174	0.00	2	0.1	83	PASS
174	95	50	200	76.5	67144	PASS
175	174	5	9	6.9	4646	PASS
176	174	95	101	97.2	65264	PASS
177	176	5	9	6.7	4357	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:47:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/21/19

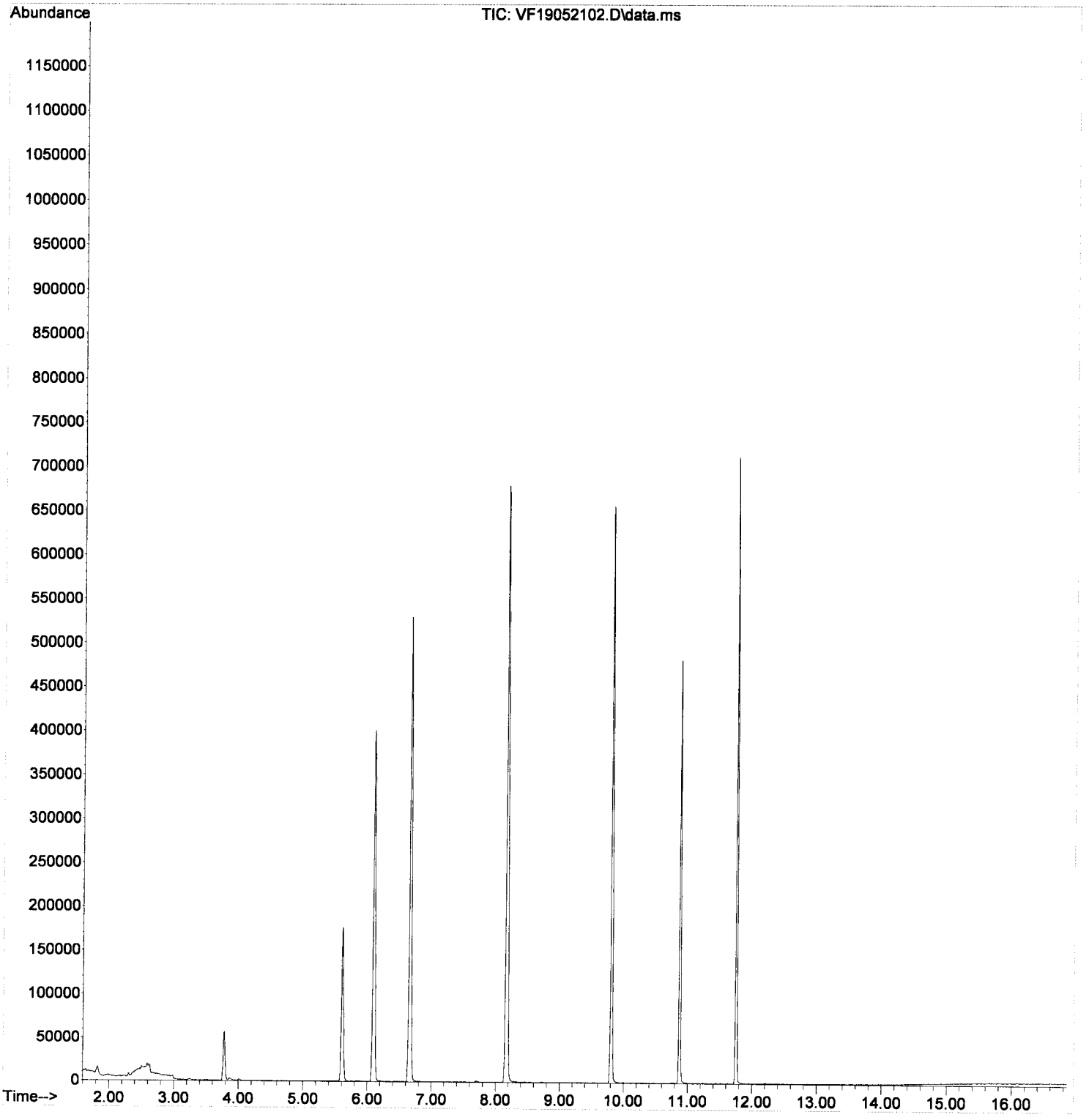
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.098	168	305021	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.809	117	349527	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	148454	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (S)	5.611	111	119419	48.80 ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.657	114	474446	50.34 ug/L	0.00
39) Toluene-d8 (S)	8.166	98	526733	50.97 ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.873	174	116943	51.16 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.845	50	790	0.19 ug/L	84
5) Bromomethane	2.308	96	1405	0.55 ug/L	96
9) Carbon Disulfide	3.141	76	269	0.26 ug/L	77
12) Methylene Chloride	3.780	84	27315	3.38 ug/L	99
13) Acetone	3.877	43	4210	2.69 ug/L	96
28) 2-Butanone (MEK)	5.763	43	449	0.19 ug/L	54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:47:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/29/19

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	131	0.00	
2		Dichlorodifluoromethane	20.000	24.382	-21.9#	158	0.00	Q56
3	P	Chloromethane	20.000	20.348	-1.7	130	0.00	
4	C	Vinyl Chloride	20.000	20.851	-4.3	133	0.00	
5		Bromomethane	20.000	22.431	-12.2	149	0.00	
6		Chloroethane	20.000	16.726	16.4	106	0.00	
7		Trichlorofluoromethane	20.000	18.932	5.3	118	0.00	
8	C	1,1-Dichloroethene	20.000	16.194	19.0	101	0.00	
9		Carbon Disulfide	20.000	19.327	3.4	131	0.00	
10		Freon 113	20.000	20.174	-0.9	128	0.00	
11		Iodomethane	20.000	21.850	-9.3	171	0.00	
12		Methylene Chloride	20.000	14.295	28.5#	95	0.00	Q55
13		Acetone	40.000	35.948	10.1	110	0.00	
14		t-1,2-Dichloroethene	20.000	17.701	11.5	108	0.00	
15		n-Hexane	20.000	18.850	5.7	124	0.00	
16		Methyl-tert-butyl-ether	20.000	19.684	1.6	123	0.00	
17	P	1,1-Dichloroethane	20.000	17.979	10.1	107	0.00	
18		Acrylonitrile	20.000	20.276	-1.4	121	0.00	
19		c-1,2-Dichloroethene	20.000	19.978	0.1	118	0.00	
20		2,2-Dichloropropane	20.000	25.023	-25.1#	151	0.00	Q56
21		Bromochloromethane	20.000	20.306	-1.5	120	0.00	
22	C	Chloroform	20.000	19.981	0.1	121	0.00	
23		Carbon Tetrachloride	20.000	24.588	-22.9#	172	0.00	Q56
24		Tetrahydrofuran	20.000	18.479	7.6	114	0.00	
25		1,1,1-Trichloroethane	20.000	23.224	-16.1	135	0.00	
26	S	Dibromofluoromethane (S)	50.000	49.838	0.3	124	0.00	
27		1,1-Dichloropropene	20.000	20.266	-1.3	123	0.00	
28		2-Butanone (MEK)	40.000	38.615	3.5	119	0.00	
29		Benzene	20.000	19.555	2.2	122	0.00	
30		1,2-Dichloroethane (EDC)	20.000	18.538	7.3	114	0.00	
31		iso-Butyl Alcohol	500.000	581.588	-16.3	168	0.00	
32	S	1,4-Difluorobenzene (S)	50.000	49.891	0.2	131	0.00	
33		Trichloroethene (TCE)	20.000	19.450	2.8	121	0.00	
34		Dibromomethane	20.000	20.411	-2.1	120	0.00	
35	C	1,2-Dichloropropane	20.000	20.092	-0.5	125	0.00	
36		Bromodichloromethane	20.000	20.955	-4.8	143	0.00	
37		Chlorobenzene-d5 (I)	50.000	50.000	0.0	148	0.00	
38		c-1,3-Dichloropropene	20.000	19.312	3.4	142	0.00	
39	S	Toluene-d8 (S)	50.000	47.550	4.9	135	0.00	
40	C	Toluene	20.000	18.225	8.9	133	0.00	
41		Tetrachloroethene (PCE)	20.000	19.459	2.7	129	0.00	
42		4-Methyl-2-Pentanone (MIBK)	40.000	39.523	1.2	127	0.00	
43		t-1,3-Dichloropropene	20.000	20.178	-0.9	154	0.00	
44		1,1,2-Trichloroethane	20.000	20.575	-2.9	132	0.00	
45		Dibromochloromethane	20.000	21.558	-7.8	176	0.00	
46		1,3-Dichloropropane	20.000	19.895	0.5	129	0.00	
47		1,2-Dibromoethane (EDB)	20.000	19.523	2.4	142	0.00	
48		2-Hexanone	40.000	37.783	5.5	131	0.00	
49	P	Chlorobenzene	20.000	19.148	4.3	143	0.00	
50	C	Ethylbenzene	20.000	19.809	1.0	143	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 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		1,1,1,2-Tetrachloroethane	20.000	23.269	-16.3	190	0.00
52		m,p-Xylenes (2)	40.000	42.355	-5.9	144	0.00
53		o-Xylene	20.000	21.388	-6.9	149	0.00
54		Styrene	20.000	19.904	0.5	148	0.00
55	P	Bromoform	20.000	25.847	-29.2#	204	0.00 -Q56
56		Isopropylbenzene	20.000	22.451	-12.3	150	0.00
57	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	142	0.00
58	S	4-Bromofluorobenzene (S)	50.000	52.145	-4.3	150	0.00
59		Bromobenzene	20.000	21.273	-6.4	145	0.00
60		n-Propylbenzene	20.000	22.340	-11.7	150	0.00
61	P	1,1,2,2-Tetrachloroethane	20.000	23.615	-18.1	145	0.00
62		2-Chlorotoluene	20.000	22.019	-10.1	149	0.00
63		1,3,5-Trimethylbenzene	20.000	23.066	-15.3	147	0.00
64		1,2,3-Trichloropropane	20.000	21.199	-6.0	138	0.00
65		t-1,4-Dichloro-2-butene	20.000	22.891	-14.5	203	0.00
66		4-Chlorotoluene	20.000	22.309	-11.5	148	0.00
67		tert-Butylbenzene	20.000	22.311	-11.6	145	0.00
68		1,2,4-Trimethylbenzene	20.000	22.840	-14.2	144	0.00
69		sec-Butylbenzene	20.000	22.712	-13.6	148	0.00
70		4-Isopropyltoluene	20.000	22.011	-10.1	144	0.00
71		1,3-Dichlorobenzene	20.000	20.859	-4.3	140	0.00
72		1,4-Dichlorobenzene	20.000	19.566	2.2	138	0.00
73		n-Butylbenzene	20.000	22.675	-13.4	148	0.00
74		1,2-Dichlorobenzene	20.000	20.674	-3.4	135	0.00
75		1,2-Dibromo-3-Chloropropane	20.000	21.189	-5.9	182	0.00
76		Hexachlorobutadiene	20.000	20.419	-2.1	136	0.00
77		1,2,4-Trichlorobenzene	20.000	21.296	-6.5	133	0.00
78		Naphthalene	20.000	18.333	8.3	131	0.00
79		1,2,3-Trichlorobenzene	20.000	20.709	-3.5	130	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

JB 5/26/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.095	168	324912	50.00	ug/L	0.00
37) Chlorobenzene-d5 (I)	9.806	117	405034	50.00	ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	180218	50.00	ug/L	0.00
System Monitoring Compounds						
26) Dibromofluoromethane (S)	5.602	111	129920	49.84	ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.655	114	500840	49.89	ug/L	0.00
39) Toluene-d8 (S)	8.169	98	569426	47.55	ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.870	174	144696	52.15	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.630	85	73953	24.38	ug/L	98
3) Chloromethane	1.837	50	89942	20.35	ug/L	98
4) Vinyl Chloride	1.934	62	91136	20.85	ug/L	97
5) Bromomethane	2.299	96	60695	22.43	ug/L	95
6) Chloroethane	2.421	64	9930	16.73	ug/L #	71
7) Trichlorofluoromethane	2.554	101	14586	18.93	ug/L	94
8) 1,1-Dichloroethene	3.126	61	90971	16.19	ug/L	80
9) Carbon Disulfide	3.138	76	140347	19.33	ug/L	98
10) Freon 113	3.175	101	69075	20.17	ug/L	80
11) Iodomethane	3.284	142	33614	21.85	ug/L	94
12) Methylene Chloride	3.771	84	67521	14.29	ug/L	89
13) Acetone	3.862	43	59904	35.95	ug/L	96
14) t-1,2-Dichloroethene	3.935	61	94987	17.70	ug/L	97
15) n-Hexane	4.014	86	17679	18.85	ug/L #	83
16) Methyl-tert-butyl-ether	4.081	73	213494	19.68	ug/L	98
17) 1,1-Dichloroethane	4.580	63	122140	17.98	ug/L	96
18) Acrylonitrile	4.653	53	35479	20.28	ug/L	98
19) c-1,2-Dichloroethene	5.134	61	98720	19.98	ug/L	95
20) 2,2-Dichloropropane	5.237	77	85198	25.02	ug/L	92
21) Bromochloromethane	5.335	49	59876	20.31	ug/L	89
22) Chloroform	5.420	83	120668	19.98	ug/L	97
23) Carbon Tetrachloride	5.547	117	67277	24.59	ug/L	99
24) Tetrahydrofuran	5.596	42	33709	18.48	ug/L	98
25) 1,1,1-Trichloroethane	5.620	97	98811	23.22	ug/L	98
27) 1,1-Dichloropropene	5.748	75	101728	20.27	ug/L	98
28) 2-Butanone (MEK)	5.748	43	96156	38.61	ug/L	95
29) Benzene	6.004	78	307106	19.55	ug/L	97
30) 1,2-Dichloroethane (EDC)	6.223	62	98481	18.54	ug/L	98
31) iso-Butyl Alcohol	6.290	43	106120	581.59	ug/L	97
33) Trichloroethene (TCE)	6.624	130	73799	19.45	ug/L	95
34) Dibromomethane	7.074	93	38726	20.41	ug/L	85
35) 1,2-Dichloropropane	7.184	63	75421	20.09	ug/L	97
36) Bromodichloromethane	7.257	83	65048	20.95	ug/L	98
38) c-1,3-Dichloropropene	7.963	75	85754	19.31	ug/L	90
40) Toluene	8.224	91	312082	18.23	ug/L	98
41) Tetrachloroethene (PCE)	8.674	166	72959	19.46	ug/L	97
42) 4-Methyl-2-Pentanone (...	8.674	43	174945	39.52	ug/L	94
43) t-1,3-Dichloropropene	8.717	75	79927	20.18	ug/L	96
44) 1,1,2-Trichloroethane	8.887	97	61081	20.57	ug/L	92
45) Dibromochloromethane	9.076	129	41288	21.56	ug/L	96
46) 1,3-Dichloropropane	9.173	76	114301	19.89	ug/L	94
47) 1,2-Dibromoethane (EDB)	9.313	107	60487	19.52	ug/L	97
48) 2-Hexanone	9.544	43	120799	37.78	ug/L	94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

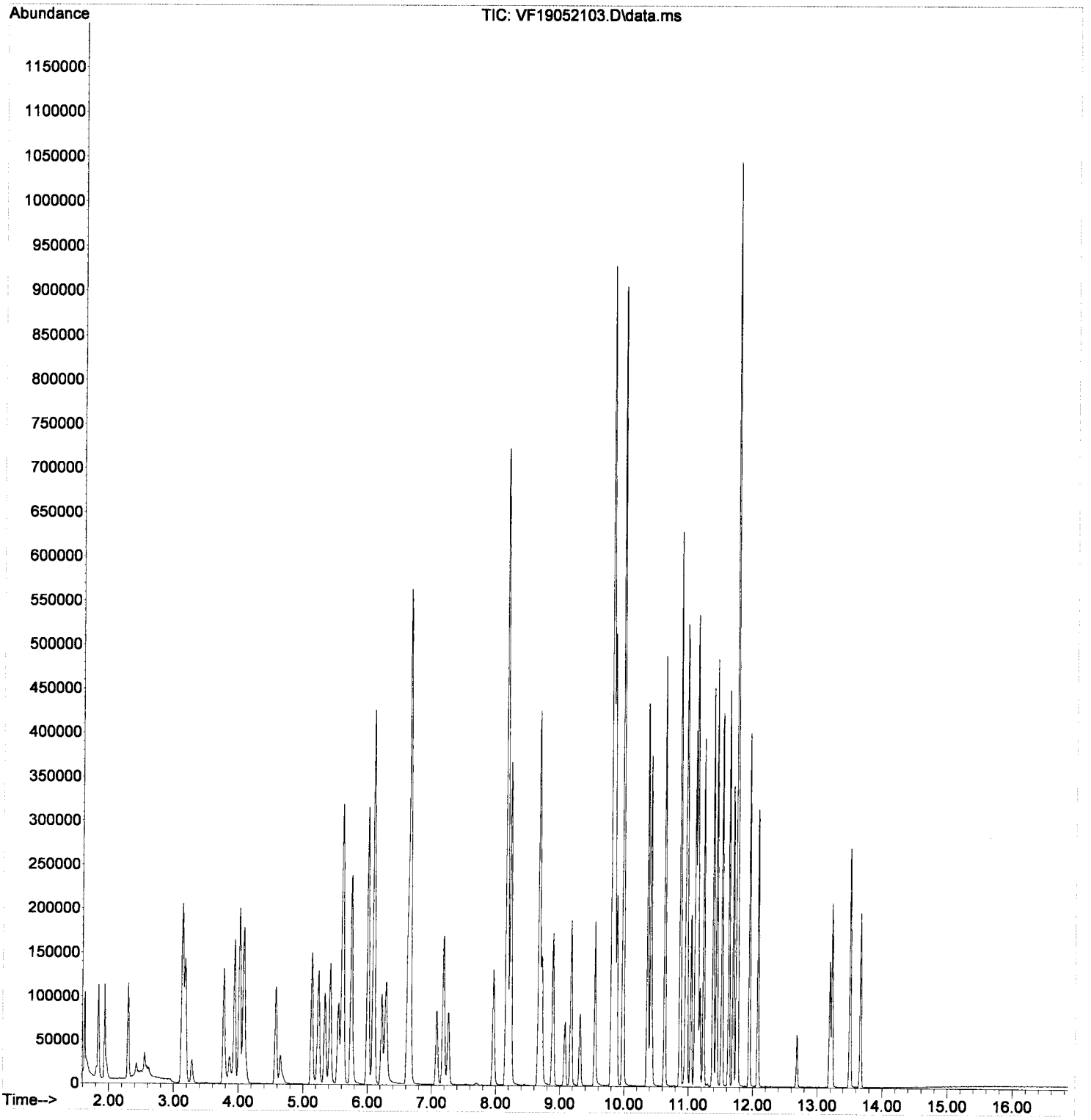
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	186934	19.15	ug/L		94
50) Ethylbenzene	9.842	91	323004	19.81	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.879	131	52085	23.27	ug/L		97
52) m,p-Xylenes (2)	9.982	91	483768	42.36	ug/L		98
53) o-Xylene	10.366	91	235140	21.39	ug/L		96
54) Styrene	10.408	104	163531	19.90	ug/L		95
55) Bromoform	10.432	173	25362	25.85	ug/L		96
56) Isopropylbenzene	10.627	105	280032	22.45	ug/L		96
59) Bromobenzene	10.956	156	68965	21.27	ug/L		91
60) n-Propylbenzene	10.974	91	321773	22.34	ug/L		98
61) 1,1,2,2-Tetrachloroethane	11.041	83	80871	23.62	ug/L		99
62) 2-Chlorotoluene	11.102	126	63764	22.02	ug/L		84
63) 1,3,5-Trimethylbenzene	11.126	105	214827	23.07	ug/L		95
64) 1,2,3-Trichloropropane	11.144	110	28786	21.20	ug/L	#	77
65) t-1,4-Dichloro-2-butene	11.181	88	7790	22.89	ug/L		95
66) 4-Chlorotoluene	11.235	91	191056	22.31	ug/L		98
67) tert-Butylbenzene	11.381	91	119312	22.31	ug/L		91
68) 1,2,4-Trimethylbenzene	11.436	105	213748	22.84	ug/L		99
69) sec-Butylbenzene	11.521	105	253518	22.71	ug/L		98
70) 4-Isopropyltoluene	11.625	119	204460	22.01	ug/L		96
71) 1,3-Dichlorobenzene	11.692	146	115369	20.86	ug/L		97
72) 1,4-Dichlorobenzene	11.759	146	118306	19.57	ug/L		96
73) n-Butylbenzene	11.947	91	179798	22.67	ug/L		96
74) 1,2-Dichlorobenzene	12.081	146	107297	20.67	ug/L		99
75) 1,2-Dibromo-3-Chloropr...	12.683	157	12010	21.19	ug/L	#	64
76) Hexachlorobutadiene	13.188	223	15122	20.42	ug/L		98
77) 1,2,4-Trichlorobenzene	13.225	180	59348	21.30	ug/L		96
78) Naphthalene	13.505	128	193754	18.33	ug/L		99
79) 1,2,3-Trichlorobenzene	13.663	180	58755	20.71	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052104.D
Acq On : 21 May 2019 12:16 pm
Operator : TB
Sample : 9051092-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:49:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/26/19

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 (IS)	50.000	50.000	0.0	122	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	48.789	2.4	125	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	57.605	-15.2	142	0.00
4	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	130	0.00
5	H	TPHg (C5-C9)	500.000	512.304	-2.5	124	0.00
6	H	TPHg (C6-C10)	500.000	524.365	-4.9	126	0.00
7	H	CA-LUFT (C5-C12)	500.000	522.500	-4.5	127	0.00
8	H	NWTPH-Gx	500.000	544.840	-9.0	136	0.00
9		Benzene (NR)	-1.000	0.000	0.0	128	0.00
10	S	Toluene-d8 (NR)	-1.000	0.000	0.0	121	0.00
11	C	Toluene (NR)	-1.000	0.000	0.0	126	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	139	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	141	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052104.D
Acq On : 21 May 2019 12:16 pm
Operator : TB
Sample : 9051092-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:49:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

TB 5/26/19

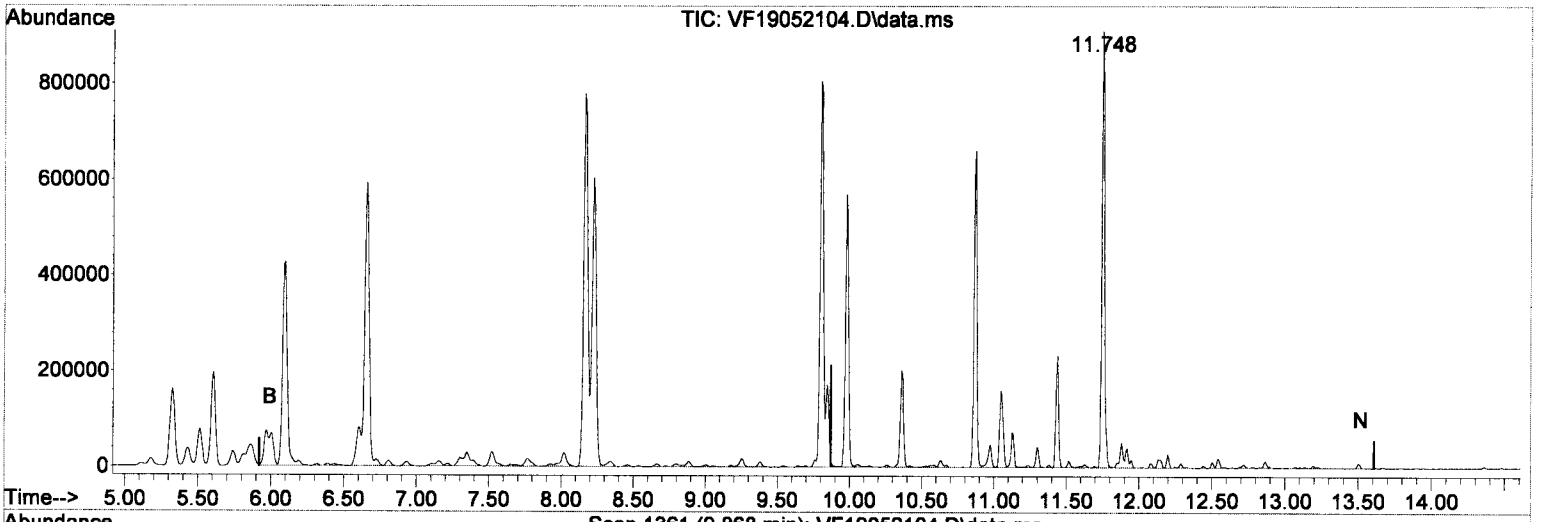
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	324051	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	1246532	48.79	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	906254	57.60	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	1301329	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.164	TIC	1575078	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	1214631	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	7316843m	512.30	ug/L	
6) TPHg (C6-C10)	9.860	TIC	5923350m	524.37	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	8494748m	522.50	ug/L	
8) NWTPH-Gx	9.870	TIC	4904931m	544.84	ug/L	

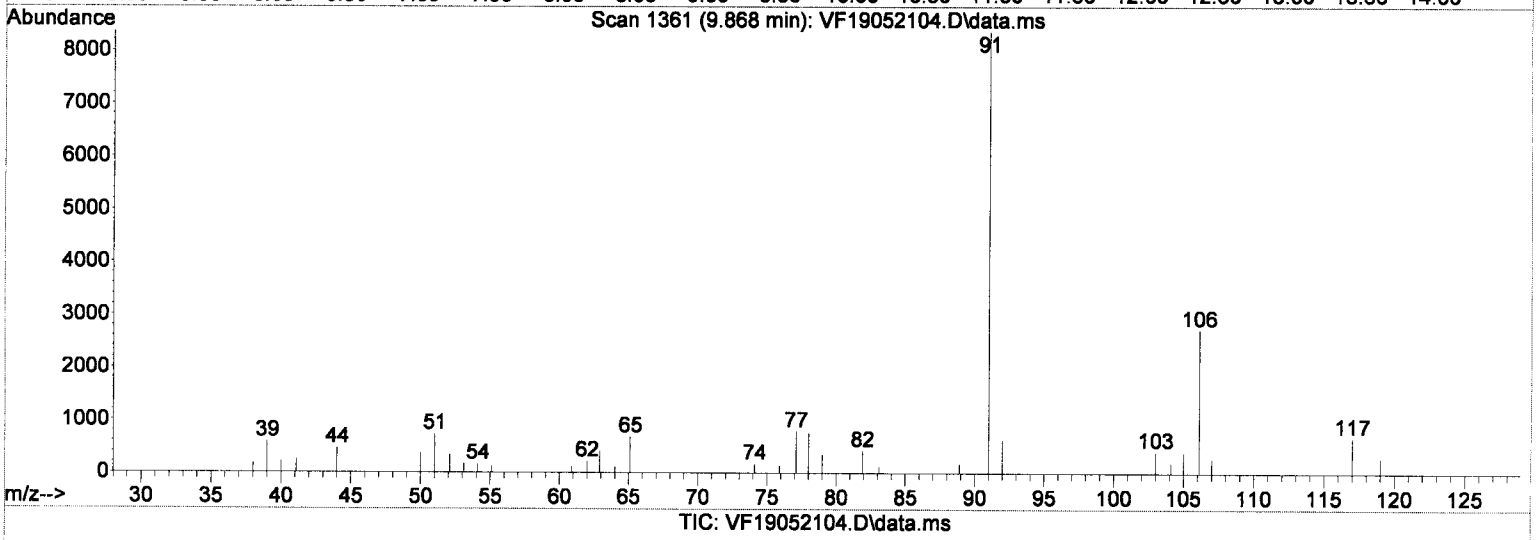
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052104.D
Acq On : 21 May 2019 12:16 pm
Operator : TB
Sample : 9051092-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:49:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052104.D\data.ms

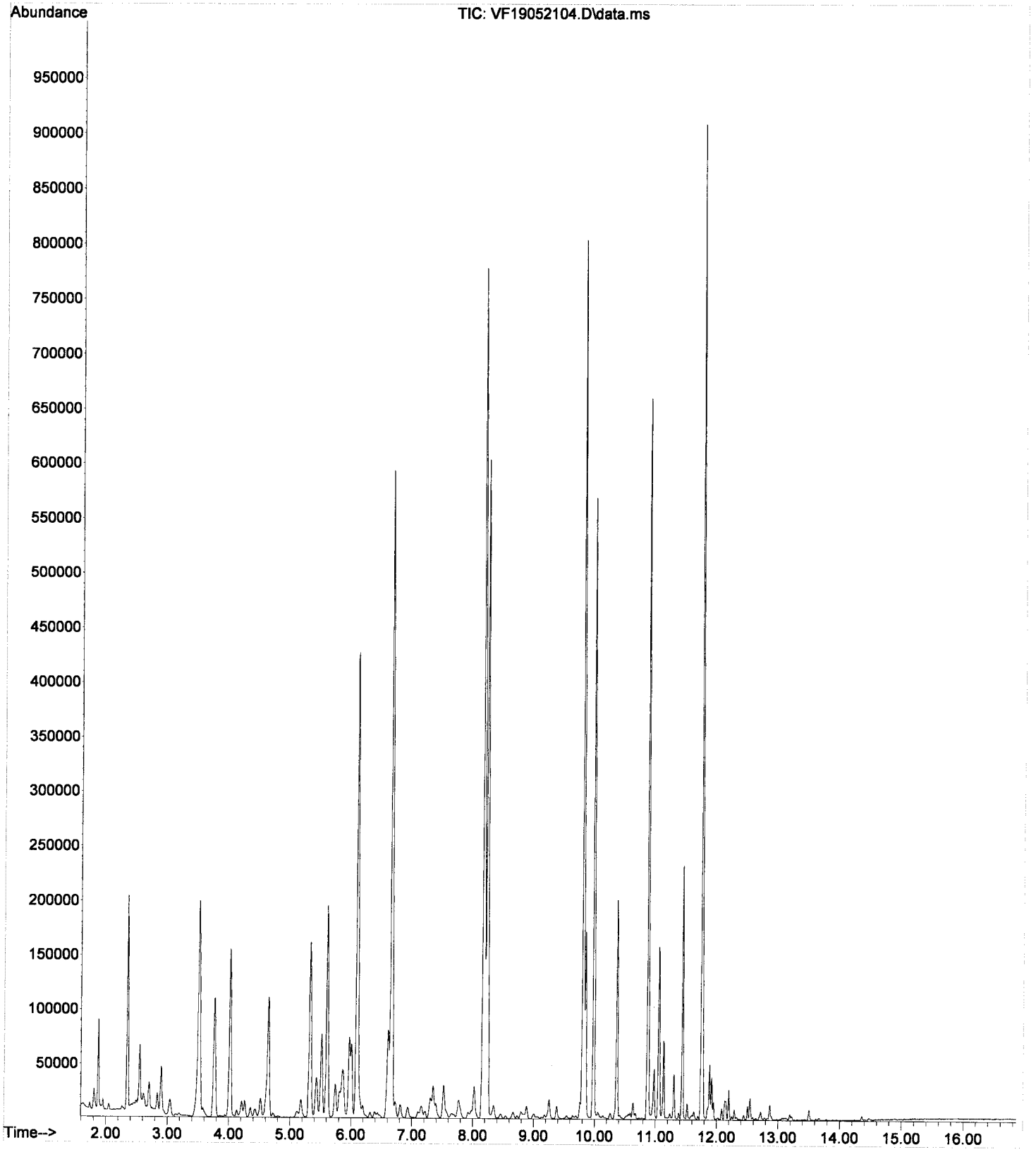
(8) NWTPH-Gx (H)

9.870min (0.000) 544.84 ug/L m

response 4904931

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

File :C:\msdchem\1\DATA\2019-05\9E21036\VF19052104.D
Operator : TB
Acquired : 21 May 2019 12:16 pm using AcqMethod VF1601RUN.M
Instrument : VOA-GCMS6
Sample Name: 9051092-BS2
Misc Info : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
Vial Number: 4



Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052105.D
Acq On : 21 May 2019 12:43 pm
Operator : TB
Sample : 9051092-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:48:38 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/26/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.102	168	343474	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	1304147	48.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	966655	57.97	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	1409722	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1723410	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1194617	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	506099m	2.93	ug/L	<MDL
6) TPHg (C6-C10)	9.860	TIC	470788m	18.43	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	510054m	6.33	ug/L	
8) NWTPH-Gx	9.870	TIC	27930m	26.37	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052105.D
Acq On : 21 May 2019 12:43 pm
Operator : TB
Sample : 9051092-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:48:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/26/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.102	168	344135	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	464763	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	195986	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	135895	49.22	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	560609	52.73	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	644677	46.92	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	161300	53.45	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.312	96	579	0.20	ug/L		80
9) Carbon Disulfide	3.163	76	460	0.28	ug/L		77
12) Methylene Chloride	3.784	84	7714	Below Cal			98
13) Acetone	3.881	43	1303	0.74	ug/L		90
15) n-Hexane	4.027	86	526	0.53	ug/L	#	58
22) Chloroform	5.426	83	565	0.09	ug/L		87
28) 2-Butanone (MEK)	5.761	43	338	0.13	ug/L		54
40) Toluene	8.231	91	2302	0.12	ug/L		94
52) m,p-Xylenes (2)	9.989	91	1630	0.12	ug/L		86

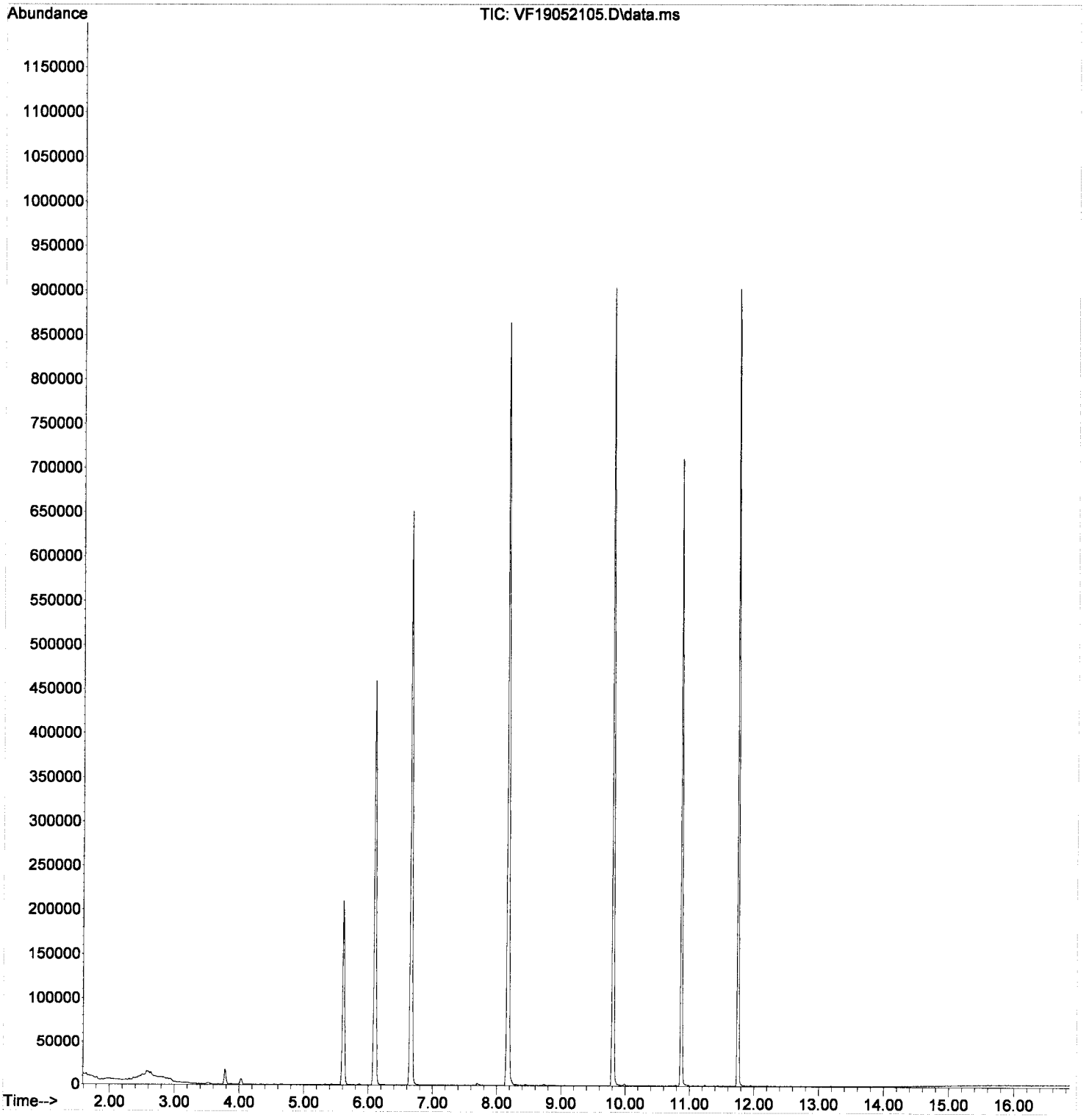
CMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052105.D
Acq On : 21 May 2019 12:43 pm
Operator : TB
Sample : 9051092-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:48:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

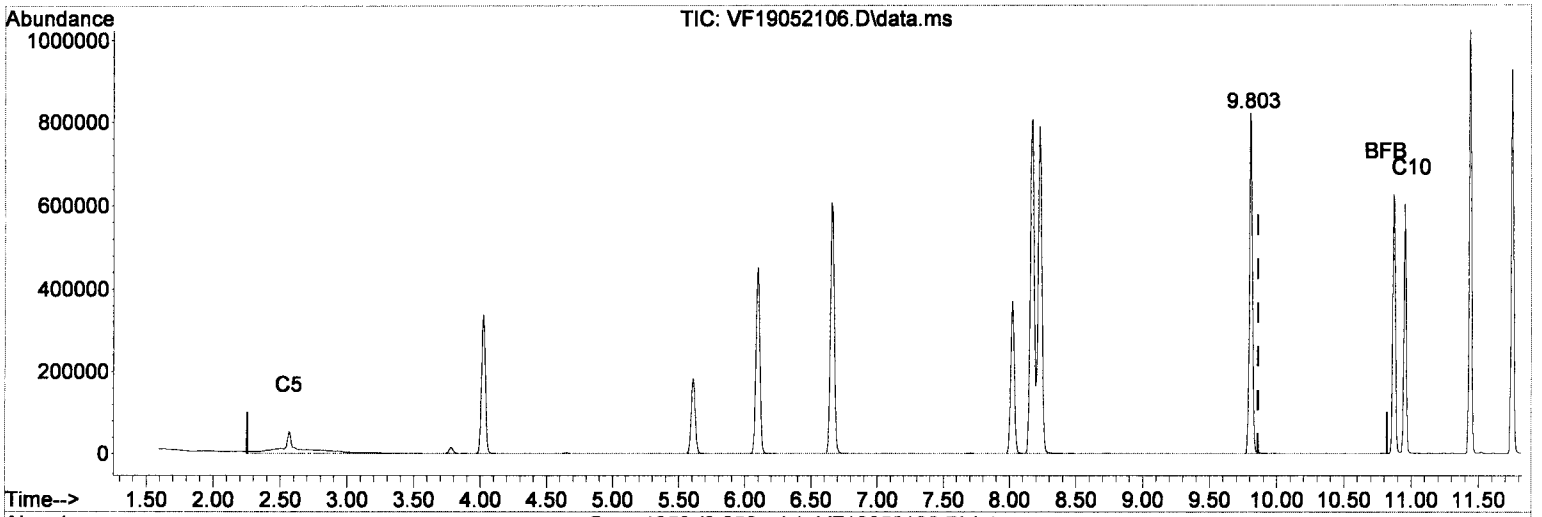
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.098	168	335724	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1248297	47.16 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	877704	53.85 ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1297151	0.00 ug/L	0.00
10) Toluene-d8 (NR)	8.172	TIC	1672482	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	1159440	0.00 ug/L	0.00
Target Compounds					Qvalue
5) TPHg (C5-C9)	9.860	TIC	3503320m	220.40 ug/L	
6) TPHg (C6-C10)	9.860	TIC	3380013m	280.08 ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	6660062m	390.55 ug/L	
8) NWTPH-Gx	9.870	TIC	6521353m	689.49 ug/L	

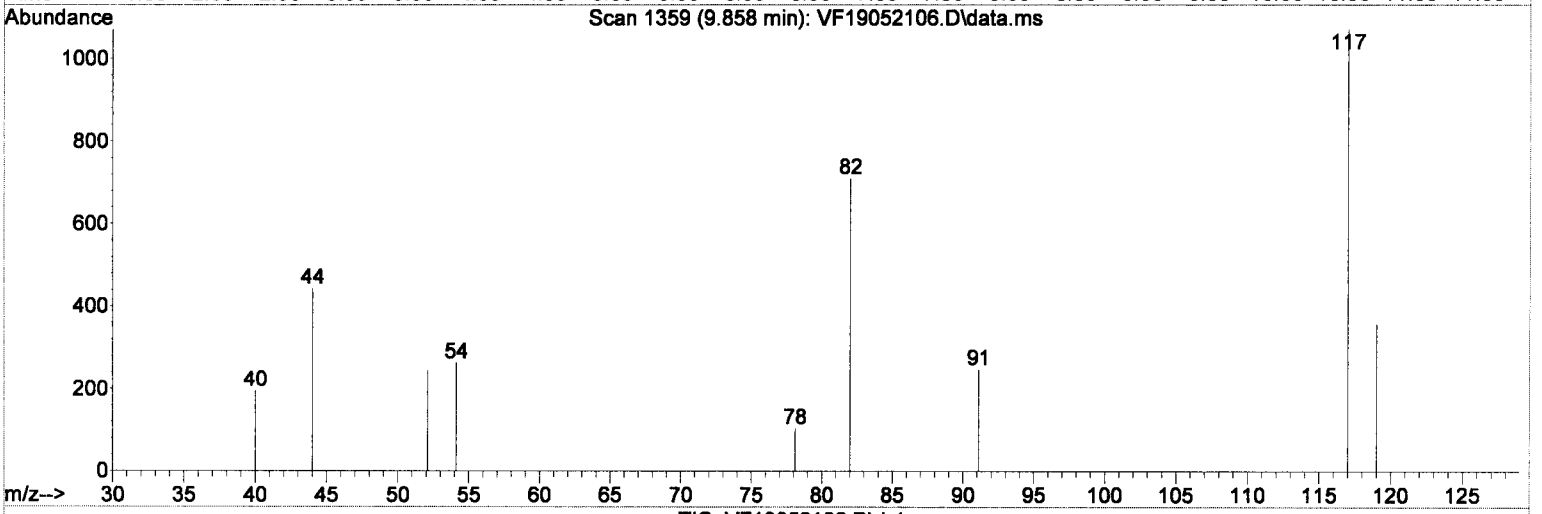
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052106.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 220.40 ug/L m

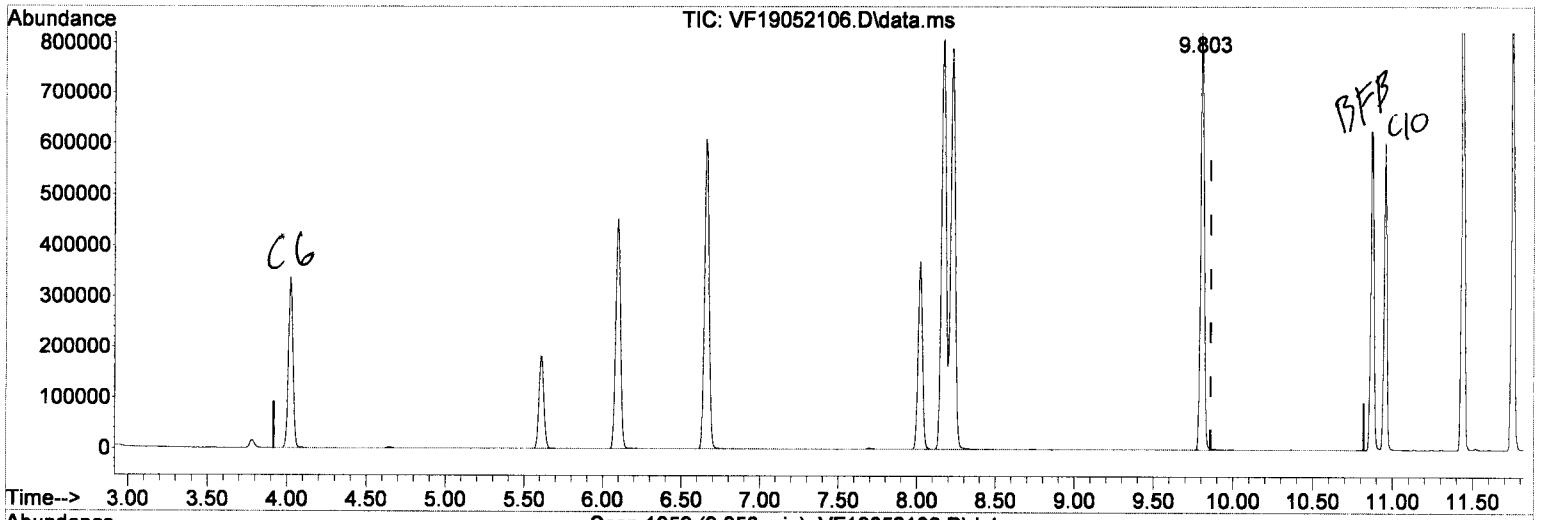
response 3503320

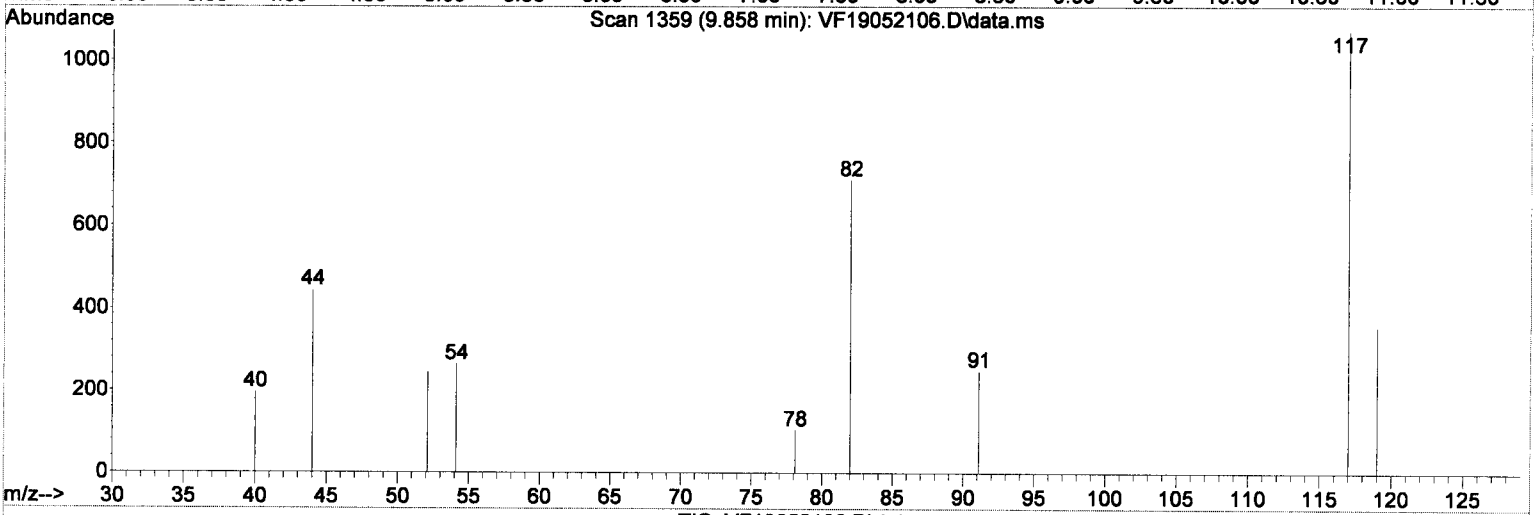
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.27#
0.00	0.00	0.94#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052106.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 280.08 ug/L m

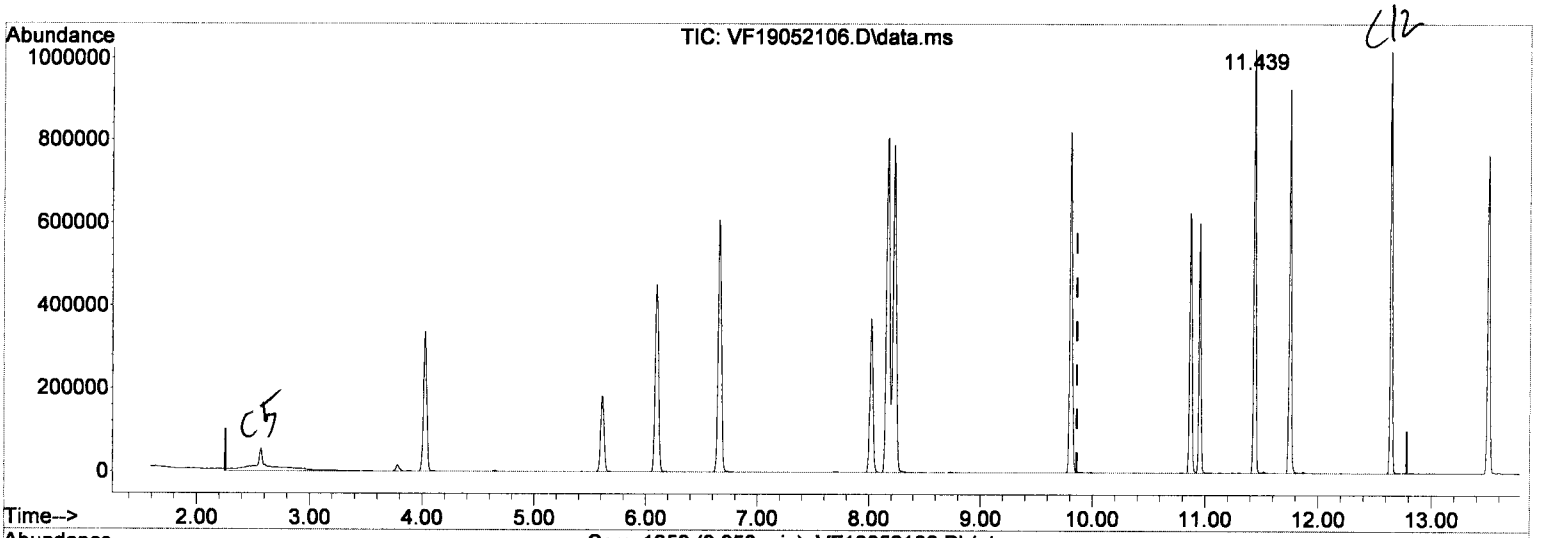
response 3380013

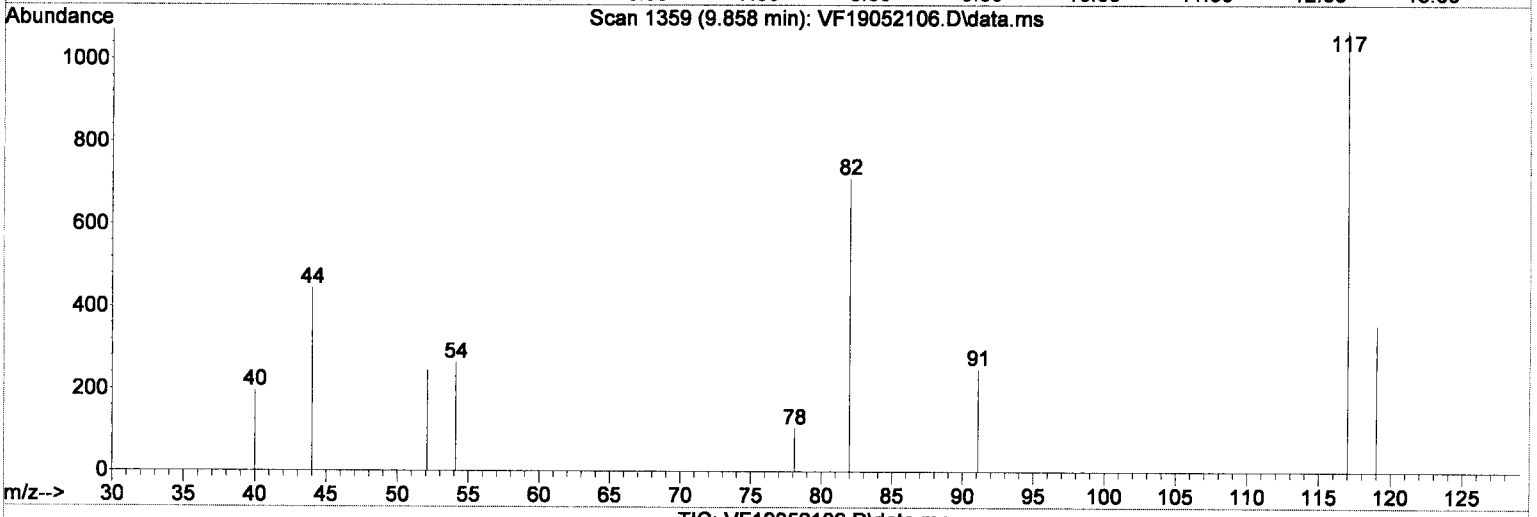
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.31#
0.00	0.00	0.97#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052106.D\data.ms

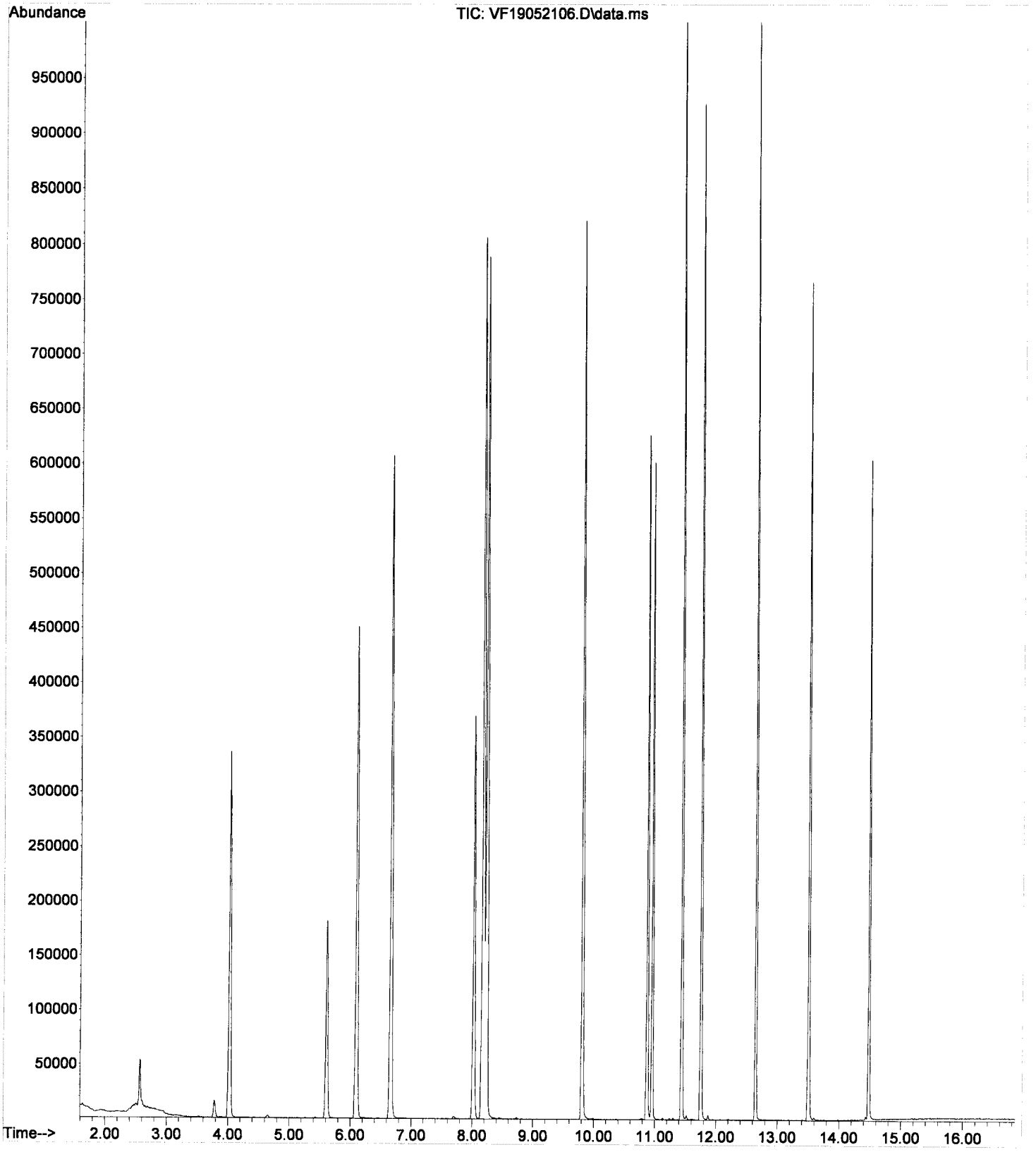
(7) CA-LUFT (C5-C12) (H)

9.860min (0.000) 390.55 ug/L m

response 6660062

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.67#
0.00	0.00	0.49#
0.00	0.00	0.00

File :C:\msdchem\1\DATA\2019-05\9E21036\VF19052106.D
Operator : TB
Acquired : 21 May 2019 1:12 pm using AcqMethod VF1601RUN.M
Instrument : VOA-GCMS6
Sample Name: 9E21036-RT1
Misc Info : 1X 5mL VPH Marker
Vial Number: 6



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052117.D
Acq On : 21 May 2019 6:13 pm
Operator : TB
Sample : 9051092-MS1
Misc : 50X ~5g/5mLx1000uL/50mL 515-07
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 10:41:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/22/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	309549	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	372203	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	164284	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.610	111	127768	51.45	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.662	114	478971	50.08	ug/L		0.00
39) Toluene-d8 (S)	8.171	98	540957	49.16	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	128187	50.68	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.637	85	71359	24.69	ug/L		99
3) Chloromethane	1.850	50	91816	21.80	ug/L		97
4) Vinyl Chloride	1.947	62	89081	21.39	ug/L		96
5) Bromomethane	2.306	96	59796	23.20	ug/L		96
6) Chloroethane	2.428	64	11172	19.75	ug/L		71
7) Trichlorofluoromethane	2.562	101	14139	19.26	ug/L		99
8) 1,1-Dichloroethene	3.134	61	88575	16.55	ug/L		83
9) Carbon Disulfide	3.152	76	133341	19.28	ug/L		99
10) Freon 113	3.189	101	65245	20.00	ug/L		82
11) Iodomethane	3.292	142	22683	16.17	ug/L	#	91
12) Methylene Chloride	3.779	84	67096	15.12	ug/L		90
13) Acetone	3.864	43	66739	42.04	ug/L		99
14) t-1,2-Dichloroethene	3.943	61	91930	17.98	ug/L		95
15) n-Hexane	4.022	86	15509	17.36	ug/L	#	89
16) Methyl-tert-butyl-ether	4.083	73	206613	20.00	ug/L		97
17) 1,1-Dichloroethane	4.582	63	120242	18.58	ug/L		96
18) Acrylonitrile	4.655	53	34881	20.92	ug/L		100
19) c-1,2-Dichloroethene	5.141	61	96236	20.44	ug/L		93
20) 2,2-Dichloropropane	5.239	77	71911	22.17	ug/L		91
21) Bromochloromethane	5.342	49	62172	22.13	ug/L		87
22) Chloroform	5.421	83	115791	20.13	ug/L		97
23) Carbon Tetrachloride	5.549	117	62214	23.93	ug/L		97
24) Tetrahydrofuran	5.598	42	33982	19.55	ug/L		96
25) 1,1,1-Trichloroethane	5.622	97	92345	22.78	ug/L		94
27) 1,1-Dichloropropene	5.750	75	96177	20.11	ug/L		98
28) 2-Butanone (MEK)	5.750	43	93102	39.24	ug/L		97
29) Benzene	6.005	78	295005	19.72	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.224	62	97419	19.25	ug/L		97
31) iso-Butyl Alcohol	6.285	43	99484	573.06	ug/L		98
33) Trichloroethene (TCE)	6.626	130	70660	19.55	ug/L		95
34) Dibromomethane	7.082	93	38342	21.21	ug/L		87
35) 1,2-Dichloropropane	7.185	63	72596	20.30	ug/L		98
36) Bromodichloromethane	7.264	83	62354	21.07	ug/L		100
38) c-1,3-Dichloropropene	7.964	75	79181	19.40	ug/L		92
40) Toluene	8.226	91	296143	18.82	ug/L		98
41) Tetrachloroethene (PCE)	8.676	166	67477	19.58	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.676	43	168874	41.52	ug/L		94
43) t-1,3-Dichloropropene	8.718	75	73948	20.31	ug/L		94
44) 1,1,2-Trichloroethane	8.889	97	57712	21.15	ug/L		94
45) Dibromochloromethane	9.077	129	38191	21.69	ug/L		97
46) 1,3-Dichloropropane	9.175	76	110188	20.87	ug/L		95
47) 1,2-Dibromoethane (EDB)	9.315	107	57020	20.02	ug/L		100
48) 2-Hexanone	9.546	43	114460	38.96	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052117.D
Acq On : 21 May 2019 6:13 pm
Operator : TB
Sample : 9051092-MS1
Misc : 50X ~5g/5mLx1000uL/50mL 515-07
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 10:41:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

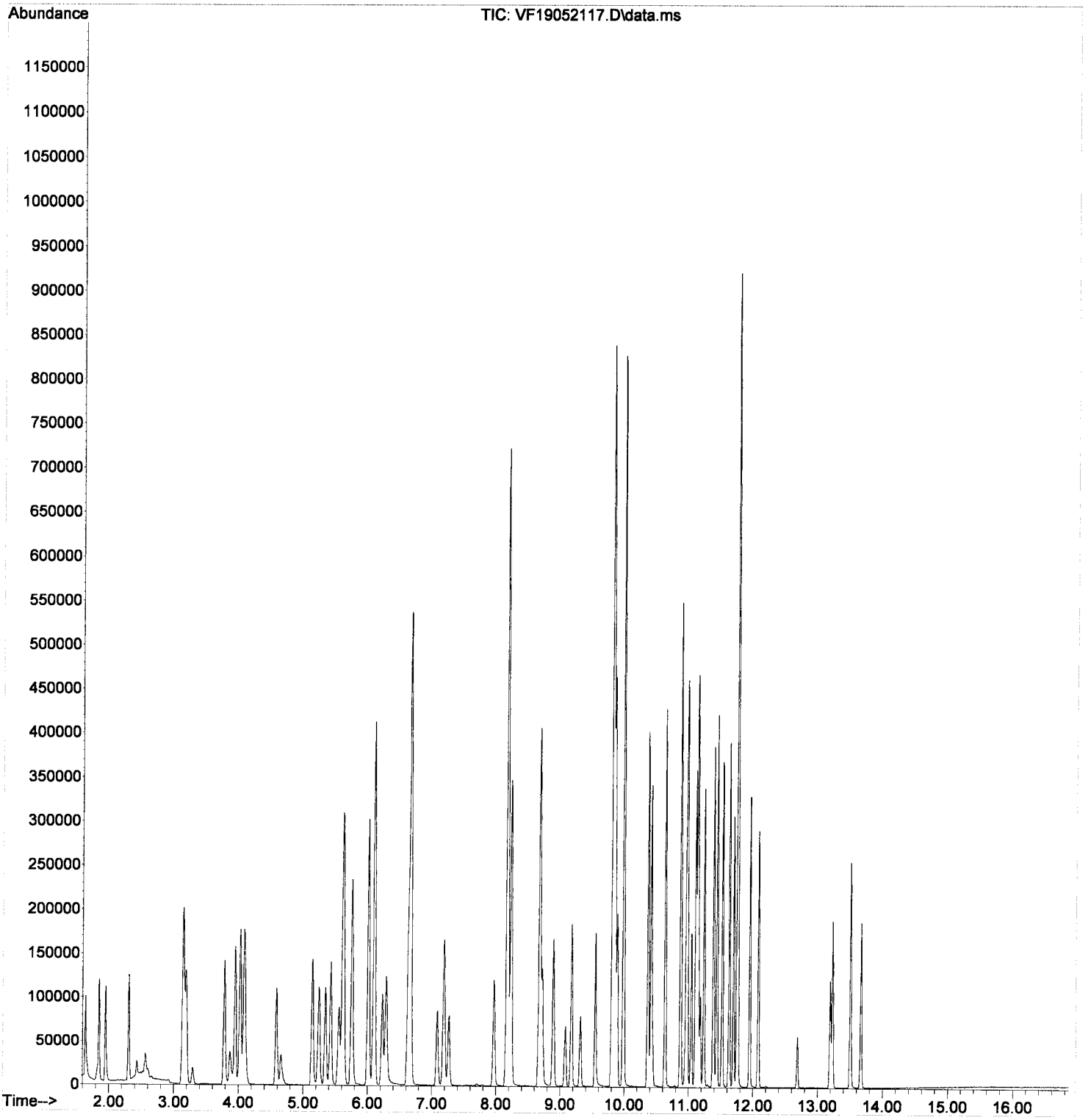
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.819	112	170583	19.01	ug/L		95
50)	Ethylbenzene	9.844	91	293591	19.59	ug/L		96
51)	1,1,1,2-Tetrachloroethane	9.880	131	46423	22.61	ug/L		97
52)	m,p-Xylenes (2)	9.978	91	435402	41.48	ug/L		94
53)	o-Xylene	10.361	91	207129	20.50	ug/L		97
54)	Styrene	10.410	104	142253	18.87	ug/L		94
55)	Bromoform	10.434	173	22331	24.98	ug/L		98
56)	Isopropylbenzene	10.629	105	245491	21.42	ug/L		97
59)	Bromobenzene	10.957	156	61657	20.86	ug/L		91
60)	n-Propylbenzene	10.975	91	279607	21.30	ug/L		97
61)	1,1,2,2-Tetrachloroethane	11.036	83	73532	23.55	ug/L		97
62)	2-Chlorotoluene	11.103	126	55245	20.93	ug/L	#	82
63)	1,3,5-Trimethylbenzene	11.127	105	186779	22.00	ug/L		97
64)	1,2,3-Trichloropropane	11.146	110	26506	21.41	ug/L	#	74
65)	t-1,4-Dichloro-2-butene	11.176	88	6891	22.30	ug/L	#	79
66)	4-Chlorotoluene	11.237	91	168049	21.53	ug/L		98
67)	tert-Butylbenzene	11.383	91	104252	21.39	ug/L		89
68)	1,2,4-Trimethylbenzene	11.438	105	187707	22.00	ug/L		99
69)	sec-Butylbenzene	11.517	105	220451	21.67	ug/L		96
70)	4-Isopropyltoluene	11.626	119	176652	20.86	ug/L		96
71)	1,3-Dichlorobenzene	11.693	146	101456	20.12	ug/L		98
72)	1,4-Dichlorobenzene	11.760	146	105666	19.17	ug/L		98
73)	n-Butylbenzene	11.943	91	152069	21.04	ug/L		94
74)	1,2-Dichlorobenzene	12.076	146	96494	20.40	ug/L		98
75)	1,2-Dibromo-3-Chloropr...	12.685	157	11068	21.40	ug/L	#	62
76)	Hexachlorobutadiene	13.190	223	12834	19.01	ug/L		96
77)	1,2,4-Trichlorobenzene	13.226	180	52457	20.65	ug/L		98
78)	Naphthalene	13.500	128	179732	18.65	ug/L		99
79)	1,2,3-Trichlorobenzene	13.664	180	52595	20.34	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052117.D
Acq On : 21 May 2019 6:13 pm
Operator : TB
Sample : 9051092-MS1
Misc : 50X ~5g/5mLx1000uL/50mL 515-07
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 10:41:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



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

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

Calibration Data

Sequence 9E07048 (Cal ID A9E0804) VOA-GCMS6

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9E07048**	Instrument:	**VOA-GCMS6**
Date:	**05/07/19 18:19**	Calibration:	**A9E0804**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E07048-IBL1	Soil	QC	QC			A19D196	
2	9E07048-TUN1	Soil	QC	QC			A19D196	
3	9E07048-ICB1	Soil	QC	QC			A19D196	
4	9E07048-CAL1	Soil	QC	QC			A19D196	A19E092
5	9E07048-CAL2	Soil	QC	QC			A19D196	A19E093
6	9E07048-CAL3	Soil	QC	QC			A19D196	A19E094
7	9E07048-CAL4	Soil	QC	QC			A19D196	A19E095
8	9E07048-CAL5	Soil	QC	QC			A19D196	A19E096
9	9E07048-CAL6	Soil	QC	QC			A19D196	A19E097
10	9E07048-CAL7	Soil	QC	QC			A19D196	A19E098
11	9E07048-CAL8	Soil	QC	QC			A19D196	A19E099
12	9E07048-CAL9	Soil	QC	QC			A19D196	A19D177
13	9E07048-IBL2	Soil	QC	QC			A19D196	
14	9E07048-CALA	Soil	QC	QC			A19D196	A19D178
15	9E07048-IBL3	Soil	QC	QC			A19D196	
16	9E07048-CALB	Soil	QC	QC			A19D196	A19D179
17	9E07048-IBL4	Soil	QC	QC			A19D196	
18	9E07048-IBL5	Soil	QC	QC			A19D196	
19	9E07048-ICV1	Soil	QC	QC			A19D196	A19D180
20	9E07048-IBL6	Soil	QC	QC			A19D196	
21	9E07048-TUN2	Soil	QC	QC			A19D196	
22	9E07048-IBL7	Soil	QC	QC			A19D196	
23	9E07048-ICB2	Soil	QC	QC			A19D196	
24	9E07048-CALC	Soil	QC	QC			A19D196	A19E016
25	9E07048-CALD	Soil	QC	QC			A19D196	A19E017
26	9E07048-CALE	Soil	QC	QC			A19D196	A19E018
27	9E07048-CALF	Soil	QC	QC			A19D196	A19E019
28	9E07048-CALG	Soil	QC	QC			A19D196	A19B200
29	9E07048-CALH	Soil	QC	QC			A19D196	A19B201
30	9E07048-CALI	Soil	QC	QC			A19D196	A19B202
31	9E07048-CALJ	Soil	QC	QC			A19D196	A19B203
32	9E07048-IBL8	Soil	QC	QC			A19D196	
33	9E07048-IBL9	Soil	QC	QC			A19D196	
34	9E07048-ICV2	Soil	QC	QC			A19D196	A19B262
35	9E07048-IBLA	Soil	QC	QC			A19D196	

Carbon tet ↑ 1/2
Bromodichloro ↑ 1/2
1112TCA ↑ 1/2
Bromoform ↑ 2/4

Data Entered By: 5/8/19

Data Reviewed By: 5/8/19

Comments: Iodomethane NR
↑MDL MRL for carbon tet, $BrCl_2CH$, Hexachloroethane, & Bromoform

Calibration Status Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 13:32:58 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	-1	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050714.D
2	2	0	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050715.D
3	3	0	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050716.D
4	4	1	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050717.D
5	5	2	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050718.D
6	6	5	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050719.D
7	7	10	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050720.D
8	8	20	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050721.D
9	9	50	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050722.D
10	10	100	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050724.D
11	11	200	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050726.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	May 08 10:44 2019	May 08 10:29 2019	
2	2	May 08 10:44 2019	May 08 10:30 2019	
3	3	May 08 10:44 2019	May 08 10:32 2019	
4	4	May 08 10:44 2019	May 08 10:33 2019	
5	5	May 08 10:44 2019	May 08 10:24 2019	
6	6	May 08 10:44 2019	May 08 10:24 2019	
7	7	May 08 10:44 2019	May 08 10:24 2019	
8	8	May 08 10:44 2019	May 08 10:24 2019	
9	9	May 08 10:44 2019	May 08 10:24 2019	
10	10	May 08 10:44 2019	May 08 10:24 2019	
11	11	May 08 10:44 2019	May 08 10:24 2019	

VF190507S.M Wed May 08 13:51:54 2019

↑ MDL/MRL for Carbon tetrachloride, Bromodichloro methane, 1112 tetrachloro ethane, & Bromoform

Iodomethane NR

Response Factor Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 11:54:03 2019
Response Via : Initial Calibration

Calibration Files
1 =VF19050714.D 2 =VF19050715.D 3 =VF19050716.D 4 =VF19050717.D 5 =VF19050718.D 6 =VF19050719.D
7 =VF19050720.D 8 =VF19050721.D 9 =VF19050722.D 10 =VF19050724.D 11 =VF19050726.D

		Compound	1	2	3	4	5	6	7	8	9	10	11	Avg	%RSD
1)	I	Pentafluorobenzene...	ISTD												
2)		Dichlorodifluo...		0.424	0.375	0.456	0.462	0.446	0.474	0.533	0.503	0.527	0.467		10.76
3)	P	Chloromethane			0.644	0.743	0.678	0.626	0.698	0.716	0.676	0.660	0.680		5.60
4)	C	Vinyl Chloride	0.675	0.628	0.632	0.660	0.660	0.648	0.692	0.742	0.670	0.719	0.673		5.40
5)		Bromomethane					0.485	0.446	0.412	0.418	0.351	0.386	0.416		11.21
6)		Chloroethane			0.091	0.111	0.092	0.084	0.095	0.094	0.079	0.086	0.091		10.77
7)		Trichlorofluor...		0.111	0.118	0.129	0.128	0.111	0.125	0.121	0.109	0.115	0.119		6.44
8)	C	1,1-Dichloroet...	0.967	0.818	0.851	0.780	0.846	0.852	0.821	0.908	0.901	0.856	0.908	0.864	6.06
9)		Carbon Disulfide			0.976	0.821	0.855	0.892	0.894	1.083	1.240	1.289	1.433	1.054	20.86
10)		Freon 113		0.451	0.522	0.537	0.520	0.537	0.515	0.547	0.552	0.528	0.560	0.527	5.79
11)		Iodomethane				0.121	0.089	0.103	0.168	0.198	0.320	0.324	0.444	0.221	57.97
12)		Methylene Chlo...			7.017	3.179	1.919	1.118	0.809	0.720	0.593	0.537	0.544	1.826	116.77
13)		Acetone						0.288	0.242	0.274	0.246	0.243	0.244	0.256	7.74
14)		t-1,2-Dichloro...	0.667	0.839	0.790	0.775	0.820	0.847	0.818	0.893	0.878	0.860	0.897	0.826	7.98
15)		n-Hexane						0.180	0.147	0.144	0.133	0.130	0.132	0.144	12.82
16)		Methyl-tert-bu...	1.639	1.719	1.560	1.535	1.610	1.619	1.558	1.758	1.743	1.707	1.911	1.669	6.69
17)	P	1,1-Dichloroet...	1.048	1.002	1.001	0.985	1.067	1.086	1.029	1.153	1.107	1.024	0.998	1.045	5.05
18)		Acrylonitrile				0.199	0.254	0.270	0.262	0.297	0.289	0.286	0.296	0.269	12.01
19)		c-1,2-Dichloro...	0.639	0.687	0.725	0.686	0.784	0.799	0.760	0.849	0.823	0.802	0.811	0.760	8.81
20)		2,2-Dichloropr...				0.441	0.473	0.476	0.491	0.569	0.608	0.609		0.524	13.32
21)		Bromochloromet...		0.326	0.463	0.418	0.483	0.476	0.462	0.504	0.475	0.455	0.475	0.454	11.05
22)	C	Chloroform	0.883	0.879	0.851	0.859	0.896	0.940	0.921	1.008	0.989	0.970	1.026	0.929	6.62
23)		Carbon Tetrach...				0.256	0.292	0.319	0.332	0.397	0.474	0.523	0.635	0.404	32.32
24)		Tetrahydrofuran			0.294	0.248	0.279	0.292	0.257	0.300	0.280	0.282	0.295	0.281	6.33
25)		1,1,1-Trichlor...			0.610	0.572	0.589	0.616	0.649	0.740	0.807			0.655	13.26
26)	S	Dibromofluorom...	0.381	0.367	0.382	0.369	0.391	0.400	0.395	0.424	0.417	0.431	0.456	0.401	6.96
27)		1,1-Dichloropr...		0.672	0.709	0.672	0.754	0.774	0.760	0.836	0.841	0.830	0.876	0.772	9.40
28)		2-Butanone (MEK)		0.438	0.375	0.326	0.362	0.385	0.353	0.408	0.387	0.386	0.411	0.383	8.33
29)		Benzene	2.348	2.419	2.410	2.283	2.404	2.441	2.361	2.551	2.456	2.390	2.523	2.417	3.16
30)		1,2-Dichloroet...	0.769	0.824	0.778	0.819	0.823	0.848	0.795	0.877	0.825	0.796	0.840	0.818	3.89
31)		iso-Butyl Alcohol				0.012	0.016	0.017	0.018	0.026	0.030	0.037	0.039	0.024	41.48
32)	S	1,4-Difluorobe...	1.553	1.550	1.538	1.536	1.540	1.536	1.531	1.549	1.542	1.534	1.584	1.545	0.96
33)		Trichloroethen...		0.604	0.547	0.538	0.540	0.575	0.559	0.615	0.613	0.602	0.646	0.584	6.39
34)		Dibromomethane		0.203	0.277	0.256	0.279	0.286	0.289	0.327	0.325	0.324	0.354	0.292	14.84
35)	C	1,2-Dichloropr...		0.579	0.518	0.555	0.562	0.571	0.568	0.610	0.603	0.588	0.622	0.578	5.22
36)		Bromodichlorom...				0.300	0.324	0.352	0.371	0.460	0.542	0.583	0.687	0.452	30.88
37)		Chlorobenzene-d5 (I)	ISTD												
38)		c-1,3-Dichloro...		0.320	0.330	0.369	0.398	0.409	0.551	0.575	0.641	0.664	0.473		28.49
39)	S	Toluene-d8 (S)	1.570	1.433	1.536	1.441	1.539	1.533	1.452	1.532	1.418	1.463	1.344	1.478	4.64
40)	C	Toluene	2.876	2.259	2.053	1.958	2.101	2.069	1.955	2.131	1.979	1.992	1.879	2.114	12.92

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds

41)		Tetrachloroeth...	0.458	0.399	0.467	0.416	0.468	0.482	0.456	0.514	0.473	0.488	0.470	0.463	6.89
42)		4-Methyl-2-Pen...				0.400	0.483	0.518	0.515	0.625	0.604	0.627	0.599	0.546	14.83
43)		t-1,3-Dichloro...			0.222	0.246	0.284	0.320	0.349	0.473	0.528	0.592	0.625	0.404	37.75
44)		1,1,2-Trichlor...		0.292	0.334	0.326	0.383	0.379	0.367	0.420	0.389	0.393	0.381	0.366	10.39
45)		Dibromochlorom...			0.095	0.100	0.141	0.154	0.159	0.214	0.263	0.314	0.353	0.199	46.55
46)		1,3-Dichloropr...	0.702	0.597	0.679	0.647	0.716	0.748	0.710	0.804	0.737	0.748	0.713	0.709	7.76
47)		1,2-Dibromoeth...		0.148	0.202	0.220	0.274	0.306	0.311	0.389	0.390	0.411	0.398	0.305	30.45
48)		2-Hexanone						0.318	0.337	0.420	0.425	0.442	0.426	0.395	13.41
49)	P	Chlorobenzene	1.346	1.286	1.199	1.194	1.184	1.167	1.176	1.188	1.189	1.161	1.166	1.205	4.79
50)	C	Ethylbenzene	2.234	2.098	1.941	1.892	1.899	1.925	1.947	2.058	2.075	2.029	2.045	2.013	5.16
51)		1,1,1,2-Tetrac...			0.129	0.122	0.157	0.171	0.192	0.249	0.302	0.342	0.366	0.226	40.98
52)		m,p-Xylenes (2)	1.375	1.339	1.198	1.290	1.298	1.366	1.421	1.525	1.553	1.537	1.607	1.410	9.21
53)		o-Xylene	1.466	1.318	1.198	1.191	1.227	1.273	1.337	1.433	1.500	1.463	1.523	1.357	9.19
54)		Styrene		0.589	0.624	0.662	0.685	0.804	0.885	1.004	1.114	1.102	1.194	0.866	26.04
55)	P	Bromoform					0.073	0.076	0.085	0.113	0.153	0.199		0.117	43.10
56)		Isopropylbenzene		1.286	1.242	1.378	1.369	1.532	1.597	1.705	1.776	1.733	1.780	1.540	13.52
57)	I	1,4-Dichlorobenzen...	----------			ISTD	----------								
58)	S	4-Bromofluorob...	0.769	0.787	0.781	0.797	0.766	0.763	0.798	0.760	0.768	0.742	0.737	0.770	2.59
59)		Bromobenzene	0.681	0.954	0.839	0.935	0.912	0.903	0.949	0.939	0.945	0.912	0.925	0.899	8.79
60)		n-Propylbenzene	3.893	3.768	3.659	3.802	3.748	3.903	4.202	4.219	4.354	4.217	4.191	3.996	6.08
61)	P	1,1,2,2-Tetrac...		0.780	0.801	0.835	0.894	0.918	0.990	1.095	1.078	1.095	1.015	0.950	12.78
62)		2-Chlorotoluene		0.782	0.695	0.783	0.739	0.787	0.858	0.840	0.871	0.832	0.849	0.803	7.06
63)		1,3,5-Trimethy...	2.334	2.195	2.255	2.263	2.346	2.511	2.817	2.881	2.979	2.875	2.967	2.584	12.34
64)		1,2,3-Trichlor...			0.315	0.344	0.393	0.378	0.390	0.412	0.392	0.395	0.372	0.377	7.97
65)		t-1,4-Dichloro...					0.048	0.046	0.060	0.075	0.107	0.128	0.143	0.087	45.23
66)		4-Chlorotoluene	2.057	2.222	2.106	2.307	2.298	2.397	2.580	2.547	2.615	2.491	2.517	2.376	8.11
67)		tert-Butylbenzene	1.252	1.380	1.273	1.419	1.406	1.496	1.616	1.621	1.665	1.596	1.596	1.484	9.85
68)		1,2,4-Trimethy...	2.389	2.218	2.254	2.255	2.343	2.577	2.839	2.922	2.977	2.871	2.914	2.596	11.99
69)		sec-Butylbenzene	3.045	2.649	2.741	2.782	2.865	3.106	3.357	3.381	3.466	3.350	3.321	3.097	9.59
70)		4-Isopropyltol...				2.084	2.117	2.396	2.673	2.793	2.909	2.803	2.842	2.577	12.91
71)		1,3-Dichlorobe...	1.538	1.458	1.444	1.467	1.532	1.542	1.551	1.622	1.619	1.547	1.560	1.534	3.84
72)		1,4-Dichlorobe...	1.980	1.653	1.699	1.695	1.682	1.612	1.629	1.684	1.655	1.580	1.585	1.678	6.49
73)		n-Butylbenzene	2.142	1.949	1.991	2.017	1.935	2.147	2.374	2.398	2.472	2.412	2.363	2.200	9.44
74)		1,2-Dichlorobe...	1.359	1.417	1.378	1.362	1.407	1.464	1.456	1.560	1.514	1.460	1.461	1.440	4.38
75)		1,2-Dibromo-3-...				0.049	0.070	0.082	0.097	0.129	0.171	0.218	0.231	0.131	52.52
76)		Hexachlorobuta...				0.194	0.200	0.206	0.203	0.219	0.216	0.207	0.199	0.205	4.17
77)		1,2,4-Trichlor...		0.578	0.707	0.664	0.745	0.754	0.777	0.876	0.872	0.899	0.860	0.773	13.57
78)		Naphthalene			1.639	1.629	1.869	2.106	2.401	2.919	2.971	3.188	3.001	2.414	25.87
79)		1,2,3-Trichlor...			0.623	0.661	0.752	0.790	0.795	0.888	0.860	0.886	0.827	0.787	11.97

(#) = Out of Range

Compound List Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 11:54:03 2019
Response Via : Initial Calibration

5/8/19

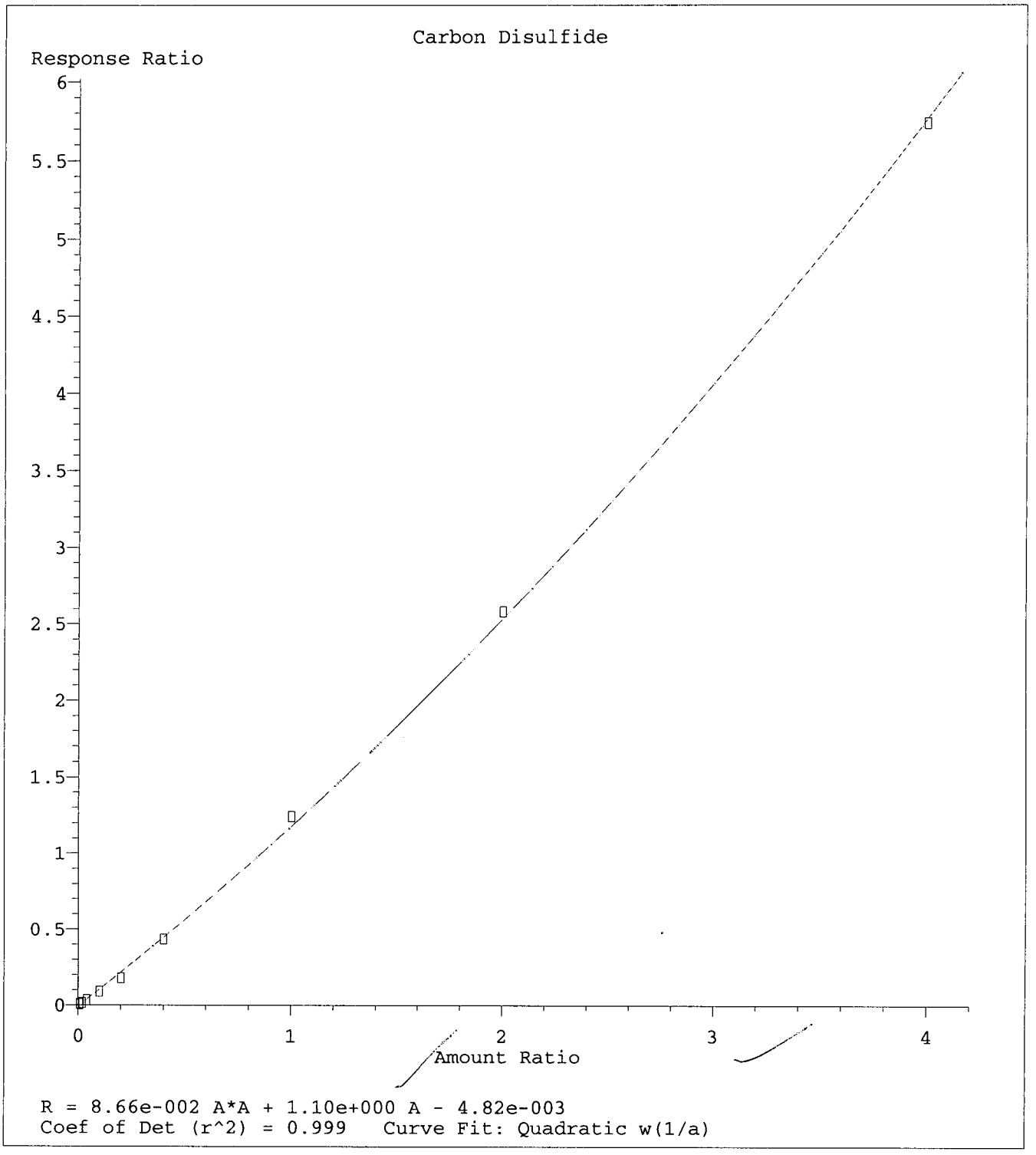
Total Cpnds : 79

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (I)	168	6.097	1.000	A	2	A	R
2		Dichlorodifluoromethane	85	1.632	0.268	A	2	A	R
3	P	Chloromethane	50	1.838	0.301	A	2	A	R
4	C	Vinyl Chloride	62	1.942	0.319	A	2	A	R
5		Bromomethane	96	2.301	0.377	A	2	A	R
6		Chloroethane	64	2.423	0.397	A	2	A	R
7		Trichlorofluoromethane	101	2.556	0.419	A	2	A	R
8	C	1,1-Dichloroethene	61	3.123	0.512	A	2	A	R
9		Carbon Disulfide	76	3.140	0.515	Q	2	A	R
10		Freon 113	101	3.177	0.521	A	2	A	R
11		Iodomethane	142	3.280	0.538	Q	2	A	R
12		Methylene Chloride	84	3.773	0.619	Q	2	A	R
13		Acetone	43	3.865	0.634	A	1	A	R
14		t-1,2-Dichloroethene	61	3.938	0.646	A	2	A	R
15		n-Hexane	86	4.016	0.659	A	3	A	R
16		Methyl-tert-butyl-ether	73	4.084	0.670	A	3	A	R
17	P	1,1-Dichloroethane	63	4.576	0.751	A	2	A	R
18		Acrylonitrile	53	4.649	0.763	A	2	A	R
19		c-1,2-Dichloroethene	61	5.136	0.842	A	2	A	R
20		2,2-Dichloropropane	77	5.240	0.859	A	2	A	R
21		Bromochloromethane	49	5.337	0.875	A	2	A	R
22	C	Chloroform	83	5.422	0.889	A	2	A	R
23		Carbon Tetrachloride	117	5.543	0.909	Q	2	A	R
24		Tetrahydrofuran	42	5.598	0.918	A	2	A	R
25		1,1,1-Trichloroethane	97	5.617	0.921	A	2	A	R
26	S	Dibromofluoromethane (S)	111	5.605	0.919	A	2	A	R
27		1,1-Dichloropropene	75	5.745	0.942	A	2	A	R
28		2-Butanone (MEK)	43	5.751	0.943	A	2	A	R
29		Benzene	78	6.000	0.984	A	2	A	R
30		1,2-Dichloroethane (EDC)	62	6.219	1.020	A	2	A	R
31		iso-Butyl Alcohol	43	6.285	1.031	Q	2	A	R
32	S	1,4-Difluorobenzene (S)	114	6.657	1.092	A	2	A	R
33		Trichloroethene (TCE)	130	6.620	1.086	A	2	A	R
34		Dibromomethane	93	7.077	1.161	A	2	A	R
35	C	1,2-Dichloropropane	63	7.180	1.178	A	2	A	R
36		Bromodichloromethane	83	7.259	1.191	Q	2	A	R
37	I	Chlorobenzene-d5 (I)	117	9.802	1.000	A	2	A	R
38		c-1,3-Dichloropropene	75	7.964	0.812	Q	2	A	R
39	S	Toluene-d8 (S)	98	8.166	0.833	A	2	A	R
40	C	Toluene	91	8.227	0.839	A	2	A	R
41		Tetrachloroethene (PCE)	166	8.671	0.885	A	2	A	R
42		4-Methyl-2-Pentanone (MIBK)	43	8.677	0.885	A	2	A	R
43		t-1,3-Dichloropropene	75	8.713	0.889	Q	2	A	R
44		1,1,2-Trichloroethane	97	8.890	0.907	A	2	A	R
45		Dibromochloromethane	129	9.078	0.926	Q	2	A	R
46		1,3-Dichloropropane	76	9.169	0.935	A	2	A	R
47		1,2-Dibromoethane (EDB)	107	9.309	0.950	Q	2	A	R
48		2-Hexanone	43	9.546	0.974	A	2	A	R
49	P	Chlorobenzene	112	9.820	1.002	A	2	A	R
50	C	Ethylbenzene	91	9.845	1.004	A	2	A	R
51		1,1,1,2-Tetrachloroethane	131	9.881	1.008	Q	2	A	R
52		m,p-Xylenes (2)	91	9.979	1.018	A	2	A	R
53		o-Xylene	91	10.362	1.057	A	2	A	R
54		Styrene	104	10.410	1.062	Q	2	A	R
55	P	Bromoform	173	10.434	1.064	Q	2	A	R

56		Isopropylbenzene	105	10.629	1.084	A	2	A	R
57	I	1,4-Dichlorobenzene-d4 (I)	152	11.749	1.000	A	2	A	R
58	S	4-Bromofluorobenzene (S)	174	10.873	0.925	A	2	A	R
59		Bromobenzene	156	10.952	0.932	A	2	A	R
60		n-Propylbenzene	91	10.970	0.934	A	2	A	R
61	P	1,1,2,2-Tetrachloroethane	83	11.037	0.939	A	2	A	R
62		2-Chlorotoluene	126	11.104	0.945	A	2	A	R
63		1,3,5-Trimethylbenzene	105	11.128	0.947	A	2	A	R
64		1,2,3-Trichloropropane	110	11.147	0.949	A	2	A	R
65		t-1,4-Dichloro-2-butene	88	11.177	0.951	Q1/a	3	A	R
66		4-Chlorotoluene	91	11.232	0.956	A	2	A	R
67		tert-Butylbenzene	91	11.378	0.968	A	2	A	R
68		1,2,4-Trimethylbenzene	105	11.439	0.974	A	2	A	R
69		sec-Butylbenzene	105	11.518	0.980	A	2	A	R
70		4-Isopropyltoluene	119	11.627	0.990	A	2	A	R
71		1,3-Dichlorobenzene	146	11.694	0.995	A	2	A	R
72		1,4-Dichlorobenzene	146	11.761	1.001	A	2	A	R
73		n-Butylbenzene	91	11.944	1.017	A	2	A	R
74		1,2-Dichlorobenzene	146	12.077	1.028	A	2	A	R
75		1,2-Dibromo-3-Chloropropane	157	12.685	1.080	Q1/a	2	A	R
76		Hexachlorobutadiene	223	13.190	1.123	A	3	A	R
77		1,2,4-Trichlorobenzene	180	13.227	1.126	A	2	A	R
78		Naphthalene	128	13.500	1.149	Q1/a	2	A	R
79		1,2,3-Trichlorobenzene	180	13.665	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

VF190507S.M Wed May 08 12:03:31 2019



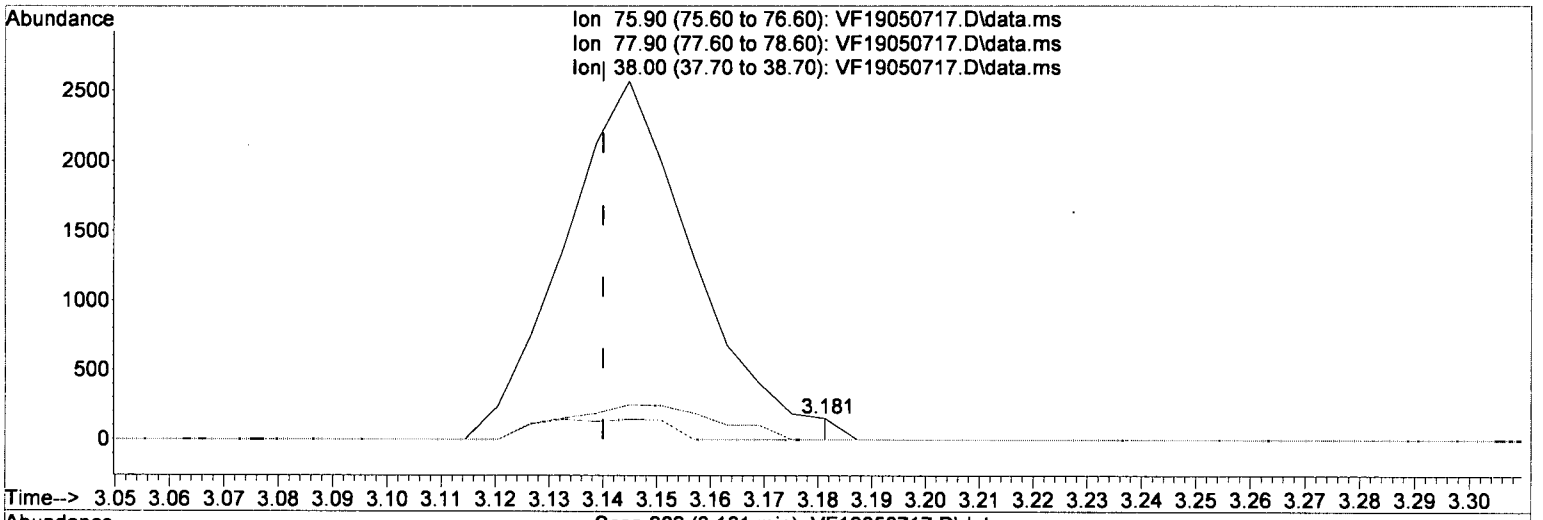
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

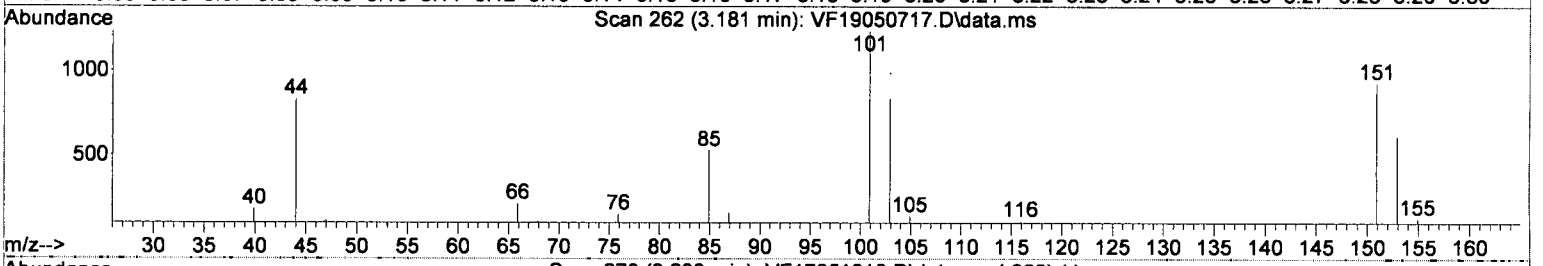
Int = 0.22

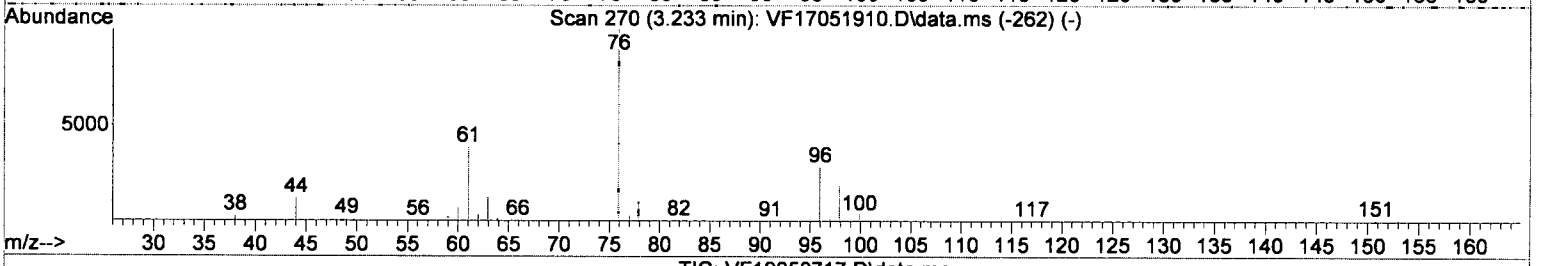
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







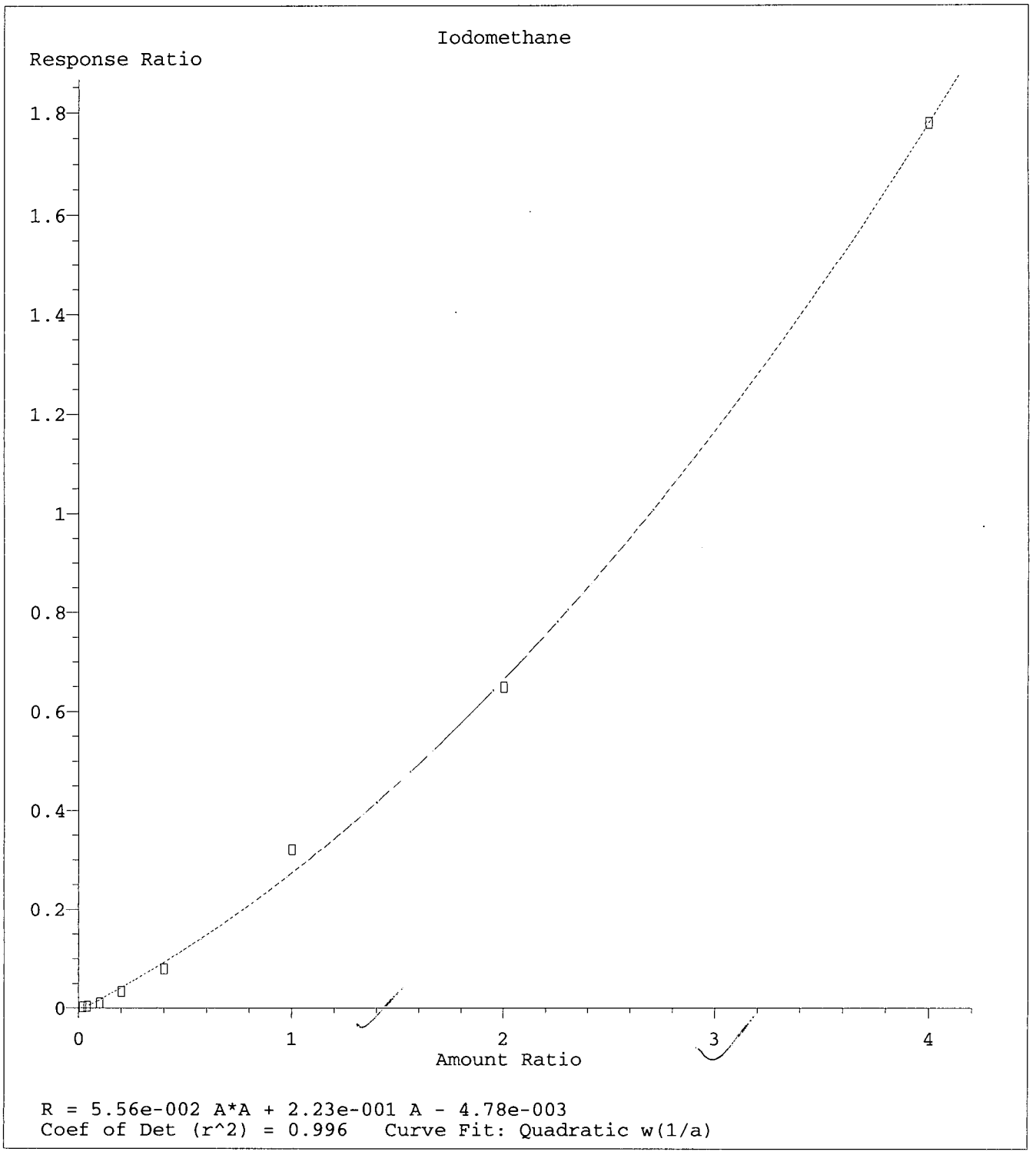
TIC: VF19050717.D\data.ms

(9) Carbon Disulfide

3.181min (+0.041) 0.22 ug/L m

response 0

Ion	Exp%	Act%
75.90	100	0.00
77.90	9.50	0.00
38.00	1.60	0.00
0.00	0.00	0.00



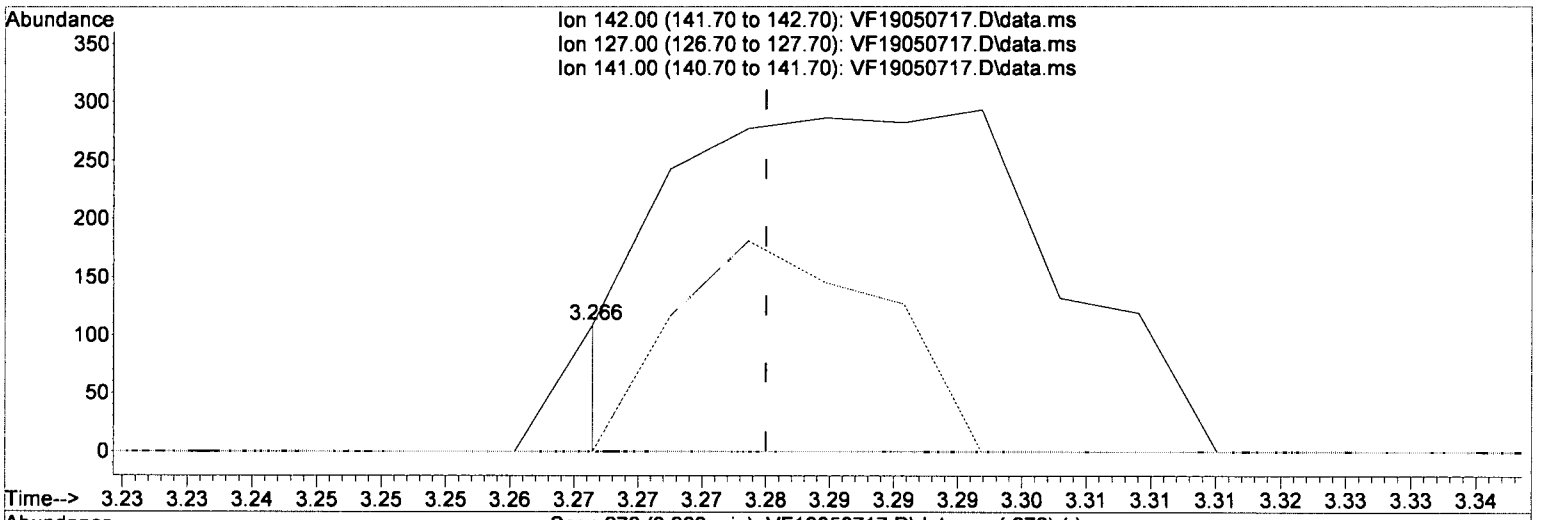
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

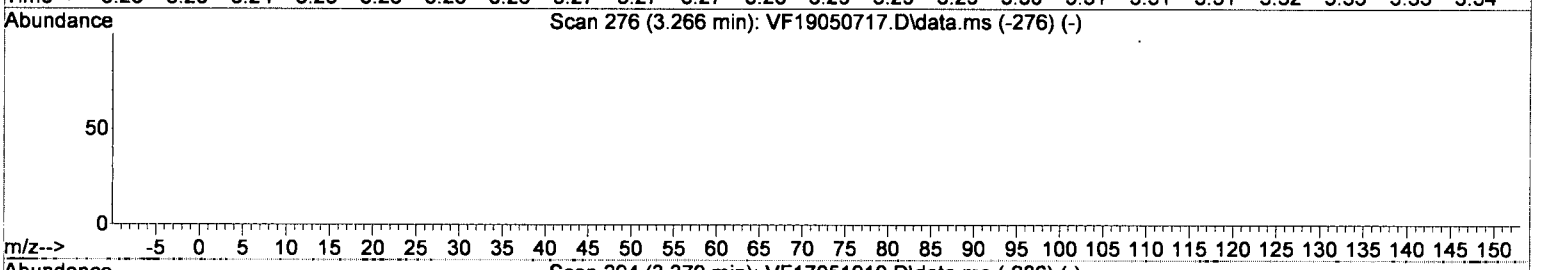
Int = 1.10

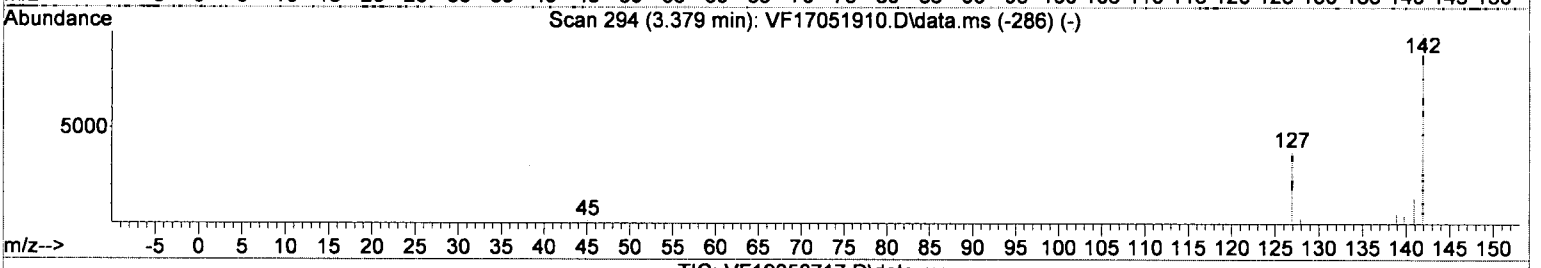
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







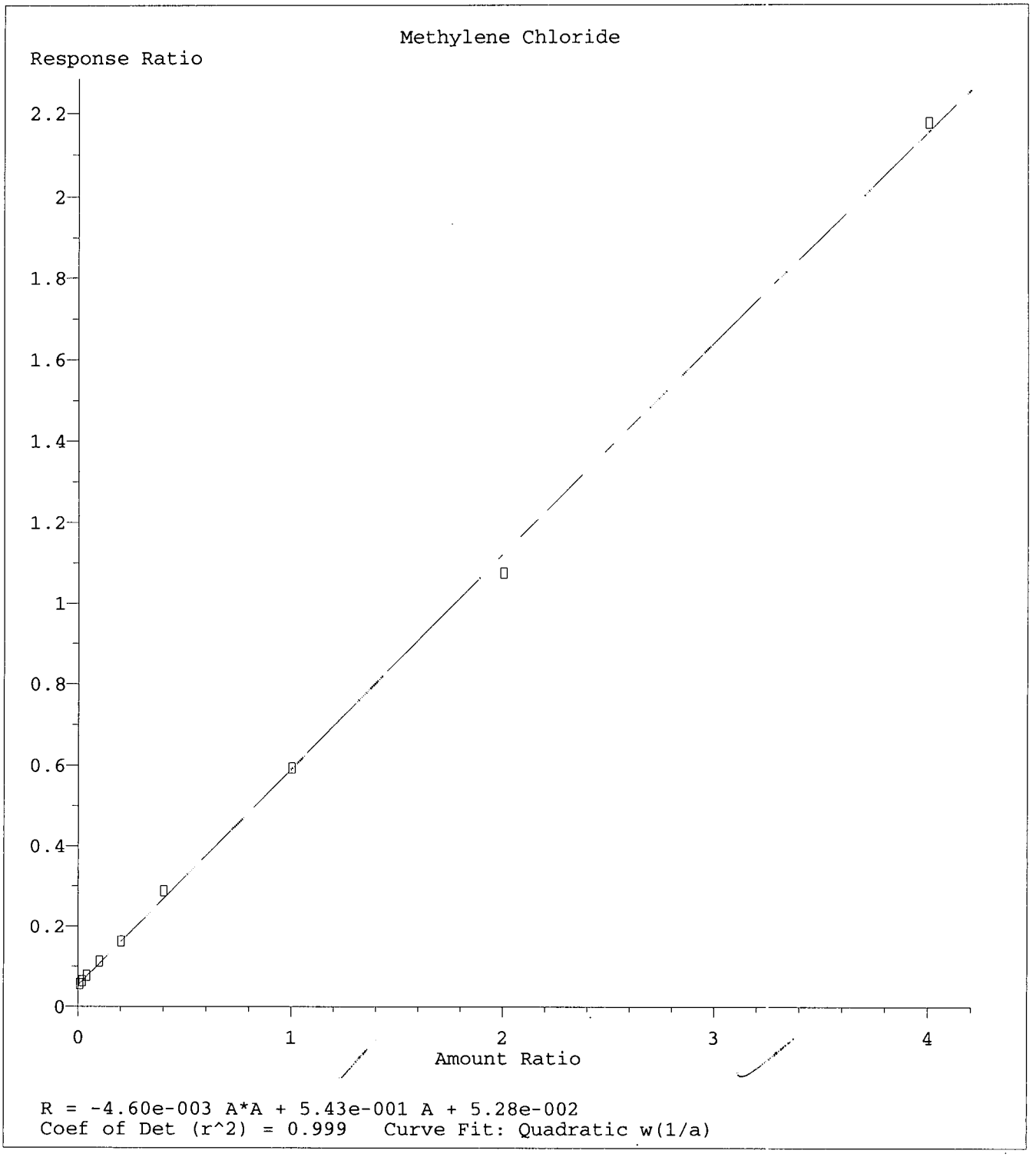
TIC: VF19050717.D\data.ms

(11) Iodomethane

3.266min (-0.014) 1.10 ug/L m

response 40

Ion	Exp%	Act%
142.00	100	100
127.00	35.00	0.00#
141.00	15.00	0.00#
0.00	0.00	0.00



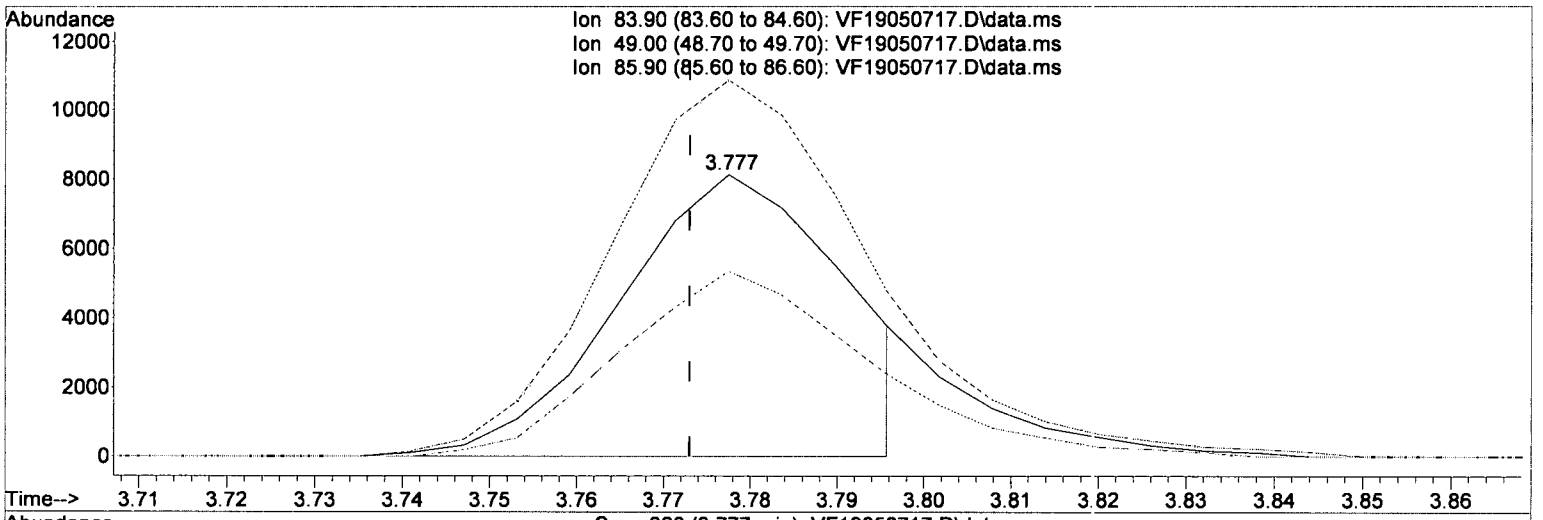
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

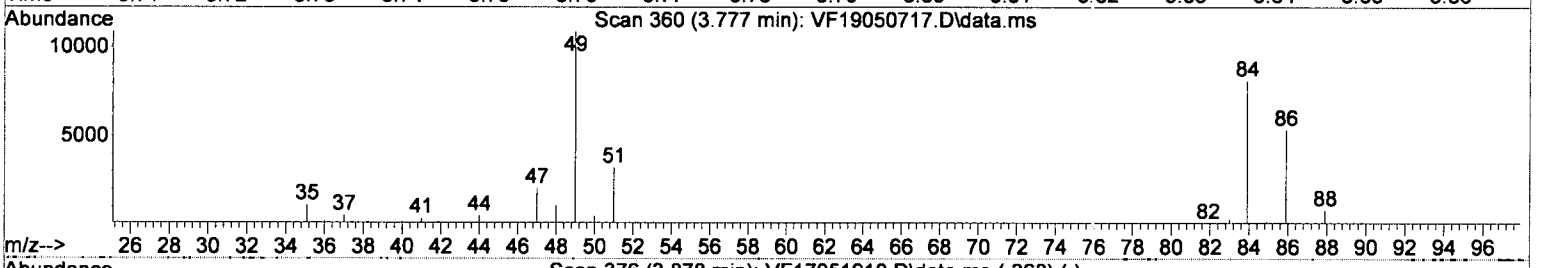
Int =(-)

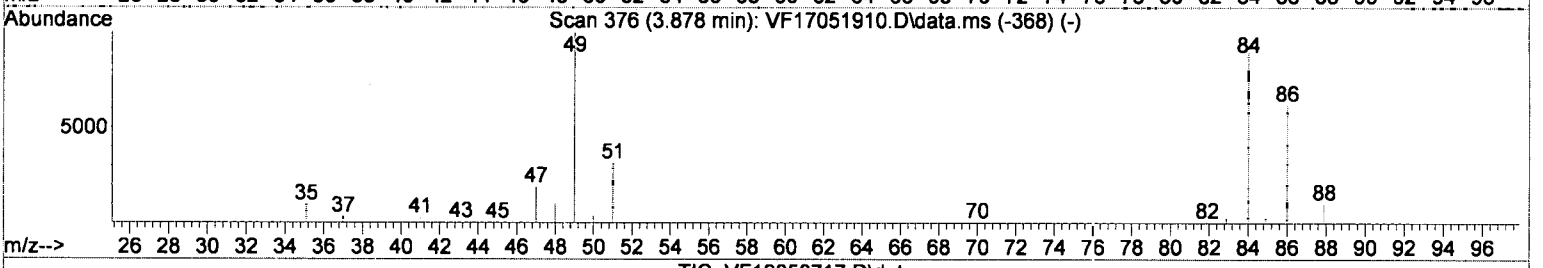
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







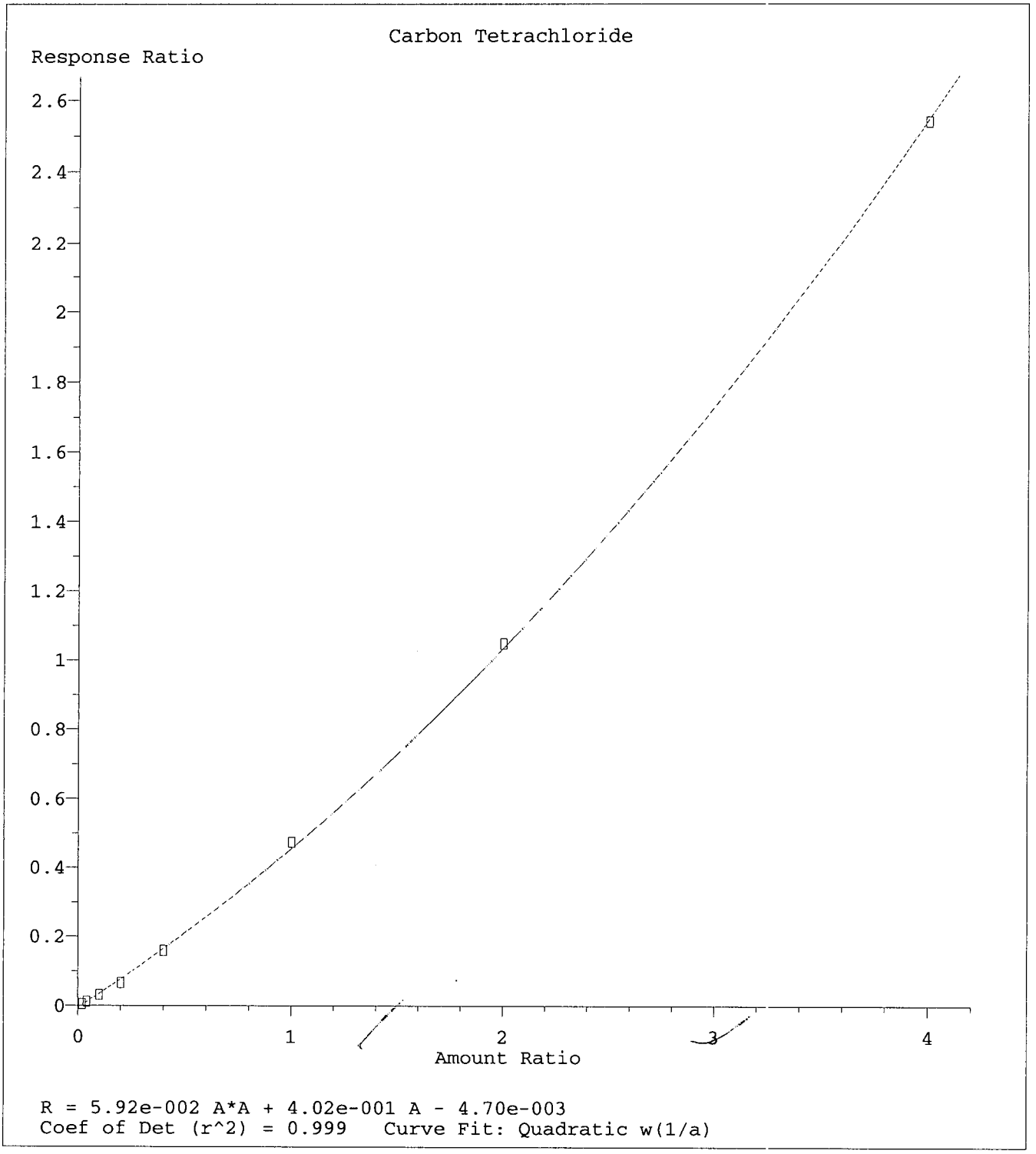
TIC: VF19050717.D\data.ms

(12) Methylene Chloride

3.777min (+0.004) 0.26 ug/L m

response 14573

Ion	Exp%	Act%
83.90	100	100
49.00	121.90	133.43
85.90	60.10	65.74
0.00	0.00	0.00



Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

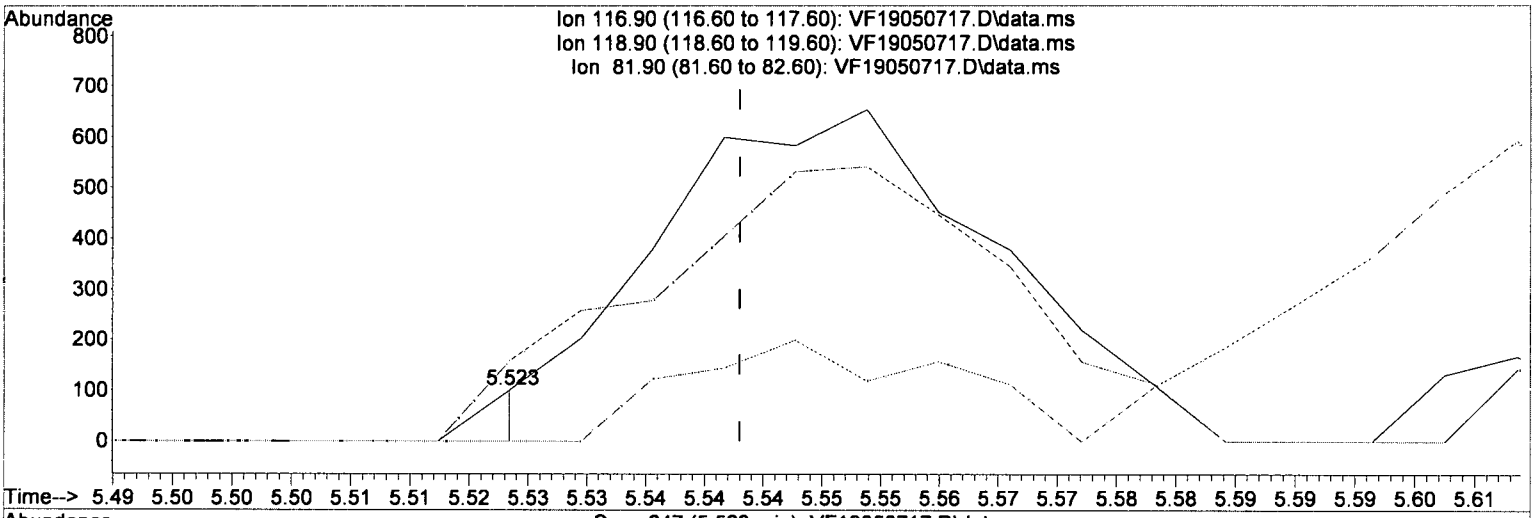
IuT = 0.60

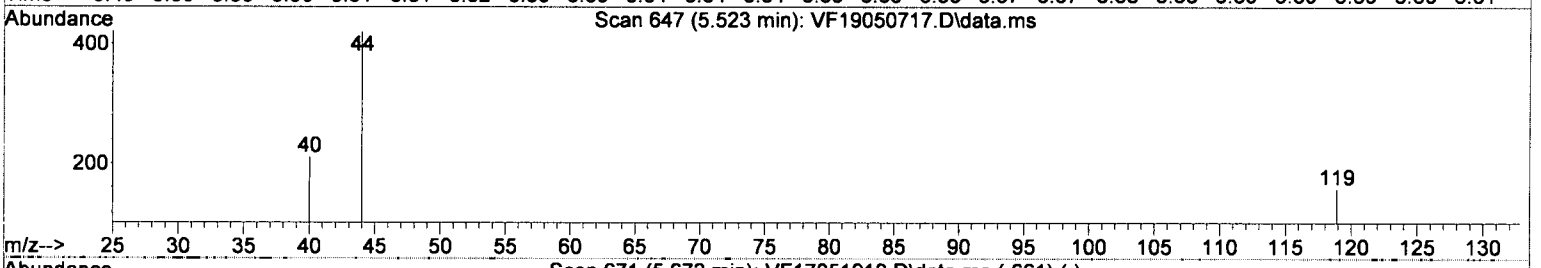
↑ MDL MRL

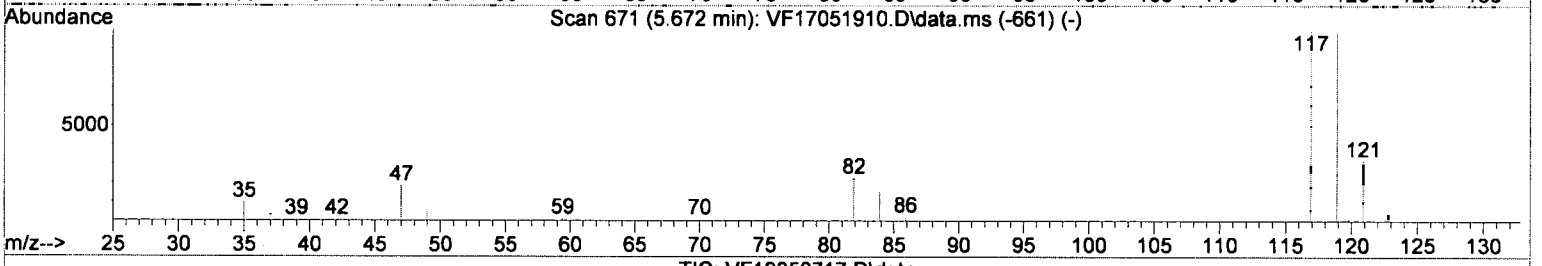
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







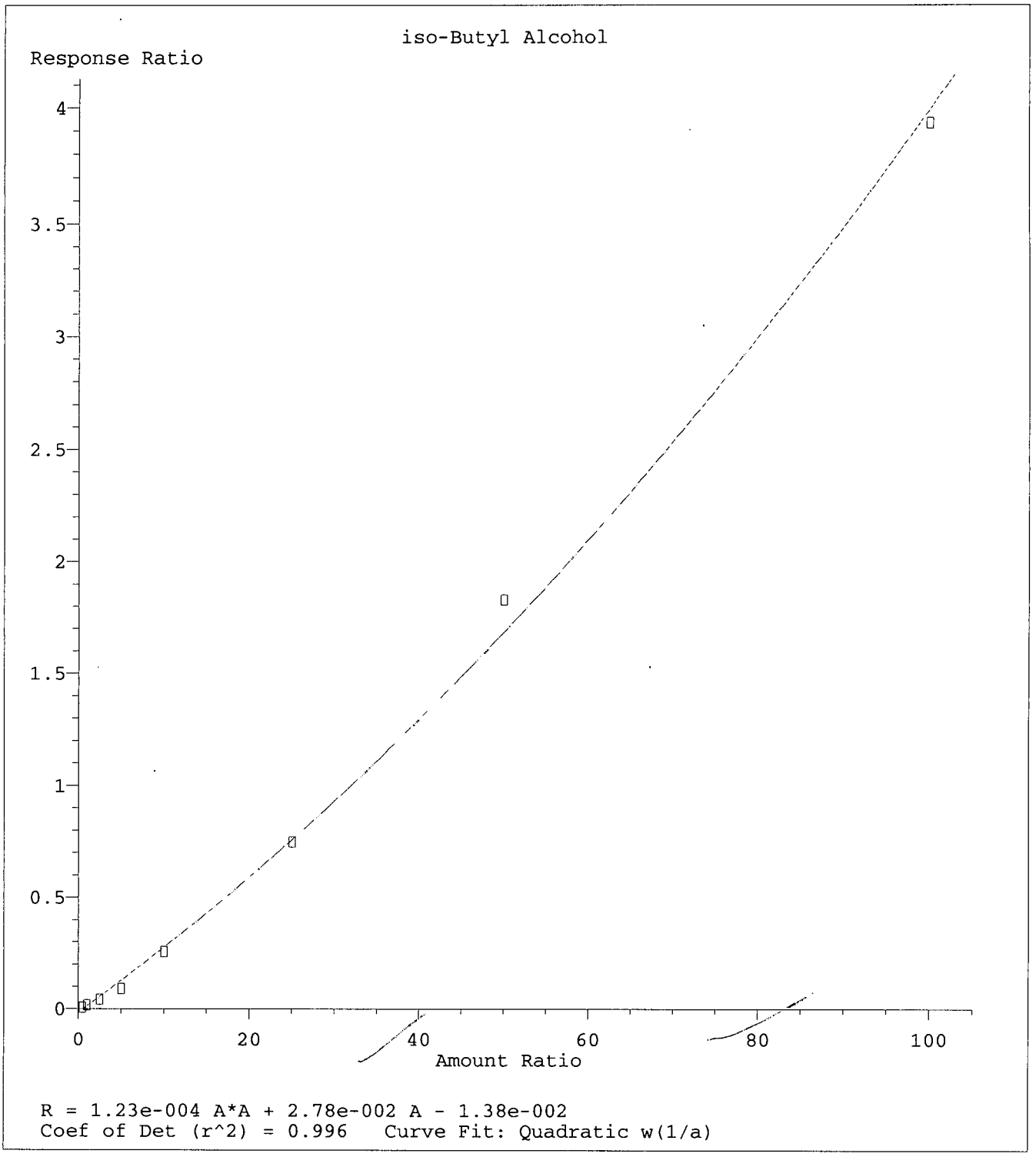
TIC: VF19050717.D\data.ms

(23) Carbon Tetrachloride

5.523min (-0.020) 0.60 ug/L m

response 37

Ion	Exp%	Act%
116.90	100	100
118.90	93.00	156.44#
81.90	23.10	0.00
0.00	0.00	0.00



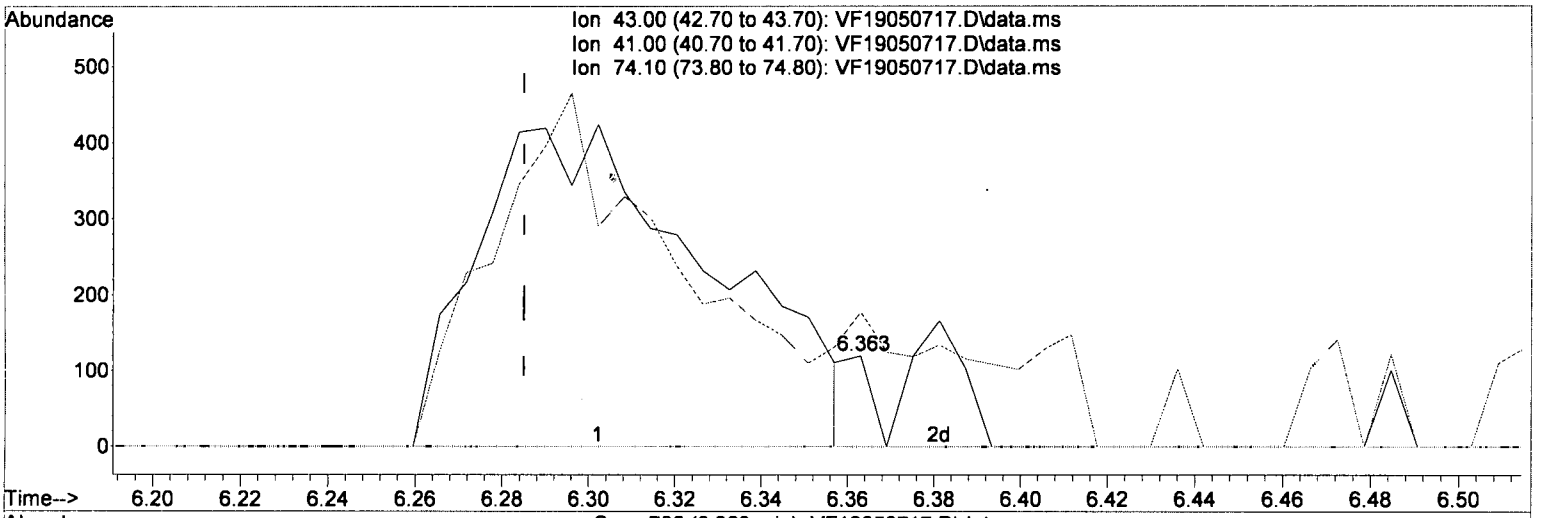
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

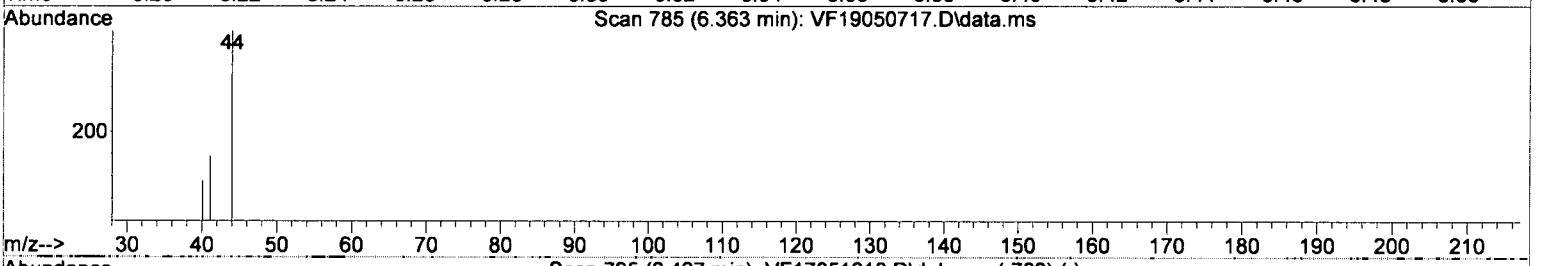
$t_{wT} = 24.97$

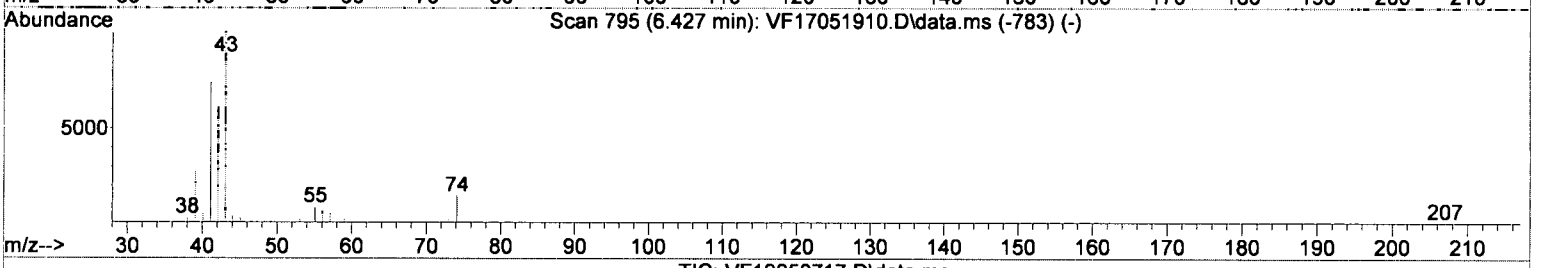
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







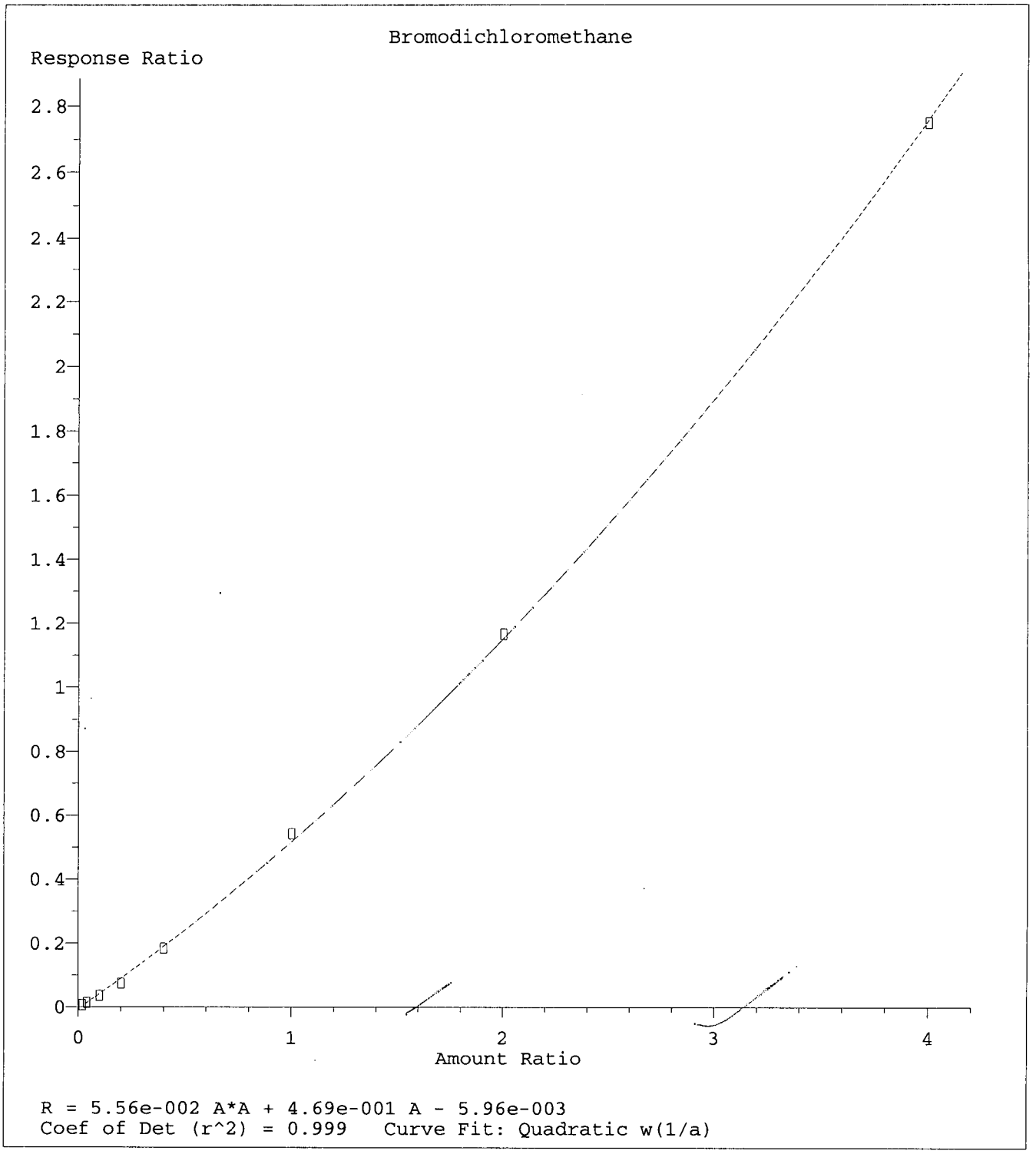
TIC: VF19050717.D\data.ms

(31) iso-Butyl Alcohol

6.363min (+0.078) 24.97 ug/L m

response 44

Ion	Exp%	Act%
43.00	100	100
41.00	78.40	148.33#
74.10	9.40	0.00
0.00	0.00	0.00



Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

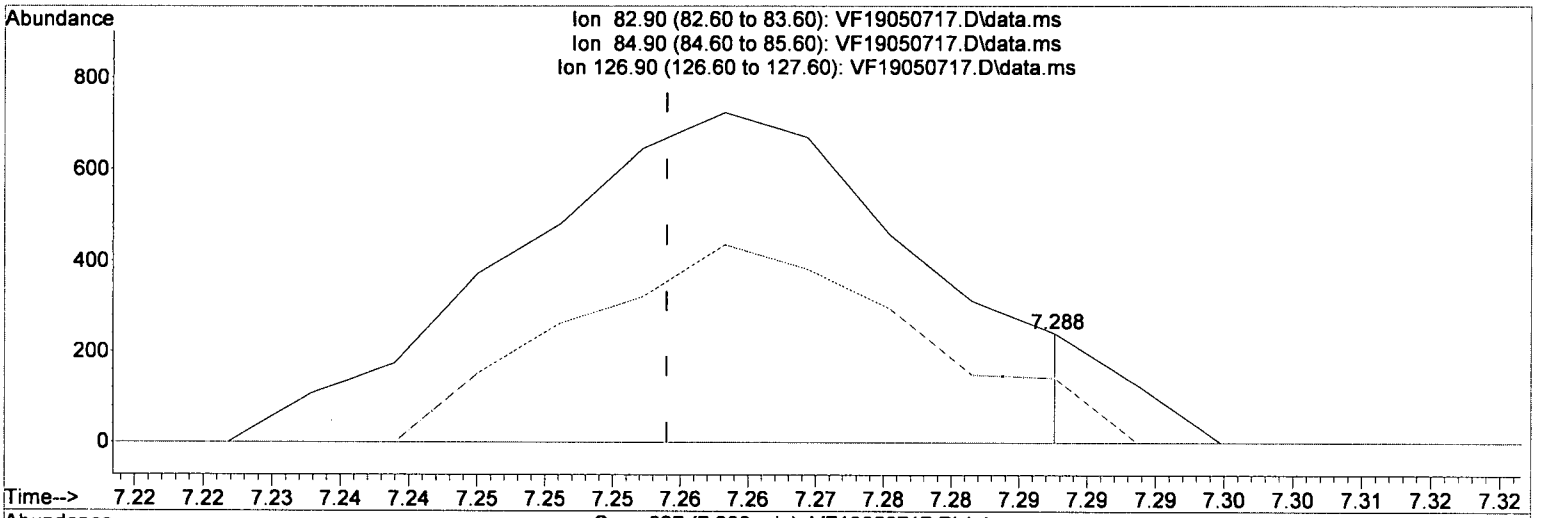
Int = 0.65

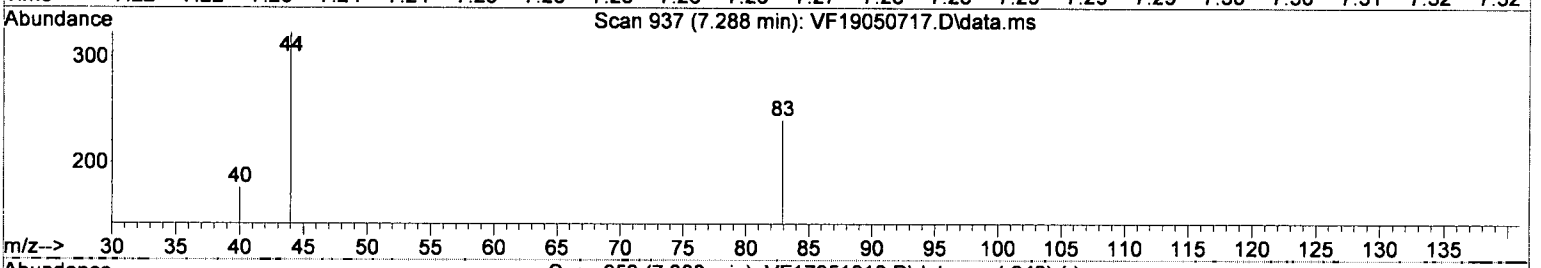
9 MDL MRL

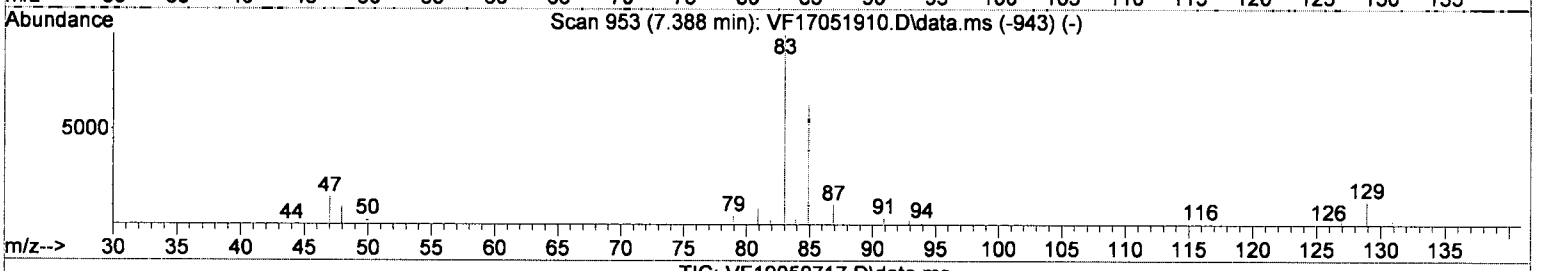
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







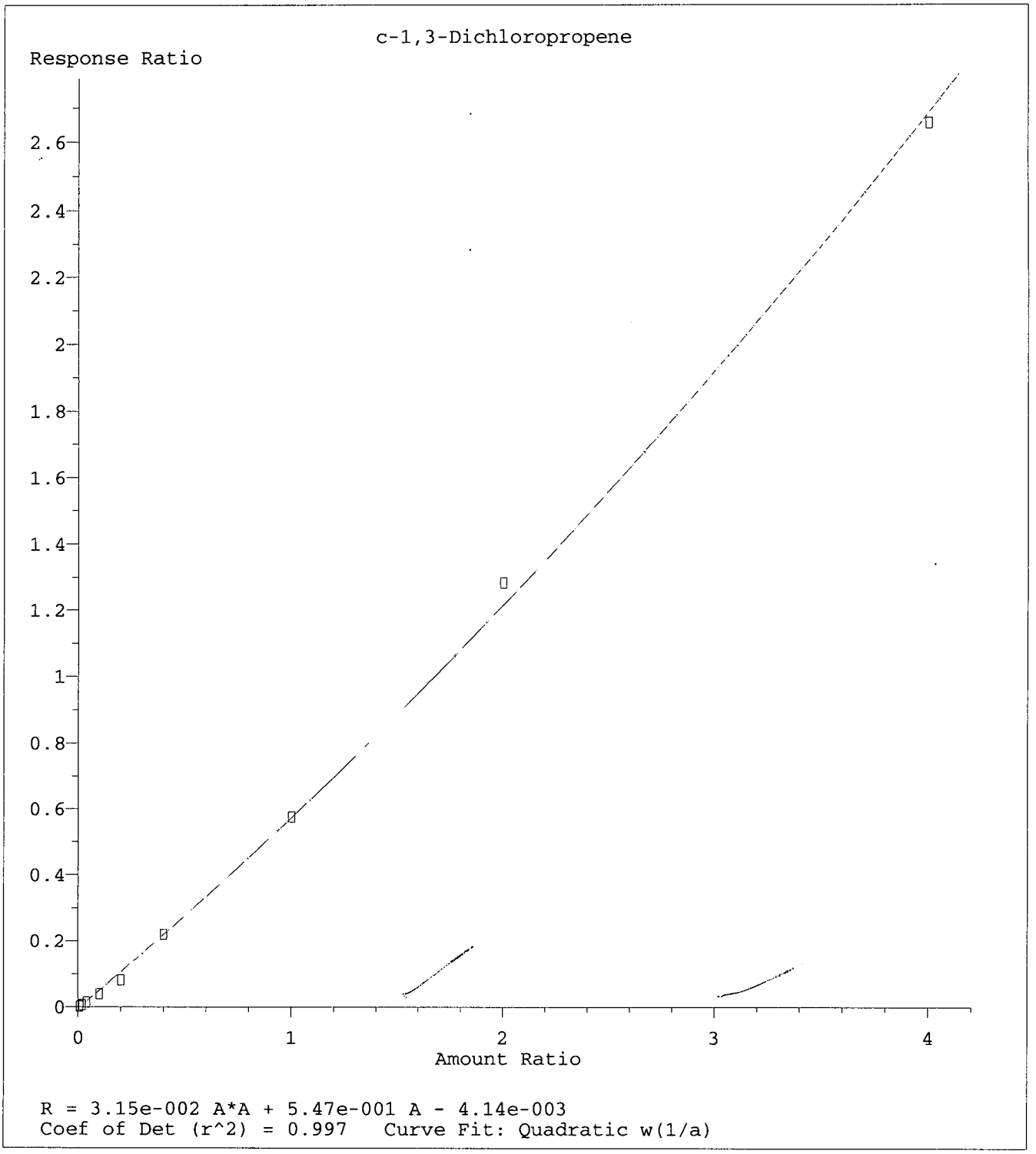
TIC: VF19050717.D\data.ms

(36) Bromodichloromethane

7.288min (+0.029) 0.65 ug/L m

response 46

Ion	Exp%	Act%
82.90	100	100
84.90	63.00	59.17
126.90	9.30	0.00
0.00	0.00	0.00



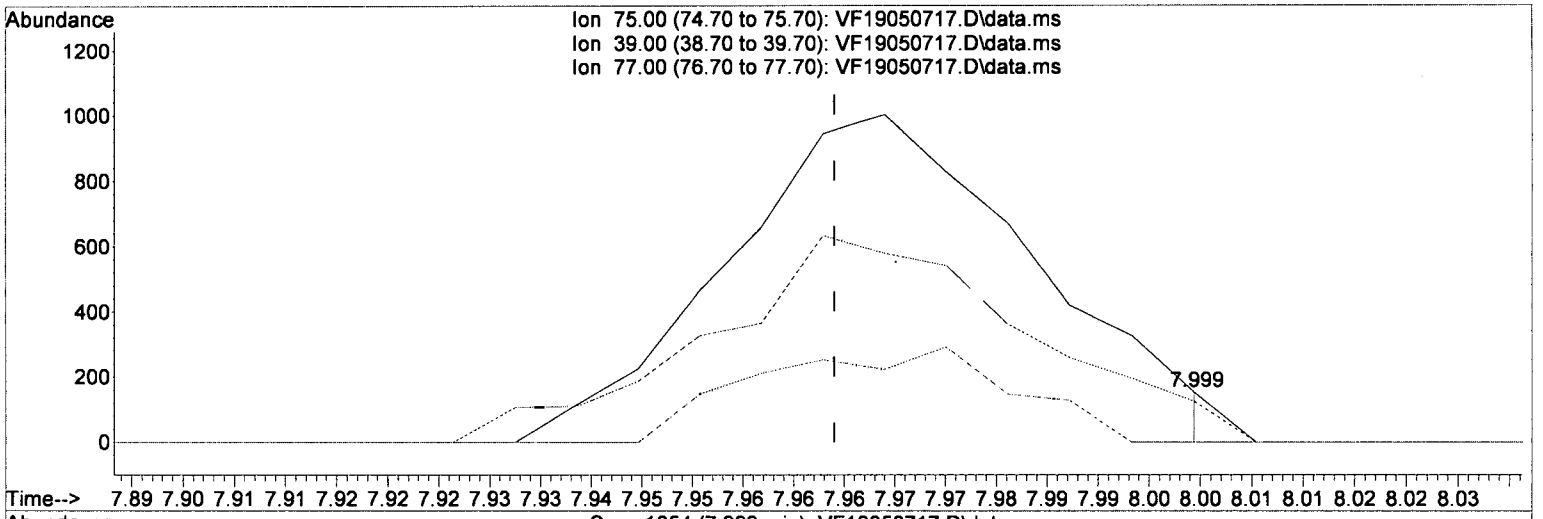
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

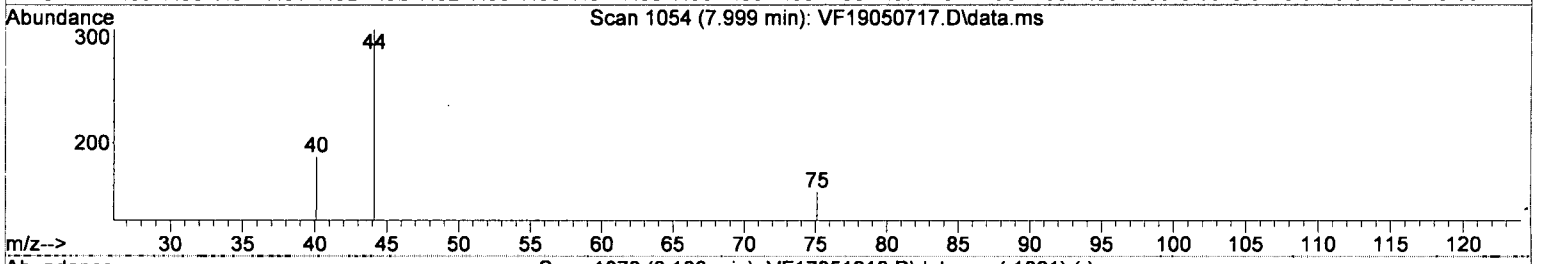
Int = 0.38

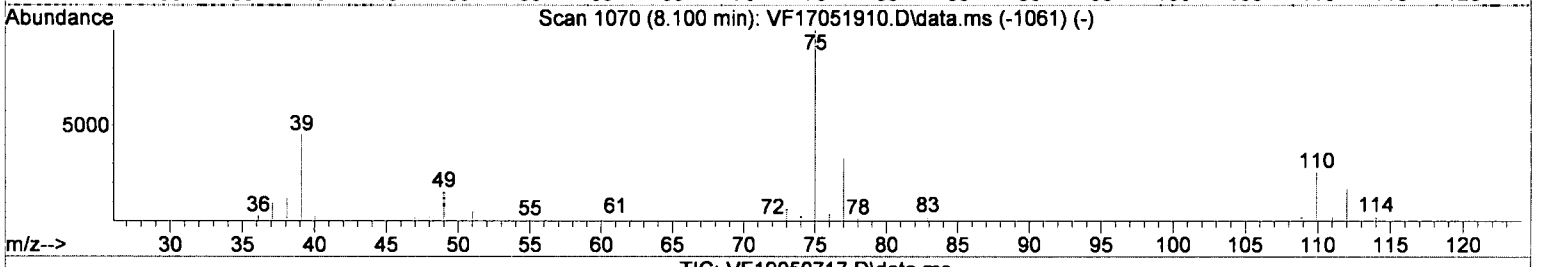
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







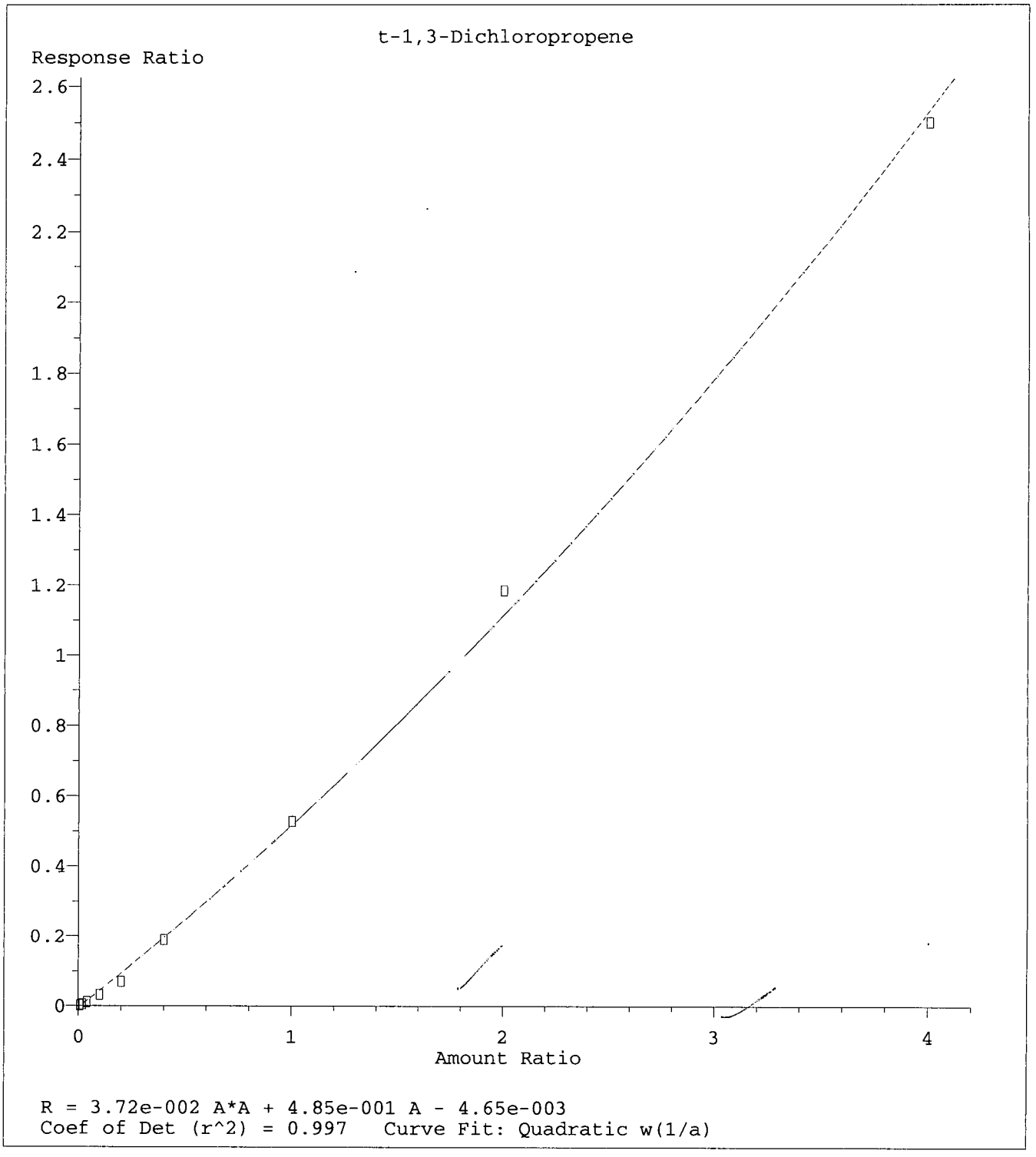
TIC: VF19050717.D\data.ms

(38) c-1,3-Dichloropropene

7.999min (+0.035) 0.38 ug/L m

response 0

Ion	Exp%	Act%
75.00	100	0.00
39.00	46.20	0.00#
77.00	33.30	0.00#
0.00	0.00	0.00



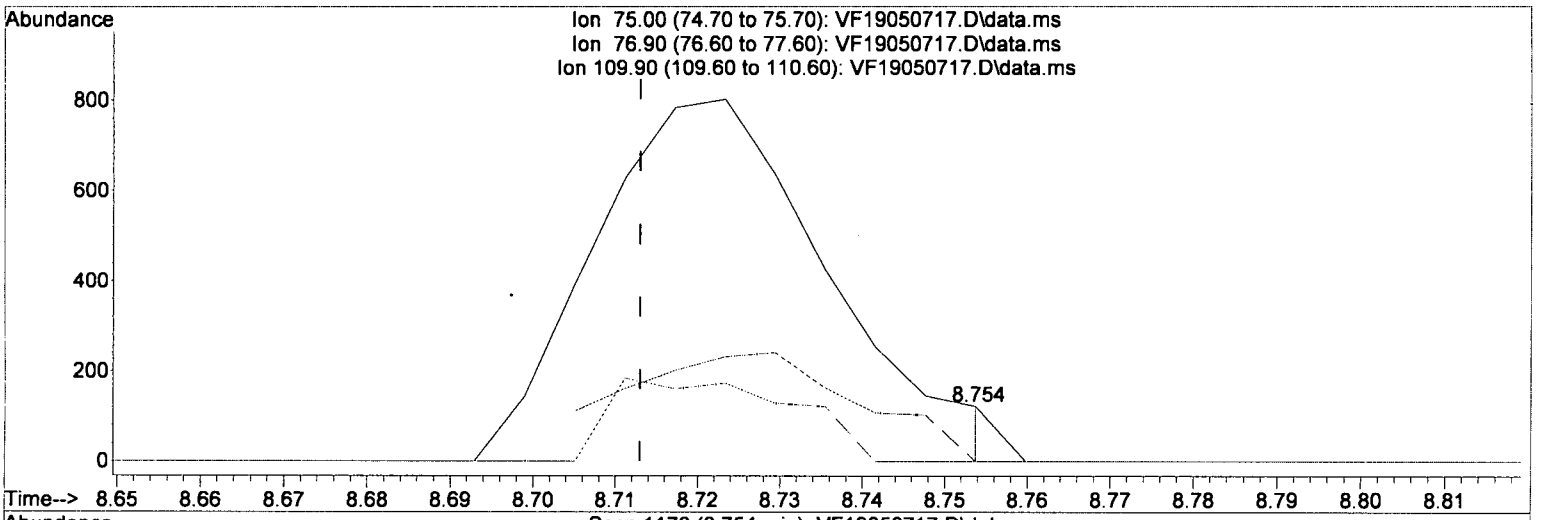
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

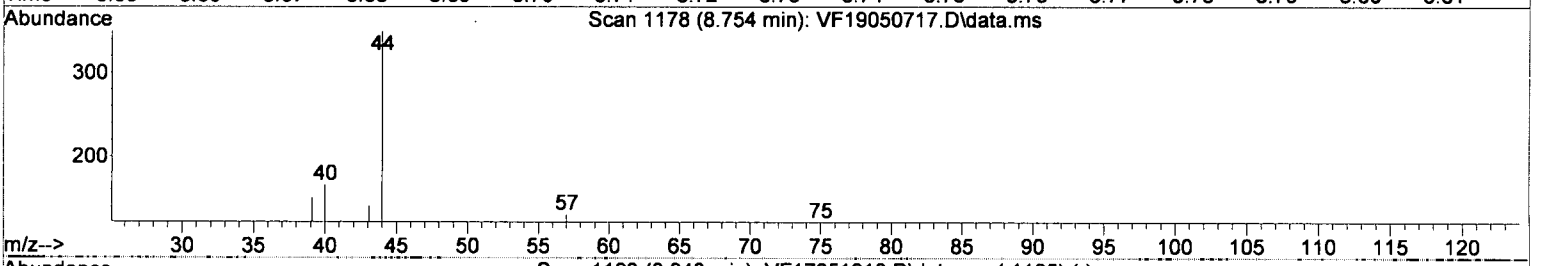
Int= 0.48

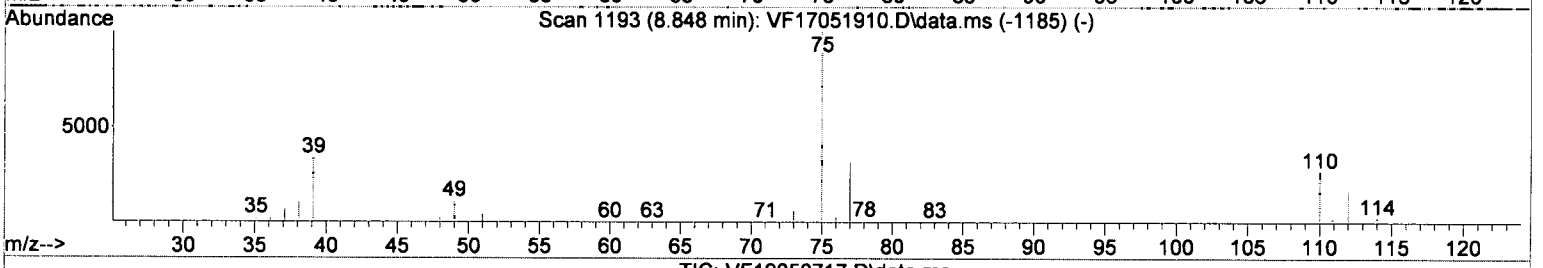
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







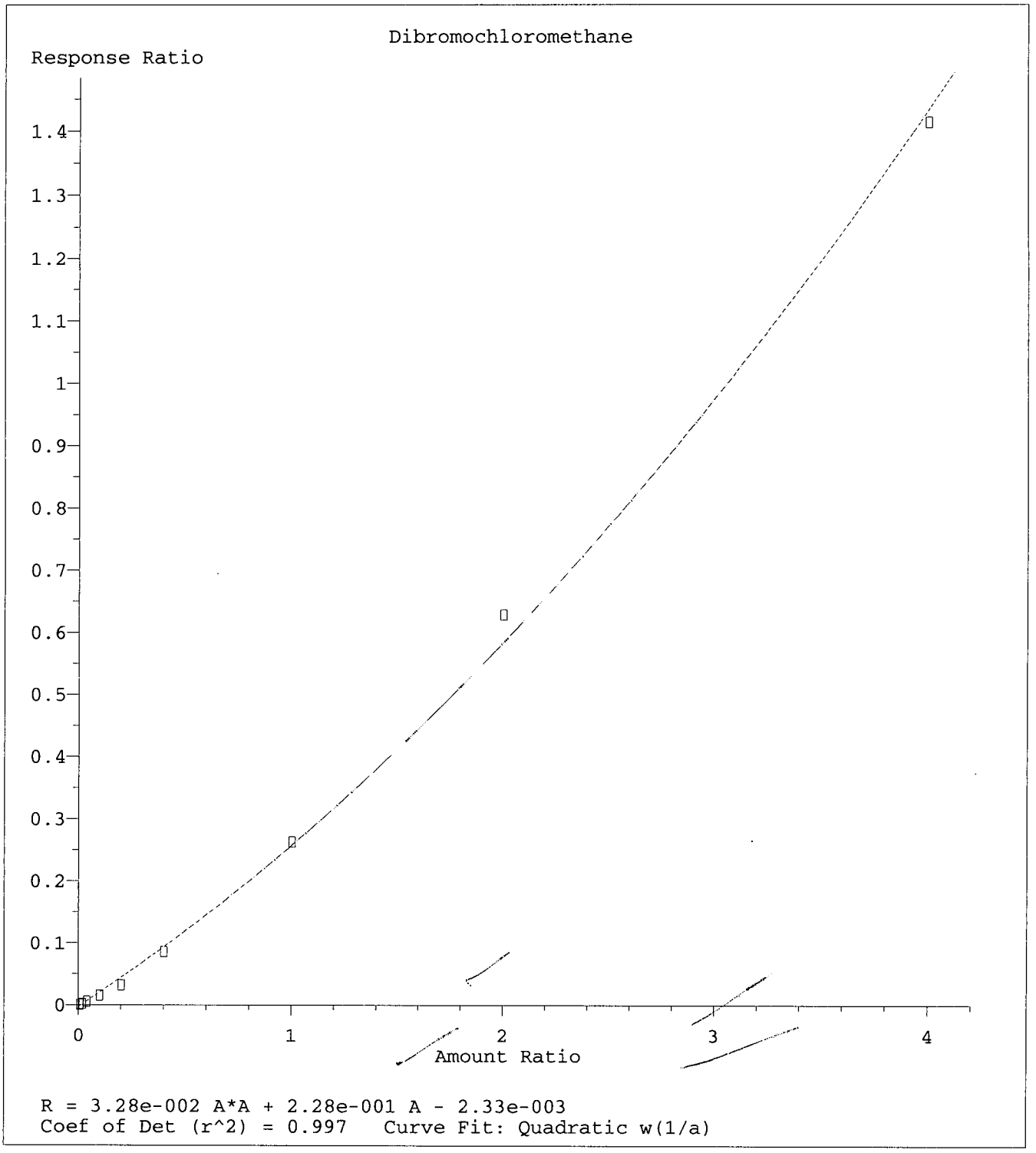
TIC: VF19050717.D\data.ms

(43) t-1,3-Dichloropropene

8.754min (+0.041) 0.48 ug/L m

response 0

Ion	Exp%	Act%
75.00	100	0.00
76.90	29.50	0.00
109.90	26.40	0.00
0.00	0.00	0.00



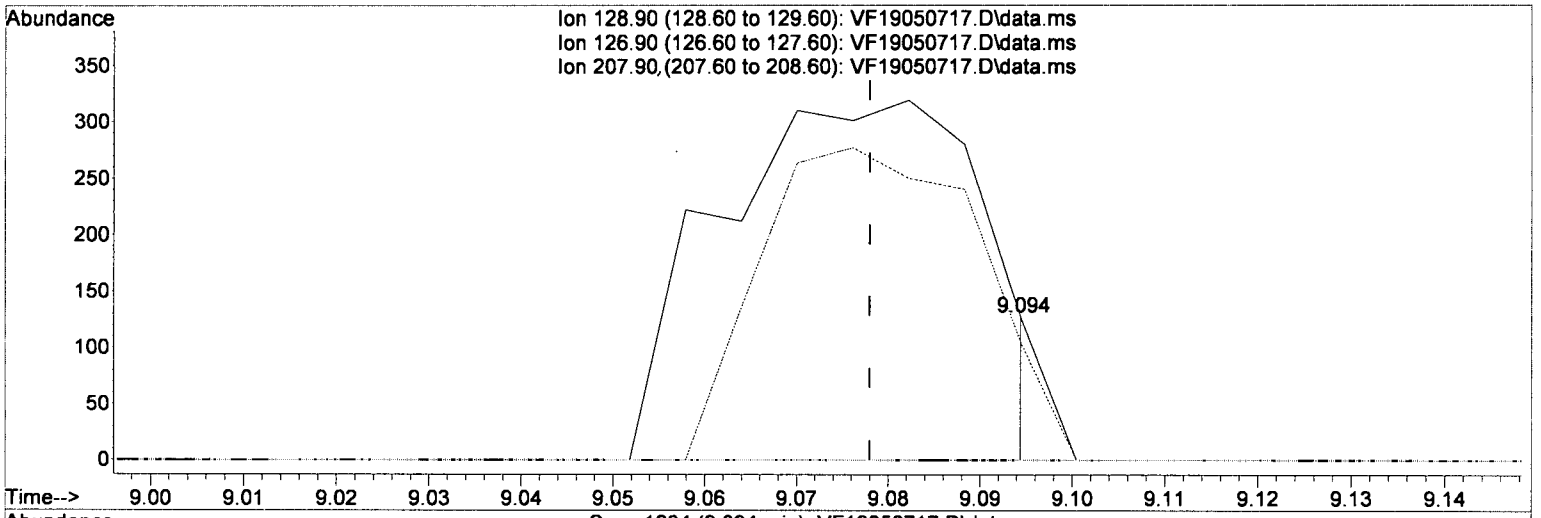
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

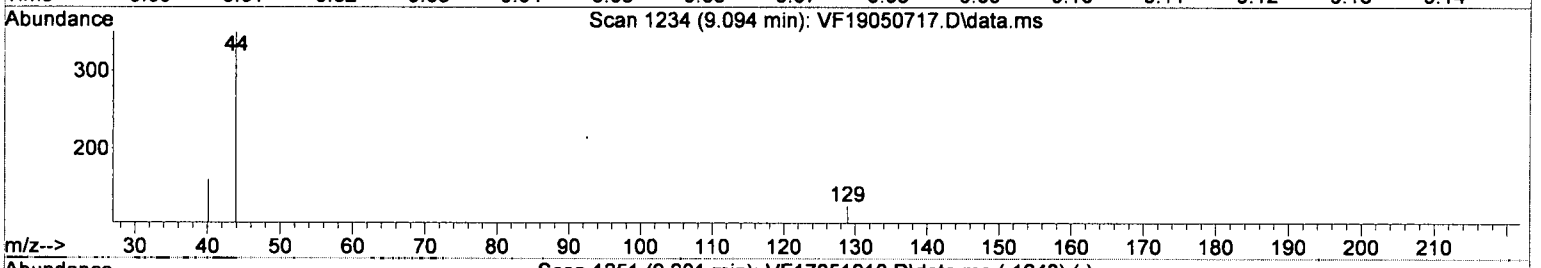
Int= 0.51

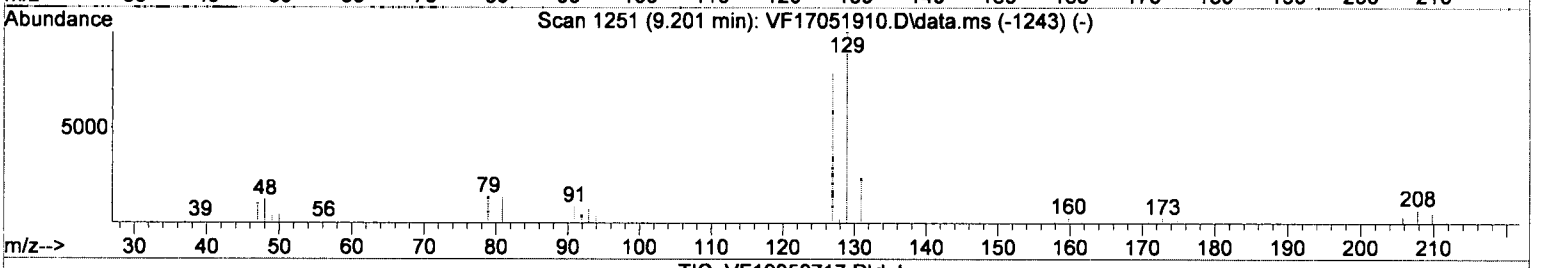
Quantitation Report (Qedit)

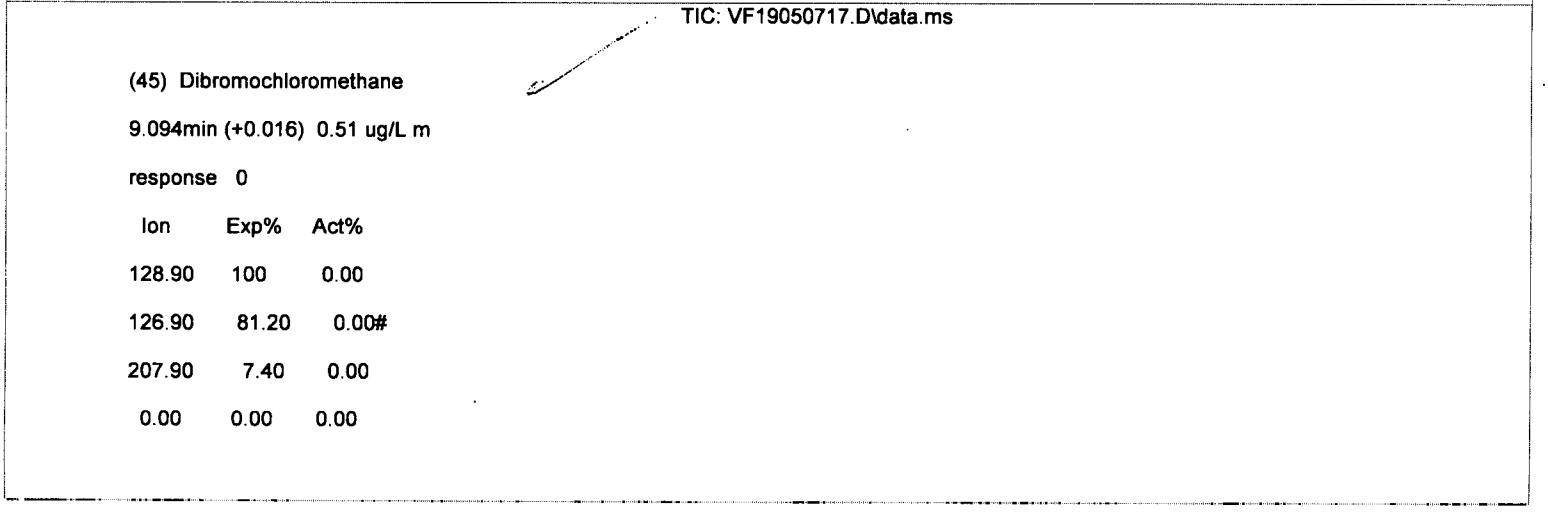
Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







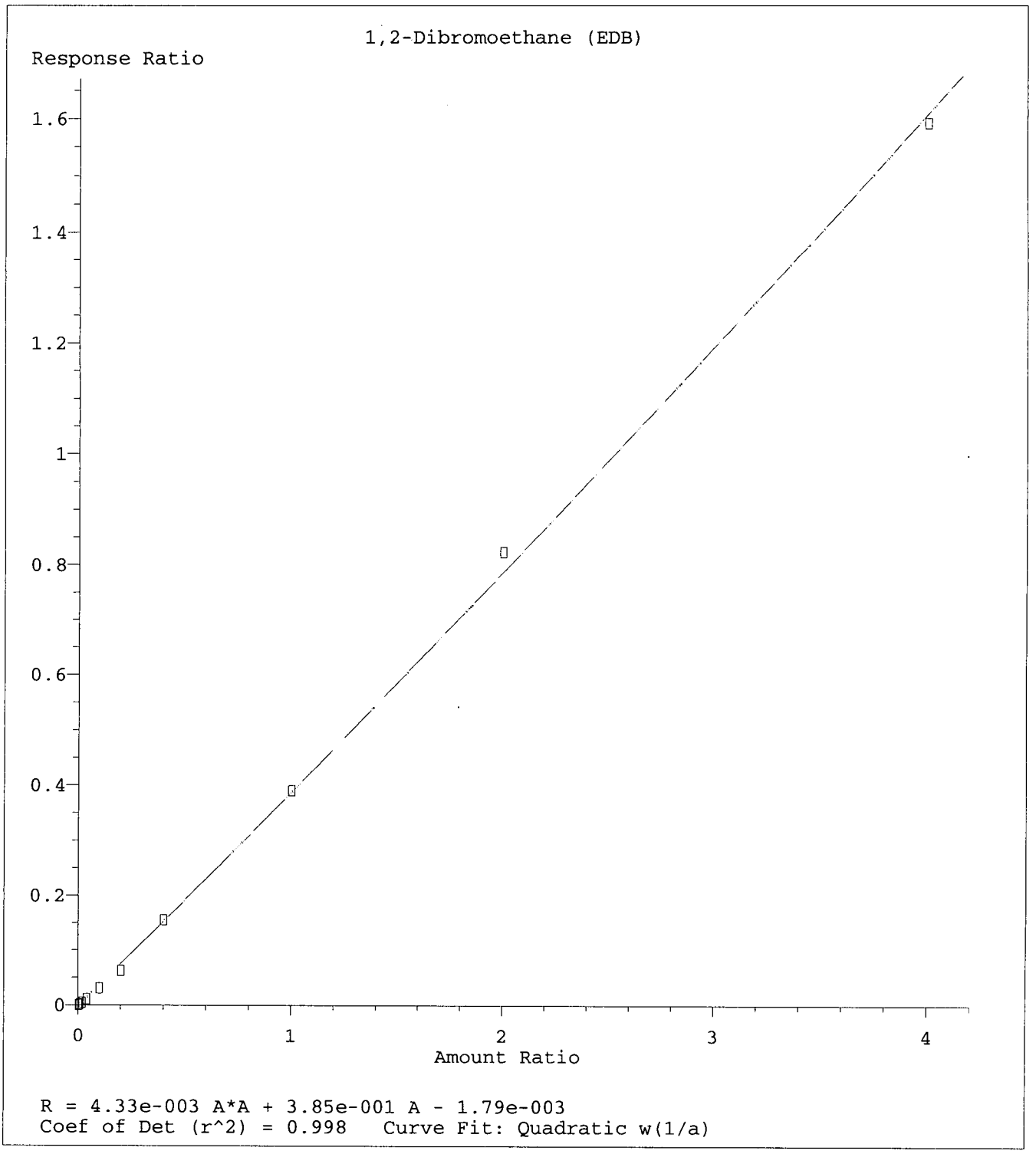


(45) Dibromochloromethane

9.094min (+0.016) 0.51 ug/L m

response 0

Ion	Exp%	Act%
128.90	100	0.00
126.90	81.20	0.00#
207.90	7.40	0.00
0.00	0.00	0.00



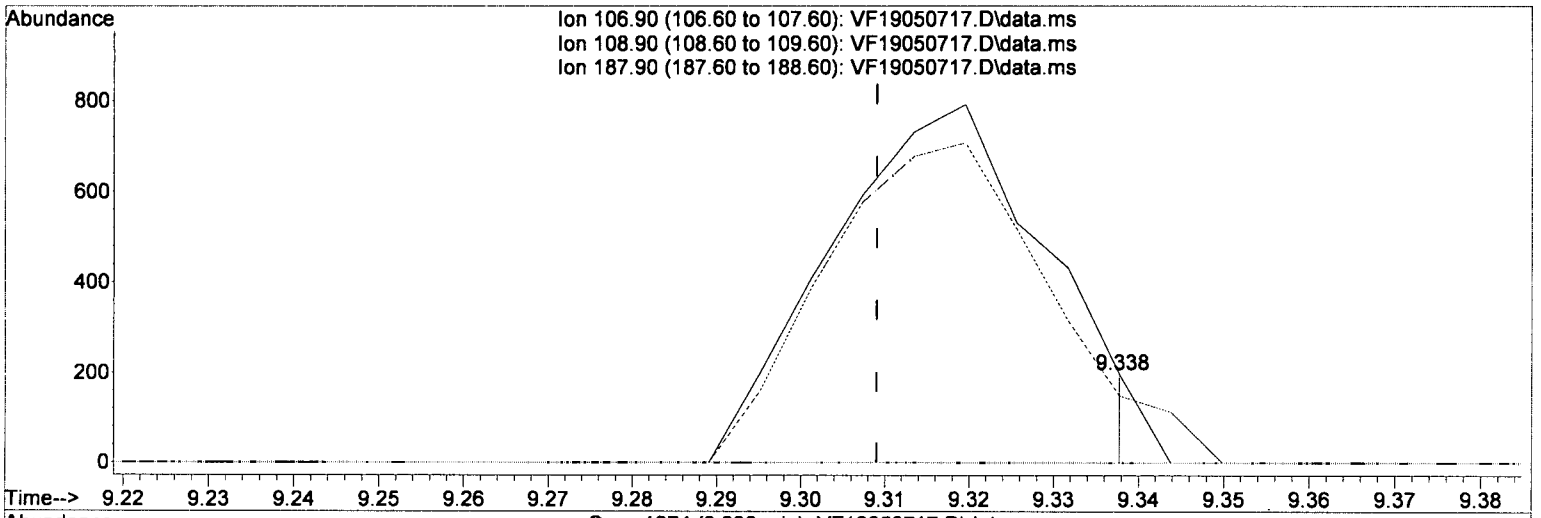
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

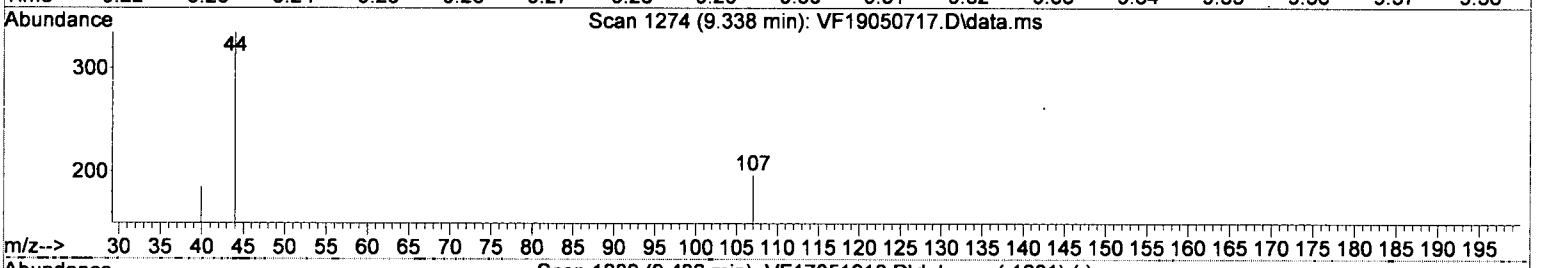
Int= 0.23

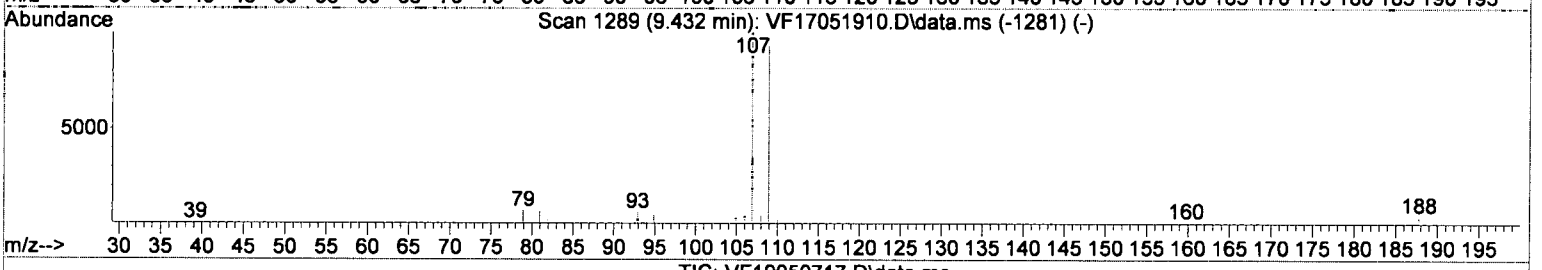
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







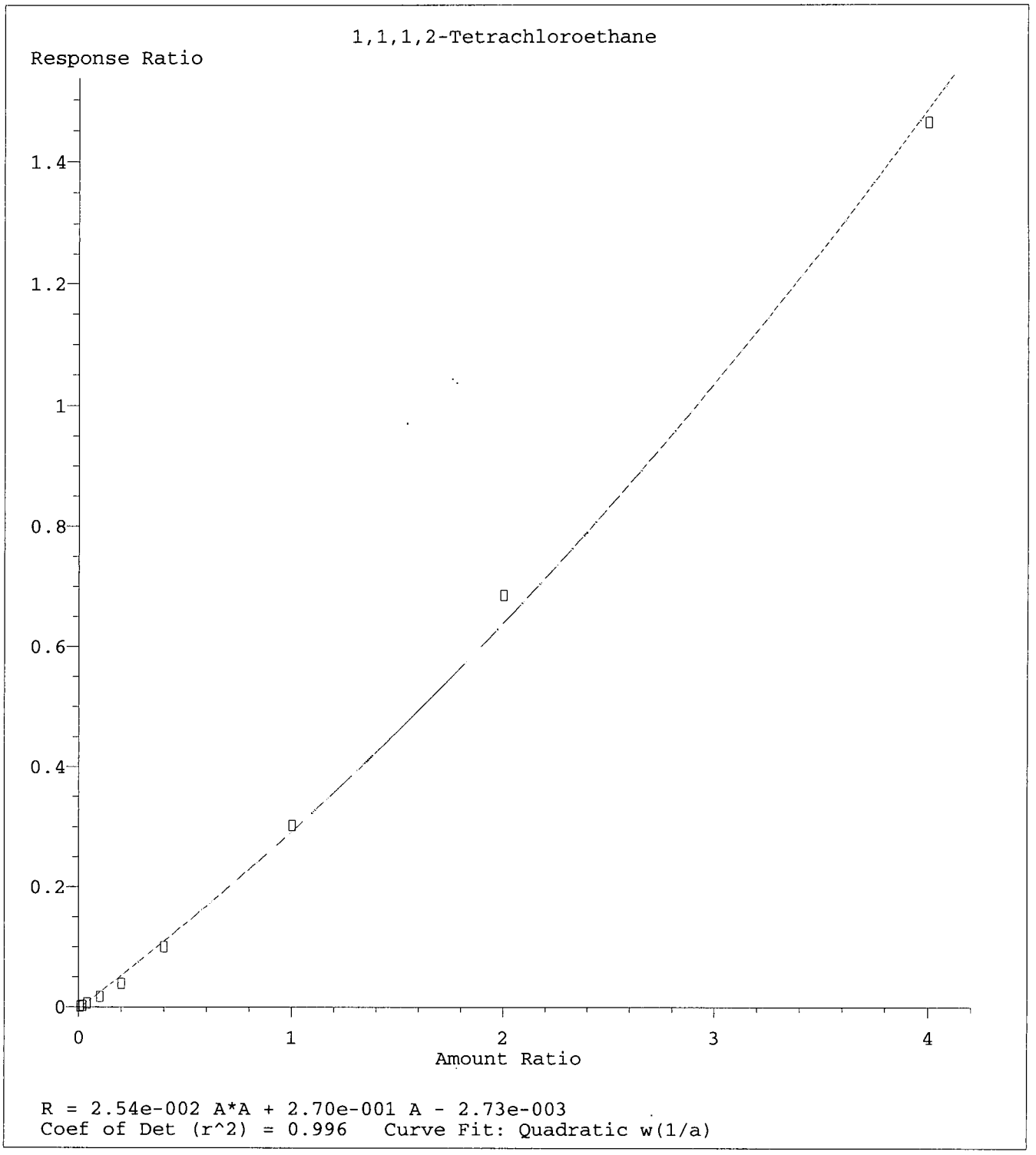
TIC: VF19050717.D\data.ms

(47) 1,2-Dibromoethane (EDB)

9.338min (+0.029) 0.23 ug/L m

response 0

Ion	Exp%	Act%
106.90	100	0.00
108.90	93.90	0.00#
187.90	4.70	0.00
0.00	0.00	0.00



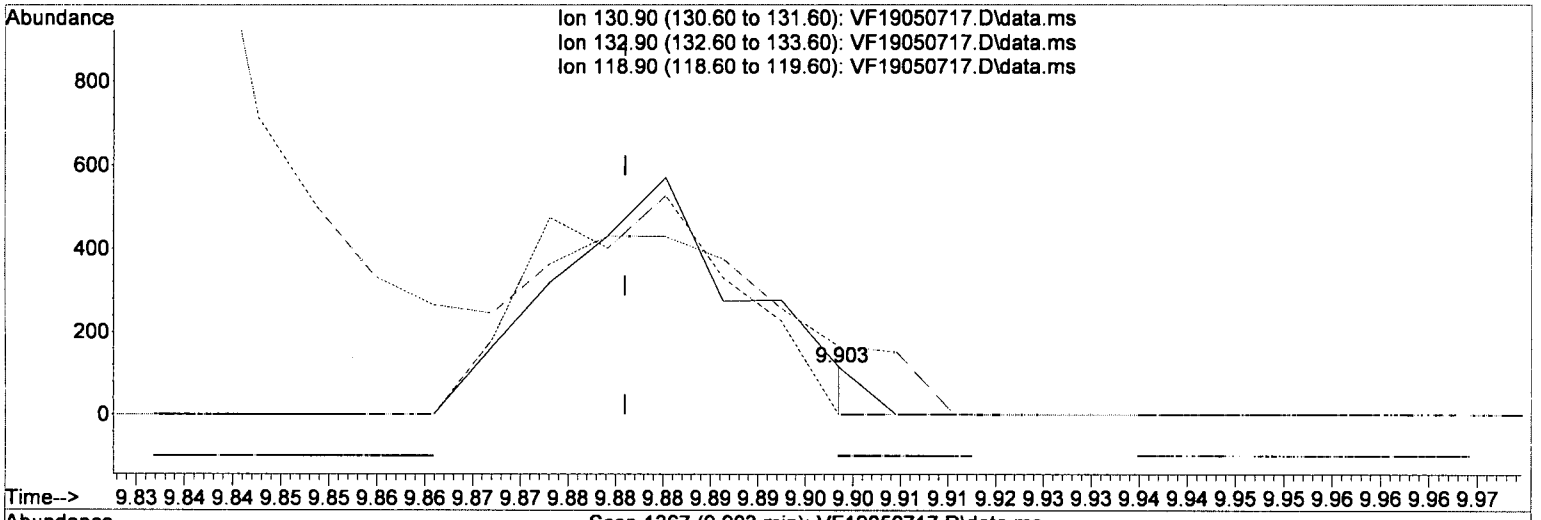
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

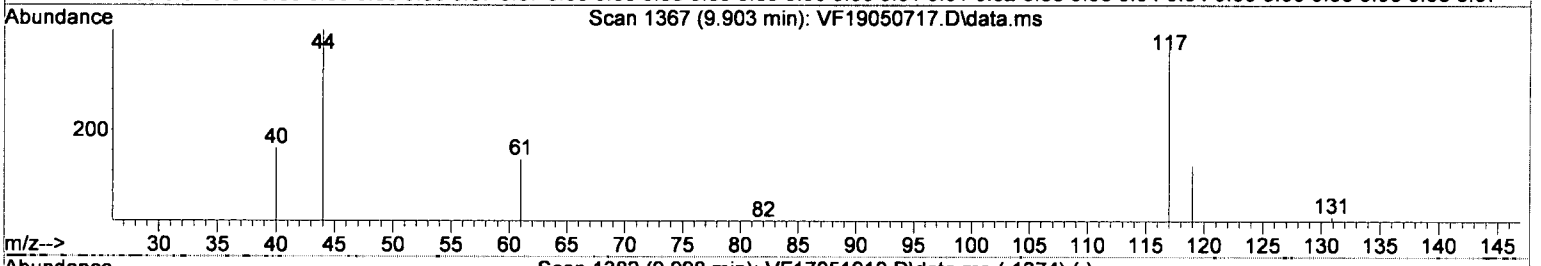
Int = 0.5 ppm MRL

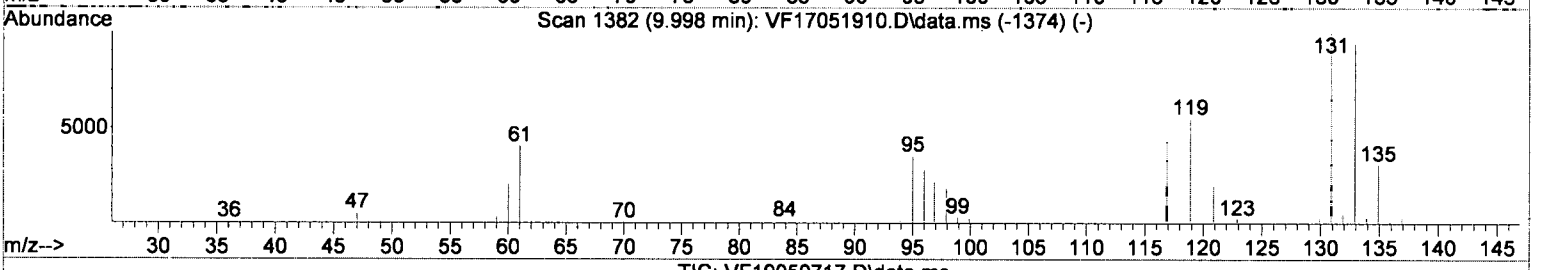
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







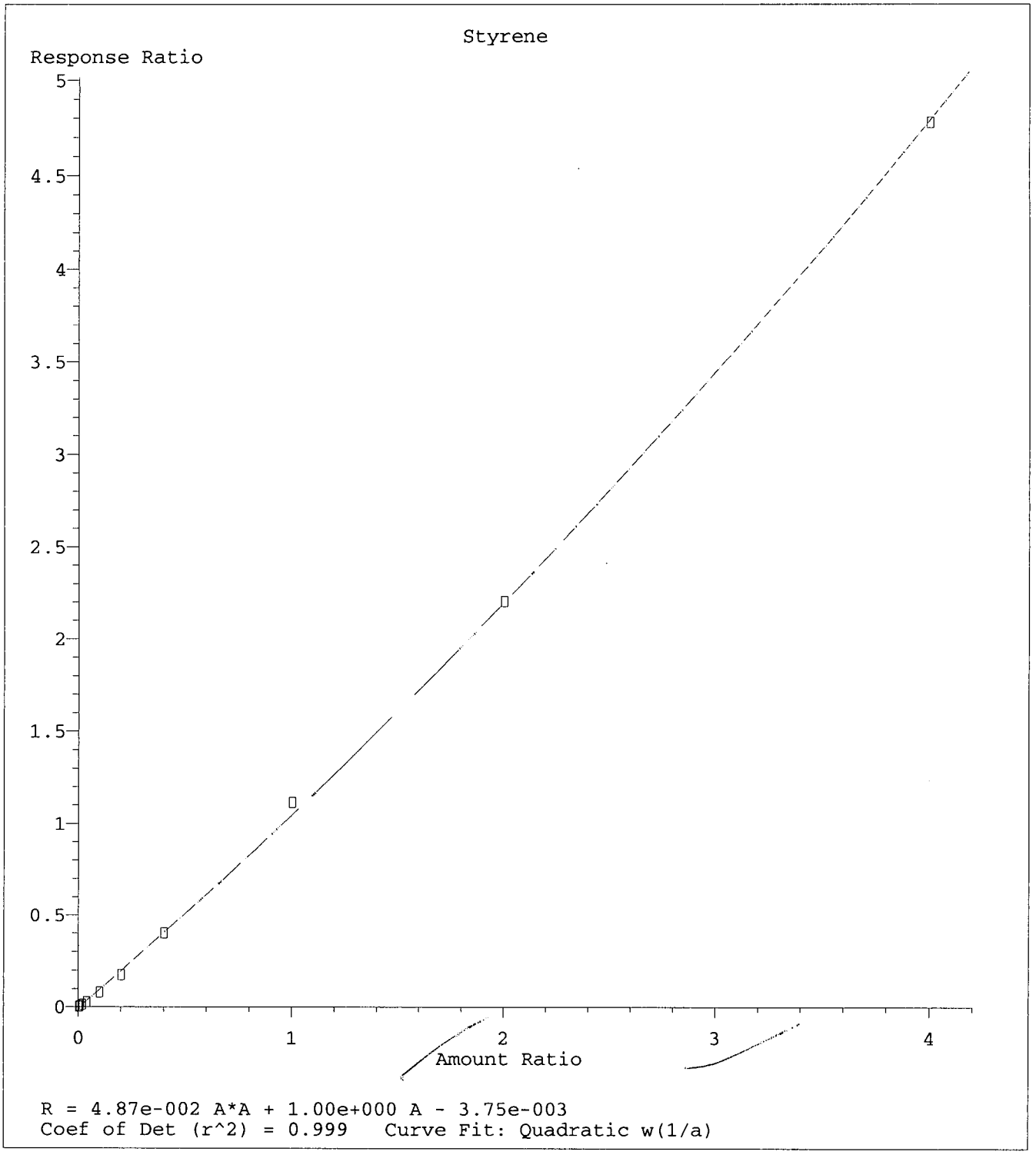
TIC: VF19050717.D\data.ms

(51) 1,1,1,2-Tetrachloroethane

9.903min (+0.022) 0.50 ug/L m

response 0

Ion	Exp%	Act%
130.90	100	0.00
132.90	95.60	0.00#
118.90	62.00	0.00#
0.00	0.00	0.00



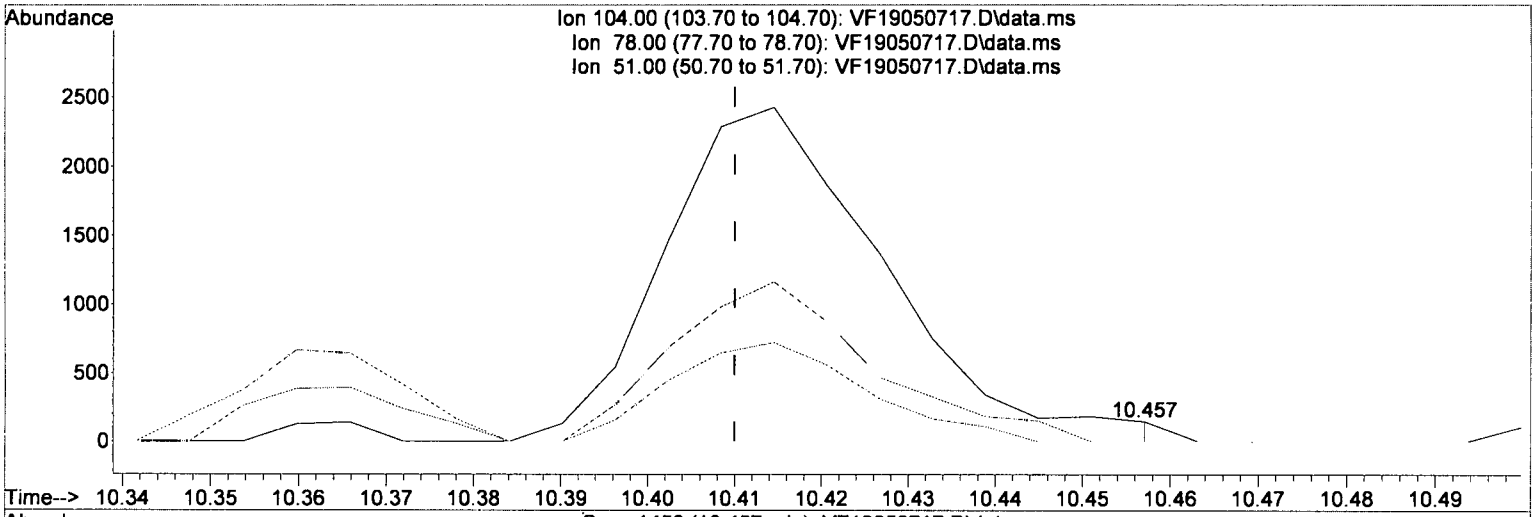
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

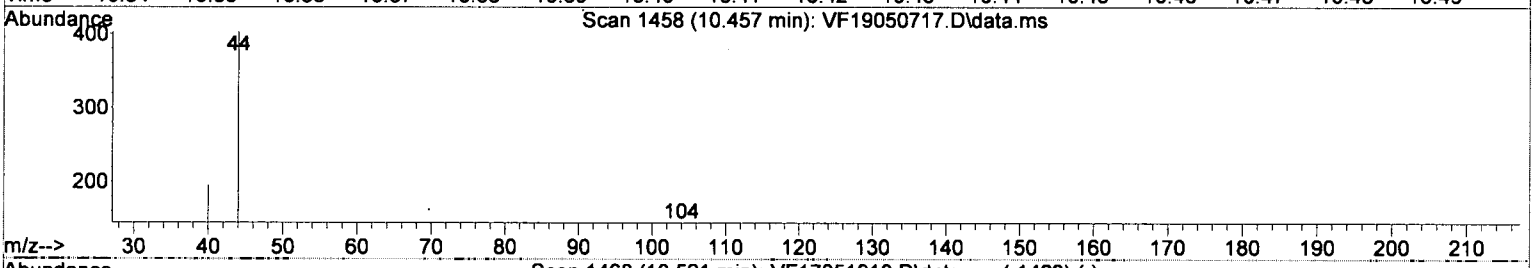
Int = 0.19

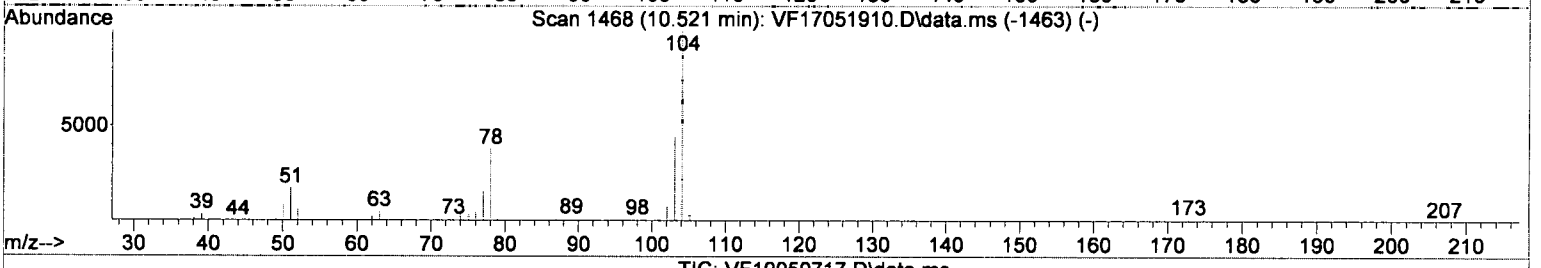
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







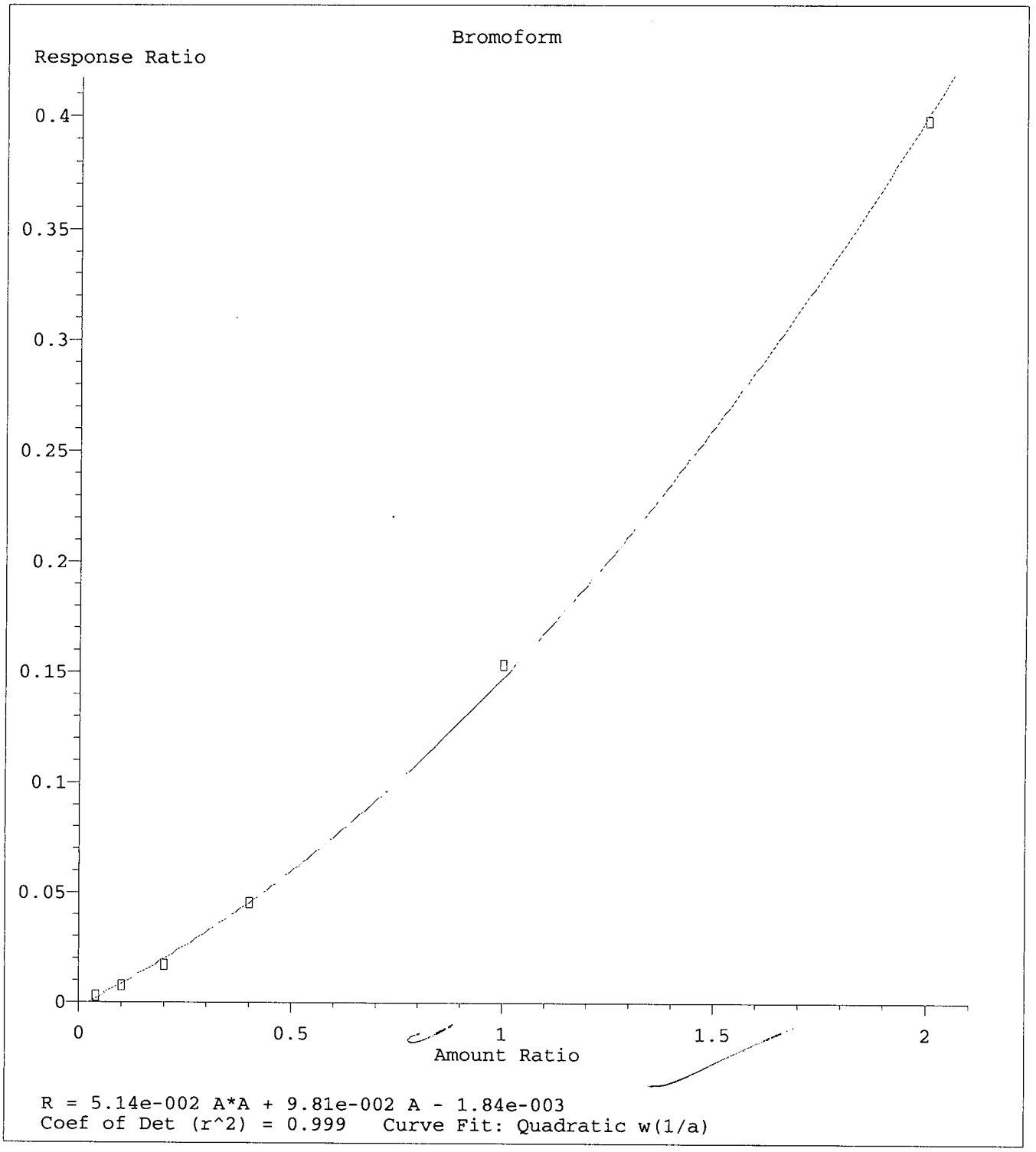
TIC: VF19050717.D\data.ms

(54) Styrene

10.457min (+0.047) 0.19 ug/L m

response 0

Ion	Exp%	Act%
104.00	100	0.00
78.00	40.60	0.00#
51.00	21.90	0.00
0.00	0.00	0.00



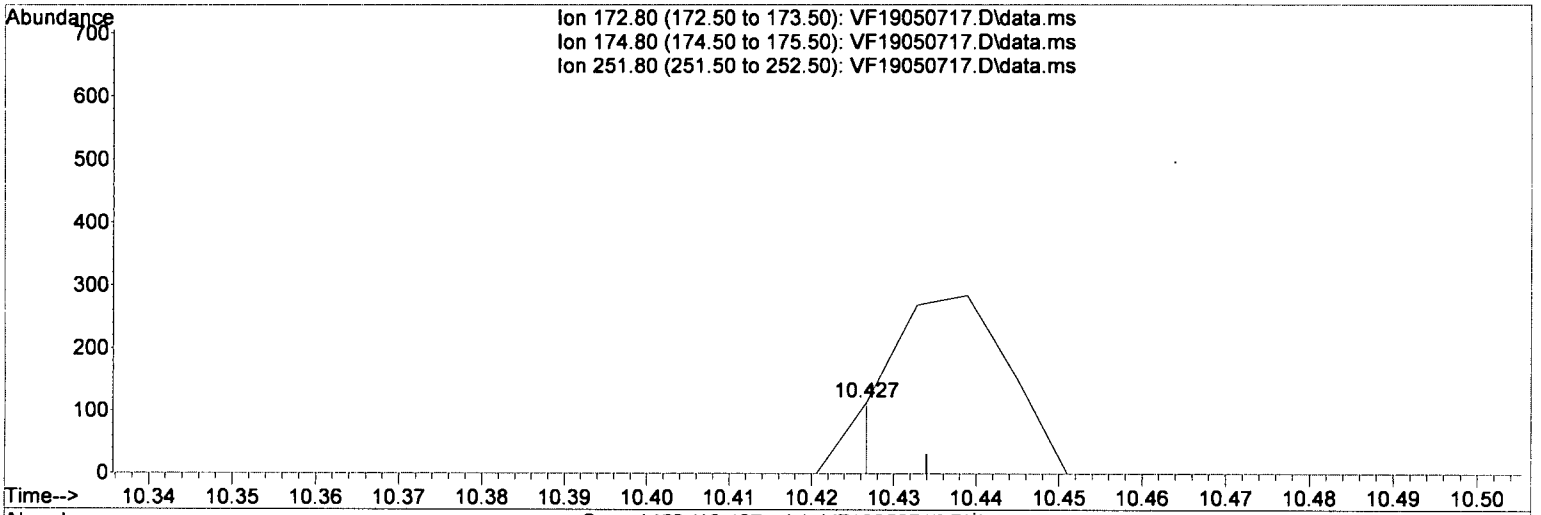
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

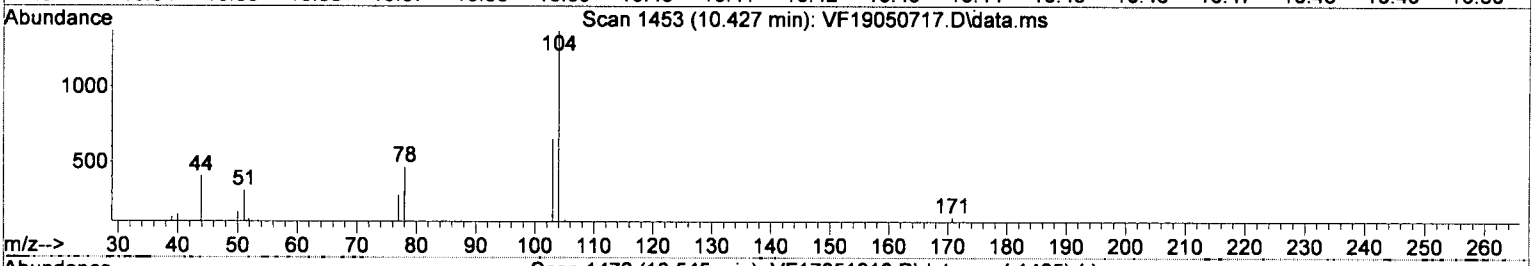
Int= 1.76
1 mol MRL

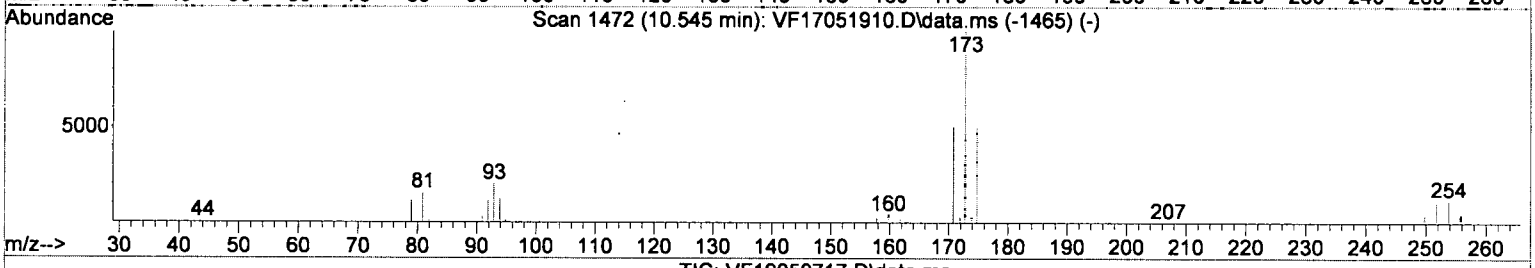
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







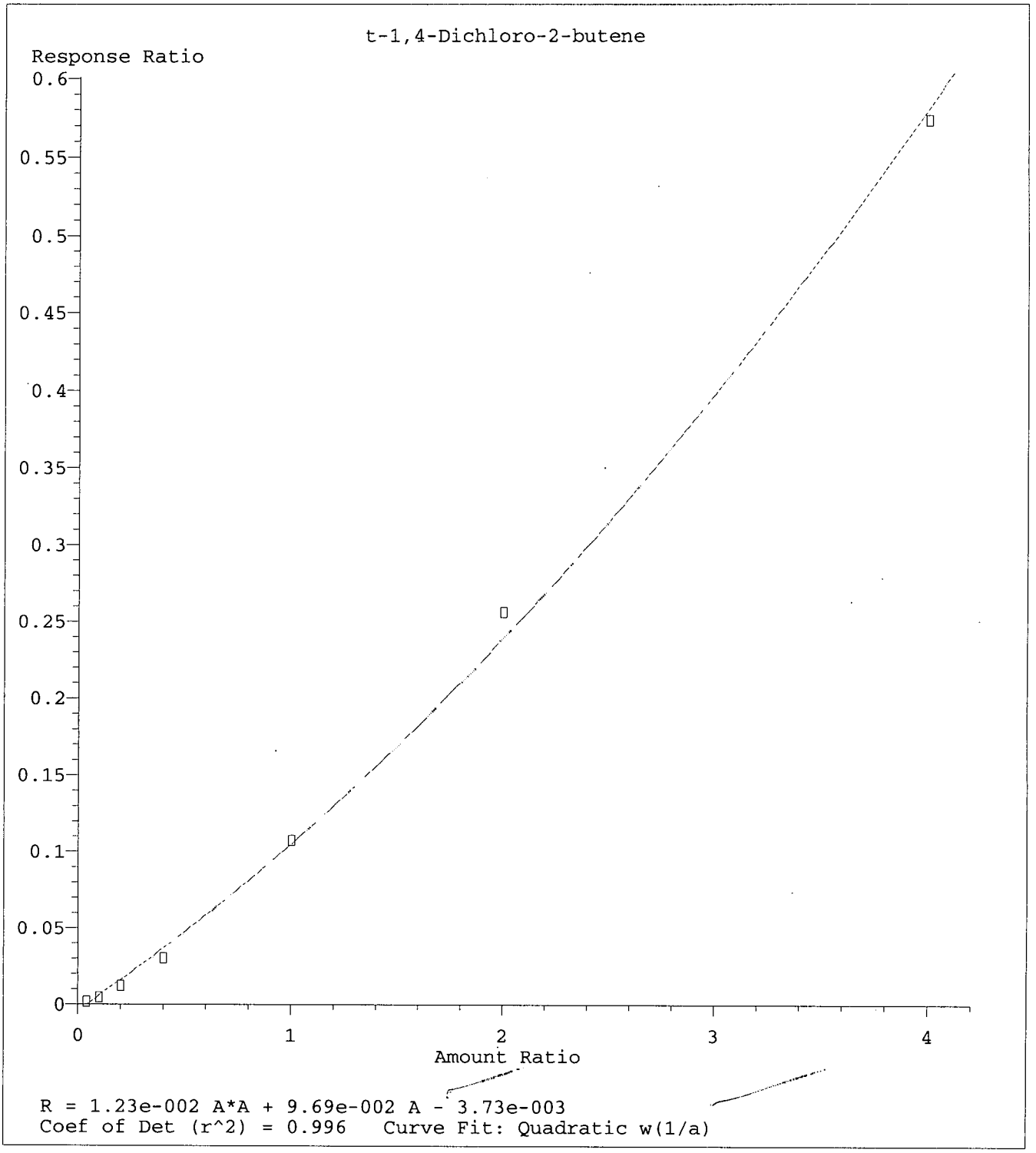
TIC: VF19050717.D\data.ms

(55) Bromoform (P)

10.427min (-0.007) 1.76 ug/L m

response 42

Ion	Exp%	Act%
172.80	100	100
174.80	49.10	0.00#
251.80	12.50	0.00
0.00	0.00	0.00



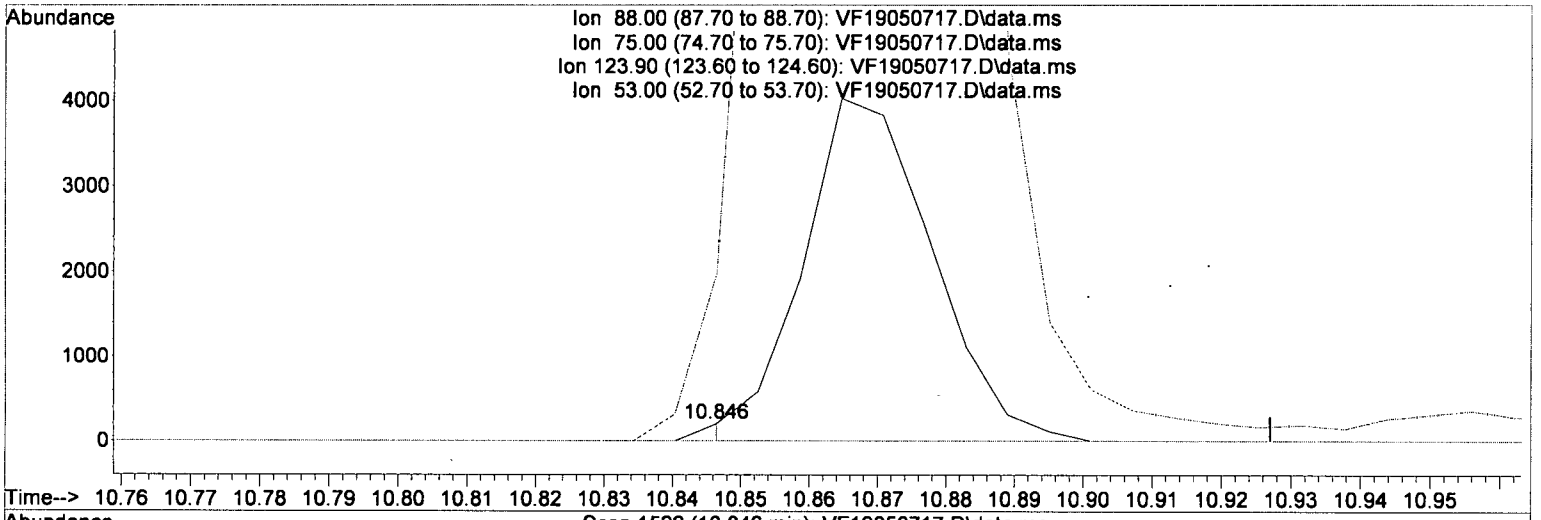
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

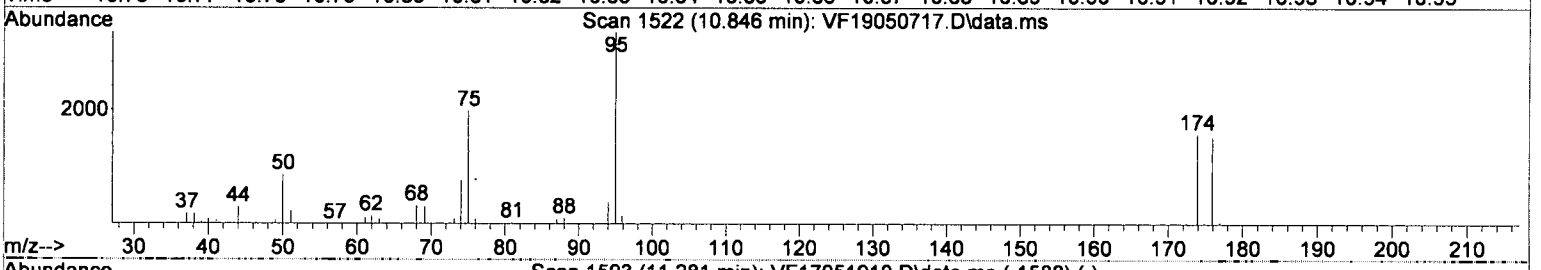
Int = 2,18

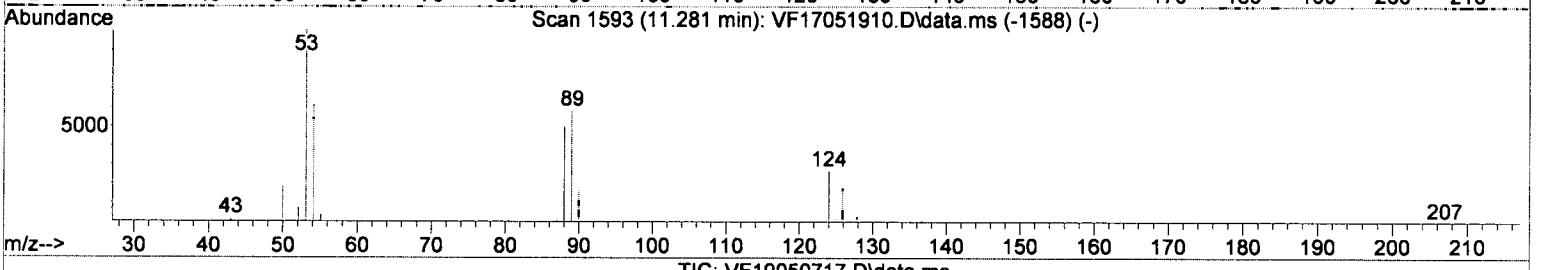
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







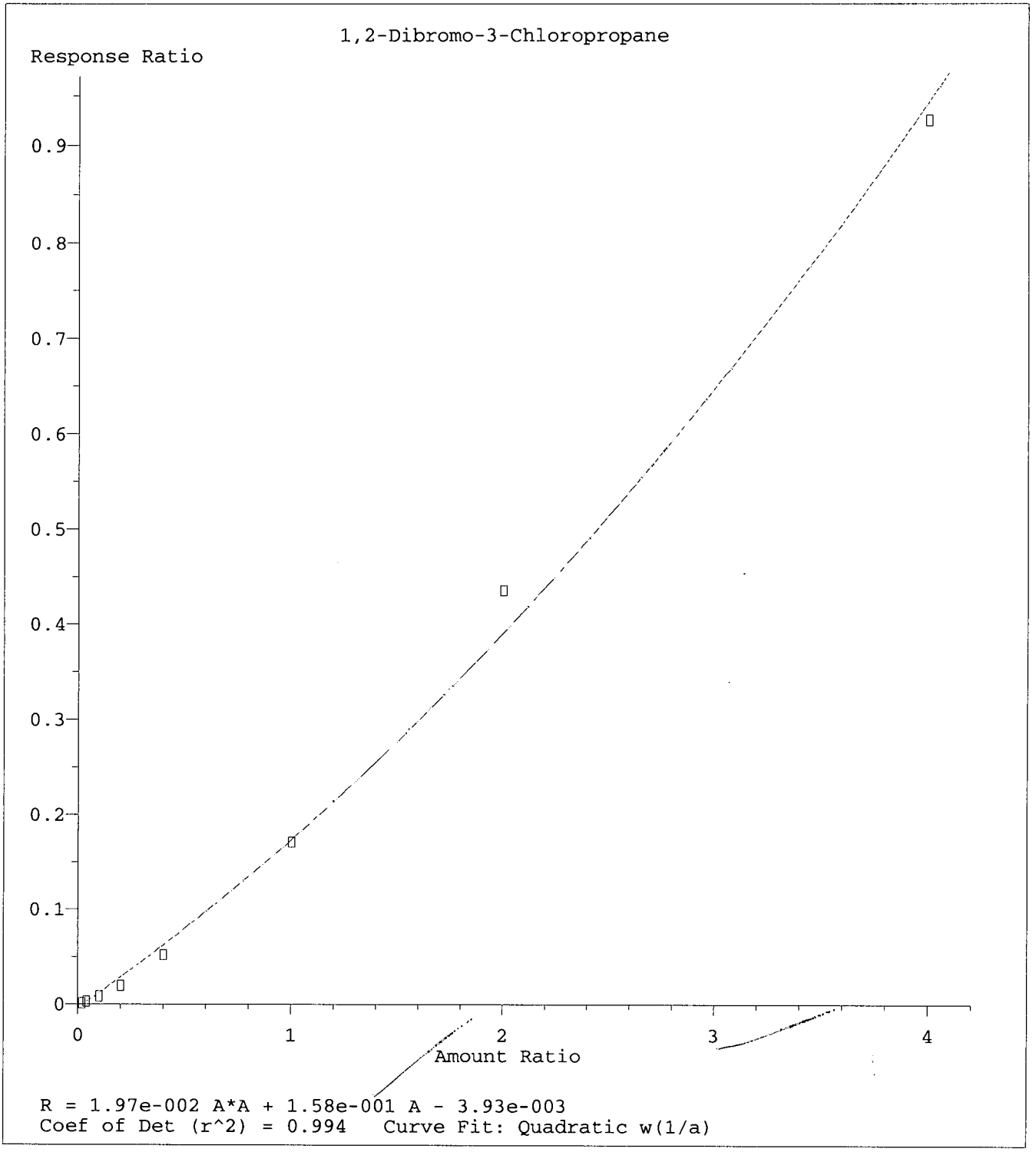
TIC: VF19050717.D\data.ms

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

10.846min (-0.331) 2.18 ug/L m

response 75

Ion	Exp%	Act%
88.00	100	100
75.00	240.20	964.56#
123.90	48.30	0.00#
53.00	249.20	0.00#



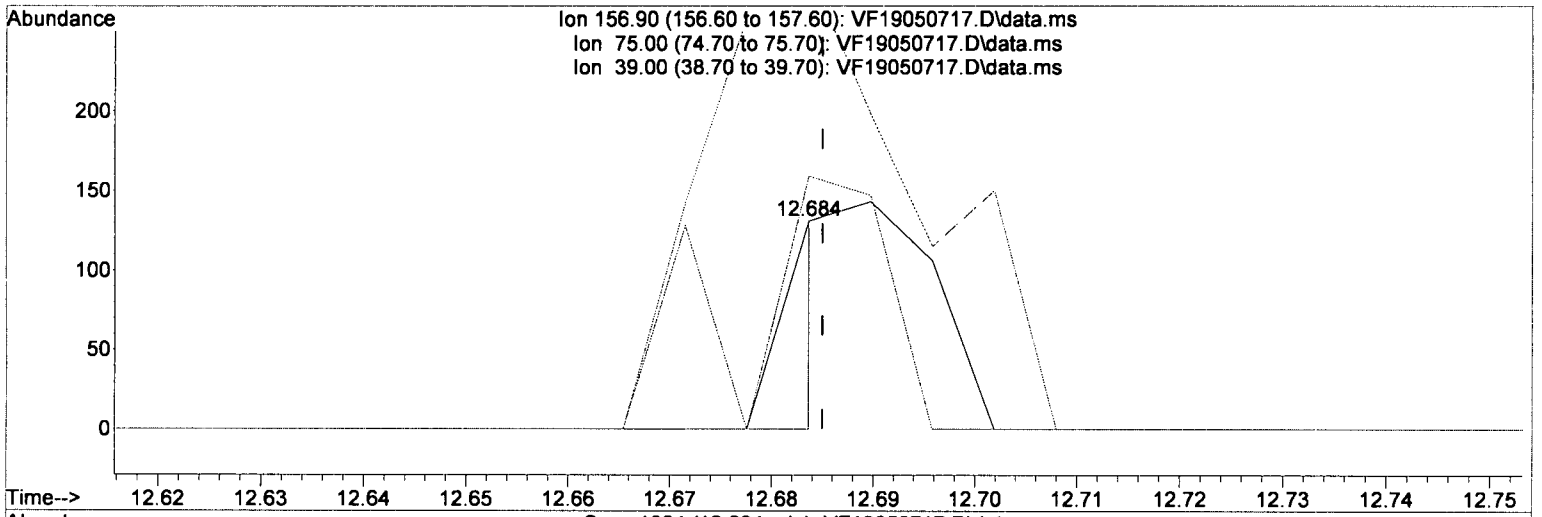
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

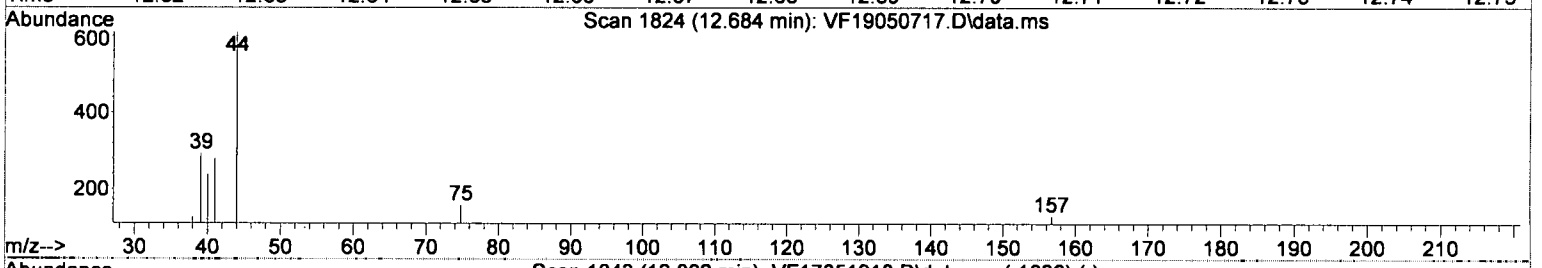
Int = 1.35

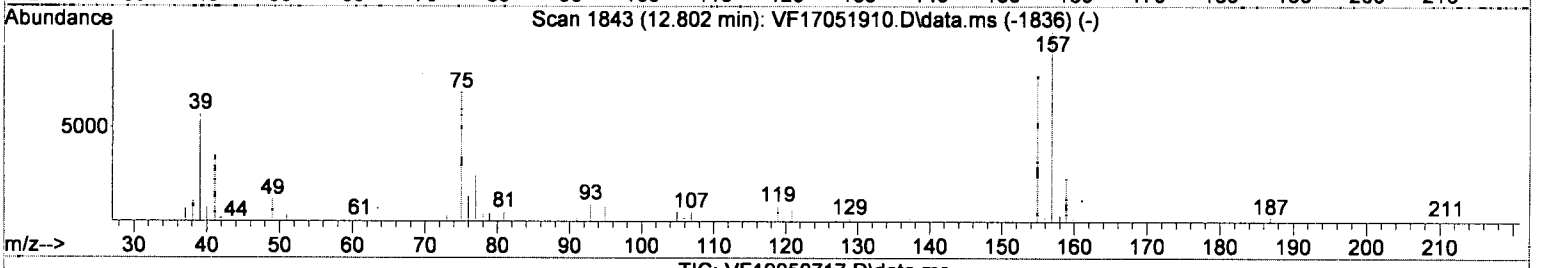
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







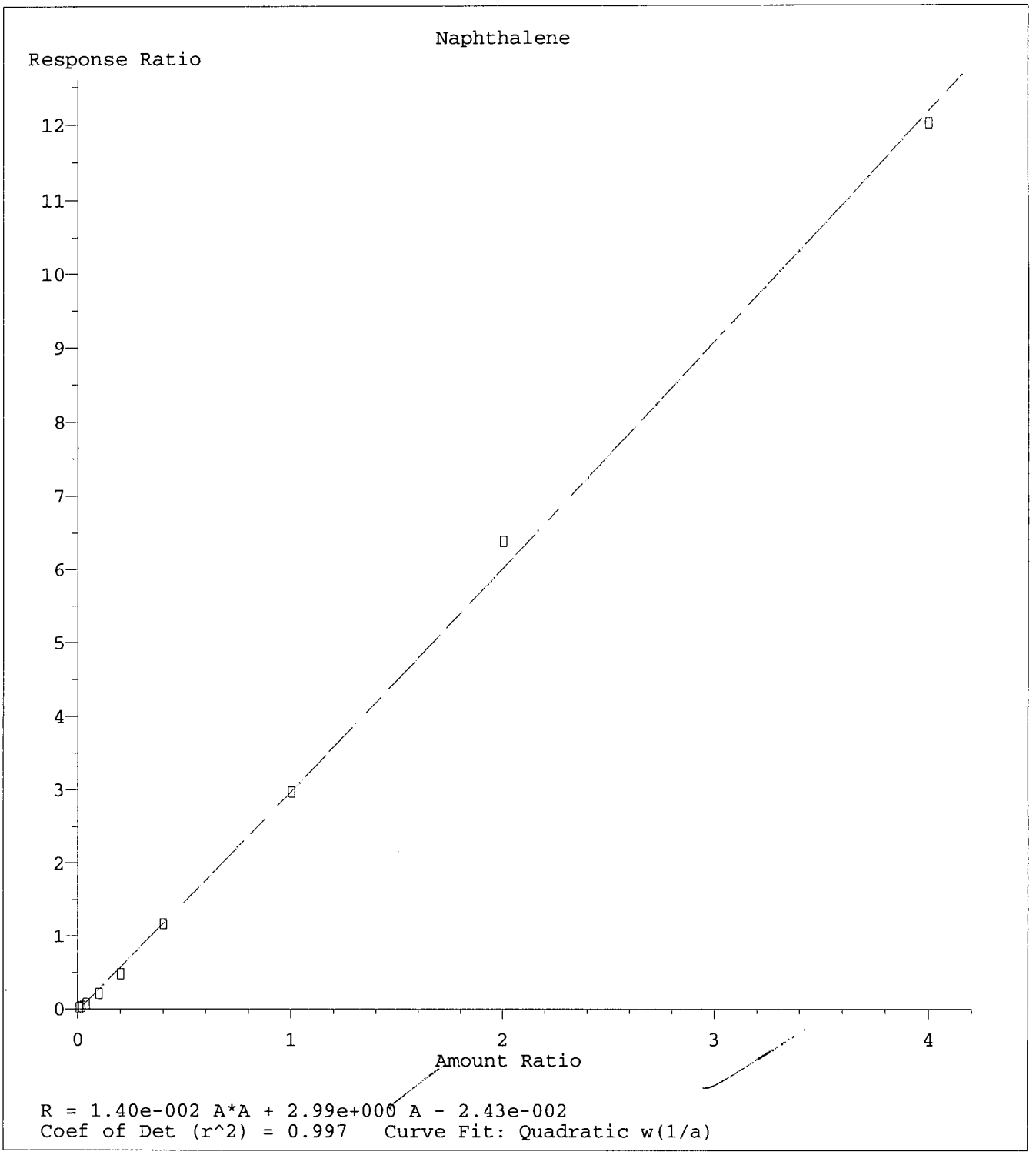
TIC: VF19050717.D\data.ms

(75) 1,2-Dibromo-3-Chloropropane

12.684min (-0.001) 1.35 ug/L m

response 48

Ion	Exp%	Act%
156.90	100	100
75.00	79.00	121.37#
39.00	63.10	223.66#
0.00	0.00	0.00



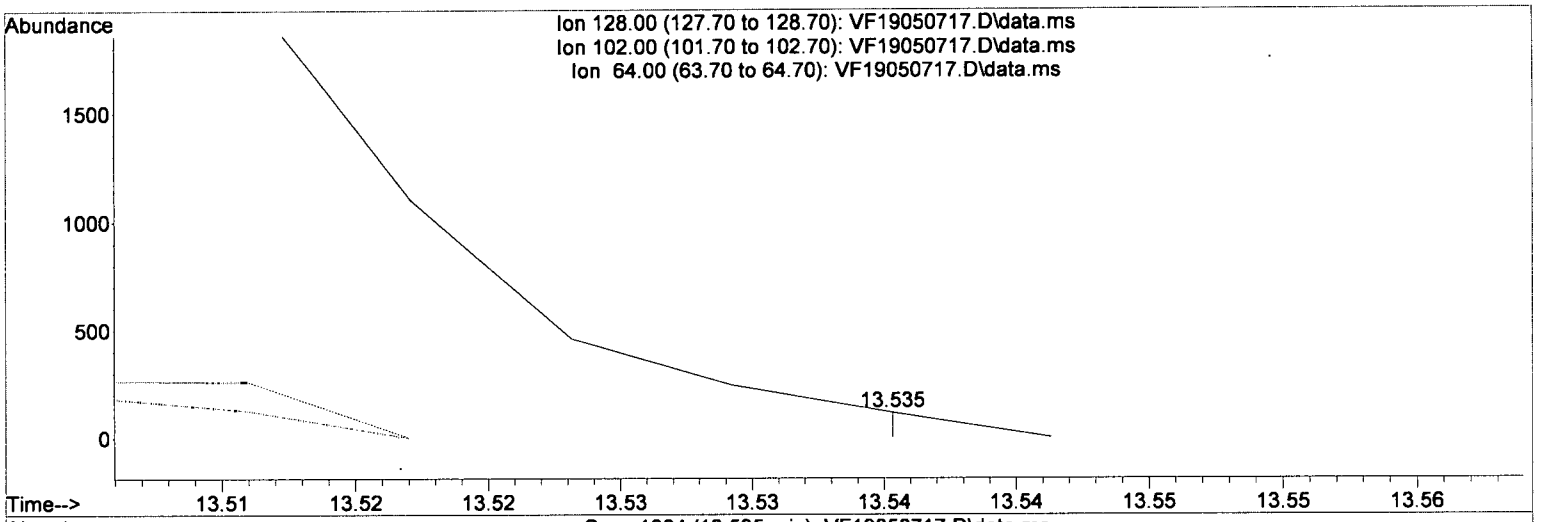
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

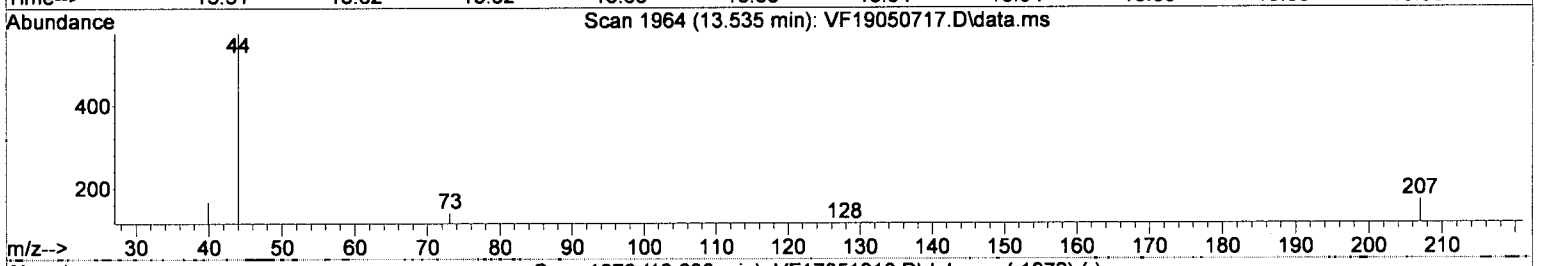
INT = 0.41

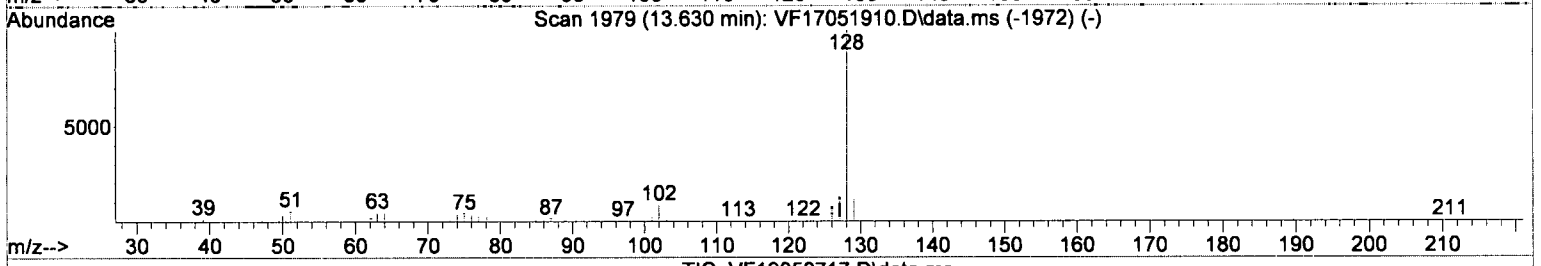
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







TIC: VF19050717.D\data.ms

(78) Naphthalene

13.535min (+0.035) 0.41 ug/L m

response 0

Ion	Exp%	Act%
128.00	100	0.00
102.00	8.50	0.00
64.00	6.40	0.00
0.00	0.00	0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9E07048

Analysis Included
8260C Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9E07048-TUN1	MS Tune	Soil		A19D196	5/7/2019 7:21:00PM
9E07048-ICB1	Initial Cal Blank	Soil		A19D196	5/7/2019 7:48:00PM
9E07048-CAL1	Cal Standard	Soil	A19E092	"	5/7/2019 8:15:00PM
9E07048-CAL2	Cal Standard	Soil	A19E093	"	5/7/2019 8:42:00PM
9E07048-CAL3	Cal Standard	Soil	A19E094	"	5/7/2019 9:09:00PM
9E07048-CAL4	Cal Standard	Soil	A19E095	"	5/7/2019 9:36:00PM
9E07048-CAL5	Cal Standard	Soil	A19E096	"	5/7/2019 10:04:00PM
9E07048-CAL6	Cal Standard	Soil	A19E097	"	5/7/2019 10:31:00PM
9E07048-CAL7	Cal Standard	Soil	A19E098	"	5/7/2019 10:58:00PM
9E07048-CAL8	Cal Standard	Soil	A19E099	"	5/7/2019 11:25:00PM
9E07048-CAL9	Cal Standard	Soil	A19D177	"	5/7/2019 11:52:00PM
9E07048-CALA	Cal Standard	Soil	A19D178	"	5/8/2019 12:46:00AM
9E07048-CALB	Cal Standard	Soil	A19D179	"	5/8/2019 1:40:00AM
9E07048-ICV1	Initial Cal Check	Soil	A19D180	"	5/8/2019 3:01:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9E0804** Instrument: **VOA-GCMS6**

8260C Full List Sequence: **9E07048** Matrix: **Soil**

9E07048-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9E07048

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: **A9E0804** Instrument: **VOA-GCMS6**

8260C Full List Sequence: **9E07048** Matrix: **Soil**

9E07048-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\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/8/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	106	0.00
2		Dichlorodifluoromethane	20.000	24.236	-21.2	126	0.00
3	P	Chloromethane	20.000	24.447	-22.2	126	0.00
4	C	Vinyl Chloride	20.000	23.000	-15.0	119	0.00
5		Bromomethane	20.000	20.167	-0.8	108	0.00
6		Chloroethane	20.000	24.180	-20.9	124	0.00
7		Trichlorofluoromethane	20.000	22.294	-11.5	112	0.00
8	C	1,1-Dichloroethene	20.000	20.872	-4.4	105	0.00
9		Carbon Disulfide	20.000	18.006	10.0	98	0.00
10		Freon 113	20.000	21.311	-6.6	109	0.00
11		Iodomethane	20.000	12.962	35.2#	76	0.01 — NR
12		Methylene Chloride	20.000	21.636	-8.2	106	0.00
13		Acetone	40.000	41.830	-4.6	104	0.00
14		t-1,2-Dichloroethene	20.000	21.376	-6.9	105	0.00
15		n-Hexane	20.000	19.864	0.7	105	0.00
16		Methyl-tert-butyl-ether	20.000	20.815	-4.1	105	0.00
17	P	1,1-Dichloroethane	20.000	21.571	-7.9	104	0.00
18		Acrylonitrile	20.000	21.881	-9.4	105	0.00
19		c-1,2-Dichloroethene	20.000	21.783	-8.9	103	0.00
20		2,2-Dichloropropane	20.000	21.201	-6.0	104	0.00
21		Bromochloromethane	20.000	21.702	-8.5	104	0.00
22	C	Chloroform	20.000	21.162	-5.8	103	0.00
23		Carbon Tetrachloride	20.000	22.273	-11.4	124	0.00
24		Tetrahydrofuran	20.000	20.264	-1.3	101	0.00
25		1,1,1-Trichloroethane	20.000	24.219	-21.1	114	0.00
26	S	Dibromofluoromethane (S)	50.000	54.171	-8.3	109	0.00
27		1,1-Dichloropropene	20.000	21.584	-7.9	106	0.00
28		2-Butanone (MEK)	40.000	42.115	-5.3	105	0.00
29		Benzene	20.000	20.387	-1.9	102	0.00
30		1,2-Dichloroethane (EDC)	20.000	20.981	-4.9	104	0.00
31		iso-Butyl Alcohol	500.000	504.302	-0.9	116	0.00
32	S	1,4-Difluorobenzene (S)	50.000	49.787	0.4	105	0.00
33		Trichloroethene (TCE)	20.000	20.413	-2.1	103	0.00
34		Dibromomethane	20.000	21.669	-8.3	103	0.00
35	C	1,2-Dichloropropane	20.000	20.610	-3.0	103	0.00
36		Bromodichloromethane	20.000	20.015	-0.1	110	0.00
37		Chlorobenzene-d5 (I)	50.000	50.000	0.0	105	0.00
38		c-1,3-Dichloropropene	20.000	20.143	-0.7	105	0.00
39	S	Toluene-d8 (S)	50.000	51.657	-3.3	105	0.00
40	C	Toluene	20.000	19.257	3.7	100	0.00
41		Tetrachloroethene (PCE)	20.000	21.505	-7.5	102	0.00
42		4-Methyl-2-Pentanone (MIBK)	40.000	44.467	-11.2	102	0.00
43		t-1,3-Dichloropropene	20.000	20.277	-1.4	110	0.00
44		1,1,2-Trichloroethane	20.000	22.527	-12.6	103	0.00
45		Dibromochloromethane	20.000	20.100	-0.5	116	0.00
46		1,3-Dichloropropane	20.000	22.357	-11.8	103	0.00
47		1,2-Dibromoethane (EDB)	20.000	21.395	-7.0	111	0.00
48		2-Hexanone	40.000	42.724	-6.8	105	0.00
49	P	Chlorobenzene	20.000	18.629	6.9	99	0.00
50	C	Ethylbenzene	20.000	19.761	1.2	101	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		1,1,1,2-Tetrachloroethane	20.000	20.269	-1.3	117	0.00
52		m,p-Xylenes (2)	40.000	41.307	-3.3	100	0.00
53		o-Xylene	20.000	20.475	-2.4	102	0.00
54		Styrene	20.000	19.209	4.0	102	0.00
55	P	Bromoform	20.000	21.499	-7.5	115	0.00
56		Isopropylbenzene	20.000	21.525	-7.6	102	0.00
57	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	106	0.00
58	S	4-Bromofluorobenzene (S)	50.000	49.754	0.5	107	0.00
59		Bromobenzene	20.000	20.054	-0.3	102	0.00
60		n-Propylbenzene	20.000	20.081	-0.4	101	0.00
61	P	1,1,2,2-Tetrachloroethane	20.000	22.914	-14.6	106	0.00
62		2-Chlorotoluene	20.000	20.315	-1.6	103	0.00
63		1,3,5-Trimethylbenzene	20.000	21.121	-5.6	101	0.00
64		1,2,3-Trichloropropane	20.000	20.932	-4.7	102	0.00
65		t-1,4-Dichloro-2-butene	20.000	17.631	11.8	113	0.00
66		4-Chlorotoluene	20.000	21.060	-5.3	105	0.00
67		tert-Butylbenzene	20.000	21.006	-5.0	102	0.00
68		1,2,4-Trimethylbenzene	20.000	21.106	-5.5	100	0.00
69		sec-Butylbenzene	20.000	21.130	-5.6	103	0.00
70		4-Isopropyltoluene	20.000	20.796	-4.0	102	0.00
71		1,3-Dichlorobenzene	20.000	20.394	-2.0	103	0.00
72		1,4-Dichlorobenzene	20.000	19.438	2.8	103	0.00
73		n-Butylbenzene	20.000	20.997	-5.0	103	0.00
74		1,2-Dichlorobenzene	20.000	21.126	-5.6	104	0.00
75		1,2-Dibromo-3-Chloropropane	20.000	19.592	2.0	126	0.00
76		Hexachlorobutadiene	20.000	21.199	-6.0	106	0.00
77		1,2,4-Trichlorobenzene	20.000	22.221	-11.1	104	0.00
78		Naphthalene	20.000	19.718	1.4	106	0.00
79		1,2,3-Trichlorobenzene	20.000	22.342	-11.7	105	0.00

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

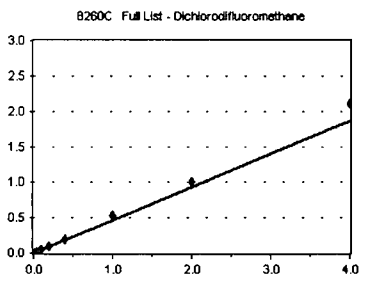
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Dichlorodifluoromethane

Curve Fit: **AVERAGE RF**

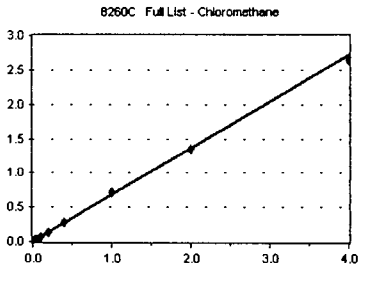


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	846	0.424	1.64
9E07048-CAL4	1	1965	0.375	1.63
9E07048-CAL5	2	4428	0.456	1.63
9E07048-CAL6	5	11506	0.462	1.63
9E07048-CAL7	10	23615	0.446	1.63
9E07048-CAL8	20	46922	0.474	1.63
9E07048-CAL9	50	142427	0.533	1.62
9E07048-CALA	100	284874	0.503	1.63
9E07048-CALB	200	615567	0.527	1.63

AVE RF **0.467** RF RSD **10.76** AVE RT **1.63**

Chloromethane

Curve Fit: **AVERAGE RF**

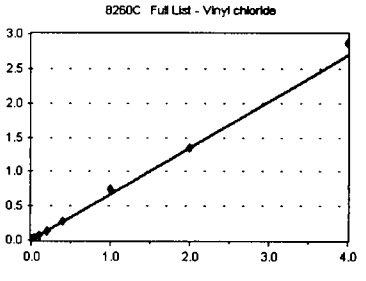


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1131~~	~~2.356~~	~~1.84~~
~~9E07048-CAL2~~	~~0.2~~	~~797~~	~~0.784~~	~~1.85~~
~~9E07048-CAL3~~	~~0.4~~	~~2048~~	~~1.026~~	~~1.85~~
9E07048-CAL4	1	3374	0.644	1.84
9E07048-CAL5	2	7222	0.743	1.84
9E07048-CAL6	5	16881	0.678	1.84
9E07048-CAL7	10	33122	0.626	1.85
9E07048-CAL8	20	69024	0.698	1.84
9E07048-CAL9	50	191344	0.716	1.83
9E07048-CALA	100	382793	0.676	1.84
9E07048-CALB	200	771027	0.660	1.84

AVE RF **0.680** RF RSD **5.60** AVE RT **1.84**

Vinyl chloride

Curve Fit: **AVERAGE RF**

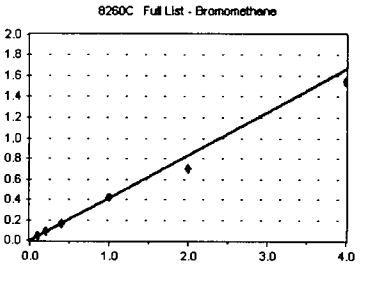


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	686	0.675	1.94
9E07048-CAL3	0.4	1253	0.628	1.95
9E07048-CAL4	1	3308	0.632	1.94
9E07048-CAL5	2	6417	0.660	1.94
9E07048-CAL6	5	16421	0.660	1.94
9E07048-CAL7	10	34298	0.648	1.94
9E07048-CAL8	20	68436	0.692	1.94
9E07048-CAL9	50	198169	0.742	1.93
9E07048-CALA	100	379506	0.670	1.94
9E07048-CALB	200	840125	0.719	1.93

AVE RF **0.673** RF RSD **5.40** AVE RT **1.94**

Bromomethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~2001~~	~~4.168~~	~~2.31~~
~~9E07048-CAL2~~	~~0.2~~	~~1145~~	~~1.127~~	~~2.30~~
~~9E07048-CAL3~~	~~0.4~~	~~2402~~	~~1.203~~	~~2.31~~
~~9E07048-CAL4~~	~~1~~	~~3078~~	~~0.588~~	~~2.30~~
~~9E07048-CAL5~~	~~2~~	~~5858~~	~~0.603~~	~~2.31~~
9E07048-CAL6	5	12080	0.485	2.30
9E07048-CAL7	10	23602	0.446	2.31
9E07048-CAL8	20	40782	0.412	2.30
9E07048-CAL9	50	111651	0.418	2.29
9E07048-CALA	100	198553	0.351	2.30
9E07048-CALB	200	450898	0.386	2.30

AVE RF **0.416** RF RSD **11.21** AVE RT **2.30**

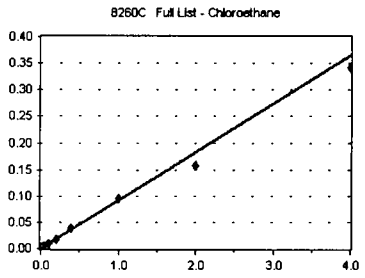
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Chloroethane

Curve Fit: **AVERAGE RF**

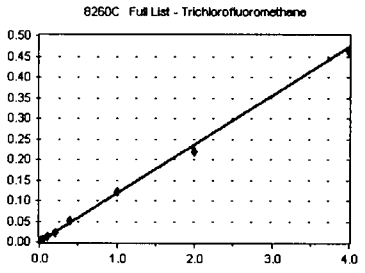


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	476	9.089	2.43
9E07048-CAL5	2	1082	0.111	2.42
9E07048-CAL6	5	2287	9.190	2.43
9E07048-CAL7	10	4425	8.366	2.44
9E07048-CAL8	20	9373	9.476	2.42
9E07048-CAL9	50	25200	9.429	2.42
9E07048-CALA	100	44440	7.851	2.43
9E07048-CALB	200	99955	8.556	2.43

AVE RF **0.091** RF RSD **10.77** AVE RT **2.43**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

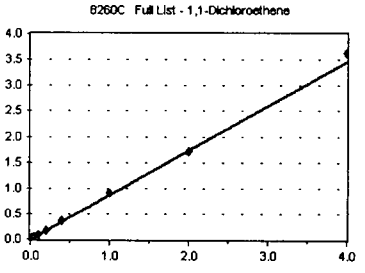


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	222	0.111	2.56
9E07048-CAL4	1	616	0.118	2.56
9E07048-CAL5	2	1256	0.129	2.56
9E07048-CAL6	5	3188	0.128	2.56
9E07048-CAL7	10	5854	0.111	2.56
9E07048-CAL8	20	12368	0.125	2.56
9E07048-CAL9	50	32243	0.121	2.55
9E07048-CALA	100	61776	0.109	2.56
9E07048-CALB	200	134796	0.115	2.55

AVE RF **0.119** RF RSD **6.44** AVE RT **2.56**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

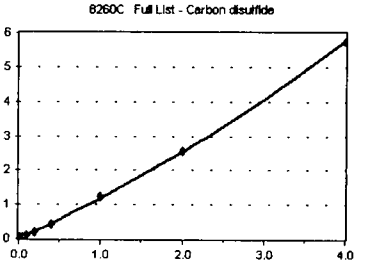


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	464	0.967	3.13
9E07048-CAL2	0.2	831	0.818	3.14
9E07048-CAL3	0.4	1699	0.851	3.14
9E07048-CAL4	1	4085	0.780	3.13
9E07048-CAL5	2	8224	0.846	3.13
9E07048-CAL6	5	21211	0.852	3.12
9E07048-CAL7	10	43446	0.821	3.14
9E07048-CAL8	20	89848	0.908	3.12
9E07048-CAL9	50	240834	0.901	3.12
9E07048-CALA	100	484753	0.856	3.13
9E07048-CALB	200	1060537	0.908	3.13

AVE RF **0.864** RF RSD **6.06** AVE RT **3.13**

Carbon disulfide

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~705~~	~~1.469~~	~~3.15~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	1949	0.976	3.14
9E07048-CAL4	1	4300	0.821	3.15
9E07048-CAL5	2	8310	0.855	3.14
9E07048-CAL6	5	22193	0.892	3.14
9E07048-CAL7	10	47292	0.894	3.15
9E07048-CAL8	20	107117	1.083	3.14
9E07048-CAL9	50	331432	1.240	3.14
9E07048-CALA	100	729573	1.289	3.14
9E07048-CALB	200	1674733	1.433	3.14

AVE RF **1.054** RF RSD **20.86** AVE RT **3.14**

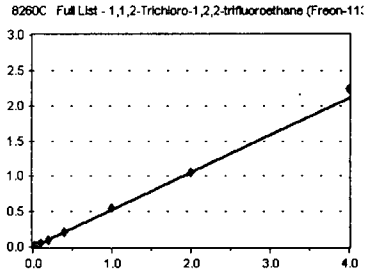
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,1,2-Trichloro-1,2,2-trifluoroetha

Curve Fit: **AVERAGE RF**

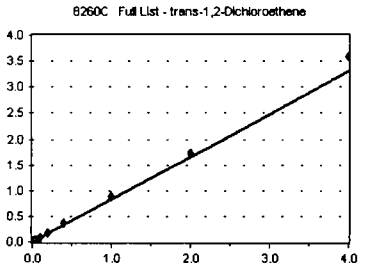


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	458	0.451	3.18
9E07048-CAL3	0.4	1041	0.522	3.18
9E07048-CAL4	1	2811	0.537	3.18
9E07048-CAL5	2	5055	0.520	3.18
9E07048-CAL6	5	13365	0.537	3.17
9E07048-CAL7	10	27267	0.515	3.18
9E07048-CAL8	20	54116	0.547	3.18
9E07048-CAL9	50	147538	0.552	3.17
9E07048-CALA	100	298770	0.528	3.18
9E07048-CALB	200	654791	0.560	3.18

AVE RF **0.527** RF RSD **5.79** AVE RT **3.18**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

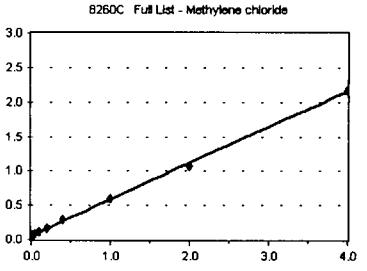


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	320	0.667	0.00
9E07048-CAL2	0.2	852	0.839	3.94
9E07048-CAL3	0.4	1577	0.790	3.95
9E07048-CAL4	1	4059	0.775	3.94
9E07048-CAL5	2	7974	0.820	3.94
9E07048-CAL6	5	21082	0.847	3.94
9E07048-CAL7	10	43282	0.818	3.94
9E07048-CAL8	20	88360	0.893	3.94
9E07048-CAL9	50	234688	0.878	3.93
9E07048-CALA	100	486614	0.860	3.94
9E07048-CALB	200	1047640	0.897	3.94

AVE RF **0.826** RF RSD **7.98** AVE RT **3.58**

Methylene chloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

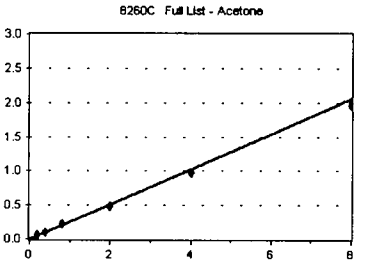


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~14820~~	~~30.870~~	~~3.78~~
~~9E07048-CAL2~~	~~0.2~~	~~13830~~	~~13.612~~	~~3.78~~
9E07048-CAL3	0.4	14007	7.017	3.78
9E07048-CAL4	1	16647	3.179	3.78
9E07048-CAL5	2	18649	1.919	3.78
9E07048-CAL6	5	27821	1.118	3.78
9E07048-CAL7	10	42775	0.809	3.78
9E07048-CAL8	20	71195	0.720	3.77
9E07048-CAL9	50	158529	0.593	3.77
9E07048-CALA	100	303916	0.537	3.77
9E07048-CALB	200	635093	0.544	3.77

AVE RF **1.826** RF RSD **116.77** AVE RT **3.77**

Acetone

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~1683~~	~~1.753~~	~~3.88~~
~~9E07048-CAL2~~	~~0.4~~	~~1611~~	~~0.793~~	~~3.87~~
~~9E07048-CAL3~~	~~0.8~~	~~2158~~	~~0.541~~	~~3.88~~
~~9E07048-CAL4~~	~~2~~	~~3535~~	~~0.338~~	~~3.88~~
~~9E07048-CAL5~~	4	~~6127~~	~~0.315~~	~~3.88~~
9E07048-CAL6	10	14357	0.288	3.87
9E07048-CAL7	20	25591	0.242	3.87
9E07048-CAL8	40	54252	0.274	3.87
9E07048-CAL9	100	131619	0.246	3.85
9E07048-CALA	200	275471	0.243	3.86
9E07048-CALB	400	571223	0.244	3.86

AVE RF **0.256** RF RSD **7.74** AVE RT **3.86**

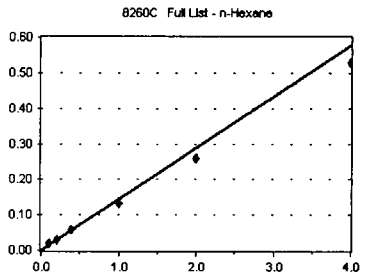
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

n-Hexane

Curve Fit: **AVERAGE RF**

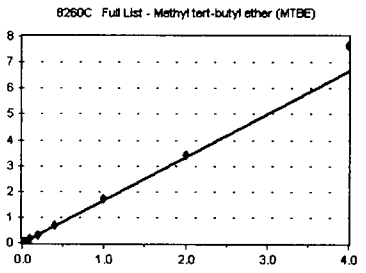


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1835~~	~~3.822~~	~~4.02~~
~~9E07048-CAL2~~	~~0.2~~	~~1841~~	~~1.812~~	~~4.02~~
~~9E07048-CAL3~~	~~0.4~~	~~2024~~	~~1.014~~	~~4.02~~
~~9E07048-CAL4~~	~~1~~	~~2150~~	~~0.411~~	~~4.02~~
~~9E07048-CAL5~~	~~2~~	~~2796~~	~~0.288~~	~~4.02~~
9E07048-CAL6	5	4468	0.180	4.02
9E07048-CAL7	10	7751	0.147	4.02
9E07048-CAL8	20	14259	0.144	4.02
9E07048-CAL9	50	35578	0.133	4.01
9E07048-CALA	100	73671	0.130	4.02
9E07048-CALB	200	154767	0.132	4.01

AVE RF **0.144** RF RSD **12.82** AVE RT **4.02**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

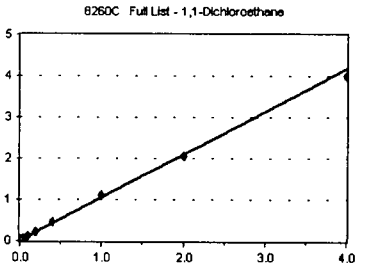


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	787	1.639	4.09
9E07048-CAL2	0.2	1746	1.719	4.08
9E07048-CAL3	0.4	3114	1.560	4.10
9E07048-CAL4	1	8040	1.535	4.09
9E07048-CAL5	2	15652	1.610	4.09
9E07048-CAL6	5	40294	1.619	4.09
9E07048-CAL7	10	82410	1.558	4.09
9E07048-CAL8	20	173881	1.758	4.08
9E07048-CAL9	50	465822	1.743	4.07
9E07048-CALA	100	966419	1.707	4.08
9E07048-CALB	200	2232152	1.911	4.08

AVE RF **1.669** RF RSD **6.69** AVE RT **4.09**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

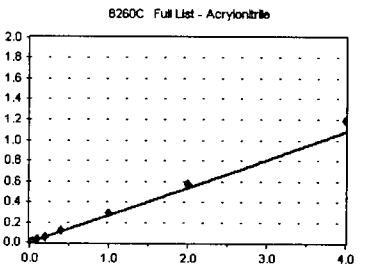


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	1.048	4.58
9E07048-CAL2	0.2	1018	1.002	4.58
9E07048-CAL3	0.4	1998	1.001	4.58
9E07048-CAL4	1	5157	0.985	4.58
9E07048-CAL5	2	10371	1.067	4.58
9E07048-CAL6	5	27022	1.086	4.58
9E07048-CAL7	10	54444	1.029	4.58
9E07048-CAL8	20	114004	1.153	4.58
9E07048-CAL9	50	295880	1.107	4.57
9E07048-CALA	100	579727	1.024	4.58
9E07048-CALB	200	1166202	0.998	4.58

AVE RF **1.045** RF RSD **5.05** AVE RT **4.58**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~256~~	~~0.128~~	~~4.67~~
9E07048-CAL4	1	1044	0.199	4.67
9E07048-CAL5	2	2472	0.254	4.66
9E07048-CAL6	5	6728	0.270	4.66
9E07048-CAL7	10	13862	0.262	4.66
9E07048-CAL8	20	29390	0.297	4.65
9E07048-CAL9	50	77245	0.289	4.64
9E07048-CALA	100	161749	0.286	4.65
9E07048-CALB	200	345965	0.296	4.65

AVE RF **0.269** RF RSD **12.01** AVE RT **4.65**

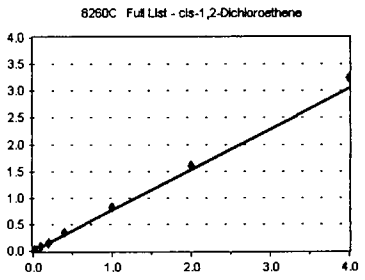
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

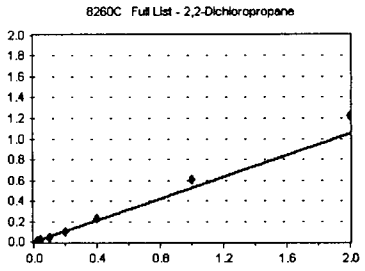


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	307	0.639	0.00
9E07048-CAL2	0.2	698	0.687	5.14
9E07048-CAL3	0.4	1447	0.725	5.14
9E07048-CAL4	1	3590	0.686	5.14
9E07048-CAL5	2	7621	0.784	5.13
9E07048-CAL6	5	19884	0.799	5.14
9E07048-CAL7	10	40226	0.760	5.14
9E07048-CAL8	20	83939	0.849	5.14
9E07048-CAL9	50	219981	0.823	5.13
9E07048-CALA	100	453832	0.802	5.14
9E07048-CALB	200	947367	0.811	5.13

AVE RF **0.760** RF RSD **8.81** AVE RT **4.67**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

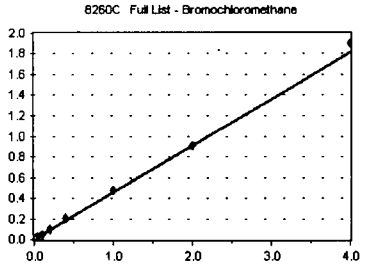


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~441~~	~~0.434~~	~~5.25~~
~~9E07048-CAL3~~	~~0.4~~	~~917~~	~~0.459~~	~~5.24~~
9E07048-CAL4	1	2310	0.441	5.24
9E07048-CAL5	2	4599	0.473	5.24
9E07048-CAL6	5	11848	0.476	5.24
9E07048-CAL7	10	25977	0.491	5.24
9E07048-CAL8	20	56267	0.569	5.24
9E07048-CAL9	50	162582	0.608	5.23
9E07048-CALA	100	344765	0.609	5.24
~~9E07048-CALB~~	~~200~~	~~789087~~	~~0.675~~	~~5.24~~

AVE RF **0.524** RF RSD **13.32** AVE RT **5.24**

Bromochloromethane

Curve Fit: **AVERAGE RF**

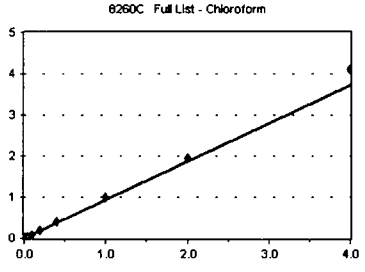


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	331	0.326	5.34
9E07048-CAL3	0.4	924	0.463	5.35
9E07048-CAL4	1	2190	0.418	5.35
9E07048-CAL5	2	4699	0.483	5.34
9E07048-CAL6	5	11857	0.476	5.34
9E07048-CAL7	10	24444	0.462	5.34
9E07048-CAL8	20	49879	0.504	5.34
9E07048-CAL9	50	126903	0.475	5.33
9E07048-CALA	100	257506	0.455	5.34
9E07048-CALB	200	554716	0.475	5.33

AVE RF **0.454** RF RSD **11.05** AVE RT **5.34**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	424	0.883	5.43
9E07048-CAL2	0.2	893	0.879	5.42
9E07048-CAL3	0.4	1699	0.851	5.42
9E07048-CAL4	1	4496	0.859	5.42
9E07048-CAL5	2	8712	0.896	5.42
9E07048-CAL6	5	23401	0.940	5.42
9E07048-CAL7	10	48731	0.921	5.42
9E07048-CAL8	20	99732	1.008	5.42
9E07048-CAL9	50	264234	0.989	5.42
9E07048-CALA	100	548790	0.970	5.42
9E07048-CALB	200	1199142	1.026	5.42

AVE RF **0.929** RF RSD **6.62** AVE RT **5.42**

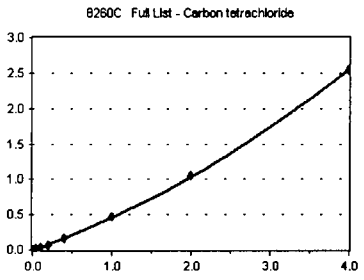
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Carbon tetrachloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

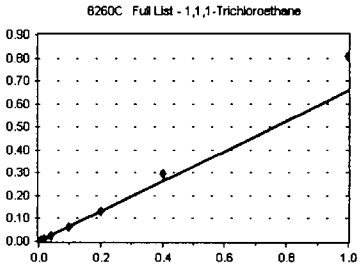


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~392~~	~~0.196~~	~~5.55~~
9E07048-CAL4	1	1343	0.256	5.55
9E07048-CAL5	2	2842	0.292	5.55
9E07048-CAL6	5	7941	0.319	5.55
9E07048-CAL7	10	17551	0.332	5.55
9E07048-CAL8	20	39228	0.397	5.54
9E07048-CAL9	50	126590	0.474	5.55
9E07048-CALA	100	296253	0.523	5.55
9E07048-CALB	200	741698	0.635	5.55

AVE RF **0.404** RF RSD **32.32** AVE RT **5.55**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**

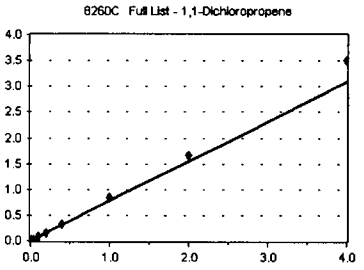


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~551~~	~~0.542~~	~~5.62~~
9E07048-CAL3	0.4	1217	0.610	5.63
9E07048-CAL4	1	2997	0.572	5.62
9E07048-CAL5	2	5724	0.589	5.62
9E07048-CAL6	5	15328	0.616	5.62
9E07048-CAL7	10	34343	0.649	5.62
9E07048-CAL8	20	73208	0.740	5.62
9E07048-CAL9	50	215695	0.807	5.62
~~9E07048-CALA~~	~~100~~	~~465951~~	~~0.823~~	~~5.62~~
~~9E07048-CALB~~	~~200~~	~~1056735~~	~~0.804~~	~~5.62~~

AVE RF **0.655** RF RSD **13.26** AVE RT **5.62**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

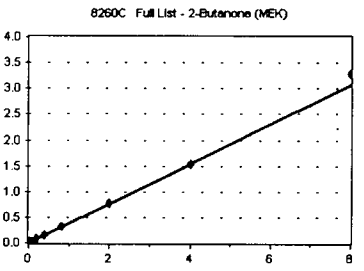


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	683	0.672	5.76
9E07048-CAL3	0.4	1416	0.709	5.75
9E07048-CAL4	1	3517	0.672	5.75
9E07048-CAL5	2	7332	0.754	5.75
9E07048-CAL6	5	19265	0.774	5.75
9E07048-CAL7	10	40206	0.760	5.75
9E07048-CAL8	20	82690	0.836	5.75
9E07048-CAL9	50	224805	0.841	5.75
9E07048-CALA	100	469859	0.830	5.74
9E07048-CALB	200	1023128	0.876	5.75

AVE RF **0.772** RF RSD **9.40** AVE RT **5.75**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.4	890	0.438	5.77
9E07048-CAL3	0.8	1499	0.375	5.76
9E07048-CAL4	2	3413	0.326	5.76
9E07048-CAL5	4	7034	0.362	5.76
9E07048-CAL6	10	19168	0.385	5.75
9E07048-CAL7	20	37307	0.353	5.76
9E07048-CAL8	40	80726	0.408	5.75
9E07048-CAL9	100	207080	0.387	5.74
9E07048-CALA	200	437402	0.386	5.74
9E07048-CALB	400	960855	0.411	5.74

AVE RF **0.383** RF RSD **8.33** AVE RT **5.75**

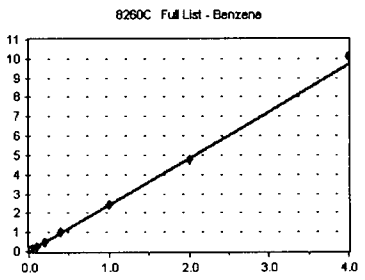
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Benzene

Curve Fit: **AVERAGE RF**

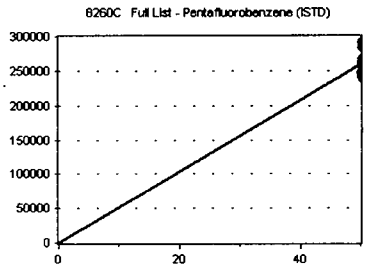


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1127	2.348	6.01
9E07048-CAL2	0.2	2458	2.419	6.01
9E07048-CAL3	0.4	4810	2.410	6.01
9E07048-CAL4	1	11954	2.283	6.01
9E07048-CAL5	2	23365	2.404	6.00
9E07048-CAL6	5	60741	2.441	6.01
9E07048-CAL7	10	124874	2.361	6.01
9E07048-CAL8	20	252305	2.551	6.00
9E07048-CAL9	50	656370	2.456	6.00
9E07048-CALA	100	1353074	2.390	6.00
9E07048-CALB	200	2947348	2.523	6.00

AVE RF **2.417** RF RSD **3.16** AVE RT **6.01**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

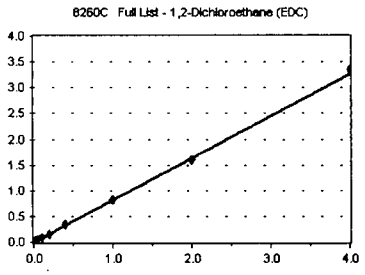


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	240040	4800.800	6.10
9E07048-CAL2	50	253997	5079.940	6.10
9E07048-CAL3	50	249504	4990.080	6.10
9E07048-CAL4	50	261850	5237.000	6.10
9E07048-CAL5	50	242998	4859.960	6.10
9E07048-CAL6	50	248863	4977.260	6.10
9E07048-CAL7	50	264477	5289.540	6.10
9E07048-CAL8	50	247283	4945.660	6.10
9E07048-CAL9	50	267251	5345.020	6.09
9E07048-CALA	50	283012	5660.240	6.10
9E07048-CALB	50	292078	5841.560	6.10

AVE RF **5184.278** RF RSD **6.39** AVE RT **6.10**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**

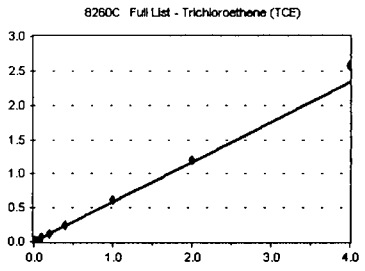


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.769	6.23
9E07048-CAL2	0.2	837	0.824	6.23
9E07048-CAL3	0.4	1552	0.778	6.23
9E07048-CAL4	1	4287	0.819	6.23
9E07048-CAL5	2	7997	0.823	6.22
9E07048-CAL6	5	21115	0.848	6.23
9E07048-CAL7	10	42029	0.795	6.23
9E07048-CAL8	20	86737	0.877	6.22
9E07048-CAL9	50	220556	0.825	6.22
9E07048-CALA	100	450418	0.796	6.22
9E07048-CALB	200	981773	0.840	6.22

AVE RF **0.818** RF RSD **3.89** AVE RT **6.22**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~205~~	~~0.427~~	~~0.00~~
9E07048-CAL2	0.2	614	0.604	6.63
9E07048-CAL3	0.4	1091	0.547	6.63
9E07048-CAL4	1	2819	0.538	6.63
9E07048-CAL5	2	5247	0.540	6.63
9E07048-CAL6	5	14302	0.575	6.63
9E07048-CAL7	10	29569	0.559	6.63
9E07048-CAL8	20	60828	0.615	6.62
9E07048-CAL9	50	163754	0.613	6.62
9E07048-CALA	100	340985	0.602	6.62
9E07048-CALB	200	754687	0.646	6.62

AVE RF **0.584** RF RSD **6.39** AVE RT **6.63**

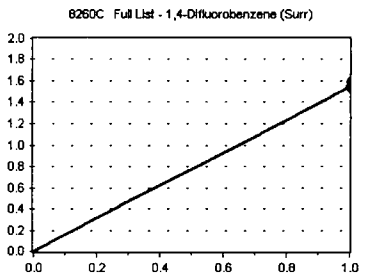
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

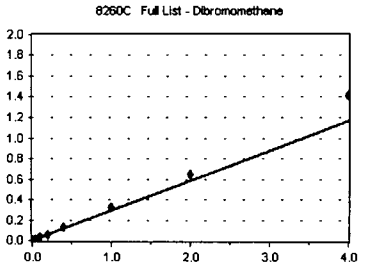


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	372792	1.553	6.66
9E07048-CAL2	50	393610	1.550	6.66
9E07048-CAL3	50	383811	1.538	6.66
9E07048-CAL4	50	402099	1.536	6.66
9E07048-CAL5	50	374305	1.540	6.66
9E07048-CAL6	50	382252	1.536	6.66
9E07048-CAL7	50	404994	1.531	6.66
9E07048-CAL8	50	383139	1.549	6.66
9E07048-CAL9	50	412030	1.542	6.66
9E07048-CALA	50	434050	1.534	6.66
9E07048-CALB	50	462700	1.584	6.66

AVE RF **1.545** RF RSD **0.96** AVE RT **6.66**

Dibromomethane

Curve Fit: **AVERAGE RF**

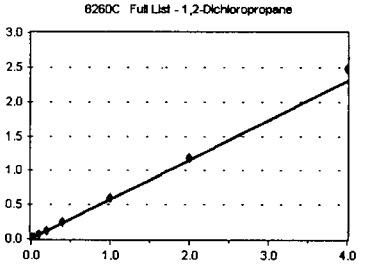


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	206	0.203	7.08
9E07048-CAL3	0.4	553	0.277	7.08
9E07048-CAL4	1	1342	0.256	7.08
9E07048-CAL5	2	2709	0.279	7.08
9E07048-CAL6	5	7109	0.286	7.08
9E07048-CAL7	10	15288	0.289	7.08
9E07048-CAL8	20	32324	0.327	7.08
9E07048-CAL9	50	86980	0.325	7.08
9E07048-CALA	100	183362	0.324	7.08
9E07048-CALB	200	413632	0.354	7.07

AVE RF **0.292** RF RSD **14.84** AVE RT **7.08**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

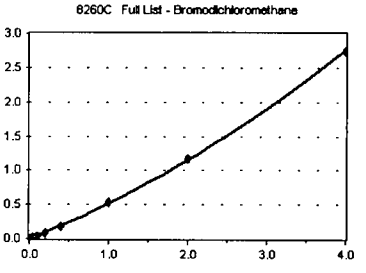


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	588	0.579	7.19
9E07048-CAL3	0.4	1034	0.518	7.19
9E07048-CAL4	1	2906	0.555	7.18
9E07048-CAL5	2	5465	0.562	7.18
9E07048-CAL6	5	14217	0.571	7.19
9E07048-CAL7	10	30050	0.568	7.19
9E07048-CAL8	20	60316	0.610	7.18
9E07048-CAL9	50	161209	0.603	7.18
9E07048-CALA	100	333077	0.588	7.18
9E07048-CALB	200	726418	0.622	7.18

AVE RF **0.578** RF RSD **5.22** AVE RT **7.18**

Bromodichloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~130~~	~~0.128~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~569~~	~~0.285~~	~~7.27~~
9E07048-CAL4	1	1570	0.300	7.26
9E07048-CAL5	2	3150	0.324	7.26
9E07048-CAL6	5	8768	0.352	7.26
9E07048-CAL7	10	19606	0.371	7.26
9E07048-CAL8	20	45494	0.460	7.26
9E07048-CAL9	50	144826	0.542	7.26
9E07048-CALA	100	330159	0.583	7.26
9E07048-CALB	200	802244	0.687	7.26

AVE RF **0.452** RF RSD **30.88** AVE RT **7.26**

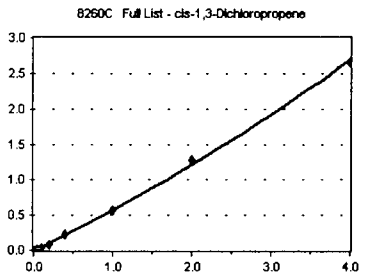
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

cis-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

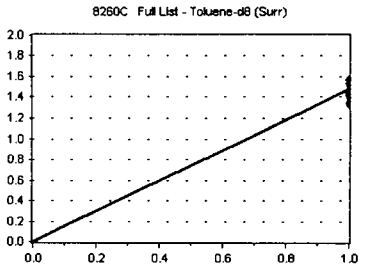


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~335~~	~~0.266~~	~~7.97~~
9E07048-CAL3	0.4	723	0.320	7.97
9E07048-CAL4	1	2124	0.330	7.97
9E07048-CAL5	2	4000	0.369	7.96
9E07048-CAL6	5	11116	0.398	7.97
9E07048-CAL7	10	26031	0.409	7.97
9E07048-CAL8	20	60464	0.551	7.97
9E07048-CAL9	50	189721	0.575	7.96
9E07048-CALA	100	428450	0.641	7.96
9E07048-CALB	200	1015167	0.664	7.96

AVE RF **0.473** RF RSD **28.49** AVE RT **7.97**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

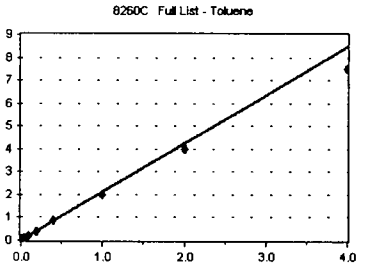


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	412832	1.570	8.17
9E07048-CAL2	50	451605	1.433	8.17
9E07048-CAL3	50	433301	1.536	8.17
9E07048-CAL4	50	463638	1.441	8.17
9E07048-CAL5	50	417114	1.539	8.17
9E07048-CAL6	50	428207	1.533	8.17
9E07048-CAL7	50	462102	1.452	8.17
9E07048-CAL8	50	420491	1.532	8.17
9E07048-CAL9	50	467669	1.418	8.17
9E07048-CALA	50	488712	1.463	8.17
9E07048-CALB	50	514201	1.344	8.17

AVE RF **1.478** RF RSD **4.64** AVE RT **8.17**

Toluene

Curve Fit: **AVERAGE RF**

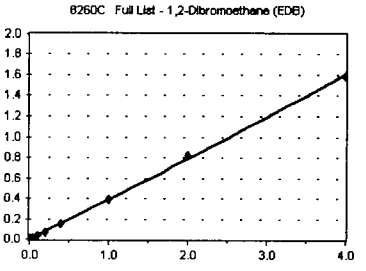


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1513	2.876	8.23
9E07048-CAL2	0.2	2847	2.259	8.23
9E07048-CAL3	0.4	4633	2.053	8.23
9E07048-CAL4	1	12595	1.958	8.23
9E07048-CAL5	2	22780	2.101	8.23
9E07048-CAL6	5	57774	2.069	8.23
9E07048-CAL7	10	124435	1.955	8.23
9E07048-CAL8	20	234051	2.131	8.23
9E07048-CAL9	50	652612	1.979	8.22
9E07048-CALA	100	1331277	1.992	8.23
9E07048-CALB	200	2874760	1.879	8.22

AVE RF **2.114** RF RSD **12.92** AVE RT **8.23**

1,2-Dibromoethane (EDB)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	186	0.148	0.00
9E07048-CAL3	0.4	457	0.202	9.32
9E07048-CAL4	1	1418	0.220	9.32
9E07048-CAL5	2	2966	0.274	9.31
9E07048-CAL6	5	8553	0.306	9.32
9E07048-CAL7	10	19791	0.311	9.31
9E07048-CAL8	20	42675	0.389	9.31
9E07048-CAL9	50	128621	0.390	9.31
9E07048-CALA	100	274641	0.411	9.31
9E07048-CALB	200	608559	0.398	9.31

AVE RF **0.305** RF RSD **30.45** AVE RT **8.38**

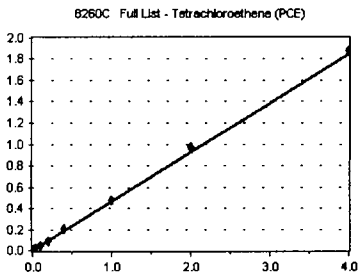
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

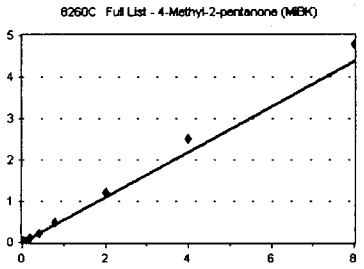


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	241	0.458	8.68
9E07048-CAL2	0.2	503	0.399	8.67
9E07048-CAL3	0.4	1054	0.467	8.68
9E07048-CAL4	1	2677	0.416	8.68
9E07048-CAL5	2	5076	0.468	8.68
9E07048-CAL6	5	13448	0.482	8.68
9E07048-CAL7	10	29011	0.456	8.68
9E07048-CAL8	20	56499	0.514	8.67
9E07048-CAL9	50	156090	0.473	8.67
9E07048-CALA	100	325857	0.488	8.67
9E07048-CALB	200	718860	0.470	8.67

AVE RF **0.463** RF RSD **6.89** AVE RT **8.68**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

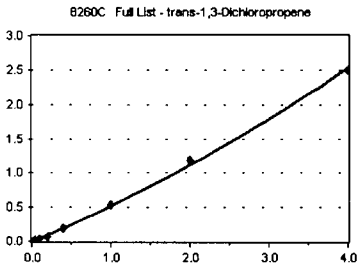


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~391~~	~~0.372~~	~~8.69~~
~~9E07048-CAL2~~	~~0.4~~	~~941~~	~~0.373~~	~~8.68~~
~~9E07048-CAL3~~	~~0.8~~	~~1734~~	~~0.384~~	~~8.68~~
9E07048-CAL4	2	5152	0.400	8.68
9E07048-CAL5	4	10467	0.483	8.68
9E07048-CAL6	10	28905	0.518	8.68
9E07048-CAL7	20	65586	0.515	8.68
9E07048-CAL8	40	137264	0.625	8.68
9E07048-CAL9	100	398605	0.604	8.67
9E07048-CALA	200	838408	0.627	8.68
9E07048-CALB	400	1832267	0.599	8.67

AVE RF **0.546** RF RSD **14.83** AVE RT **8.68**

trans-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

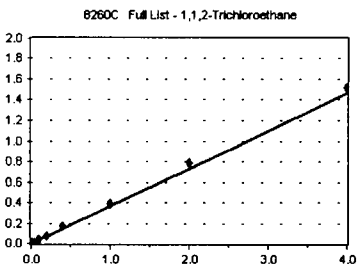


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	502	0.222	8.72
9E07048-CAL4	1	1582	0.246	8.72
9E07048-CAL5	2	3084	0.284	8.72
9E07048-CAL6	5	8937	0.320	8.72
9E07048-CAL7	10	22208	0.349	8.71
9E07048-CAL8	20	51961	0.473	8.71
9E07048-CAL9	50	174126	0.528	8.71
9E07048-CALA	100	395344	0.592	8.71
9E07048-CALB	200	955479	0.625	8.71

AVE RF **0.404** RF RSD **37.75** AVE RT **8.72**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	368	0.292	8.89
9E07048-CAL3	0.4	754	0.334	8.90
9E07048-CAL4	1	2096	0.326	8.88
9E07048-CAL5	2	4156	0.383	8.89
9E07048-CAL6	5	10585	0.379	8.89
9E07048-CAL7	10	23330	0.367	8.89
9E07048-CAL8	20	46171	0.420	8.89
9E07048-CAL9	50	128440	0.389	8.88
9E07048-CALA	100	262681	0.393	8.89
9E07048-CALB	200	582929	0.381	8.89

AVE RF **0.366** RF RSD **10.39** AVE RT **8.89**

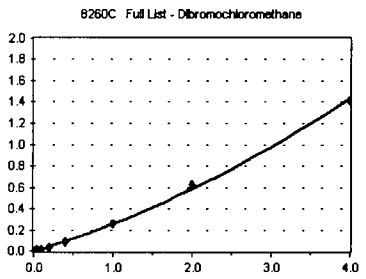
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Dibromochloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

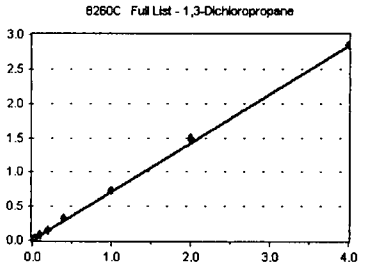


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	215	9.526	9.07
9E07048-CAL4	1	646	0.100	9.08
9E07048-CAL5	2	1529	0.141	9.08
9E07048-CAL6	5	4290	0.154	9.07
9E07048-CAL7	10	10099	0.159	9.08
9E07048-CAL8	20	23476	0.214	9.08
9E07048-CAL9	50	86639	0.263	9.07
9E07048-CALA	100	209789	0.314	9.08
9E07048-CALB	200	540275	0.353	9.08

AVE RF **0.199** RF RSD **46.55** AVE RT **9.08**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

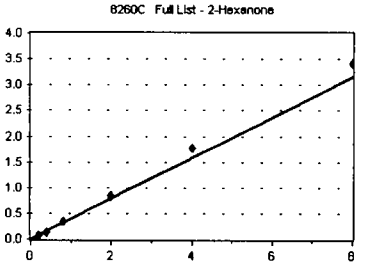


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.702	9.17
9E07048-CAL2	0.2	753	0.597	9.17
9E07048-CAL3	0.4	1532	0.679	9.18
9E07048-CAL4	1	4160	0.647	9.18
9E07048-CAL5	2	7762	0.716	9.17
9E07048-CAL6	5	20889	0.748	9.18
9E07048-CAL7	10	45205	0.710	9.18
9E07048-CAL8	20	88346	0.804	9.17
9E07048-CAL9	50	243237	0.737	9.17
9E07048-CALA	100	499607	0.748	9.17
9E07048-CALB	200	1091475	0.713	9.17

AVE RF **0.709** RF RSD **7.76** AVE RT **9.17**

2-Hexanone

Curve Fit: **AVERAGE RF**

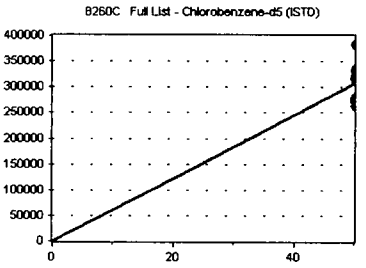


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.4~~	~~512~~	~~0.203~~	~~9.55~~
~~9E07048-CAL3~~	~~0.8~~	~~1043~~	~~0.231~~	~~9.55~~
~~9E07048-CAL4~~	~~2~~	~~3198~~	~~0.249~~	~~9.55~~
~~9E07048-CAL5~~	~~4~~	~~6383~~	~~0.294~~	~~9.55~~
9E07048-CAL6	10	17782	0.318	9.55
9E07048-CAL7	20	42844	0.337	9.55
9E07048-CAL8	40	92169	0.420	9.55
9E07048-CAL9	100	280127	0.425	9.54
9E07048-CALA	200	591216	0.442	9.55
9E07048-CALB	400	1304670	0.426	9.54

AVE RF **0.395** RF RSD **13.41** AVE RT **9.54**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	263004	5260.080	9.81
9E07048-CAL2	50	315116	6302.320	9.80
9E07048-CAL3	50	282136	5642.720	9.80
9E07048-CAL4	50	321643	6432.860	9.81
9E07048-CAL5	50	271061	5421.220	9.81
9E07048-CAL6	50	279254	5585.080	9.80
9E07048-CAL7	50	318211	6364.220	9.80
9E07048-CAL8	50	274550	5491.000	9.80
9E07048-CAL9	50	329813	6596.260	9.80
9E07048-CALA	50	334077	6681.540	9.81
9E07048-CALB	50	382482	7649.640	9.81

AVE RF **6129.722** RF RSD **11.77** AVE RT **9.80**

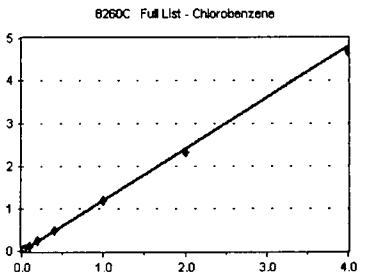
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Chlorobenzene

Curve Fit: **AVERAGE RF**

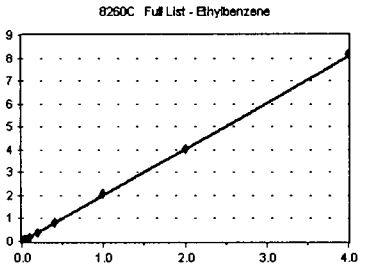


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	708	1.346	9.82
9E07048-CAL2	0.2	1621	1.286	9.82
9E07048-CAL3	0.4	2707	1.199	9.82
9E07048-CAL4	1	7684	1.194	9.82
9E07048-CAL5	2	12836	1.184	9.82
9E07048-CAL6	5	32582	1.167	9.82
9E07048-CAL7	10	74844	1.176	9.82
9E07048-CAL8	20	130501	1.188	9.82
9E07048-CAL9	50	392199	1.189	9.82
9E07048-CALA	100	775570	1.161	9.82
9E07048-CALB	200	1783488	1.166	9.82

AVE RF **1.205** RF RSD **4.79** AVE RT **9.82**

Ethylbenzene

Curve Fit: **AVERAGE RF**

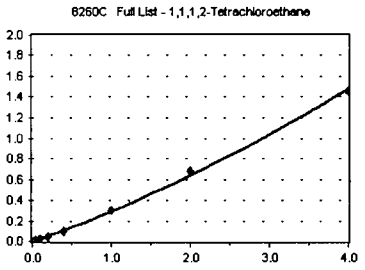


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1175	2.234	9.85
9E07048-CAL2	0.2	2644	2.098	9.85
9E07048-CAL3	0.4	4382	1.941	9.85
9E07048-CAL4	1	12168	1.892	9.85
9E07048-CAL5	2	20590	1.899	9.85
9E07048-CAL6	5	53767	1.925	9.85
9E07048-CAL7	10	123904	1.947	9.85
9E07048-CAL8	20	225958	2.058	9.85
9E07048-CAL9	50	684347	2.075	9.85
9E07048-CALA	100	1355629	2.029	9.84
9E07048-CALB	200	3128616	2.045	9.84

AVE RF **2.013** RF RSD **5.16** AVE RT **9.85**

1,1,1,2-Tetrachloroethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

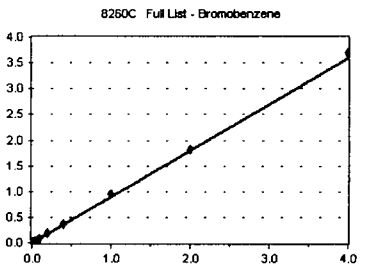


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	292	0.129	9.89
9E07048-CAL4	1	785	0.122	9.89
9E07048-CAL5	2	1701	0.157	9.89
9E07048-CAL6	5	4779	0.171	9.88
9E07048-CAL7	10	12247	0.192	9.88
9E07048-CAL8	20	27384	0.249	9.88
9E07048-CAL9	50	99762	0.302	9.88
9E07048-CALA	100	228768	0.342	9.88
9E07048-CALB	200	559200	0.366	9.88

AVE RF **0.226** RF RSD **40.98** AVE RT **9.88**

Bromobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	160	0.681	0.00
9E07048-CAL2	0.2	538	0.954	10.96
9E07048-CAL3	0.4	808	0.839	10.95
9E07048-CAL4	1	2646	0.935	10.96
9E07048-CAL5	2	4463	0.912	10.96
9E07048-CAL6	5	11371	0.903	10.95
9E07048-CAL7	10	26129	0.949	10.96
9E07048-CAL8	20	47722	0.939	10.95
9E07048-CAL9	50	145102	0.945	10.95
9E07048-CALA	100	284944	0.912	10.96
9E07048-CALB	200	686712	0.925	10.96

AVE RF **0.899** RF RSD **8.79** AVE RT **9.96**

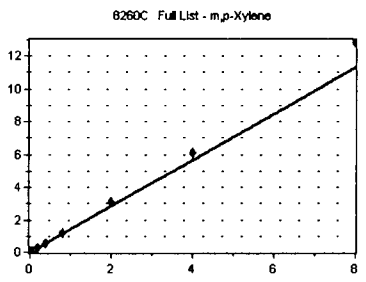
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

m,p-Xylene

Curve Fit: **AVERAGE RF**

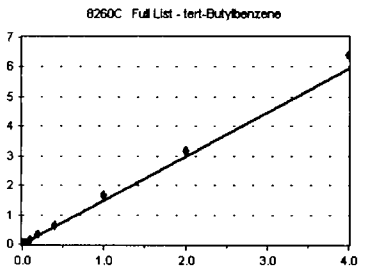


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.2	1447	1.375	9.99
9E07048-CAL2	0.4	3375	1.339	9.99
9E07048-CAL3	0.8	5409	1.198	9.99
9E07048-CAL4	2	16601	1.290	9.98
9E07048-CAL5	4	28146	1.298	9.98
9E07048-CAL6	10	76311	1.366	9.98
9E07048-CAL7	20	180873	1.421	9.98
9E07048-CAL8	40	334982	1.525	9.98
9E07048-CAL9	100	1024139	1.553	9.98
9E07048-CALA	200	2053605	1.537	9.98
9E07048-CALB	400	4916984	1.607	9.98

AVE RF **1.410** RF RSD **9.21** AVE RT **9.98**

tert-Butylbenzene

Curve Fit: **AVERAGE RF**

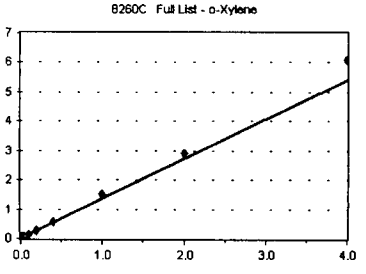


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	294	1.252	0.00
9E07048-CAL2	0.2	778	1.380	11.38
9E07048-CAL3	0.4	1226	1.273	11.38
9E07048-CAL4	1	4016	1.419	11.38
9E07048-CAL5	2	6886	1.406	11.38
9E07048-CAL6	5	18826	1.496	11.38
9E07048-CAL7	10	44486	1.616	11.38
9E07048-CAL8	20	82417	1.621	11.38
9E07048-CAL9	50	255683	1.665	11.38
9E07048-CALA	100	498695	1.596	11.38
9E07048-CALB	200	1185300	1.596	11.38

AVE RF **1.484** RF RSD **9.85** AVE RT **10.35**

o-Xylene

Curve Fit: **AVERAGE RF**

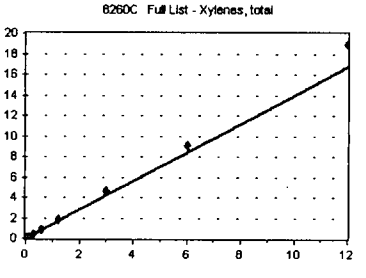


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	771	1.466	10.37
9E07048-CAL2	0.2	1661	1.318	10.36
9E07048-CAL3	0.4	2704	1.198	10.36
9E07048-CAL4	1	7663	1.191	10.37
9E07048-CAL5	2	13306	1.227	10.37
9E07048-CAL6	5	35546	1.273	10.36
9E07048-CAL7	10	85079	1.337	10.36
9E07048-CAL8	20	157388	1.433	10.36
9E07048-CAL9	50	494845	1.500	10.36
9E07048-CALA	100	977297	1.463	10.36
9E07048-CALB	200	2329915	1.523	10.36

AVE RF **1.357** RF RSD **9.19** AVE RT **10.36**

Xylenes, total

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.3	2218	1.406	10.37
9E07048-CAL2	0.6	5036	1.332	10.36
9E07048-CAL3	1.2	8113	1.198	10.36
9E07048-CAL4	3	24264	1.257	10.37
9E07048-CAL5	6	41452	1.274	10.37
9E07048-CAL6	15	111857	1.335	10.36
9E07048-CAL7	30	265952	1.393	10.36
9E07048-CAL8	60	492370	1.494	10.36
9E07048-CAL9	150	1518984	1.535	10.36
9E07048-CALA	300	3030902	1.512	10.36
9E07048-CALB	600	7246899	1.579	10.36

AVE RF **1.392** RF RSD **9.00** AVE RT **10.36**

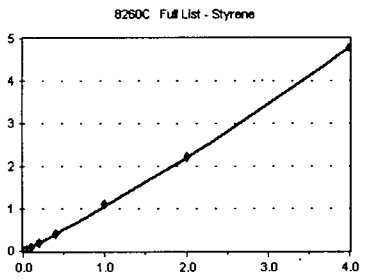
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Styrene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

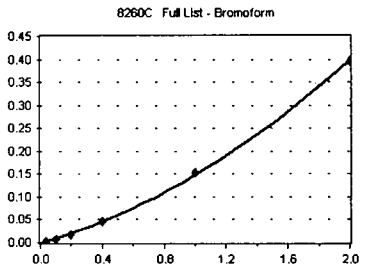


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	742	0.589	10.42
9E07048-CAL3	0.4	1408	0.624	10.42
9E07048-CAL4	1	4261	0.662	10.42
9E07048-CAL5	2	7423	0.685	10.42
9E07048-CAL6	5	22451	0.804	10.41
9E07048-CAL7	10	56305	0.885	10.41
9E07048-CAL8	20	110271	1.004	10.41
9E07048-CAL9	50	367293	1.114	10.41
9E07048-CALA	100	736185	1.102	10.41
9E07048-CALB	200	1826906	1.194	10.41

AVE RF **0.866** RF RSD **26.04** AVE RT **10.41**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

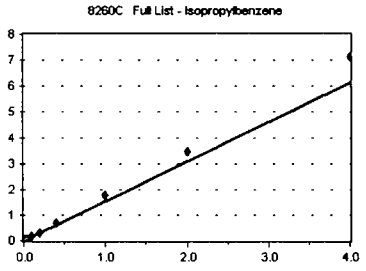


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	793	7.314	10.44
9E07048-CAL6	5	2131	7.631	10.44
9E07048-CAL7	10	5401	8.487	10.44
9E07048-CAL8	20	12454	0.113	10.44
9E07048-CAL9	50	50592	0.153	10.44
9E07048-CALA	100	132822	0.199	10.43
~~9E07048-CALB~~	~~200~~	~~365594~~	~~0.239~~	~~10.43~~

AVE RF **0.117** RF RSD **43.10** AVE RT **10.44**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

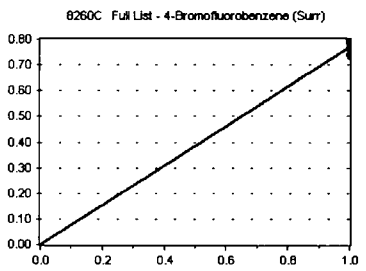


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~607~~	~~1.154~~	~~0.00~~
9E07048-CAL2	0.2	1621	1.286	10.63
9E07048-CAL3	0.4	2804	1.242	10.63
9E07048-CAL4	1	8865	1.378	10.63
9E07048-CAL5	2	14839	1.369	10.63
9E07048-CAL6	5	42773	1.532	10.63
9E07048-CAL7	10	101605	1.597	10.63
9E07048-CAL8	20	187296	1.705	10.63
9E07048-CAL9	50	585625	1.776	10.63
9E07048-CALA	100	1158047	1.733	10.63
9E07048-CALB	200	2723392	1.780	10.63

AVE RF **1.540** RF RSD **13.52** AVE RT **10.63**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	90333	0.769	10.87
9E07048-CAL2	50	110936	0.787	10.87
9E07048-CAL3	50	94062	0.781	10.87
9E07048-CAL4	50	112797	0.797	10.87
9E07048-CAL5	50	93757	0.766	10.87
9E07048-CAL6	50	96094	0.763	10.87
9E07048-CAL7	50	109811	0.798	10.87
9E07048-CAL8	50	96557	0.760	10.87
9E07048-CAL9	50	117904	0.768	10.87
9E07048-CALA	50	115967	0.742	10.87
9E07048-CALB	50	136770	0.737	10.87

AVE RF **0.770** RF RSD **2.59** AVE RT **10.87**

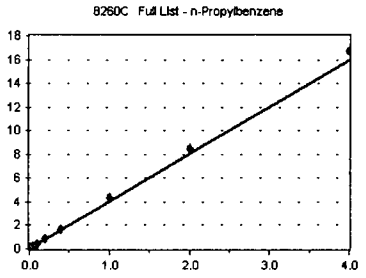
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

n-Propylbenzene

Curve Fit: **AVERAGE RF**

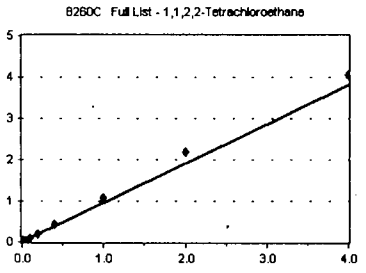


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	914	3.893	10.98
9E07048-CAL2	0.2	2125	3.768	10.98
9E07048-CAL3	0.4	3524	3.659	10.98
9E07048-CAL4	1	10761	3.802	10.97
9E07048-CAL5	2	18352	3.748	10.97
9E07048-CAL6	5	49128	3.903	10.97
9E07048-CAL7	10	115664	4.202	10.97
9E07048-CAL8	20	214448	4.219	10.97
9E07048-CAL9	50	668617	4.354	10.97
9E07048-CALA	100	1317712	4.217	10.98
9E07048-CALB	200	3112598	4.191	10.97

AVE RF **3.996** RF RSD **6.08** AVE RT **10.97**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

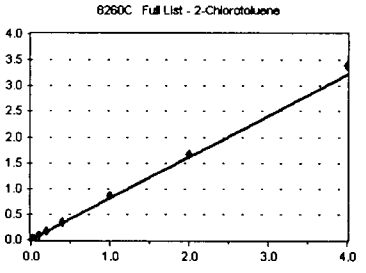


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~138~~	~~0.588~~	~~0.00~~
9E07048-CAL2	0.2	440	0.780	11.04
9E07048-CAL3	0.4	771	0.801	11.04
9E07048-CAL4	1	2364	0.835	11.04
9E07048-CAL5	2	4375	0.894	11.04
9E07048-CAL6	5	11560	0.918	11.04
9E07048-CAL7	10	27257	0.990	11.04
9E07048-CAL8	20	55658	1.095	11.04
9E07048-CAL9	50	165500	1.078	11.04
9E07048-CALA	100	342106	1.095	11.04
9E07048-CALB	200	754067	1.015	11.04

AVE RF **0.950** RF RSD **12.78** AVE RT **11.04**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**

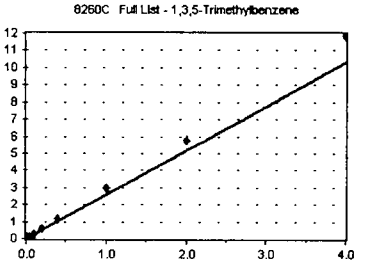


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	441	0.782	11.11
9E07048-CAL3	0.4	669	0.695	11.11
9E07048-CAL4	1	2215	0.783	11.11
9E07048-CAL5	2	3616	0.739	11.11
9E07048-CAL6	5	9901	0.787	11.11
9E07048-CAL7	10	23610	0.858	11.11
9E07048-CAL8	20	42696	0.840	11.10
9E07048-CAL9	50	133819	0.871	11.10
9E07048-CALA	100	259978	0.832	11.10
9E07048-CALB	200	630374	0.849	11.10

AVE RF **0.803** RF RSD **7.06** AVE RT **11.10**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	548	2.334	11.13
9E07048-CAL2	0.2	1238	2.195	11.13
9E07048-CAL3	0.4	2172	2.255	11.13
9E07048-CAL4	1	6404	2.263	11.13
9E07048-CAL5	2	11485	2.346	11.13
9E07048-CAL6	5	31608	2.511	11.13
9E07048-CAL7	10	77527	2.817	11.13
9E07048-CAL8	20	146436	2.881	11.13
9E07048-CAL9	50	457542	2.979	11.13
9E07048-CALA	100	898558	2.875	11.13
9E07048-CALB	200	2203355	2.967	11.13

AVE RF **2.584** RF RSD **12.34** AVE RT **11.13**

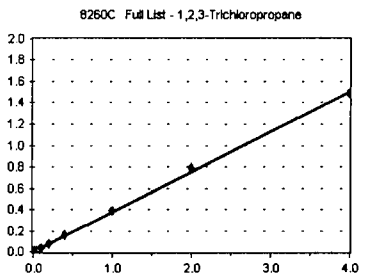
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**

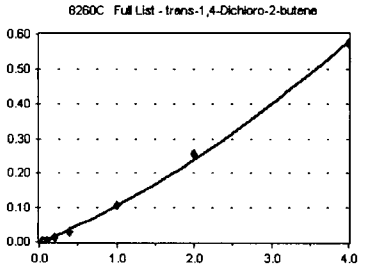


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~135~~	~~0.239~~	~~11.15~~
9E07048-CAL3	0.4	303	0.315	11.15
9E07048-CAL4	1	973	0.344	11.15
9E07048-CAL5	2	1924	0.393	11.15
9E07048-CAL6	5	4758	0.378	11.14
9E07048-CAL7	10	10739	0.390	11.15
9E07048-CAL8	20	20933	0.412	11.15
9E07048-CAL9	50	60249	0.392	11.15
9E07048-CALA	100	123481	0.395	11.15
9E07048-CALB	200	276178	0.372	11.14

AVE RF **0.377** RF RSD **7.97** AVE RT **11.15**

trans-1,4-Dichloro-2-butene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

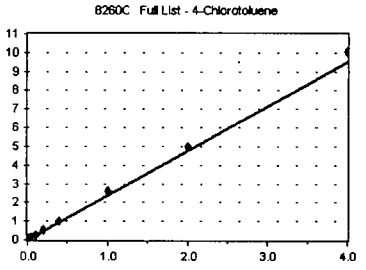


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	237	4.840	11.18
9E07048-CAL6	5	580	4.608	11.18
9E07048-CAL7	10	1656	6.016	11.18
9E07048-CAL8	20	3834	7.542	11.18
9E07048-CAL9	50	16499	0.107	11.18
9E07048-CALA	100	40002	0.128	11.18
9E07048-CALB	200	106408	0.143	11.17

AVE RF **0.087** RF RSD **45.23** AVE RT **11.18**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**

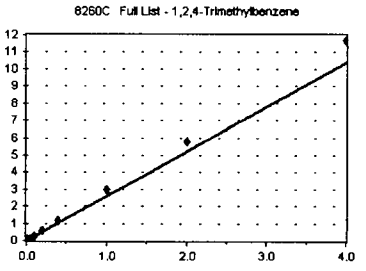


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	483	2.057	11.24
9E07048-CAL2	0.2	1253	2.222	11.24
9E07048-CAL3	0.4	2028	2.106	11.24
9E07048-CAL4	1	6529	2.307	11.24
9E07048-CAL5	2	11250	2.298	11.24
9E07048-CAL6	5	30163	2.397	11.23
9E07048-CAL7	10	71020	2.580	11.23
9E07048-CAL8	20	129493	2.547	11.23
9E07048-CAL9	50	401605	2.615	11.23
9E07048-CALA	100	778535	2.491	11.24
9E07048-CALB	200	1869203	2.517	11.24

AVE RF **2.376** RF RSD **8.11** AVE RT **11.24**

1,2,4-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	561	2.389	11.44
9E07048-CAL2	0.2	1251	2.218	11.44
9E07048-CAL3	0.4	2171	2.254	11.44
9E07048-CAL4	1	6383	2.255	11.44
9E07048-CAL5	2	11474	2.343	11.44
9E07048-CAL6	5	32438	2.577	11.43
9E07048-CAL7	10	78156	2.839	11.44
9E07048-CAL8	20	148515	2.922	11.44
9E07048-CAL9	50	457137	2.977	11.43
9E07048-CALA	100	897125	2.871	11.44
9E07048-CALB	200	2164127	2.914	11.44

AVE RF **2.596** RF RSD **11.99** AVE RT **11.44**

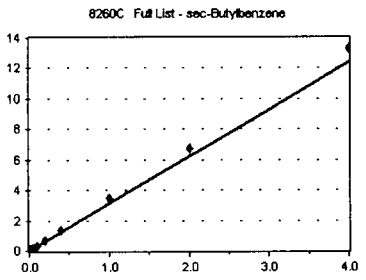
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

sec-Butylbenzene

Curve Fit: **AVERAGE RF**

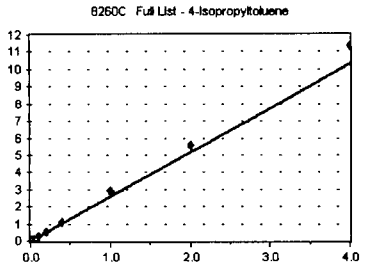


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	715	3.045	11.52
9E07048-CAL2	0.2	1494	2.649	11.52
9E07048-CAL3	0.4	2640	2.741	11.52
9E07048-CAL4	1	7874	2.782	11.52
9E07048-CAL5	2	14030	2.865	11.52
9E07048-CAL6	5	39097	3.106	11.52
9E07048-CAL7	10	92413	3.357	11.52
9E07048-CAL8	20	171858	3.381	11.52
9E07048-CAL9	50	532289	3.466	11.52
9E07048-CALA	100	1046840	3.350	11.52
9E07048-CALB	200	2466612	3.321	11.52

AVE RF **3.097** RF RSD **9.59** AVE RT **11.52**

4-Isopropyltoluene

Curve Fit: **AVERAGE RF**

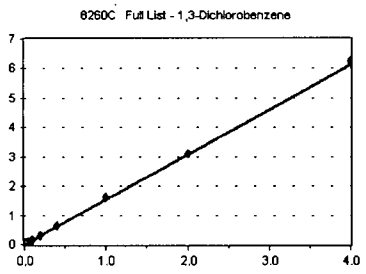


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~475~~	~~2.023~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~1097~~	~~1.945~~	~~11.63~~
~~9E07048-CAL3~~	~~0.4~~	~~1855~~	~~1.926~~	~~11.63~~
9E07048-CAL4	1	5898	2.084	11.63
9E07048-CAL5	2	10365	2.117	11.63
9E07048-CAL6	5	30161	2.396	11.63
9E07048-CAL7	10	73579	2.673	11.63
9E07048-CAL8	20	141976	2.793	11.63
9E07048-CAL9	50	446740	2.909	11.63
9E07048-CALA	100	875955	2.803	11.63
9E07048-CALB	200	2110691	2.842	11.63

AVE RF **2.577** RF RSD **12.91** AVE RT **11.63**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

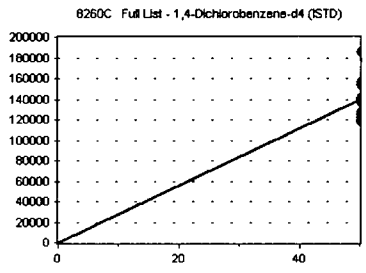


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	361	1.538	11.69
9E07048-CAL2	0.2	822	1.458	11.70
9E07048-CAL3	0.4	1391	1.444	11.70
9E07048-CAL4	1	4151	1.467	11.70
9E07048-CAL5	2	7501	1.532	11.70
9E07048-CAL6	5	19402	1.542	11.70
9E07048-CAL7	10	42681	1.551	11.70
9E07048-CAL8	20	82474	1.622	11.69
9E07048-CAL9	50	248657	1.619	11.70
9E07048-CALA	100	483440	1.547	11.69
9E07048-CALB	200	1158673	1.560	11.69

AVE RF **1.534** RF RSD **3.84** AVE RT **11.70**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	117395	2347.900	11.75
9E07048-CAL2	50	140978	2819.560	11.75
9E07048-CAL3	50	120378	2407.560	11.75
9E07048-CAL4	50	141519	2830.380	11.75
9E07048-CAL5	50	122406	2448.120	11.75
9E07048-CAL6	50	125861	2517.220	11.75
9E07048-CAL7	50	137625	2752.500	11.75
9E07048-CAL8	50	127087	2541.740	11.75
9E07048-CAL9	50	153580	3071.600	11.75
9E07048-CALA	50	156244	3124.880	11.75
9E07048-CALB	50	185657	3713.140	11.75

AVE RF **2779.509** RF RSD **14.57** AVE RT **11.75**

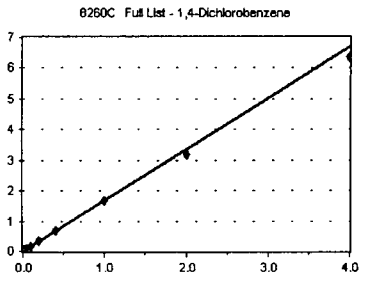
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

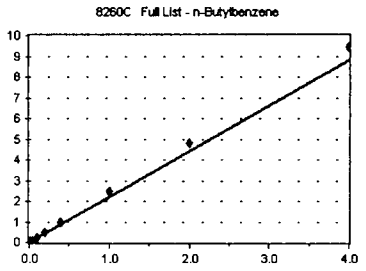


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	465	1.980	11.76
9E07048-CAL2	0.2	932	1.653	11.76
9E07048-CAL3	0.4	1636	1.699	11.76
9E07048-CAL4	1	4797	1.695	11.76
9E07048-CAL5	2	8234	1.682	11.76
9E07048-CAL6	5	20284	1.612	11.76
9E07048-CAL7	10	44850	1.629	11.76
9E07048-CAL8	20	85622	1.684	11.76
9E07048-CAL9	50	254182	1.655	11.76
9E07048-CALA	100	493681	1.580	11.76
9E07048-CALB	200	1176777	1.585	11.76

AVE RF **1.678** RF RSD **6.49** AVE RT **11.76**

n-Butylbenzene

Curve Fit: **AVERAGE RF**

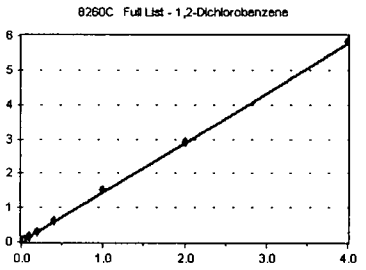


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	2.142	11.95
9E07048-CAL2	0.2	1099	1.949	11.95
9E07048-CAL3	0.4	1917	1.991	11.95
9E07048-CAL4	1	5710	2.017	11.95
9E07048-CAL5	2	9476	1.935	11.95
9E07048-CAL6	5	27019	2.147	11.95
9E07048-CAL7	10	65332	2.374	11.94
9E07048-CAL8	20	121885	2.398	11.94
9E07048-CAL9	50	379675	2.472	11.94
9E07048-CALA	100	753712	2.412	11.94
9E07048-CALB	200	1754778	2.363	11.95

AVE RF **2.200** RF RSD **9.44** AVE RT **11.95**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

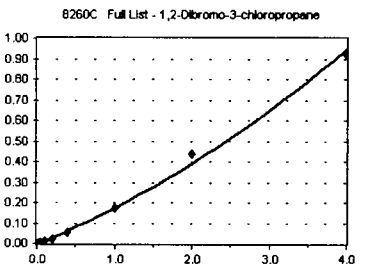


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	319	1.359	12.08
9E07048-CAL2	0.2	799	1.417	12.08
9E07048-CAL3	0.4	1327	1.378	12.08
9E07048-CAL4	1	3856	1.362	12.08
9E07048-CAL5	2	6890	1.407	12.08
9E07048-CAL6	5	18432	1.464	12.08
9E07048-CAL7	10	40089	1.456	12.08
9E07048-CAL8	20	79323	1.560	12.08
9E07048-CAL9	50	232496	1.514	12.08
9E07048-CALA	100	456101	1.460	12.08
9E07048-CALB	200	1085241	1.461	12.08

AVE RF **1.440** RF RSD **4.38** AVE RT **12.08**

1,2-Dibromo-3-chloropropane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	139	4.911	12.69
9E07048-CAL5	2	344	7.026	12.68
9E07048-CAL6	5	1033	8.207	12.68
9E07048-CAL7	10	2666	0.097	12.69
9E07048-CAL8	20	6583	0.129	12.69
9E07048-CAL9	50	26288	0.171	12.69
9E07048-CALA	100	68037	0.218	12.68
9E07048-CALB	200	171676	0.231	12.68

AVE RF **0.131** RF RSD **52.52** AVE RT **12.68**

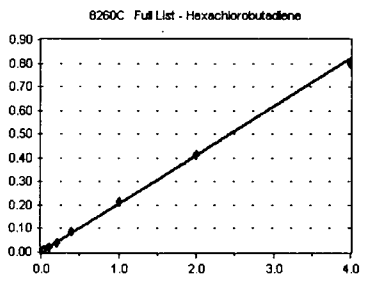
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

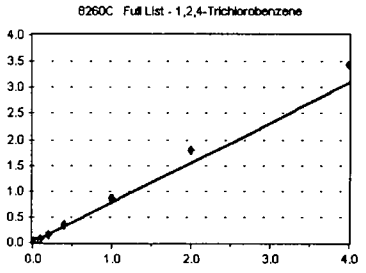


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	548	0.194	13.18
9E07048-CAL5	2	977	0.200	13.19
9E07048-CAL6	5	2590	0.206	13.19
9E07048-CAL7	10	5590	0.203	13.19
9E07048-CAL8	20	11108	0.219	13.19
9E07048-CAL9	50	33246	0.216	13.19
9E07048-CALA	100	64806	0.207	13.19
9E07048-CALB	200	148043	0.199	13.19

AVE RF **0.205** RF RSD **4.17** AVE RT **13.19**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**

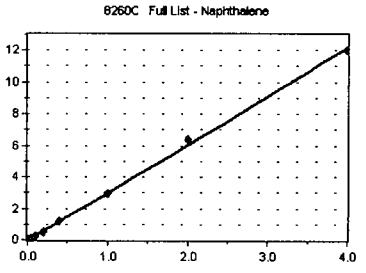


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	326	0.578	13.23
9E07048-CAL3	0.4	681	0.707	13.23
9E07048-CAL4	1	1879	0.664	13.23
9E07048-CAL5	2	3650	0.745	13.23
9E07048-CAL6	5	9487	0.754	13.23
9E07048-CAL7	10	21384	0.777	13.23
9E07048-CAL8	20	44542	0.876	13.23
9E07048-CAL9	50	133873	0.872	13.22
9E07048-CALA	100	280911	0.899	13.23
9E07048-CALB	200	638432	0.860	13.23

AVE RF **0.773** RF RSD **13.57** AVE RT **13.23**

Naphthalene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

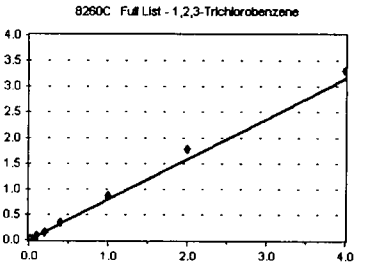


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	1578	1.639	13.50
9E07048-CAL4	1	4612	1.629	13.51
9E07048-CAL5	2	9150	1.869	13.51
9E07048-CAL6	5	26502	2.106	13.50
9E07048-CAL7	10	66084	2.401	13.50
9E07048-CAL8	20	148411	2.919	13.50
9E07048-CAL9	50	456299	2.971	13.50
9E07048-CALA	100	996167	3.188	13.50
9E07048-CALB	200	2228594	3.001	13.50

AVE RF **2.414** RF RSD **25.87** AVE RT **13.50**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~356~~	~~0.631~~	~~13.67~~
9E07048-CAL3	0.4	600	0.623	13.67
9E07048-CAL4	1	1872	0.661	13.66
9E07048-CAL5	2	3683	0.752	13.66
9E07048-CAL6	5	9947	0.790	13.66
9E07048-CAL7	10	21895	0.795	13.67
9E07048-CAL8	20	45148	0.888	13.67
9E07048-CAL9	50	132079	0.860	13.67
9E07048-CALA	100	277018	0.886	13.66
9E07048-CALB	200	614270	0.827	13.66

AVE RF **0.787** RF RSD **11.97** AVE RT **13.66**

Calibration Status Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	50	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050734.D
2	2	100	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050735.D
3	3	250	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050736.D
4	4	500	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050737.D
5	5	1000	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050738.D
6	6	2500	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050739.D
7	7	5000	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050740.D
8	8	10000	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050741.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	May 08 11:35 2019	May 08 11:26 2019	
2	2	May 08 11:35 2019	May 08 11:26 2019	
3	3	May 08 11:35 2019	May 08 11:26 2019	
4	4	May 08 11:35 2019	May 08 11:26 2019	
5	5	May 08 11:35 2019	May 08 11:26 2019	
6	6	May 08 11:35 2019	May 08 11:26 2019	
7	7	May 08 11:35 2019	May 08 11:28 2019	
8	8	May 08 11:35 2019	May 08 11:29 2019	

VF190507G.M Wed May 08 14:01:13 2019

Response Factor Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

Calibration Files
1 =VF19050734.D 2 =VF19050735.D 3 =VF19050736.D 4 =VF19050737.D 5 =VF19050738.D 6 =VF19050739.D
7 =VF19050740.D 8 =VF19050741.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	Pentafluorobenzene...	ISTD									
2)	S	1,4-Difluorobe...	3.752	3.782	3.750	3.774	3.793	3.919	3.946	4.821	3.942	9.20
3)	S	4-Bromofluorob...	2.315	2.475	2.411	2.420	2.537	2.470	2.398	2.393	2.427	2.74
4)	S	Chlorobenzene-...									0.000	-1.00
5)	H	TPHg (C5-C9)	3.421	2.579	2.252	2.227	2.362	2.295	2.106	2.475	2.465	16.78
6)	H	TPHg (C6-C10)	2.469	1.903	1.712	1.771	1.882	1.851	1.727	2.047	1.920	12.85
7)	H	CA-LUFT (C5-C12)	3.596	2.783	2.502	2.529	2.733	2.651	2.479	2.946	2.777	13.22
8)	H	NWTPH-Gx	0.861	1.005	1.178	1.362	1.574	1.576	1.581	1.895	1.379	25.00
9)		Benzene (NR)									0.000	-1.00
10)	S	Toluene-d8 (NR)									0.000	-1.00
11)	C	Toluene (NR)									0.000	-1.00
12)	S	1,4-Dichlorobe...									0.000	-1.00
13)		Naphthalene (NR)									0.000	-1.00

(#) = Out of Range

Compound List Report VOA-GCMS6

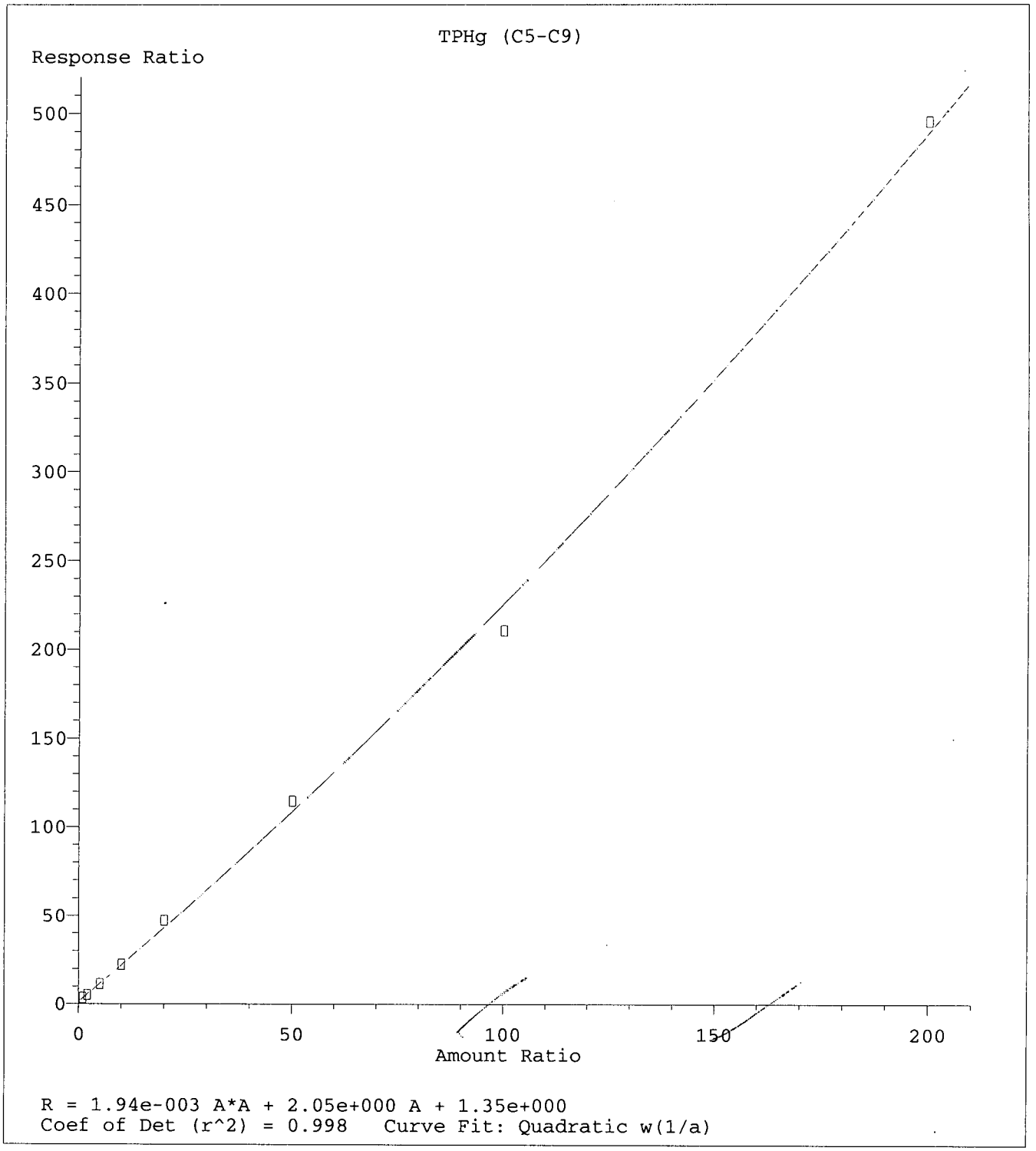
Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.096	1.000	A	2	A	A
2	S	1,4-Difluorobenzene (Sur)	TIC	6.661	1.093	A	2	A	A
3	S	4-Bromofluorobenzene (Sur)	TIC	10.871	1.783	A	2	A	A
4	S	Chlorobenzene-d5 (NR)	TIC	9.806	1.609	A	2	A	A
5	H	TPHg (C5-C9)	TIC	9.860	1.618	Q	0	A	A
6	H	TPHg (C6-C10)	TIC	9.860	1.618	Q	0	A	A
7	H	CA-LUFT (C5-C12)	TIC	9.860	1.618	Q	0	A	A
8	H	NWTPH-Gx	TIC	9.870	1.619	Q	0	A	A
9		Benzene (NR)	78	6.004	0.985	A	2	A	A
10	S	Toluene-d8 (NR)	TIC	8.170	1.340	A	2	A	A
11	C	Toluene (NR)	91	8.225	1.349	A	2	A	A
12	S	1,4-Dichlorobenzene-d4 (NR)	TIC	11.747	1.927	A	2	A	A
13		Naphthalene (NR)	128	13.499	2.215	A	2	A	A

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VF190507G.M Wed May 08 14:01:29 2019



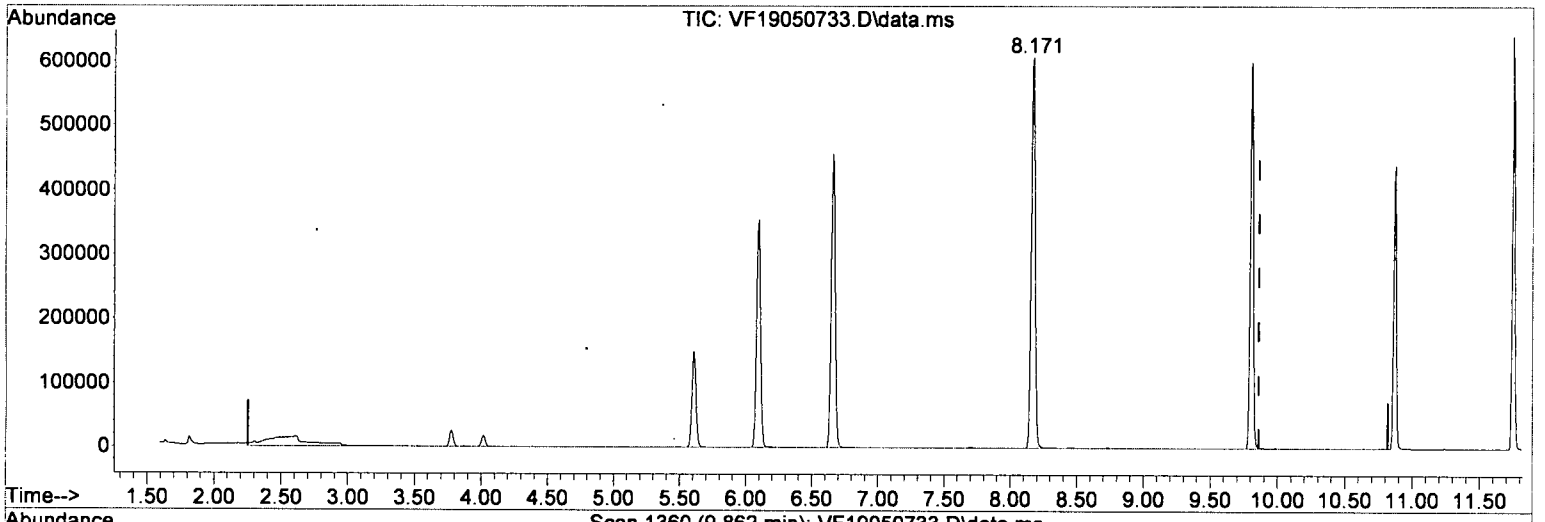
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

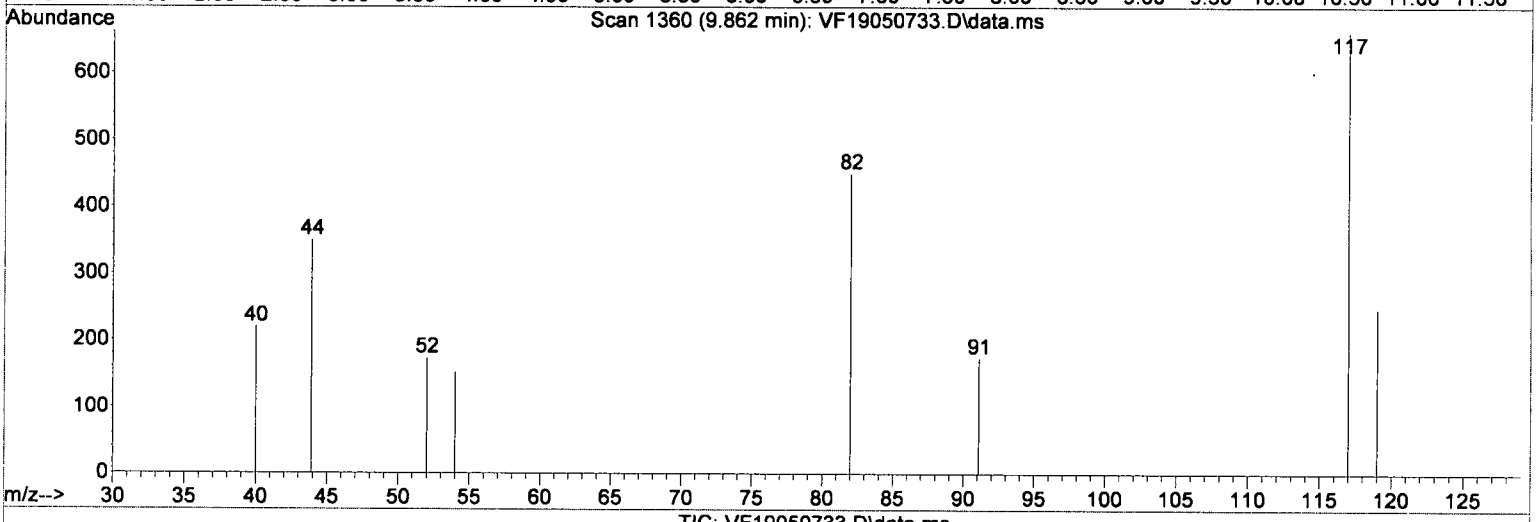
Int = 6.92

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





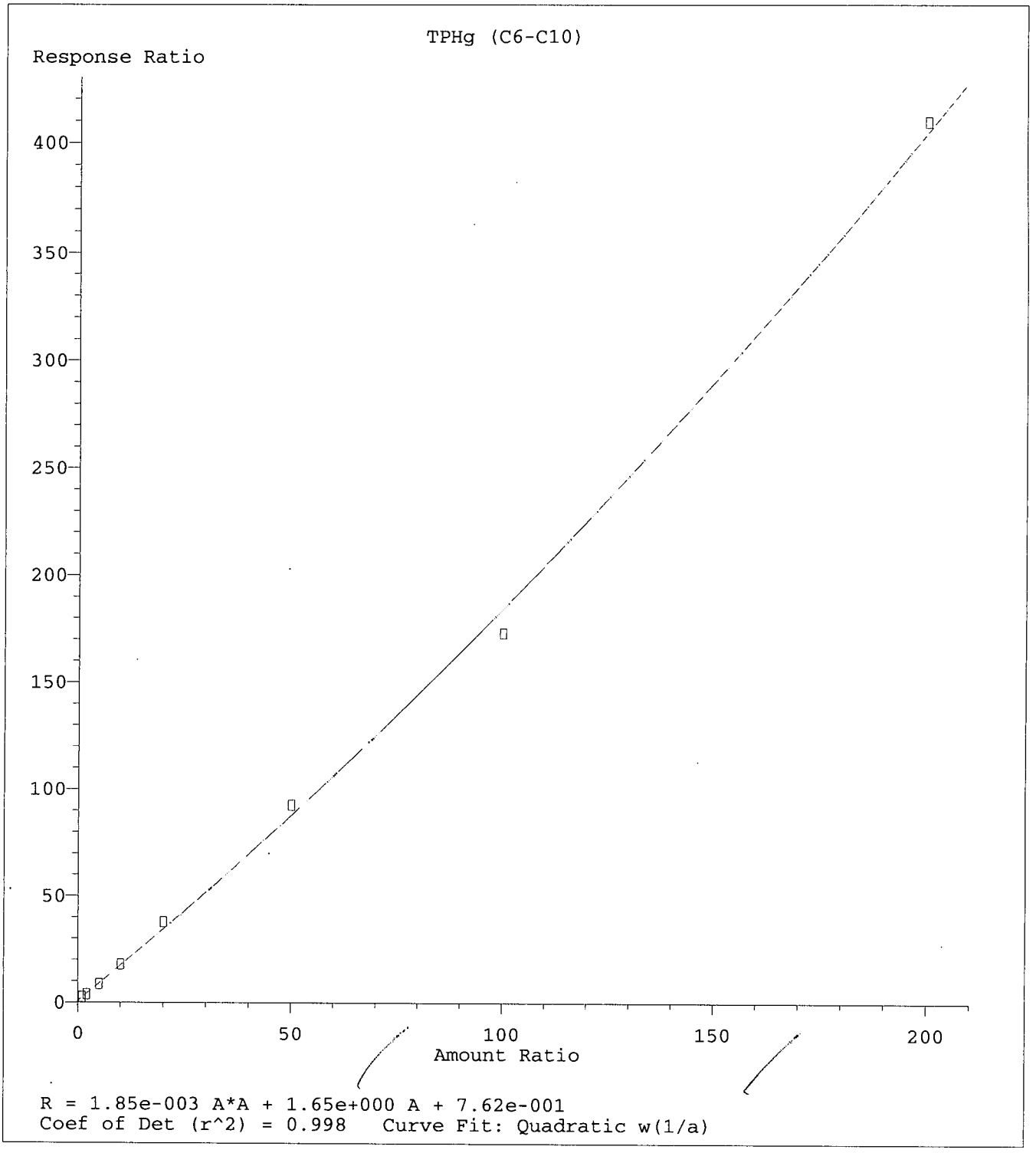
TIC: VF19050733.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 6.52 ug/L m

response 429036

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



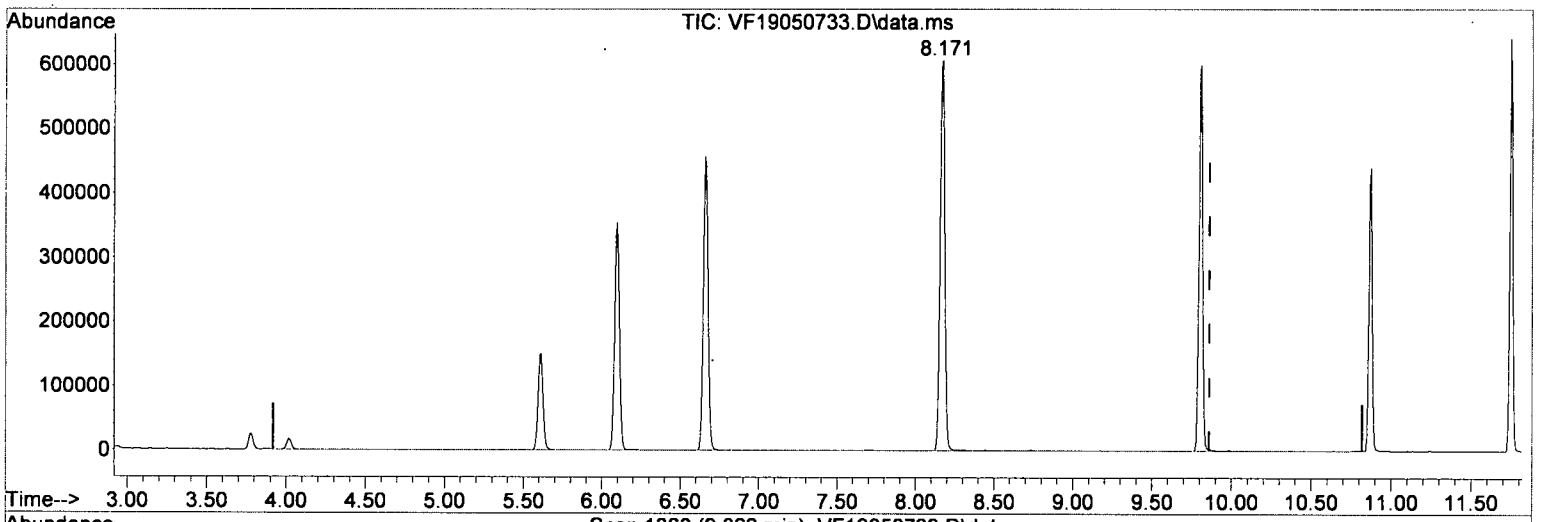
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

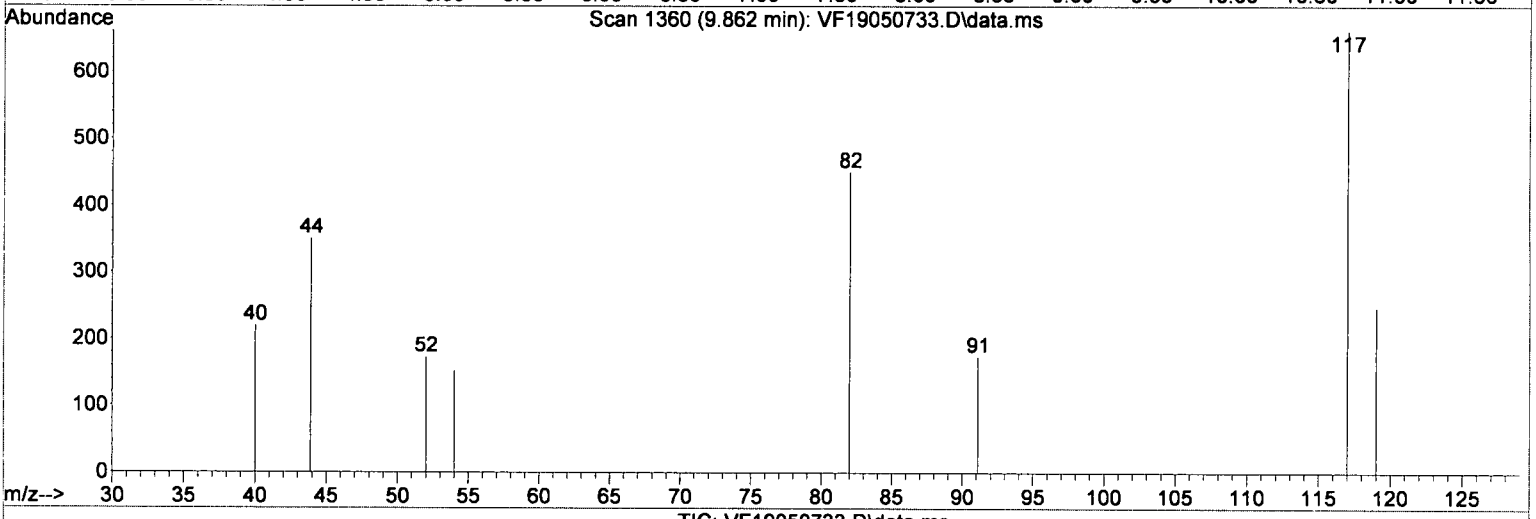
INT = 18,93

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





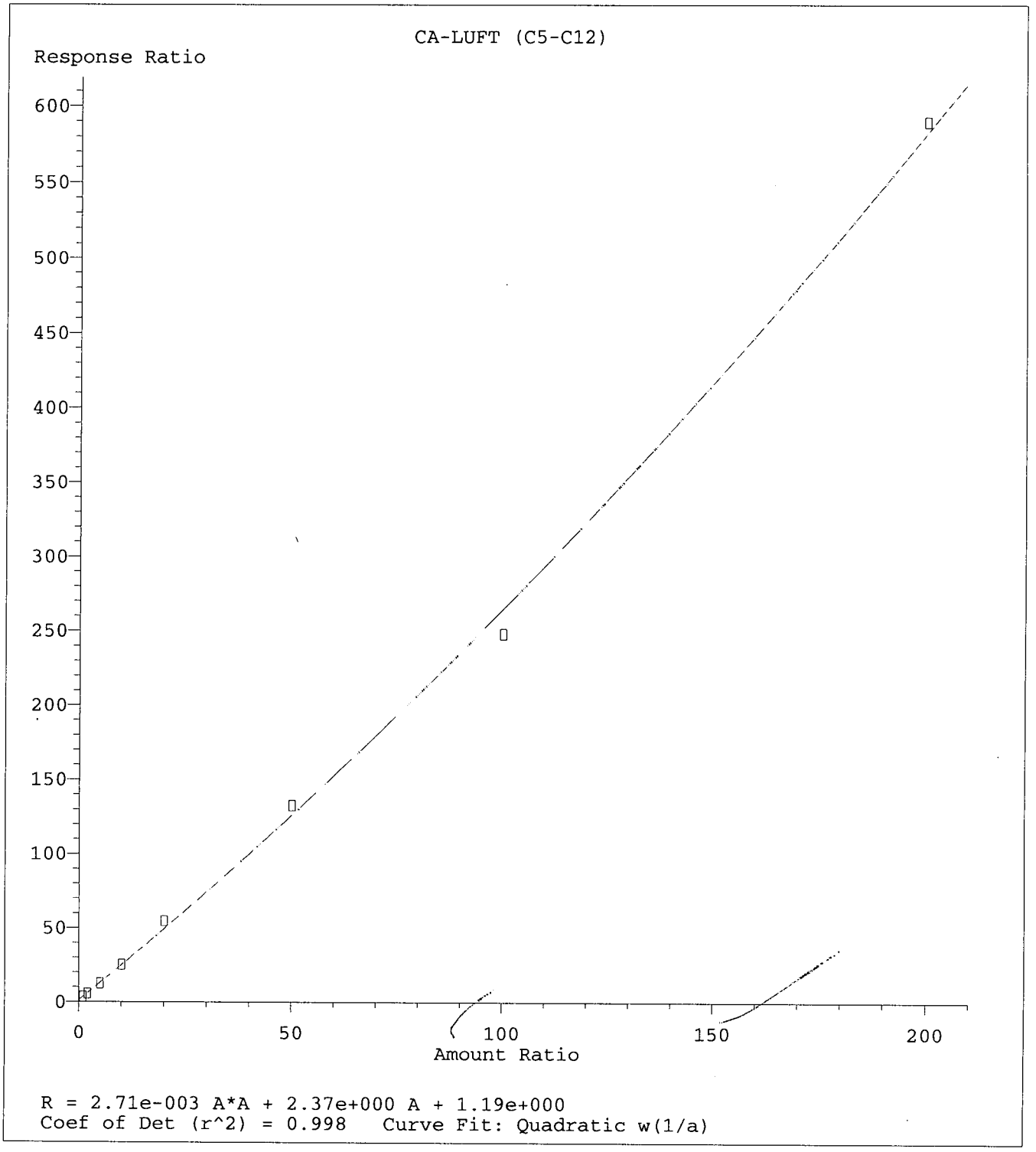
TIC: VF19050733.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 18.93 ug/L m

response 367227

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



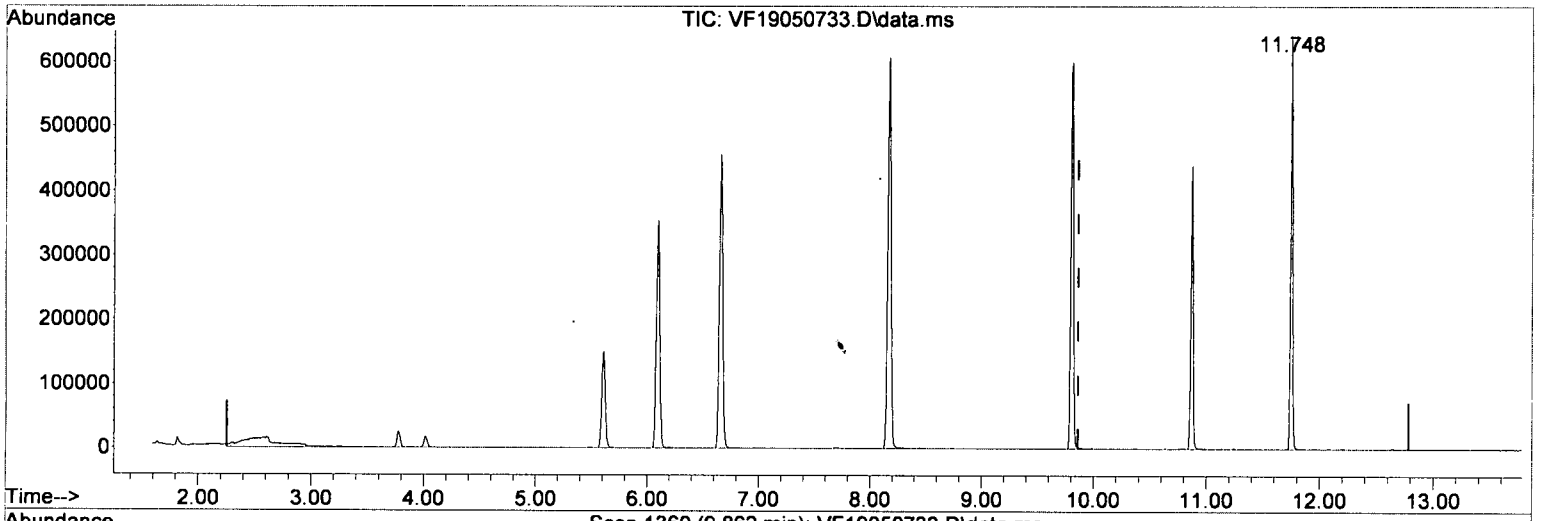
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

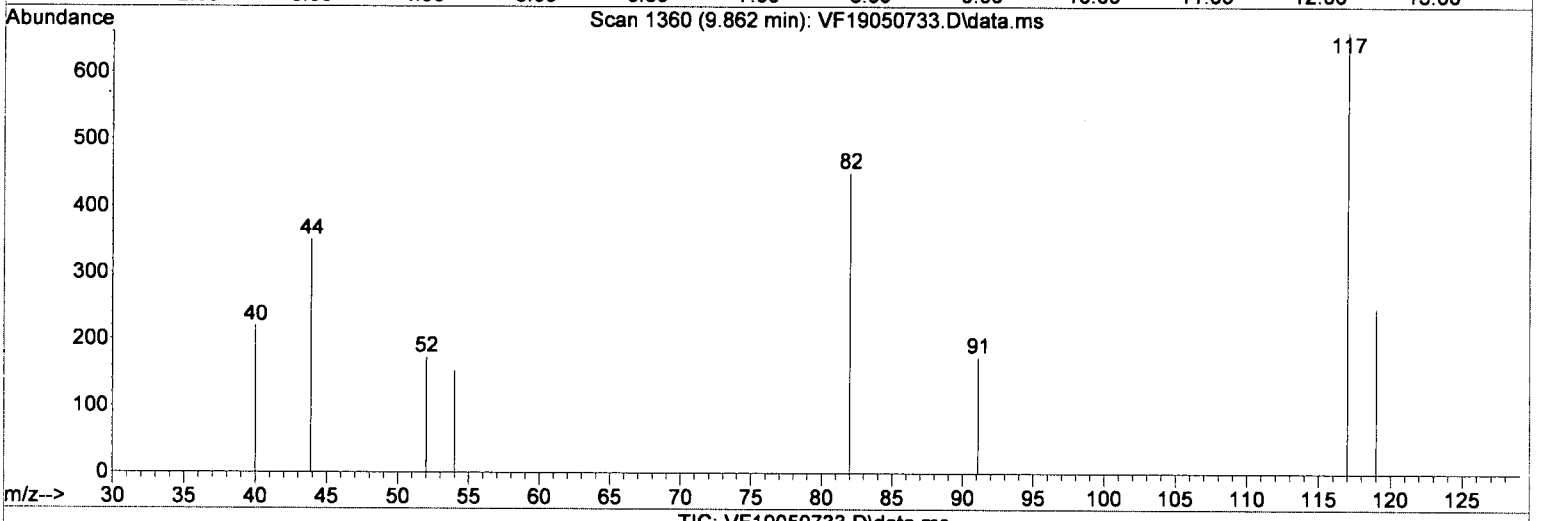
INT = 9,2

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





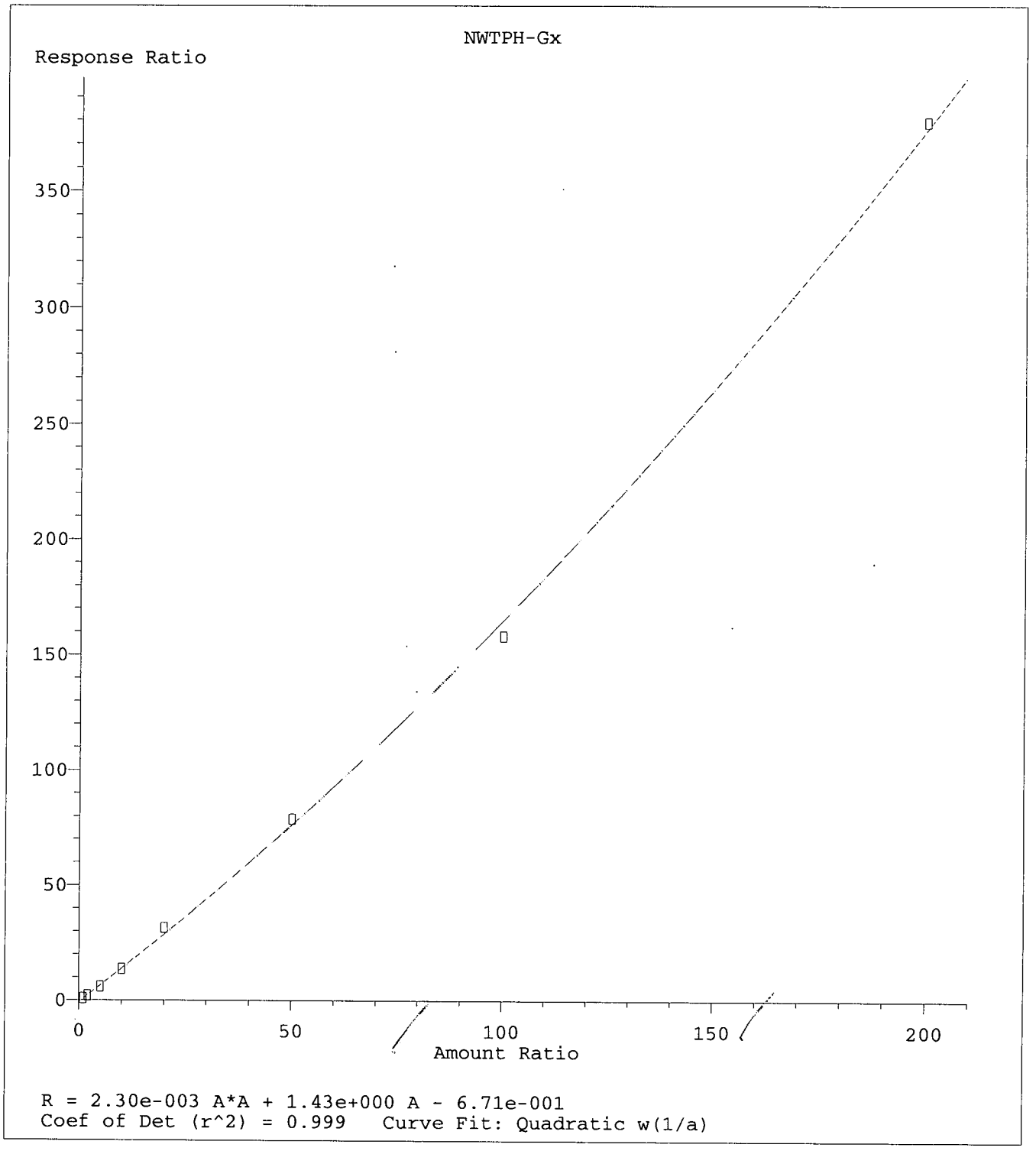
TIC: VF19050733.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.860min (0.000) 9.20 ug/L m

response 429036

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



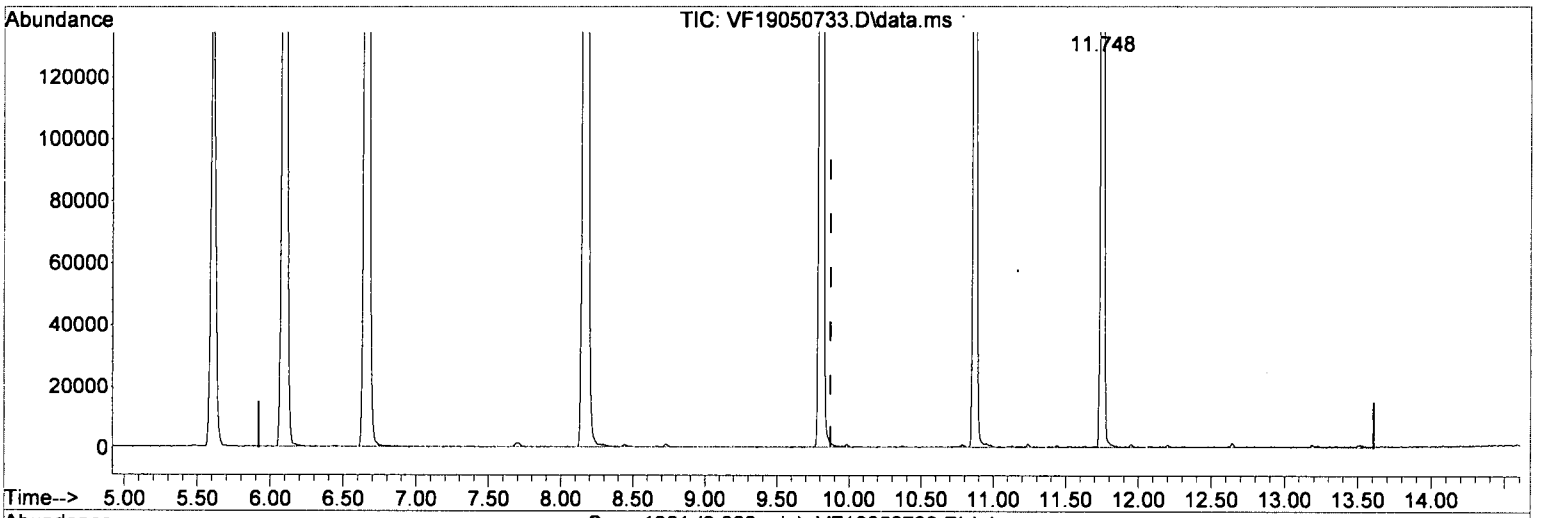
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

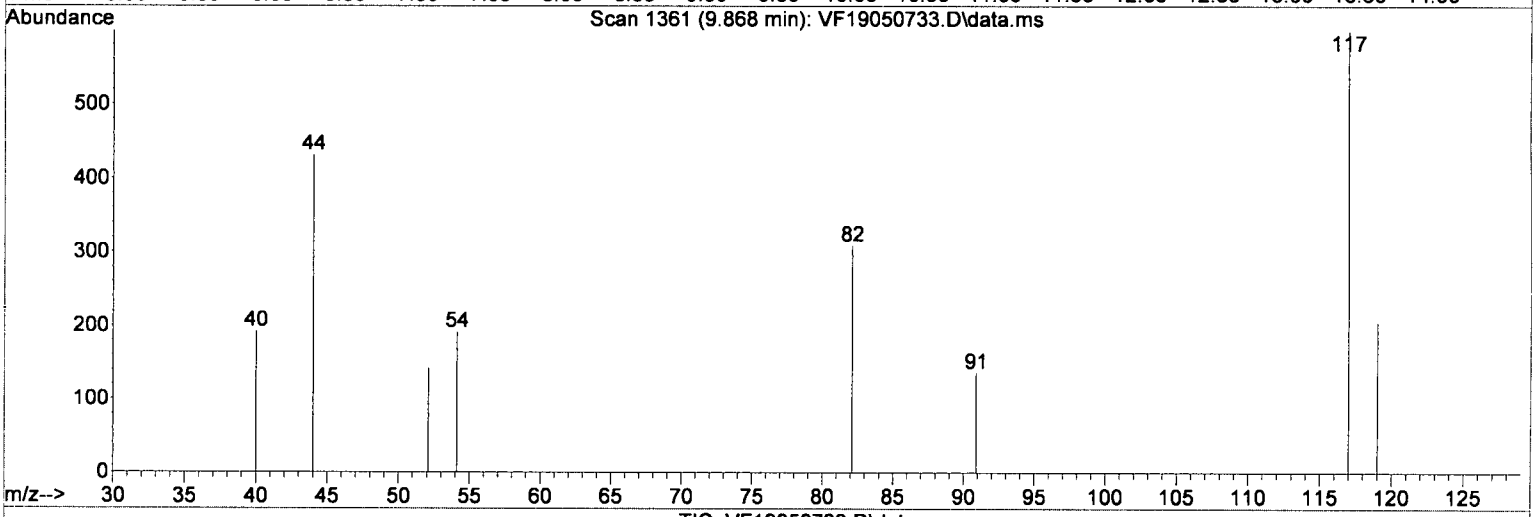
Int = 24.2

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050733.D\data.ms

(8) NWTPH-Gx (H)

9.870min (0.000) 24.20 ug/L m

response 5129

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

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9E07048

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	
9E07048-TUN2	MS Tune	Soil		A19D196	5/8/2019	3:55:00AM
9E07048-ICB2	Initial Cal Blank	Soil		A19D196	5/8/2019	4:49:00AM
9E07048-CALC	Cal Standard	Soil	A19E016	"	5/8/2019	5:16:00AM
9E07048-CALD	Cal Standard	Soil	A19E017	"	5/8/2019	5:43:00AM
9E07048-CALE	Cal Standard	Soil	A19E018	"	5/8/2019	6:11:00AM
9E07048-CALF	Cal Standard	Soil	A19E019	"	5/8/2019	6:38:00AM
9E07048-CALG	Cal Standard	Soil	A19B200	"	5/8/2019	7:05:00AM
9E07048-CALH	Cal Standard	Soil	A19B201	"	5/8/2019	7:32:00AM
9E07048-CALI	Cal Standard	Soil	A19B202	"	5/8/2019	7:59:00AM
9E07048-CALJ	Cal Standard	Soil	A19B203	"	5/8/2019	8:26:00AM
9E07048-ICV2	Initial Cal Check	Soil	A19B262	"	5/8/2019	9:47:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9E0804** Instrument: **VOA-GCMS6**

8015D-Mod Gasoline (C6-C10 Sequence: **9E07048** Matrix: **Soil**

9E07048-CALC	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALD	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-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: 9E07048

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: **A9E0804** Instrument: **VOA-GCMS6**

CA LUFT GRO Sequence: **9E07048** Matrix: **Soil**

9E07048-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\2019-05\9E07048\
Data File : VF19050744.D
Acq On : 8 May 2019 9:47 am
Operator : TB
Sample : 9E07048-ICV2
Misc : 1X 500ppb GX MeOH
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/8/19

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 (IS)	50.000	50.000	0.0	103	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	46.728	6.5	101	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	46.479	7.0	96	0.00
4	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	96	0.00
5	H	TPHg (C5-C9)	500.000	533.693	-6.7	109	0.00
6	H	TPHg (C6-C10)	500.000	543.075	-8.6	110	0.00
7	H	CA-LUFT (C5-C12)	500.000	532.586	-6.5	109	0.00
8	H	NWTPH-Gx	500.000	528.073	-5.6	111	0.00
9		Benzene (NR)	-1.000	0.000	0.0	110	0.00
10	S	Toluene-d8 (NR)	-1.000	0.000	0.0	100	0.00
11	C	Toluene (NR)	-1.000	0.000	0.0	109	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	99	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	118	0.00

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

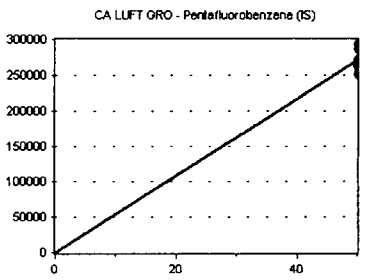
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **VF190507S/G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

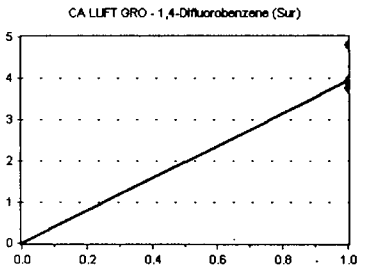


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	6.10
9E07048-CALJ	50	293025	5860.500	6.10

AVE RF **5400.078** RF RSD **5.16** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

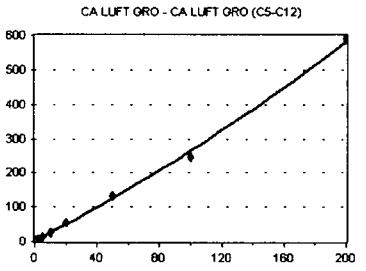


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	50	1412610	4.821	6.66

AVE RF **3.942** RF RSD **9.20** AVE RT **6.66**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

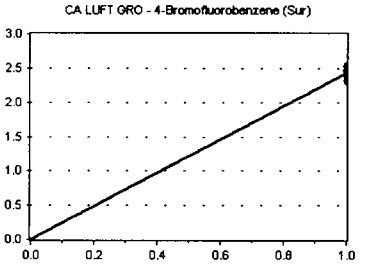


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	905552	3.596	9.86
9E07048-CALD	100	1495406	2.783	9.86
9E07048-CALE	250	3256728	2.502	9.86
9E07048-CALF	500	6691065	2.529	9.86
9E07048-CALG	1000	1.433345E+07	2.733	9.86
9E07048-CALH	2500	3.600874E+07	2.651	9.86
9E07048-CALI	5000	7.131647E+07	2.479	9.86
9E07048-CALJ	10000	1.726612E+08	2.946	9.86

AVE RF **2.777** RF RSD **13.22** AVE RT **9.86**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	583068	2.315	10.87
9E07048-CALD	50	665016	2.475	10.87
9E07048-CALE	50	627727	2.411	10.87
9E07048-CALF	50	640403	2.420	10.87
9E07048-CALG	50	665155	2.537	10.87
9E07048-CALH	50	671226	2.470	10.87
9E07048-CALI	50	689679	2.398	10.87
9E07048-CALJ	50	701119	2.393	10.87

AVE RF **2.427** RF RSD **2.74** AVE RT **10.87**

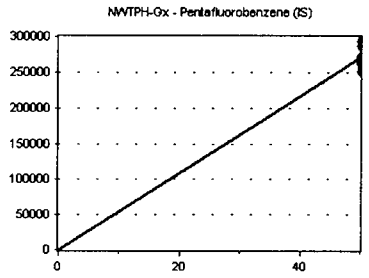
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **VF190507S/G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

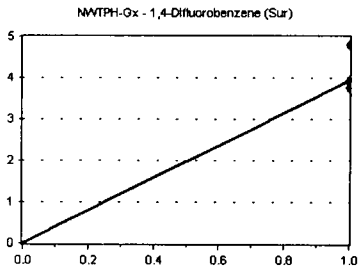


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	6.10
9E07048-CALJ	50	293025	5860.500	6.10

AVE RF **5400.078** RF RSD **5.16** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

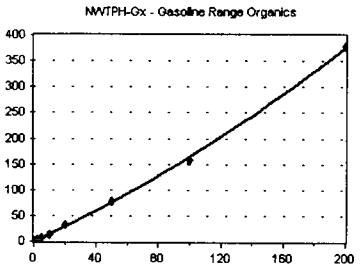


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	50	1412610	4.821	6.66

AVE RF **3.942** RF RSD **9.20** AVE RT **6.66**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

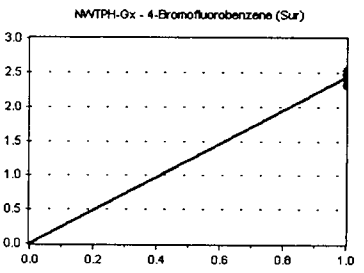


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	216743	0.861	9.87
9E07048-CALD	100	540113	1.005	9.87
9E07048-CALE	250	1533968	1.178	9.87
9E07048-CALF	500	3603975	1.362	9.87
9E07048-CALG	1000	8256018	1.574	9.87
9E07048-CALH	2500	2.140465E+07	1.576	9.87
9E07048-CALI	5000	4.546724E+07	1.581	9.87
9E07048-CALJ	10000	1.110386E+08	1.895	9.87

AVE RF **1.379** RF RSD **25.00** AVE RT **9.87**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	583068	2.315	10.87
9E07048-CALD	50	665016	2.475	10.87
9E07048-CALE	50	627727	2.411	10.87
9E07048-CALF	50	640403	2.420	10.87
9E07048-CALG	50	665155	2.537	10.87
9E07048-CALH	50	671226	2.470	10.87
9E07048-CALI	50	689679	2.398	10.87
9E07048-CALJ	50	701119	2.393	10.87

AVE RF **2.427** RF RSD **2.74** AVE RT **10.87**

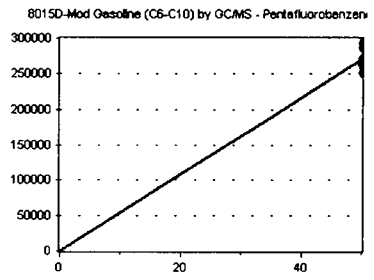
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **VF190507S/G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

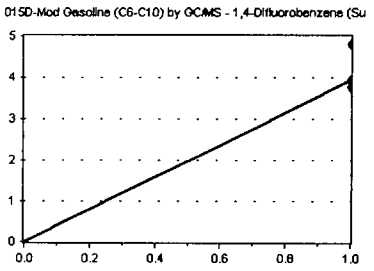


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	6.10
9E07048-CALJ	50	293025	5860.500	6.10

AVE RF **5400.078** RF RSD **5.16** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

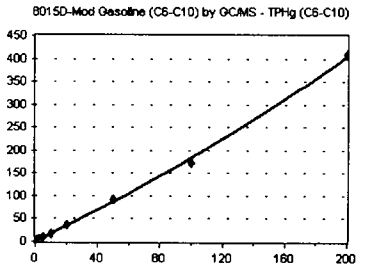


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	50	1412610	4.821	6.66

AVE RF **3.942** RF RSD **9.20** AVE RT **6.66**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

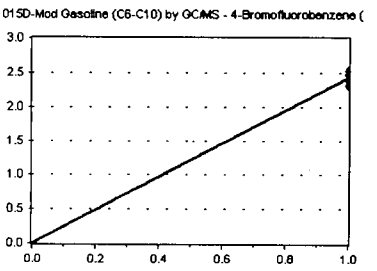


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	621653	2.469	9.86
9E07048-CALD	100	1022515	1.903	9.86
9E07048-CALE	250	2228270	1.712	9.86
9E07048-CALF	500	4686857	1.771	9.86
9E07048-CALG	1000	9868759	1.882	9.86
9E07048-CALH	2500	2.515076E+07	1.851	9.86
9E07048-CALI	5000	4.969054E+07	1.727	9.86
9E07048-CALJ	10000	1.199672E+08	2.047	9.86

AVE RF **1.920** RF RSD **12.85** AVE RT **9.86**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	583068	2.315	10.87
9E07048-CALD	50	665016	2.475	10.87
9E07048-CALE	50	627727	2.411	10.87
9E07048-CALF	50	640403	2.420	10.87
9E07048-CALG	50	665155	2.537	10.87
9E07048-CALH	50	671226	2.470	10.87
9E07048-CALI	50	689679	2.398	10.87
9E07048-CALJ	50	701119	2.393	10.87

AVE RF **2.427** RF RSD **2.74** AVE RT **10.87**

Injection Log

Directory: k:\DATA\2019-05\9E07048

Line	Vial	FileName	Multiplier	SampleName		Misc Info	Injected
1	1	Vf19050711.d	1.	9E07048-IBL1		1X 5mL DI+MeOH	7 May 2019 18:53
2	2	Vf19050712.d	1.	9E07048-TUN1		A19D196 BFB (IS/...	7 May 2019 19:21
3	3	Vf19050713.d	1.	9E07048-ICB1		1X DI+MeOH	7 May 2019 19:48
4	4	Vf19050714.d	1.	9E07048-CAL1		1X 0.1ppb VOC MeOH	7 May 2019 20:15
5	5	Vf19050715.d	1.	9E07048-CAL2		1X 0.2ppb VOC MeOH	7 May 2019 20:42
6	6	Vf19050716.d	1.	9E07048-CAL3		1X 0.4ppb VOC MeOH	7 May 2019 21:09
7	7	Vf19050717.d	1.	9E07048-CAL4		1X 1ppb VOC MeOH	7 May 2019 21:36
8	8	Vf19050718.d	1.	9E07048-CAL5		1X 2ppb VOC MeOH	7 May 2019 22:04
9	9	Vf19050719.d	1.	9E07048-CAL6		1X 5ppb VOC MeOH	7 May 2019 22:31
10	10	Vf19050720.d	1.	9E07048-CAL7		1X 10ppb VOC MeOH	7 May 2019 22:58
11	11	Vf19050721.d	1.	9E07048-CAL8		1X 20ppb VOC MeOH	7 May 2019 23:25
12	12	Vf19050722.d	1.	9E07048-CAL9		1X 50ppb VOC MeOH	7 May 2019 23:52
13	13	Vf19050723.d	1.	9E07048-IBL2		1X 5mL DI+MeOH	8 May 2019 00:19
14	14	Vf19050724.d	1.	9E07048-CALA		1X 100ppb VOC MeOH	8 May 2019 00:46
15	15	Vf19050725.d	1.	9E07048-IBL3		1X 5mL DI+MeOH	8 May 2019 01:13
16	16	Vf19050726.d	1.	9E07048-CALB		1X 200ppb VOC MeOH	8 May 2019 01:40
17	17	Vf19050727.d	1.	9E07048-IBL4		1X 5mL DI+MeOH	8 May 2019 02:07
18	18	Vf19050728.d	1.	9E07048-IBL5		1X 5mL DI+MeOH	8 May 2019 02:34
19	19	Vf19050729.d	1.	9E07048-ICV1		1X 50ppb VOC MeOH	8 May 2019 03:01
20	20	Vf19050730.d	1.	9E07048-IBL6		1X 5mL DI+MeOH	8 May 2019 03:28
21	21	Vf19050731.d	1.	9E07048-TUN2	RT	A19D196 BFB (IS/...	8 May 2019 03:55
22	22	Vf19050732.d	1.	9E07048-IBL7		1X 5mL DI+MeOH	8 May 2019 04:22
23	23	Vf19050733.d	1.	9E07048-ICB2		1X DI+MeOH	8 May 2019 04:49
24	24	Vf19050734.d	1.	9E07048-CALC		1X 50ppb GX MeOH	8 May 2019 05:16
25	25	Vf19050735.d	1.	9E07048-CALD		1X 100ppb GX MeOH	8 May 2019 05:43
26	26	Vf19050736.d	1.	9E07048-CALE		1X 250ppb GX MeOH	8 May 2019 06:11
27	27	Vf19050737.d	1.	9E07048-CALF		1X 500ppb GX MeOH	8 May 2019 06:38
28	28	Vf19050738.d	1.	9E07048-CALG		1X 1000ppb GX MeOH	8 May 2019 07:05
29	29	Vf19050739.d	1.	9E07048-CALH		1X 2500ppb GX MeOH	8 May 2019 07:32
30	30	Vf19050740.d	1.	9E07048-CALI		1X 5000ppb GX MeOH	8 May 2019 07:59
31	31	Vf19050741.d	1.	9E07048-CALJ		1X 10000ppb GX MeOH	8 May 2019 08:26
32	32	Vf19050742.d	1.	9E07048-IBL8		1X 5mL DI+MeOH	8 May 2019 08:53
33	33	Vf19050743.d	1.	9E07048-IBL9		1X 5mL DI+MeOH	8 May 2019 09:20
34	34	Vf19050744.d	1.	9E07048-ICV2		1X 500ppb GX MeOH	8 May 2019 09:47
35	35	Vf19050745.d	1.	9E07048-IBLA		1X 5mL DI+MeOH	8 May 2019 10:14

KJ 5/8/19

5/8/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050711.D
Acq On : 7 May 2019 6:53 pm
Operator : TB
Sample : 9E07048-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

NR

Quant Time: May 08 11:41:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

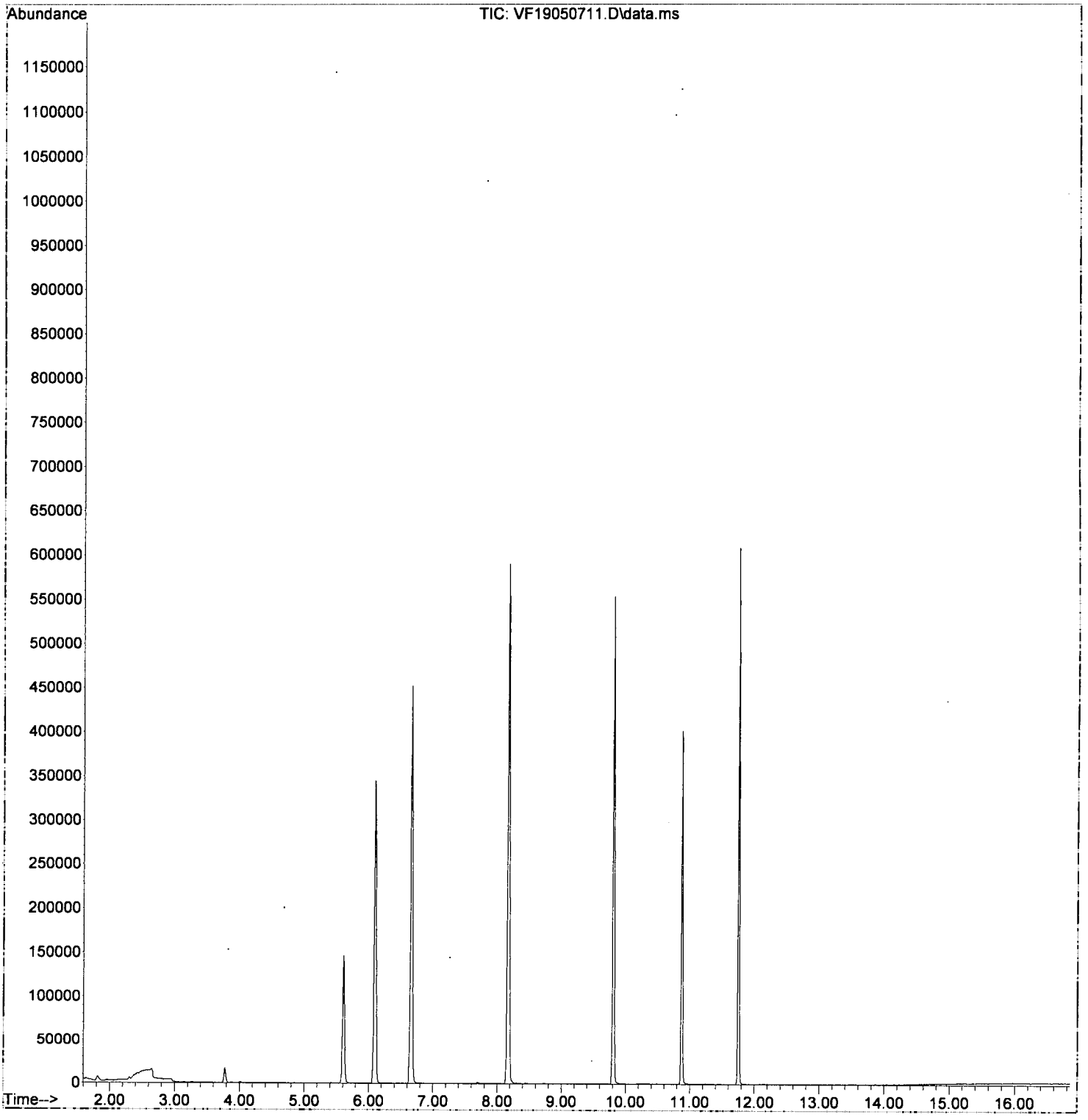
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	262943	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.802	117	288034	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	126489	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	99051	46.95	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.657	114	399530	49.18	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	446866	52.47	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.873	174	97730	50.18	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.839	50	725	0.20	ug/L		89
5) Bromomethane	2.302	96	1543	0.70	ug/L		99
9) Carbon Disulfide	3.135	76	262	0.27	ug/L		77
11) Iodomethane	3.281	142	236	1.26	ug/L	#	47
12) Methylene Chloride	3.774	84	7598	Below Cal			87
13) Acetone	3.877	43	865	0.64	ug/L		93
28) 2-Butanone (MEK)	5.775	43	277	0.14	ug/L		54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050711.D
Acq On : 7 May 2019 6:53 pm
Operator : TB
Sample : 9E07048-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



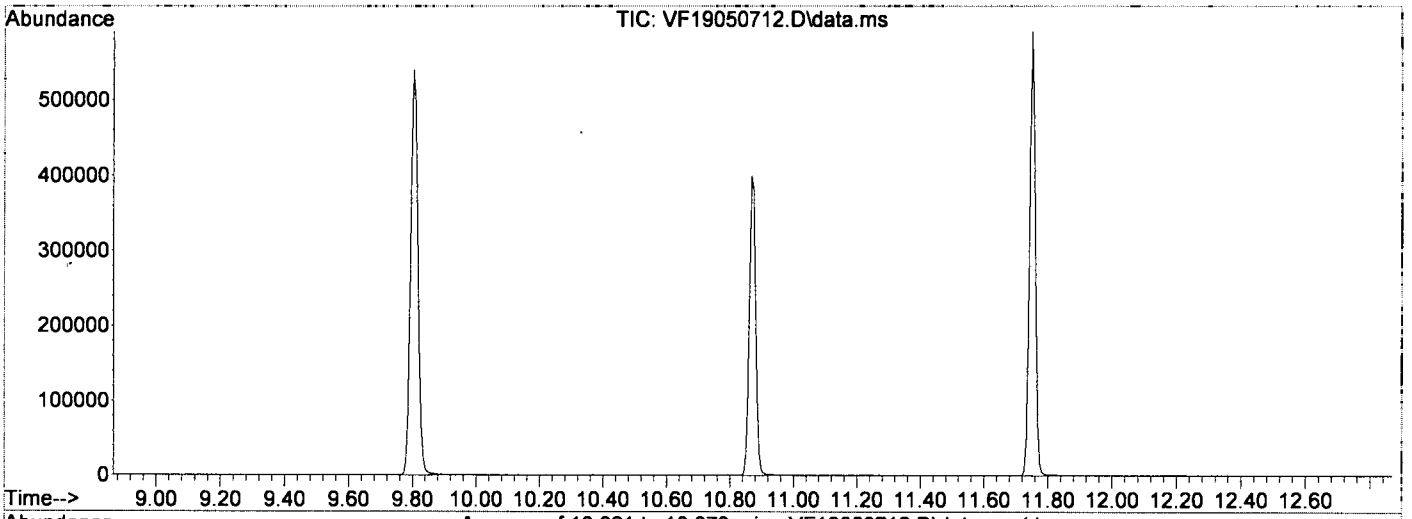
BFB

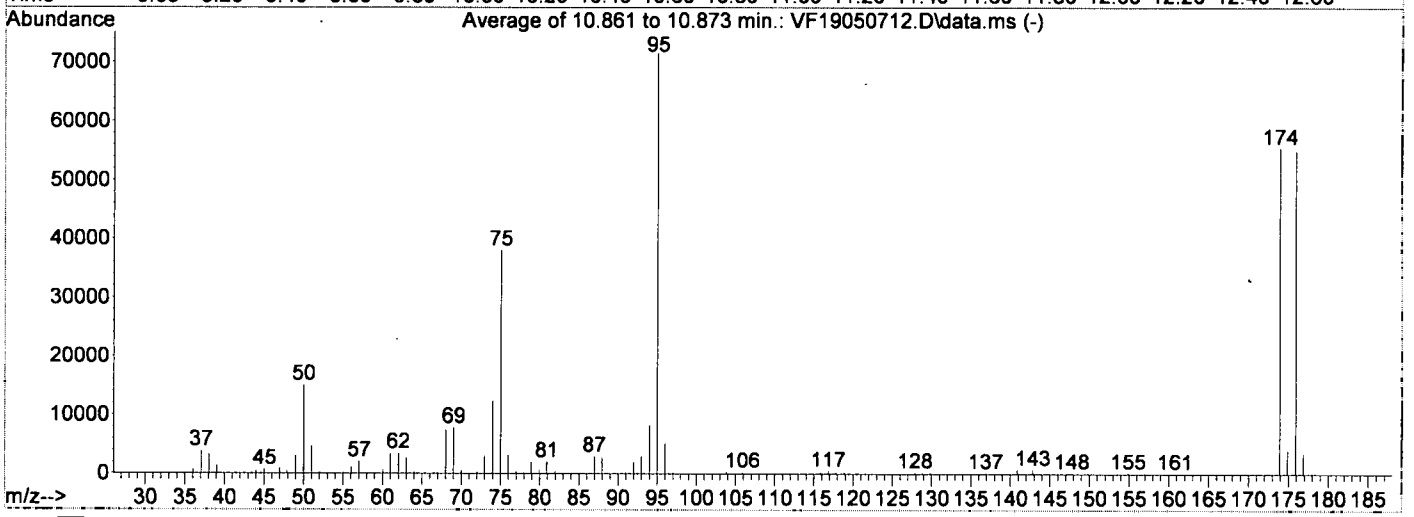
Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050712.D
Acq On : 7 May 2019 7:21 pm
Operator : TB
Sample : 9E07048-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 11:09:13 2019

5/8/19





AutoFind: Scans 1524, 1525, 1526; Background Corrected with Scan 1518

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	21.1	15041	PASS
75	95	30	60	53.2	37978	PASS
95	95	100	100	100.0	71448	PASS
96	95	5	9	7.3	5205	PASS
173	174	0.00	2	0.2	107	PASS
174	95	50	200	77.6	55426	PASS
175	174	5	9	7.3	4027	PASS
176	174	95	101	99.2	54970	PASS
177	176	5	9	6.4	3496	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050712.D
Acq On : 7 May 2019 7:21 pm
Operator : TB
Sample : 9E07048-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:14 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

TB 5/8/19

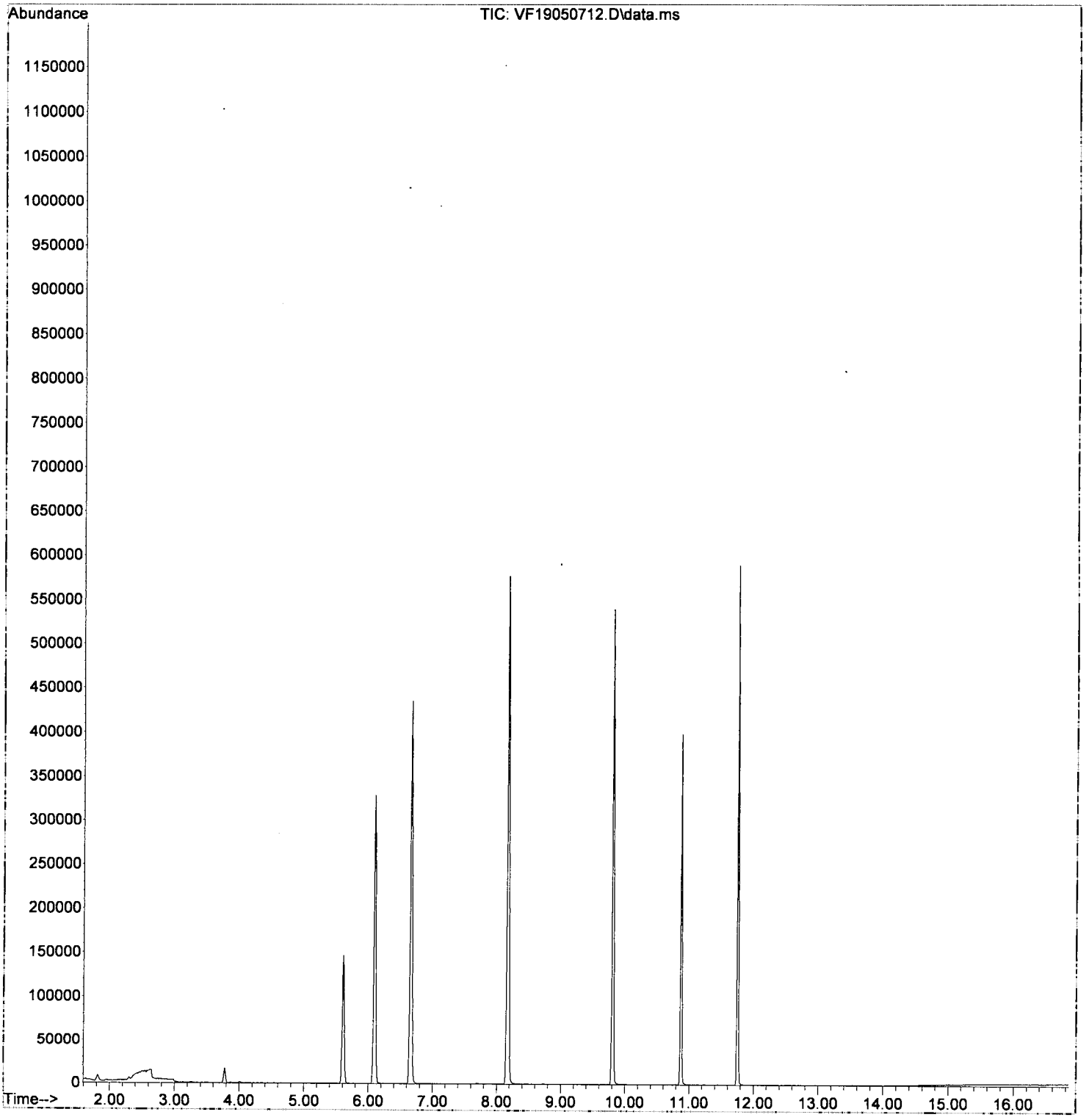
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.098	168	251113	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.803	117	284438	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	121728	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (S)	5.605	111	96673	47.98 ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.658	114	385956	49.75 ug/L	0.00
39) Toluene-d8 (S)	8.166	98	431968	51.37 ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.873	174	94724	50.54 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.839	50	630	0.18 ug/L	75
5) Bromomethane	2.302	96	1360	0.65 ug/L	88
9) Carbon Disulfide	3.135	76	100	0.24 ug/L	77
12) Methylene Chloride	3.774	84	7948	Below Cal	90
13) Acetone	3.865	43	913	0.71 ug/L #	42
28) 2-Butanone (MEK)	5.763	43	239	0.12 ug/L	54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050712.D
Acq On : 7 May 2019 7:21 pm
Operator : TB
Sample : 9E07048-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:14 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050713.D
Acq On : 7 May 2019 7:48 pm
Operator : TB
Sample : 9E07048-ICB1
Misc : 1X DI+MeOH
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:58:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:54:03 2019
Response via : Initial Calibration

5/8/19

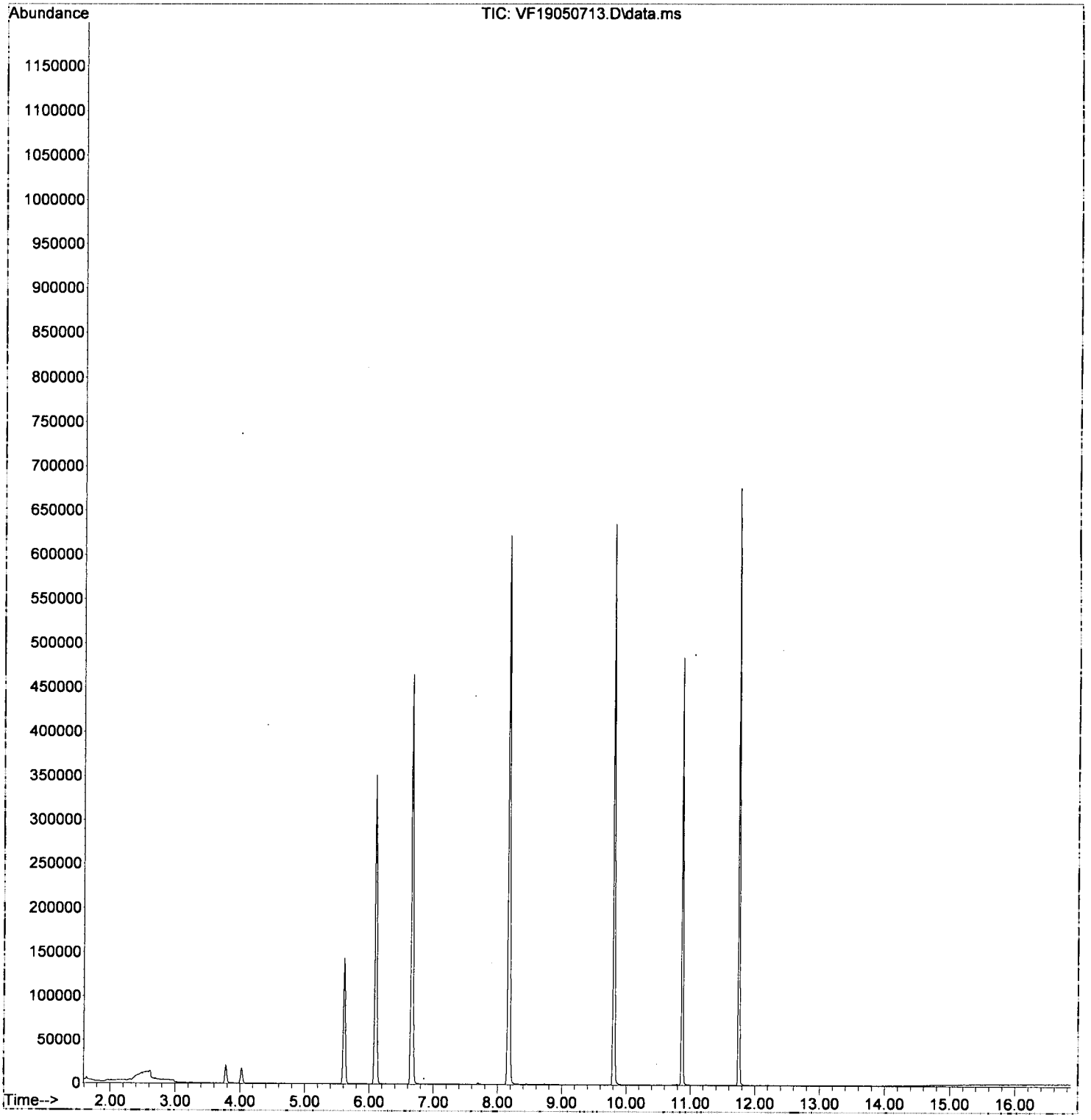
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.102	168	264636	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	322849	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.747	152	140430	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	96364	45.39	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	405814	49.63	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	463703	48.58	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	112463	52.01	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.306	96	547	0.25	ug/L		88
9) Carbon Disulfide	3.145	76	321	0.28	ug/L		77
12) Methylene Chloride	3.778	84	10211	Below Cal			92
13) Acetone	3.875	43	1043	0.77	ug/L	#	42
15) n-Hexane	4.021	86	1427	1.87	ug/L	#	85
28) 2-Butanone (MEK)	5.761	43	170	0.08	ug/L		54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050713.D
Acq On : 7 May 2019 7:48 pm
Operator : TB
Sample : 9E07048-ICB1
Misc : 1X DI+MeOH
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:58:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:54:03 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:30 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.096	168	240040	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.807	117	263004	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	117395	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (S)	5.609	111	91510	44.95 ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.662	114	372792	50.12 ug/L	0.00
39) Toluene-d8 (S)	8.170	98	412832	51.24 ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.872	174	90333	50.64 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.637	85	227	0.10 ug/L #	50
3) Chloromethane	1.844	50	1131	0.34 ug/L	90
4) Vinyl Chloride	1.953	62	289	0.09 ug/L #	40
5) Bromomethane	2.306	96	2001	1.01 ug/L	92
6) Chloroethane	0.000		0	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) 1,1-Dichloroethene	3.127	61	464	0.11 ug/L #	56
9) Carbon Disulfide	3.146	76	705	0.14 ug/L	77
10) Freon 113	3.188	101	134	0.05 ug/L #	69
11) Iodomethane	3.285	142	211	0.22 ug/L #	47
12) Methylene Chloride	3.778	84	14820	4.29 ug/L	90
13) Acetone	3.882	43	1683	1.28 ug/L	86
14) t-1,2-Dichloroethene	3.936	61	320	0.07 ug/L #	70
15) n-Hexane	4.022	86	1835	2.65 ug/L #	77
16) Methyl-tert-butyl-ether	4.088	73	787	0.09 ug/L	60
17) 1,1-Dichloroethane	4.575	63	503	0.09 ug/L #	49
18) Acrylonitrile	0.000		0	N.D.	
19) c-1,2-Dichloroethene	5.147	61	307	0.08 ug/L #	58
20) 2,2-Dichloropropane	0.000		0	N.D.	
21) Bromochloromethane	5.336	49	192	0.08 ug/L #	54
22) Chloroform	5.427	83	424	0.09 ug/L	80
23) Carbon Tetrachloride	0.000		0	N.D.	
24) Tetrahydrofuran	0.000		0	N.D.	
25) 1,1,1-Trichloroethane	5.621	97	140	0.04 ug/L #	24
27) 1,1-Dichloropropene	5.755	75	346	0.09 ug/L #	41
28) 2-Butanone (MEK)	5.774	43	470	0.24 ug/L	54
29) Benzene	6.011	78	1127	0.09 ug/L	80
30) 1,2-Dichloroethane (EDC)	6.230	62	369	0.09 ug/L	78
31) iso-Butyl Alcohol	0.000		0	N.D.	
33) Trichloroethene (TCE)	6.625	130	205	0.07 ug/L #	70
34) Dibromomethane	0.000		0	N.D.	
35) 1,2-Dichloropropane	7.179	63	134	0.05 ug/L #	37
36) Bromodichloromethane	0.000		0	N.D.	
38) c-1,3-Dichloropropene	0.000		0	N.D.	
40) Toluene	8.231	91	1513	0.13 ug/L	86
41) Tetrachloroethene (PCE)	8.681	166	241	0.09 ug/L #	77
42) 4-Methyl-2-Pentanone (...	8.688	43	391	0.12 ug/L #	41
43) t-1,3-Dichloropropene	0.000		0	N.D.	
44) 1,1,2-Trichloroethane	0.000		0	N.D.	
45) Dibromochloromethane	0.000		0	N.D.	
46) 1,3-Dichloropropane	9.168	76	369	0.09 ug/L #	67
47) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
48) 2-Hexanone	9.557	43	209	0.09 ug/L #	31

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:30 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

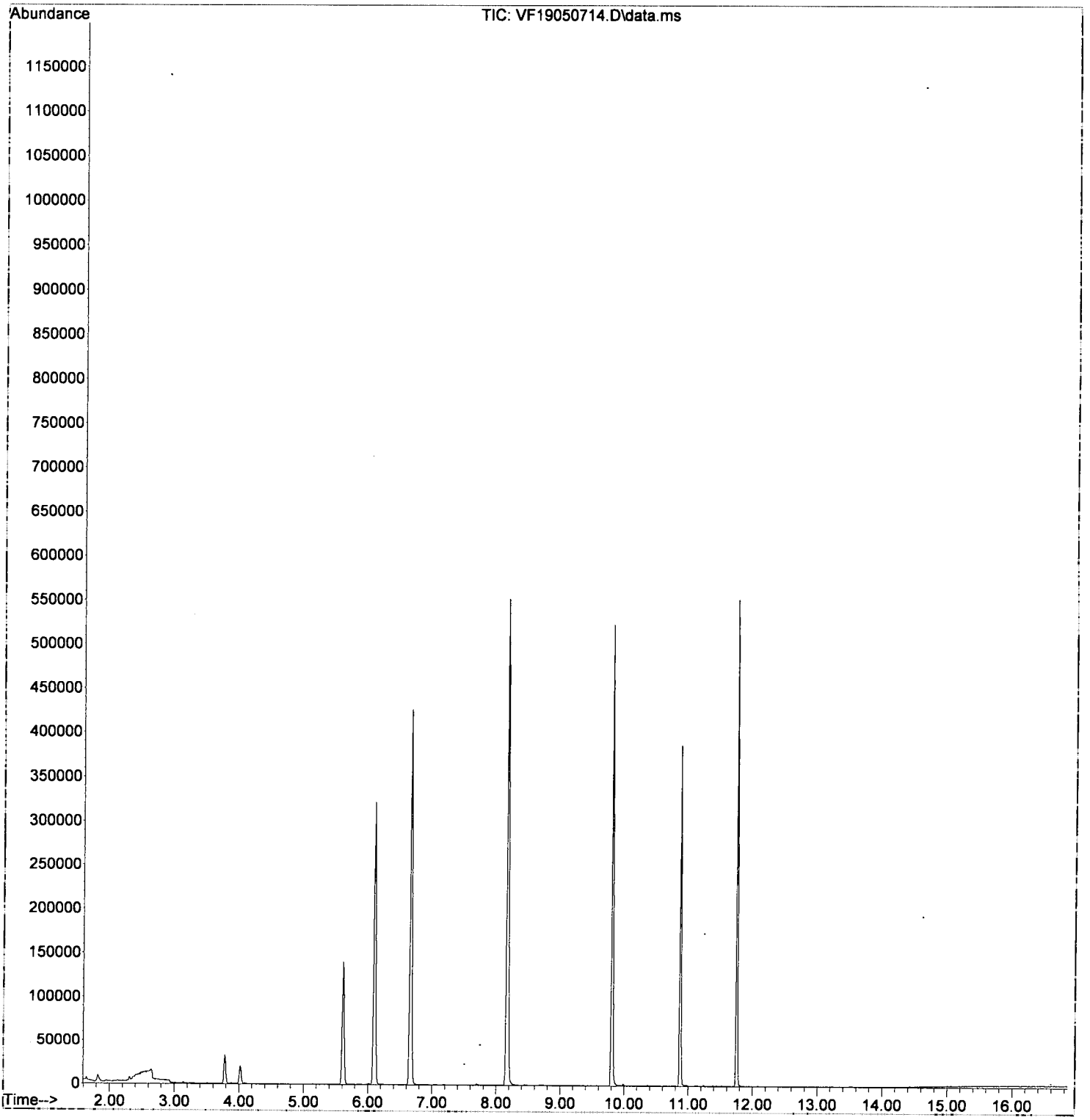
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	708	0.11	ug/L #	1
50) Ethylbenzene	9.849	91	1175	0.11	ug/L	92
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
52) m,p-Xylenes (2)	9.989	91	1447	0.18	ug/L	93
53) o-Xylene	10.367	91	771	0.10	ug/L	82
54) Styrene	10.421	104	268	0.05	ug/L #	41
55) Bromoform	0.000		0	N.D.		
56) Isopropylbenzene	10.628	105	607	0.07	ug/L	78
59) Bromobenzene	10.963	156	160	0.07	ug/L	91
60) n-Propylbenzene	10.975	91	914	0.09	ug/L	81
61) 1,1,2,2-Tetrachloroethane	11.036	83	138	0.05	ug/L	83
62) 2-Chlorotoluene	0.000		0	N.D.		
63) 1,3,5-Trimethylbenzene	11.133	105	548	0.08	ug/L	92
64) 1,2,3-Trichloropropane	0.000		0	N.D.		
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
66) 4-Chlorotoluene	11.243	91	483	0.08	ug/L	81
67) tert-Butylbenzene	11.376	91	294	0.08	ug/L #	58
68) 1,2,4-Trimethylbenzene	11.437	105	561	0.08	ug/L	90
69) sec-Butylbenzene	11.516	105	715	0.09	ug/L	81
70) 4-Isopropyltoluene	11.626	119	475	0.07	ug/L	67
71) 1,3-Dichlorobenzene	11.693	146	361	0.09	ug/L	85
72) 1,4-Dichlorobenzene	11.760	146	465	0.12	ug/L #	1
73) n-Butylbenzene	11.948	91	503	0.09	ug/L	88
74) 1,2-Dichlorobenzene	12.082	146	319	0.09	ug/L	73
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
76) Hexachlorobutadiene	0.000		0	N.D.		
77) 1,2,4-Trichlorobenzene	13.226	180	160	0.08	ug/L	67
78) Naphthalene	13.500	128	347	0.05	ug/L	78
79) 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\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:30 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:29:18 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

post 5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	240040	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	263004	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	117395	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	91510	44.95	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.662	114	372792	50.12	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	412832	51.24	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	90333	50.64	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d		
3) Chloromethane	1.844	50	1131	0.34	ug/L		90
4) Vinyl Chloride	0.000		0	N.D.	d		
5) Bromomethane	2.306	96	2001	1.01	ug/L		92
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) 1,1-Dichloroethene	3.127	61	464	0.11	ug/L	#	56
9) Carbon Disulfide	3.146	76	705	0.14	ug/L		77
10) Freon 113	0.000		0	N.D.	d		
11) Iodomethane	0.000		0	N.D.	d		
12) Methylene Chloride	3.778	84	14820	4.29	ug/L		90
13) Acetone	3.882	43	1683	1.28	ug/L		86
14) t-1,2-Dichloroethene	3.936	61	320	0.07	ug/L	#	70
15) n-Hexane	4.022	86	1835	2.65	ug/L	#	77
16) Methyl-tert-butyl-ether	4.088	73	787	0.09	ug/L		60
17) 1,1-Dichloroethane	4.575	63	503	0.09	ug/L	#	49
18) Acrylonitrile	0.000		0	N.D.			
19) c-1,2-Dichloroethene	5.147	61	307	0.08	ug/L	#	58
20) 2,2-Dichloropropane	0.000		0	N.D.			
21) Bromochloromethane	0.000		0	N.D.	d		
22) Chloroform	5.427	83	424	0.09	ug/L		80
23) Carbon Tetrachloride	0.000		0	N.D.			
24) Tetrahydrofuran	0.000		0	N.D.			
25) 1,1,1-Trichloroethane	0.000		0	N.D.	d		
27) 1,1-Dichloropropene	0.000		0	N.D.	d		
28) 2-Butanone (MEK)	0.000		0	N.D.	d		
29) Benzene	6.011	78	1127	0.09	ug/L		80
30) 1,2-Dichloroethane (EDC)	6.230	62	369	0.09	ug/L		78
31) iso-Butyl Alcohol	0.000		0	N.D.			
33) Trichloroethene (TCE)	6.625	130	205	0.07	ug/L	#	70
34) Dibromomethane	0.000		0	N.D.			
35) 1,2-Dichloropropane	0.000		0	N.D.	d		
36) Bromodichloromethane	0.000		0	N.D.			
38) c-1,3-Dichloropropene	0.000		0	N.D.			
40) Toluene	8.231	91	1513	0.13	ug/L		86
41) Tetrachloroethene (PCE)	8.681	166	241	0.09	ug/L	#	77
42) 4-Methyl-2-Pentanone (...	8.688	43	391	0.12	ug/L	#	41
43) t-1,3-Dichloropropene	0.000		0	N.D.			
44) 1,1,2-Trichloroethane	0.000		0	N.D.			
45) Dibromochloromethane	0.000		0	N.D.			
46) 1,3-Dichloropropane	9.168	76	369	0.09	ug/L	#	67
47) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
48) 2-Hexanone	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:29:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

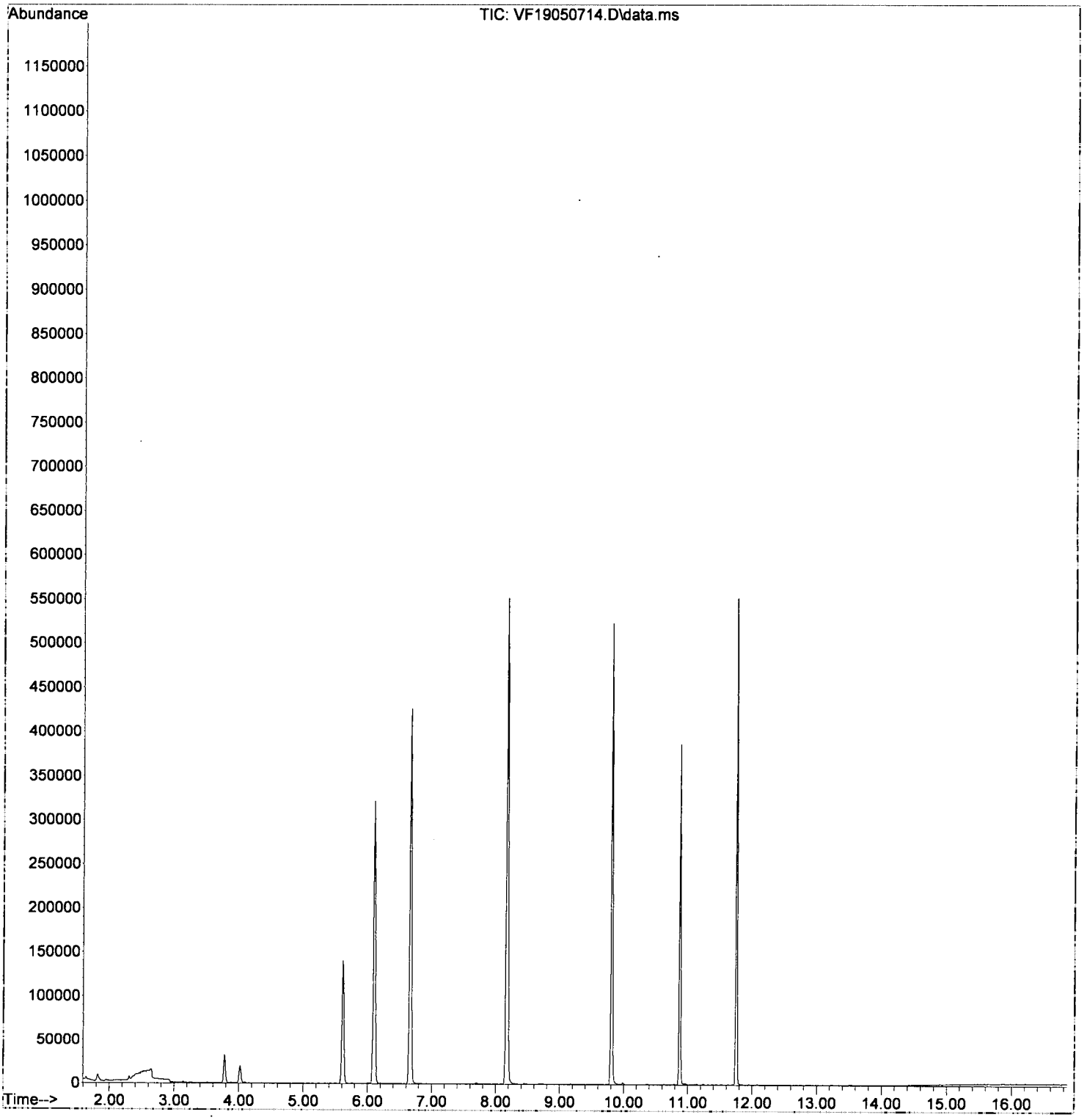
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.819	112	708	0.11 ug/L #	1
50) Ethylbenzene	9.849	91	1175	0.11 ug/L	92
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
52) m,p-Xylenes (2)	9.989	91	1447	0.18 ug/L	93
53) o-Xylene	10.367	91	771	0.10 ug/L	82
54) Styrene	0.000		0	N.D. d	
55) Bromoform	0.000		0	N.D.	
56) Isopropylbenzene	10.628	105	607	0.07 ug/L	78
59) Bromobenzene	10.963	156	160	0.07 ug/L	91
60) n-Propylbenzene	10.975	91	914	0.09 ug/L	81
61) 1,1,2,2-Tetrachloroethane	11.036	83	138	0.05 ug/L	83
62) 2-Chlorotoluene	0.000		0	N.D.	
63) 1,3,5-Trimethylbenzene	11.133	105	548	0.08 ug/L	92
64) 1,2,3-Trichloropropane	0.000		0	N.D.	
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
66) 4-Chlorotoluene	11.243	91	483	0.08 ug/L	81
67) tert-Butylbenzene	11.376	91	294	0.08 ug/L #	58
68) 1,2,4-Trimethylbenzene	11.437	105	561	0.08 ug/L	90
69) sec-Butylbenzene	11.516	105	715	0.09 ug/L	81
70) 4-Isopropyltoluene	11.626	119	475	0.07 ug/L	67
71) 1,3-Dichlorobenzene	11.693	146	361	0.09 ug/L	85
72) 1,4-Dichlorobenzene	11.760	146	465	0.12 ug/L #	1
73) n-Butylbenzene	11.948	91	503	0.09 ug/L	88
74) 1,2-Dichlorobenzene	12.082	146	319	0.09 ug/L	73
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
76) Hexachlorobutadiene	0.000		0	N.D.	
77) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
78) Naphthalene	0.000		0	N.D. d	
79) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:29:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	253997	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	315116	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	140978	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	93146	43.24	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	393610	50.01	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	451605	46.79	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.867	174	110936	51.79	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.633	85	337	0.14	ug/L	#	50
3) Chloromethane	1.846	50	797	0.22	ug/L		87
4) Vinyl Chloride	1.937	62	686	0.20	ug/L		92
5) Bromomethane	2.296	96	1145	0.55	ug/L		96
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) 1,1-Dichloroethene	3.135	61	831	0.18	ug/L		76
9) Carbon Disulfide	3.147	76	1068	0.19	ug/L		77
10) Freon 113	3.184	101	458	0.16	ug/L	#	73
11) Iodomethane	0.000		0	N.D.			
12) Methylene Chloride	3.780	84	13830	3.78	ug/L		83
13) Acetone	3.871	43	1611	1.16	ug/L		90
14) t-1,2-Dichloroethene	3.938	61	852	0.19	ug/L		83
15) n-Hexane	4.023	86	1841	2.51	ug/L		95
16) Methyl-tert-butyl-ether	4.078	73	1746	0.20	ug/L		78
17) 1,1-Dichloroethane	4.583	63	1018	0.17	ug/L		85
18) Acrylonitrile	0.000		0	N.D.			
19) c-1,2-Dichloroethene	5.137	61	698	0.16	ug/L		94
20) 2,2-Dichloropropane	5.246	77	441	0.15	ug/L		73
21) Bromochloromethane	5.344	49	331	0.13	ug/L		85
22) Chloroform	5.423	83	893	0.17	ug/L		92
23) Carbon Tetrachloride	0.000		0	N.D.			
24) Tetrahydrofuran	5.599	42	254	0.17	ug/L	#	64
25) 1,1,1-Trichloroethane	5.623	97	551	0.15	ug/L		94
27) 1,1-Dichloropropene	5.757	75	683	0.16	ug/L		98
28) 2-Butanone (MEK)	5.769	43	890	0.43	ug/L		54
29) Benzene	6.013	78	2458	0.19	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.226	62	837	0.19	ug/L		89
31) iso-Butyl Alcohol	0.000		0	N.D.			
33) Trichloroethene (TCE)	6.627	130	614	0.20	ug/L		88
34) Dibromomethane	7.083	93	206	0.12	ug/L	#	57
35) 1,2-Dichloropropane	7.187	63	588	0.19	ug/L		92
36) Bromodichloromethane	7.266	83	130	0.06	ug/L	#	26
38) c-1,3-Dichloropropene	7.966	75	335	0.10	ug/L	#	60
40) Toluene	8.227	91	2847	0.21	ug/L		95
41) Tetrachloroethene (PCE)	8.671	166	503	0.16	ug/L		93
42) 4-Methyl-2-Pentanone (...	8.683	43	941	0.24	ug/L		87
43) t-1,3-Dichloropropene	8.726	75	216	0.07	ug/L		47
44) 1,1,2-Trichloroethane	8.890	97	368	0.14	ug/L		96
45) Dibromochloromethane	0.000		0	N.D.			
46) 1,3-Dichloropropane	9.170	76	753	0.15	ug/L		89
47) 1,2-Dibromoethane (EDB)	9.310	107	186	0.08	ug/L		79
48) 2-Hexanone	9.553	43	512	0.19	ug/L		67

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

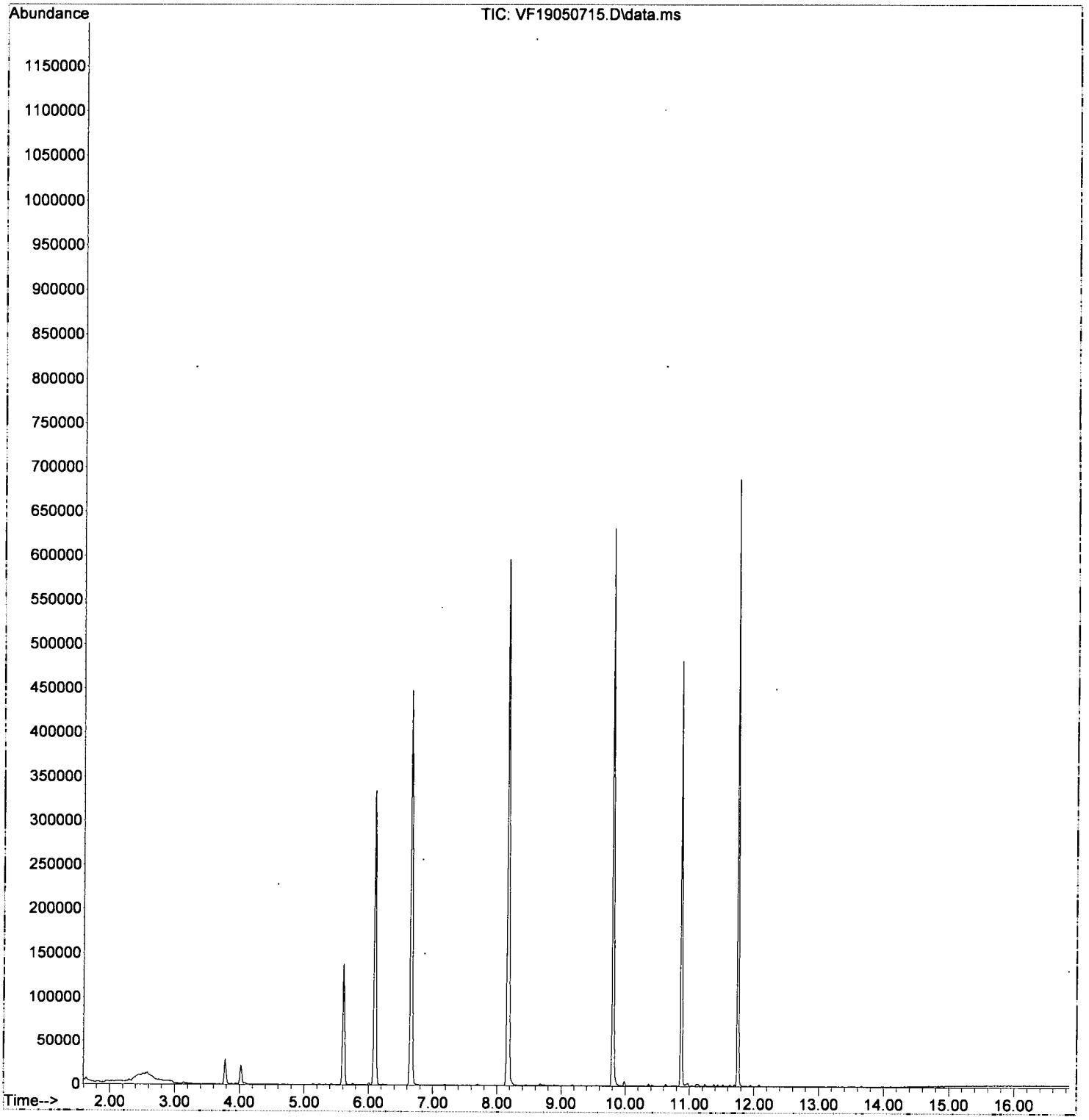
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22 ug/L #	35
50) Ethylbenzene	9.845	91	2644	0.20 ug/L	90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
52) m,p-Xylenes (2)	9.985	91	3375	0.35 ug/L	98
53) o-Xylene	10.362	91	1661	0.18 ug/L	97
54) Styrene	10.417	104	742	0.12 ug/L	77
55) Bromoform	0.000		0	N.D.	
56) Isopropylbenzene	10.630	105	1621	0.15 ug/L	96
59) Bromobenzene	10.959	156	538	0.20 ug/L	94
60) n-Propylbenzene	10.977	91	2125	0.18 ug/L	96
61) 1,1,2,2-Tetrachloroethane	11.038	83	440	0.14 ug/L	73
62) 2-Chlorotoluene	11.105	126	441	0.19 ug/L	85
63) 1,3,5-Trimethylbenzene	11.129	105	1238	0.15 ug/L	97
64) 1,2,3-Trichloropropane	11.147	110	135	0.12 ug/L	87
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
66) 4-Chlorotoluene	11.238	91	1253	0.17 ug/L	95
67) tert-Butylbenzene	11.378	91	778	0.17 ug/L #	66
68) 1,2,4-Trimethylbenzene	11.439	105	1251	0.15 ug/L	94
69) sec-Butylbenzene	11.518	105	1494	0.16 ug/L	91
70) 4-Isopropyltoluene	11.628	119	1097	0.14 ug/L	96
71) 1,3-Dichlorobenzene	11.695	146	822	0.18 ug/L	97
72) 1,4-Dichlorobenzene	11.762	146	932	0.20 ug/L #	30
73) n-Butylbenzene	11.950	91	1099	0.16 ug/L	97
74) 1,2-Dichlorobenzene	12.084	146	799	0.18 ug/L	92
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
76) Hexachlorobutadiene	0.000		0	N.D.	
77) 1,2,4-Trichlorobenzene	13.228	180	326	0.13 ug/L	84
78) Naphthalene	13.501	128	754	0.09 ug/L	78
79) 1,2,3-Trichlorobenzene	13.666	180	356	0.14 ug/L	79

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:30:57 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

post 5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	253997	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	315116	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	140978	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	93146	43.24	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	393610	50.01	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	451605	46.79	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.867	174	110936	51.79	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d		
3) Chloromethane	1.846	50	797	0.22	ug/L		87
4) Vinyl Chloride	1.937	62	686	0.20	ug/L		92
5) Bromomethane	2.296	96	1145	0.55	ug/L		96
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) 1,1-Dichloroethene	3.135	61	831	0.18	ug/L		76
9) Carbon Disulfide	0.000		0	N.D.	d		
10) Freon 113	3.184	101	458	0.16	ug/L	#	73
11) Iodomethane	0.000		0	N.D.			
12) Methylene Chloride	3.780	84	13830	3.78	ug/L		83
13) Acetone	3.871	43	1611	1.16	ug/L		90
14) t-1,2-Dichloroethene	3.938	61	852	0.19	ug/L		83
15) n-Hexane	4.023	86	1841	2.51	ug/L		95
16) Methyl-tert-butyl-ether	4.078	73	1746	0.20	ug/L		78
17) 1,1-Dichloroethane	4.583	63	1018	0.17	ug/L		85
18) Acrylonitrile	0.000		0	N.D.			
19) c-1,2-Dichloroethene	5.137	61	698	0.16	ug/L		94
20) 2,2-Dichloropropane	5.246	77	441	0.15	ug/L		73
21) Bromochloromethane	5.344	49	331	0.13	ug/L		85
22) Chloroform	5.423	83	893	0.17	ug/L		92
23) Carbon Tetrachloride	0.000		0	N.D.			
24) Tetrahydrofuran	0.000		0	N.D.	d		
25) 1,1,1-Trichloroethane	5.623	97	551	0.15	ug/L		94
27) 1,1-Dichloropropene	5.757	75	683	0.16	ug/L		98
28) 2-Butanone (MEK)	5.769	43	890	0.43	ug/L		54
29) Benzene	6.013	78	2458	0.19	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.226	62	837	0.19	ug/L		89
31) iso-Butyl Alcohol	0.000		0	N.D.			
33) Trichloroethene (TCE)	6.627	130	614	0.20	ug/L		88
34) Dibromomethane	7.083	93	206	0.12	ug/L	#	57
35) 1,2-Dichloropropane	7.187	63	588	0.19	ug/L		92
36) Bromodichloromethane	7.266	83	130	0.06	ug/L	#	26
38) c-1,3-Dichloropropene	7.966	75	335	0.10	ug/L	#	60
40) Toluene	8.227	91	2847	0.21	ug/L		95
41) Tetrachloroethene (PCE)	8.671	166	503	0.16	ug/L		93
42) 4-Methyl-2-Pentanone (...	8.683	43	941	0.24	ug/L		87
43) t-1,3-Dichloropropene	0.000		0	N.D.	d		
44) 1,1,2-Trichloroethane	8.890	97	368	0.14	ug/L		96
45) Dibromochloromethane	0.000		0	N.D.			
46) 1,3-Dichloropropane	9.170	76	753	0.15	ug/L		89
47) 1,2-Dibromoethane (EDB)	9.310	107	186	0.08	ug/L		79
48) 2-Hexanone	9.553	43	512	0.19	ug/L		67

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

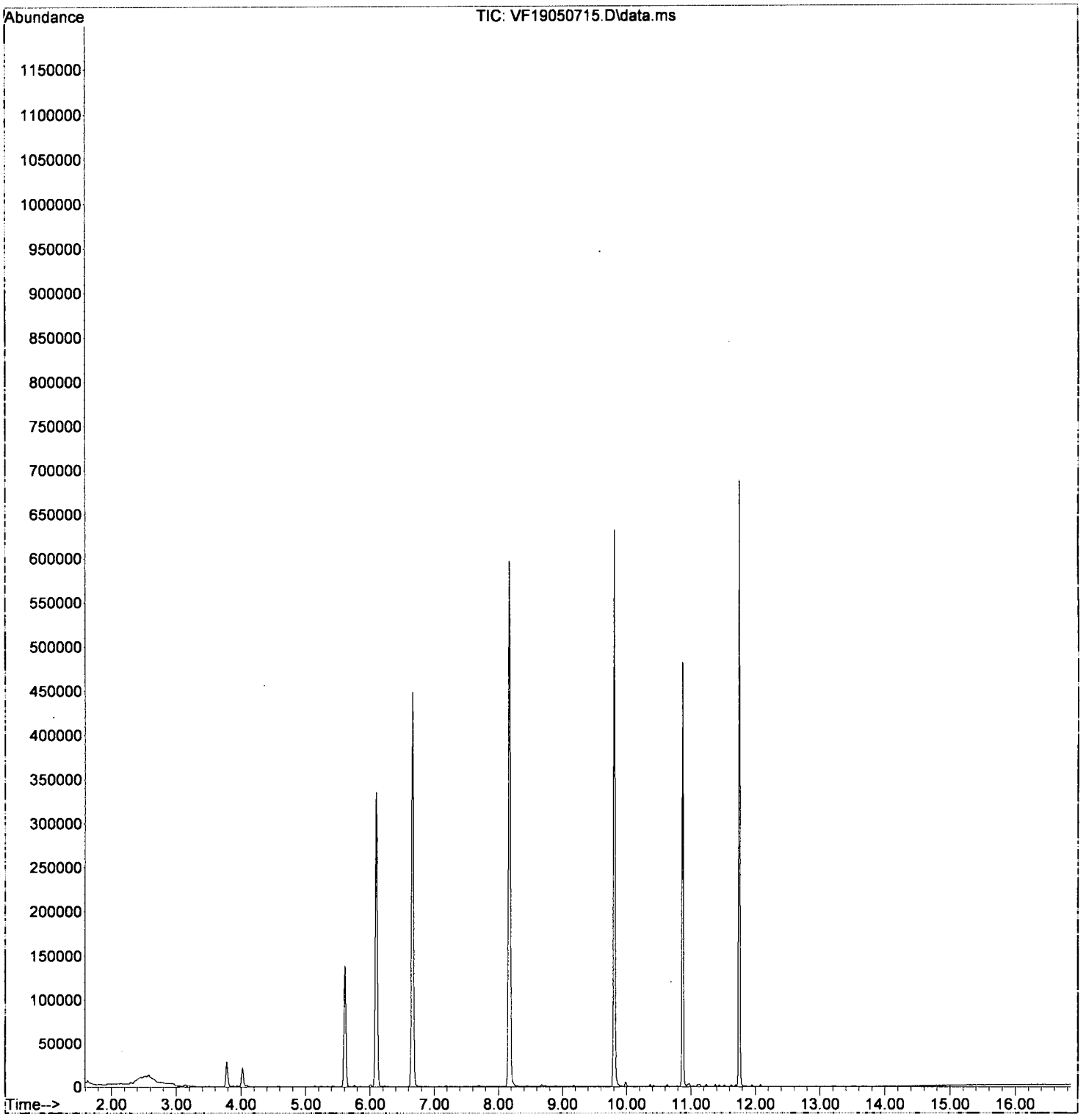
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22	ug/L #	35
50) Ethylbenzene	9.845	91	2644	0.20	ug/L	90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
52) m,p-Xylenes (2)	9.985	91	3375	0.35	ug/L	98
53) o-Xylene	10.362	91	1661	0.18	ug/L	97
54) Styrene	10.417	104	742	0.12	ug/L	77
55) Bromoform	0.000		0	N.D.		
56) Isopropylbenzene	10.630	105	1621	0.15	ug/L	96
59) Bromobenzene	10.959	156	538	0.20	ug/L	94
60) n-Propylbenzene	10.977	91	2125	0.18	ug/L	96
61) 1,1,2,2-Tetrachloroethane	11.038	83	440	0.14	ug/L	73
62) 2-Chlorotoluene	11.105	126	441	0.19	ug/L	85
63) 1,3,5-Trimethylbenzene	11.129	105	1238	0.15	ug/L	97
64) 1,2,3-Trichloropropane	11.147	110	135	0.12	ug/L	87
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
66) 4-Chlorotoluene	11.238	91	1253	0.17	ug/L	95
67) tert-Butylbenzene	11.378	91	778	0.17	ug/L #	66
68) 1,2,4-Trimethylbenzene	11.439	105	1251	0.15	ug/L	94
69) sec-Butylbenzene	11.518	105	1494	0.16	ug/L	91
70) 4-Isopropyltoluene	11.628	119	1097	0.14	ug/L	96
71) 1,3-Dichlorobenzene	11.695	146	822	0.18	ug/L	97
72) 1,4-Dichlorobenzene	11.762	146	932	0.20	ug/L #	30
73) n-Butylbenzene	11.950	91	1099	0.16	ug/L	97
74) 1,2-Dichlorobenzene	12.084	146	799	0.18	ug/L	92
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
76) Hexachlorobutadiene	0.000		0	N.D.		
77) 1,2,4-Trichlorobenzene	13.228	180	326	0.13	ug/L	84
78) Naphthalene	0.000		0	N.D.		
79) 1,2,3-Trichlorobenzene	13.666	180	356	0.14	ug/L	79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:35 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	249504	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	282136	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	120378	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.612	111	95325	45.05	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.664	114	383811	49.64	ug/L		0.00
39) Toluene-d8 (S)	8.173	98	433301	50.14	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.874	174	94062	51.42	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.639	85	846	0.36	ug/L		87
3) Chloromethane	1.846	50	2048	0.59	ug/L		98
4) Vinyl Chloride	1.949	62	1253	0.36	ug/L		55
5) Bromomethane	2.308	96	2402	1.17	ug/L		97
6) Chloroethane	2.430	64	256	0.54	ug/L	#	1
7) Trichlorofluoromethane	2.558	101	222	0.36	ug/L	#	25
8) 1,1-Dichloroethene	3.136	61	1699	0.37	ug/L		92
9) Carbon Disulfide	3.142	76	1949	0.36	ug/L		87
10) Freon 113	3.178	101	1041	0.38	ug/L		78
11) Iodomethane	3.294	142	258	0.26	ug/L	#	47
12) Methylene Chloride	3.781	84	14007	3.90	ug/L		86
13) Acetone	3.878	43	2158	1.58	ug/L		84
14) t-1,2-Dichloroethene	3.945	61	1577	0.35	ug/L		99
15) n-Hexane	4.024	86	2024	2.81	ug/L	#	78
16) Methyl-tert-butyl-ether	4.097	73	3114	0.35	ug/L		94
17) 1,1-Dichloroethane	4.584	63	1998	0.35	ug/L		94
18) Acrylonitrile	4.669	53	256	0.17	ug/L	#	14
19) c-1,2-Dichloroethene	5.143	61	1447	0.34	ug/L		91
20) 2,2-Dichloropropane	5.241	77	917	0.32	ug/L	#	59
21) Bromochloromethane	5.350	49	924	0.37	ug/L		90
22) Chloroform	5.423	83	1699	0.34	ug/L		85
23) Carbon Tetrachloride	5.545	117	392	0.20	ug/L		71
24) Tetrahydrofuran	5.618	42	586	0.39	ug/L	#	57
25) 1,1,1-Trichloroethane	5.630	97	1217	0.33	ug/L		88
27) 1,1-Dichloropropene	5.752	75	1416	0.34	ug/L		87
28) 2-Butanone (MEK)	5.764	43	1499	0.74	ug/L		94
29) Benzene	6.013	78	4810	0.38	ug/L		85
30) 1,2-Dichloroethane (EDC)	6.226	62	1552	0.35	ug/L		92
31) iso-Butyl Alcohol	6.305	43	507	3.98	ug/L	#	64
33) Trichloroethene (TCE)	6.628	130	1091	0.36	ug/L		79
34) Dibromomethane	7.078	93	553	0.34	ug/L	#	64
35) 1,2-Dichloropropane	7.193	63	1034	0.34	ug/L		90
36) Bromodichloromethane	7.266	83	569	0.25	ug/L		91
38) c-1,3-Dichloropropene	7.972	75	723	0.23	ug/L		74
40) Toluene	8.228	91	4633	0.39	ug/L		98
41) Tetrachloroethene (PCE)	8.678	166	1054	0.36	ug/L		87
42) 4-Methyl-2-Pentanone (...	8.684	43	1734	0.49	ug/L		96
43) t-1,3-Dichloropropene	8.720	75	502	0.19	ug/L		47
44) 1,1,2-Trichloroethane	8.897	97	754	0.32	ug/L		76
45) Dibromochloromethane	9.067	129	215	0.18	ug/L	#	15
46) 1,3-Dichloropropane	9.183	76	1532	0.34	ug/L		90
47) 1,2-Dibromoethane (EDB)	9.316	107	457	0.21	ug/L		84
48) 2-Hexanone	9.554	43	1043	0.44	ug/L		82

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:35 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

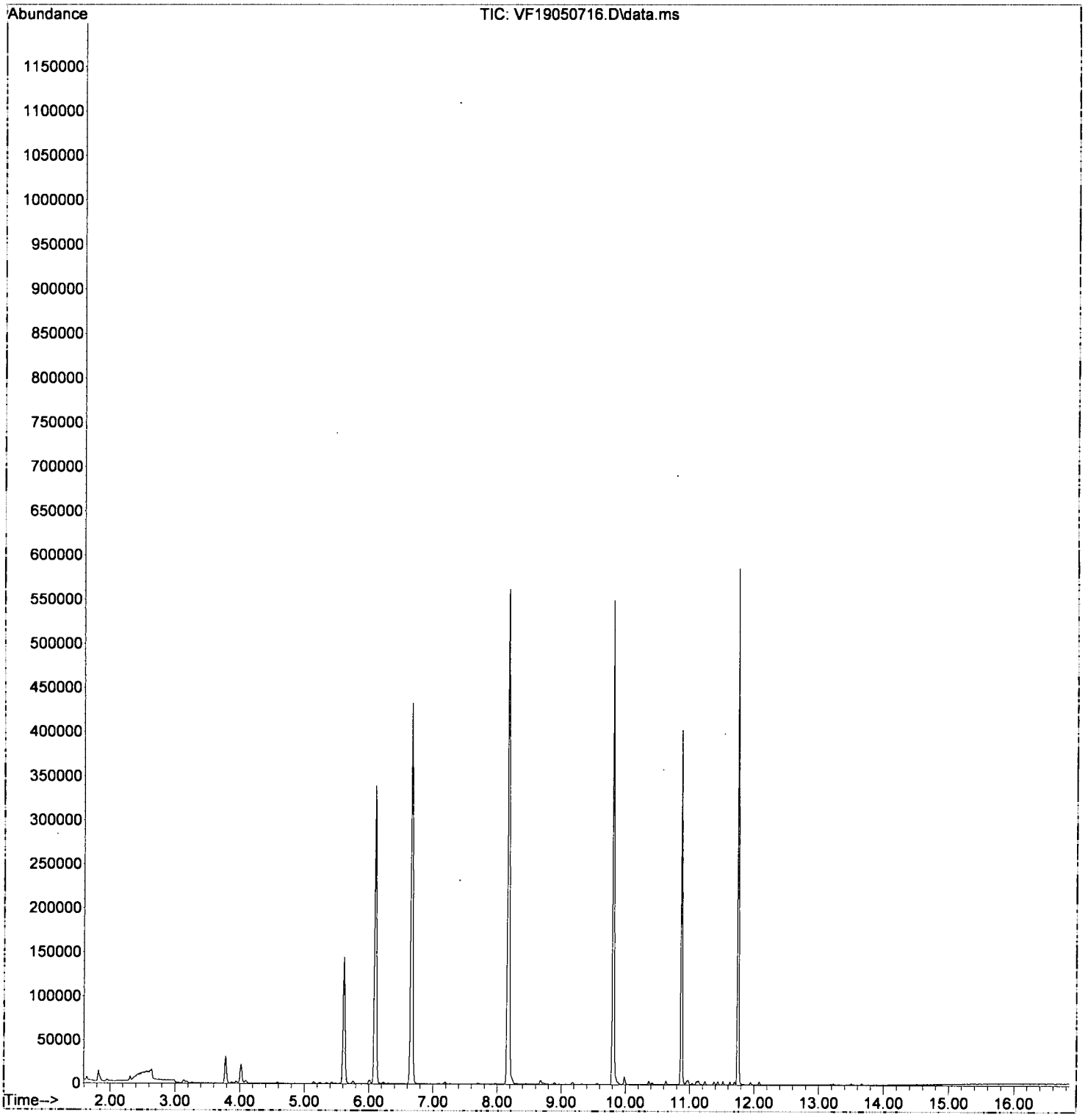
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40 ug/L #	67
50) Ethylbenzene	9.852	91	4382	0.38 ug/L	86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21 ug/L #	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63 ug/L	97
53) o-Xylene	10.363	91	2704	0.33 ug/L	96
54) Styrene	10.418	104	1408	0.25 ug/L	93
55) Bromoform	0.000		0	N.D.	
56) Isopropylbenzene	10.631	105	2804	0.29 ug/L	94
59) Bromobenzene	10.953	156	808	0.36 ug/L #	80
60) n-Propylbenzene	10.977	91	3524	0.35 ug/L	97
61) 1,1,2,2-Tetrachloroethane	11.038	83	771	0.29 ug/L	85
62) 2-Chlorotoluene	11.105	126	669	0.33 ug/L	88
63) 1,3,5-Trimethylbenzene	11.129	105	2172	0.31 ug/L	97
64) 1,2,3-Trichloropropane	11.148	110	303	0.31 ug/L	88
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
66) 4-Chlorotoluene	11.239	91	2028	0.33 ug/L	86
67) tert-Butylbenzene	11.379	91	1226	0.31 ug/L	84
68) 1,2,4-Trimethylbenzene	11.440	105	2171	0.31 ug/L	84
69) sec-Butylbenzene	11.519	105	2640	0.32 ug/L	93
70) 4-Isopropyltoluene	11.628	119	1855	0.28 ug/L	92
71) 1,3-Dichlorobenzene	11.701	146	1391	0.36 ug/L	90
72) 1,4-Dichlorobenzene	11.762	146	1636	0.40 ug/L	79
73) n-Butylbenzene	11.945	91	1917	0.33 ug/L	91
74) 1,2-Dichlorobenzene	12.078	146	1327	0.35 ug/L	91
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
76) Hexachlorobutadiene	13.186	223	127	0.24 ug/L #	80
77) 1,2,4-Trichlorobenzene	13.228	180	681	0.32 ug/L	94
78) Naphthalene	13.502	128	1578	0.22 ug/L	78
79) 1,2,3-Trichlorobenzene	13.666	180	600	0.28 ug/L	90

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:32:07 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507~~S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

Post
BS 5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.098	168	249504	50.00	ug/L	0.00
37) Chlorobenzene-d5 (I)	9.803	117	282136	50.00	ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	120378	50.00	ug/L	0.00
System Monitoring Compounds						
26) Dibromofluoromethane (S)	5.612	111	95325	45.05	ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.664	114	383811	49.64	ug/L	0.00
39) Toluene-d8 (S)	8.173	98	433301	50.14	ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.874	174	94062	51.42	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.639	85	846	0.36	ug/L	87
3) Chloromethane	1.846	50	2048	0.59	ug/L	98
4) Vinyl Chloride	1.949	62	1253	0.36	ug/L	55
5) Bromomethane	2.308	96	2402	1.17	ug/L	97
6) Chloroethane	0.000		0	N.D. d		
7) Trichlorofluoromethane	2.558	101	222	0.36	ug/L #	25
8) 1,1-Dichloroethene	3.136	61	1699	0.37	ug/L	92
9) Carbon Disulfide	3.142	76	1949	0.36	ug/L	87
10) Freon 113	3.178	101	1041	0.38	ug/L	78
11) Iodomethane	0.000		0	N.D. d		
12) Methylene Chloride	3.781	84	14007	3.90	ug/L	86
13) Acetone	3.878	43	2158	1.58	ug/L	84
14) t-1,2-Dichloroethene	3.945	61	1577	0.35	ug/L	99
15) n-Hexane	4.024	86	2024	2.81	ug/L #	78
16) Methyl-tert-butyl-ether	4.097	73	3114	0.35	ug/L	94
17) 1,1-Dichloroethane	4.584	63	1998	0.35	ug/L	94
18) Acrylonitrile	4.669	53	256	0.17	ug/L #	14
19) c-1,2-Dichloroethene	5.143	61	1447	0.34	ug/L	91
20) 2,2-Dichloropropane	5.241	77	917	0.32	ug/L #	59
21) Bromochloromethane	5.350	49	924	0.37	ug/L	90
22) Chloroform	5.423	83	1699	0.34	ug/L	85
23) Carbon Tetrachloride	5.545	117	392	0.20	ug/L	71
24) Tetrahydrofuran	5.618	42	586	0.39	ug/L #	57
25) 1,1,1-Trichloroethane	5.630	97	1217	0.33	ug/L	88
27) 1,1-Dichloropropene	5.752	75	1416	0.34	ug/L	87
28) 2-Butanone (MEK)	5.764	43	1499	0.74	ug/L	94
29) Benzene	6.013	78	4810	0.38	ug/L	85
30) 1,2-Dichloroethane (EDC)	6.226	62	1552	0.35	ug/L	92
31) iso-Butyl Alcohol	6.305	43	507	3.98	ug/L #	64
33) Trichloroethene (TCE)	6.628	130	1091	0.36	ug/L	79
34) Dibromomethane	7.078	93	553	0.34	ug/L #	64
35) 1,2-Dichloropropane	7.193	63	1034	0.34	ug/L	90
36) Bromodichloromethane	7.266	83	569	0.25	ug/L	91
38) c-1,3-Dichloropropene	7.972	75	723	0.23	ug/L	74
40) Toluene	8.228	91	4633	0.39	ug/L	98
41) Tetrachloroethene (PCE)	8.678	166	1054	0.36	ug/L	87
42) 4-Methyl-2-Pentanone (...	8.684	43	1734	0.49	ug/L	96
43) t-1,3-Dichloropropene	8.720	75	502	0.19	ug/L	47
44) 1,1,2-Trichloroethane	8.897	97	754	0.32	ug/L	76
45) Dibromochloromethane	9.067	129	215	0.18	ug/L #	15
46) 1,3-Dichloropropane	9.183	76	1532	0.34	ug/L	90
47) 1,2-Dibromoethane (EDB)	9.316	107	457	0.21	ug/L	84
48) 2-Hexanone	9.554	43	1043	0.44	ug/L	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:32:07 2019
Quant Method : C:\msdchem\1\METHODS\V~~F190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

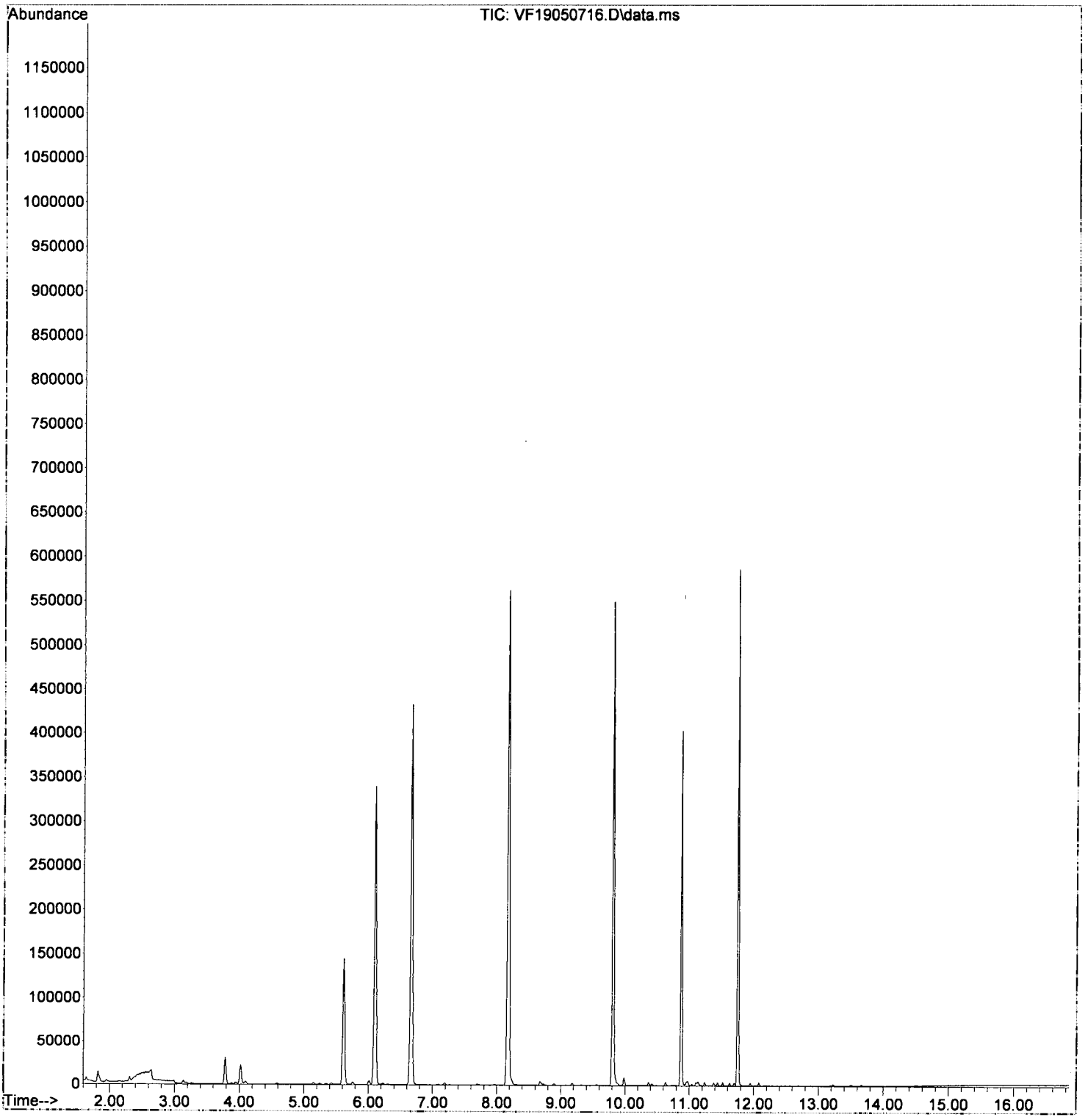
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40	ug/L #	67
50) Ethylbenzene	9.852	91	4382	0.38	ug/L	86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21	ug/L #	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63	ug/L	97
53) o-Xylene	10.363	91	2704	0.33	ug/L	96
54) Styrene	10.418	104	1408	0.25	ug/L	93
55) Bromoform	0.000		0	N.D.		
56) Isopropylbenzene	10.631	105	2804	0.29	ug/L	94
59) Bromobenzene	10.953	156	808	0.36	ug/L #	80
60) n-Propylbenzene	10.977	91	3524	0.35	ug/L	97
61) 1,1,2,2-Tetrachloroethane	11.038	83	771	0.29	ug/L	85
62) 2-Chlorotoluene	11.105	126	669	0.33	ug/L	88
63) 1,3,5-Trimethylbenzene	11.129	105	2172	0.31	ug/L	97
64) 1,2,3-Trichloropropane	11.148	110	303	0.31	ug/L	88
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
66) 4-Chlorotoluene	11.239	91	2028	0.33	ug/L	86
67) tert-Butylbenzene	11.379	91	1226	0.31	ug/L	84
68) 1,2,4-Trimethylbenzene	11.440	105	2171	0.31	ug/L	84
69) sec-Butylbenzene	11.519	105	2640	0.32	ug/L	93
70) 4-Isopropyltoluene	11.628	119	1855	0.28	ug/L	92
71) 1,3-Dichlorobenzene	11.701	146	1391	0.36	ug/L	90
72) 1,4-Dichlorobenzene	11.762	146	1636	0.40	ug/L	79
73) n-Butylbenzene	11.945	91	1917	0.33	ug/L	91
74) 1,2-Dichlorobenzene	12.078	146	1327	0.35	ug/L	91
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
76) Hexachlorobutadiene	0.000		0	N.D. d		
77) 1,2,4-Trichlorobenzene	13.228	180	681	0.32	ug/L	94
78) Naphthalene	13.502	128	1578	0.22	ug/L	78
79) 1,2,3-Trichlorobenzene	13.666	180	600	0.28	ug/L	90

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:32:07 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	261850	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	321643	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	141519	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	96607	43.51	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	402099	49.56	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	463638	47.06	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	112797	52.45	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	1965	0.79	ug/L		84
3) Chloromethane	1.843	50	3374	0.92	ug/L		95
4) Vinyl Chloride	1.940	62	3308	0.91	ug/L		98
5) Bromomethane	2.299	96	3078	1.43	ug/L		97
6) Chloroethane	2.433	64	476	0.96	ug/L	#	1
7) Trichlorofluoromethane	2.555	101	616	0.94	ug/L		82
8) 1,1-Dichloroethene	3.133	61	4085	0.86	ug/L		80
9) Carbon Disulfide	3.145	76	4300	0.76	ug/L		98
10) Freon 113	3.181	101	2811	0.98	ug/L		80
11) Iodomethane	3.297	142	635	0.61	ug/L	#	47
12) Methylene Chloride	3.777	84	16647	4.42	ug/L		91
13) Acetone	3.881	43	3535	2.46	ug/L		87
14) t-1,2-Dichloroethene	3.942	61	4059	0.87	ug/L		95
15) n-Hexane	4.021	86	2150	2.85	ug/L		98
16) Methyl-tert-butyl-ether	4.094	73	8040	0.87	ug/L		96
17) 1,1-Dichloroethane	4.580	63	5157	0.85	ug/L		97
18) Acrylonitrile	4.672	53	1044	0.67	ug/L		87
19) c-1,2-Dichloroethene	5.140	61	3590	0.81	ug/L		99
20) 2,2-Dichloropropane	5.237	77	2310	0.78	ug/L		79
21) Bromochloromethane	5.347	49	2190	0.83	ug/L		83
22) Chloroform	5.420	83	4496	0.85	ug/L		92
23) Carbon Tetrachloride	5.554	117	1343	0.65	ug/L		90
24) Tetrahydrofuran	5.596	42	1298	0.83	ug/L		87
25) 1,1,1-Trichloroethane	5.621	97	2997	0.77	ug/L		88
27) 1,1-Dichloropropene	5.748	75	3517	0.80	ug/L		97
28) 2-Butanone (MEK)	5.761	43	3413	1.60	ug/L		86
29) Benzene	6.010	78	11954	0.89	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.229	62	4287	0.93	ug/L		92
31) iso-Butyl Alcohol	6.302	43	1628	12.19	ug/L		87
33) Trichloroethene (TCE)	6.631	130	2819	0.88	ug/L		89
34) Dibromomethane	7.081	93	1342	0.78	ug/L		90
35) 1,2-Dichloropropane	7.184	63	2906	0.91	ug/L		89
36) Bromodichloromethane	7.263	83	1570	0.65	ug/L		94
38) c-1,3-Dichloropropene	7.969	75	2124	0.60	ug/L		82
40) Toluene	8.231	91	12595	0.92	ug/L		97
41) Tetrachloroethene (PCE)	8.681	166	2677	0.81	ug/L		90
42) 4-Methyl-2-Pentanone (...	8.681	43	5152	1.28	ug/L		92
43) t-1,3-Dichloropropene	8.723	75	1582	0.52	ug/L		95
44) 1,1,2-Trichloroethane	8.881	97	2096	0.77	ug/L		86
45) Dibromochloromethane	9.082	129	646	0.47	ug/L		95
46) 1,3-Dichloropropane	9.180	76	4160	0.80	ug/L		95
47) 1,2-Dibromoethane (EDB)	9.319	107	1418	0.57	ug/L		95
48) 2-Hexanone	9.551	43	3198	1.18	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

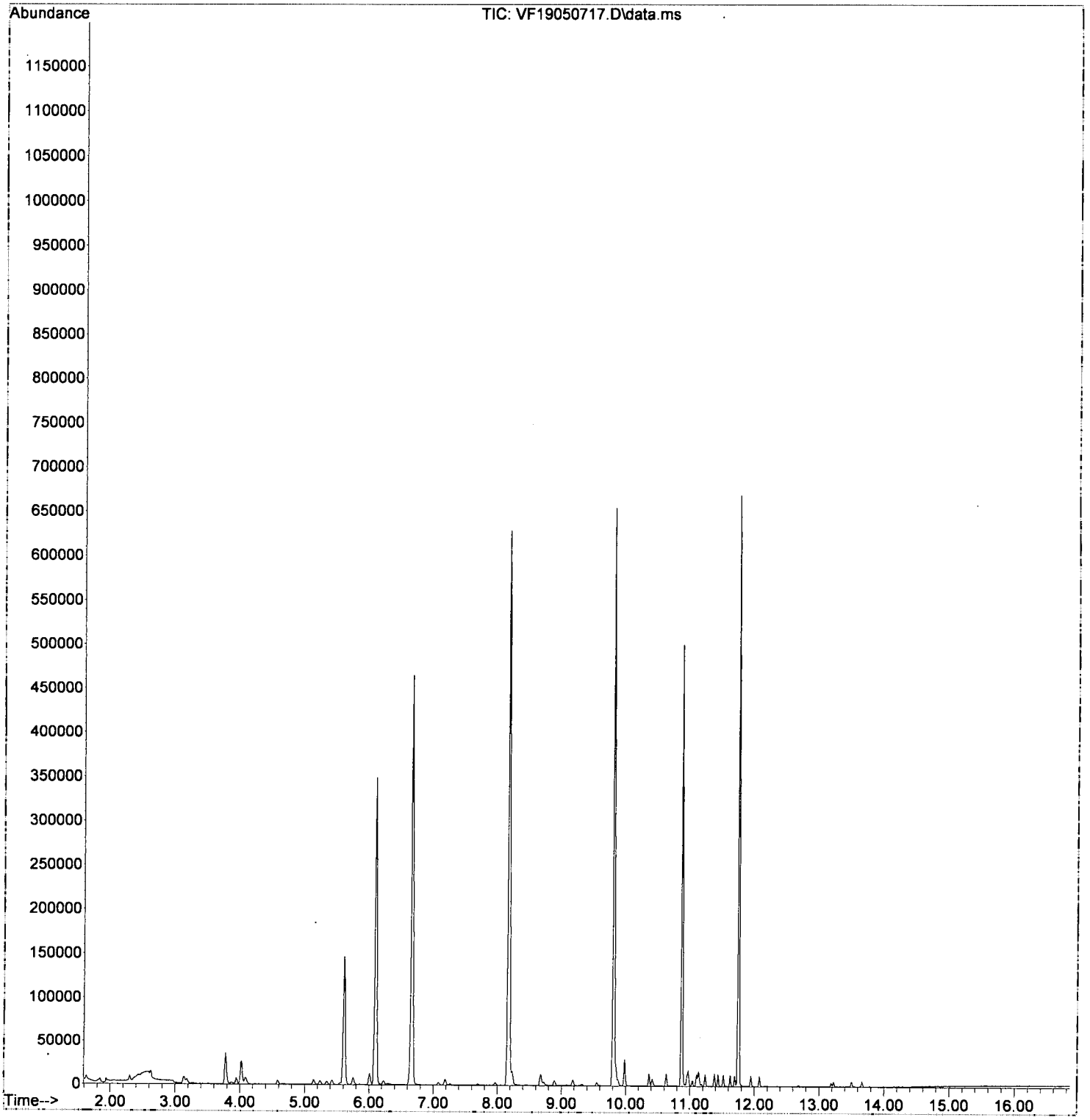
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01 ug/L	80
50) Ethylbenzene	9.849	91	12168	0.92 ug/L	95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49 ug/L	91
52) m,p-Xylenes (2)	9.983	91	16601	1.69 ug/L	91
53) o-Xylene	10.366	91	7663	0.83 ug/L	98
54) Styrene	10.415	104	4261	0.66 ug/L	87
55) Bromoform	10.439	173	299	0.41 ug/L #	36
56) Isopropylbenzene	10.634	105	8865	0.81 ug/L	94
59) Bromobenzene	10.956	156	2646	1.00 ug/L #	81
60) n-Propylbenzene	10.974	91	10761	0.90 ug/L	96
61) 1,1,2,2-Tetrachloroethane	11.041	83	2364	0.76 ug/L	87
62) 2-Chlorotoluene	11.108	126	2215	0.93 ug/L	95
63) 1,3,5-Trimethylbenzene	11.132	105	6404	0.79 ug/L	96
64) 1,2,3-Trichloropropane	11.145	110	973	0.83 ug/L #	68
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
66) 4-Chlorotoluene	11.236	91	6529	0.91 ug/L	99
67) tert-Butylbenzene	11.382	91	4016	0.88 ug/L	81
68) 1,2,4-Trimethylbenzene	11.437	105	6383	0.77 ug/L	98
69) sec-Butylbenzene	11.522	105	7874	0.82 ug/L	98
70) 4-Isopropyltoluene	11.625	119	5898	0.75 ug/L	95
71) 1,3-Dichlorobenzene	11.698	146	4151	0.90 ug/L	96
72) 1,4-Dichlorobenzene	11.759	146	4797	1.01 ug/L	82
73) n-Butylbenzene	11.948	91	5710	0.84 ug/L	94
74) 1,2-Dichlorobenzene	12.081	146	3856	0.87 ug/L	94
75) 1,2-Dibromo-3-Chloropr...	12.690	157	139	0.38 ug/L #	42
76) Hexachlorobutadiene	13.182	223	548	0.89 ug/L	89
77) 1,2,4-Trichlorobenzene	13.225	180	1879	0.76 ug/L	97
78) Naphthalene	13.505	128	4612	0.56 ug/L	99
79) 1,2,3-Trichlorobenzene	13.663	180	1872	0.74 ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

post 5/8/19

Quant Time: May 08 10:33:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	261850	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	321643	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	141519	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	96607	43.51	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	402099	49.56	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	463638	47.06	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	112797	52.45	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	1965	0.79	ug/L		84
3) Chloromethane	1.843	50	3374	0.92	ug/L		95
4) Vinyl Chloride	1.940	62	3308	0.91	ug/L		98
5) Bromomethane	2.299	96	3078	1.43	ug/L		97
6) Chloroethane	2.433	64	476	0.96	ug/L	#	1
7) Trichlorofluoromethane	2.555	101	616	0.94	ug/L		82
8) 1,1-Dichloroethene	3.133	61	4085	0.86	ug/L		80
9) Carbon Disulfide	3.145	76	4300	0.76	ug/L		98
10) Freon 113	3.181	101	2811	0.98	ug/L		80
11) Iodomethane	3.297	142	635	0.61	ug/L	#	47
12) Methylene Chloride	3.777	84	16647	4.42	ug/L		91
13) Acetone	3.881	43	3535	2.46	ug/L		87
14) t-1,2-Dichloroethene	3.942	61	4059	0.87	ug/L		95
15) n-Hexane	4.021	86	2150	2.85	ug/L		98
16) Methyl-tert-butyl-ether	4.094	73	8040	0.87	ug/L		96
17) 1,1-Dichloroethane	4.580	63	5157	0.85	ug/L		97
18) Acrylonitrile	4.672	53	1044	0.67	ug/L		87
19) c-1,2-Dichloroethene	5.140	61	3590	0.81	ug/L		99
20) 2,2-Dichloropropane	5.237	77	2310	0.78	ug/L		79
21) Bromochloromethane	5.347	49	2190	0.83	ug/L		83
22) Chloroform	5.420	83	4496	0.85	ug/L		92
23) Carbon Tetrachloride	5.554	117	1343	0.65	ug/L		90
24) Tetrahydrofuran	5.596	42	1298	0.83	ug/L		87
25) 1,1,1-Trichloroethane	5.621	97	2997	0.77	ug/L		88
27) 1,1-Dichloropropene	5.748	75	3517	0.80	ug/L		97
28) 2-Butanone (MEK)	5.761	43	3413	1.60	ug/L		86
29) Benzene	6.010	78	11954	0.89	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.229	62	4287	0.93	ug/L		92
31) iso-Butyl Alcohol	6.302	43	1628	12.19	ug/L		87
33) Trichloroethene (TCE)	6.631	130	2819	0.88	ug/L		89
34) Dibromomethane	7.081	93	1342	0.78	ug/L		90
35) 1,2-Dichloropropane	7.184	63	2906	0.91	ug/L		89
36) Bromodichloromethane	7.263	83	1570	0.65	ug/L		94
38) c-1,3-Dichloropropene	7.969	75	2124	0.60	ug/L		82
40) Toluene	8.231	91	12595	0.92	ug/L		97
41) Tetrachloroethene (PCE)	8.681	166	2677	0.81	ug/L		90
42) 4-Methyl-2-Pentanone (...	8.681	43	5152	1.28	ug/L		92
43) t-1,3-Dichloropropene	8.723	75	1582	0.52	ug/L		95
44) 1,1,2-Trichloroethane	8.881	97	2096	0.77	ug/L		86
45) Dibromochloromethane	9.082	129	646	0.47	ug/L		95
46) 1,3-Dichloropropane	9.180	76	4160	0.80	ug/L		95
47) 1,2-Dibromoethane (EDB)	9.319	107	1418	0.57	ug/L		95
48) 2-Hexanone	9.551	43	3198	1.18	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:33:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

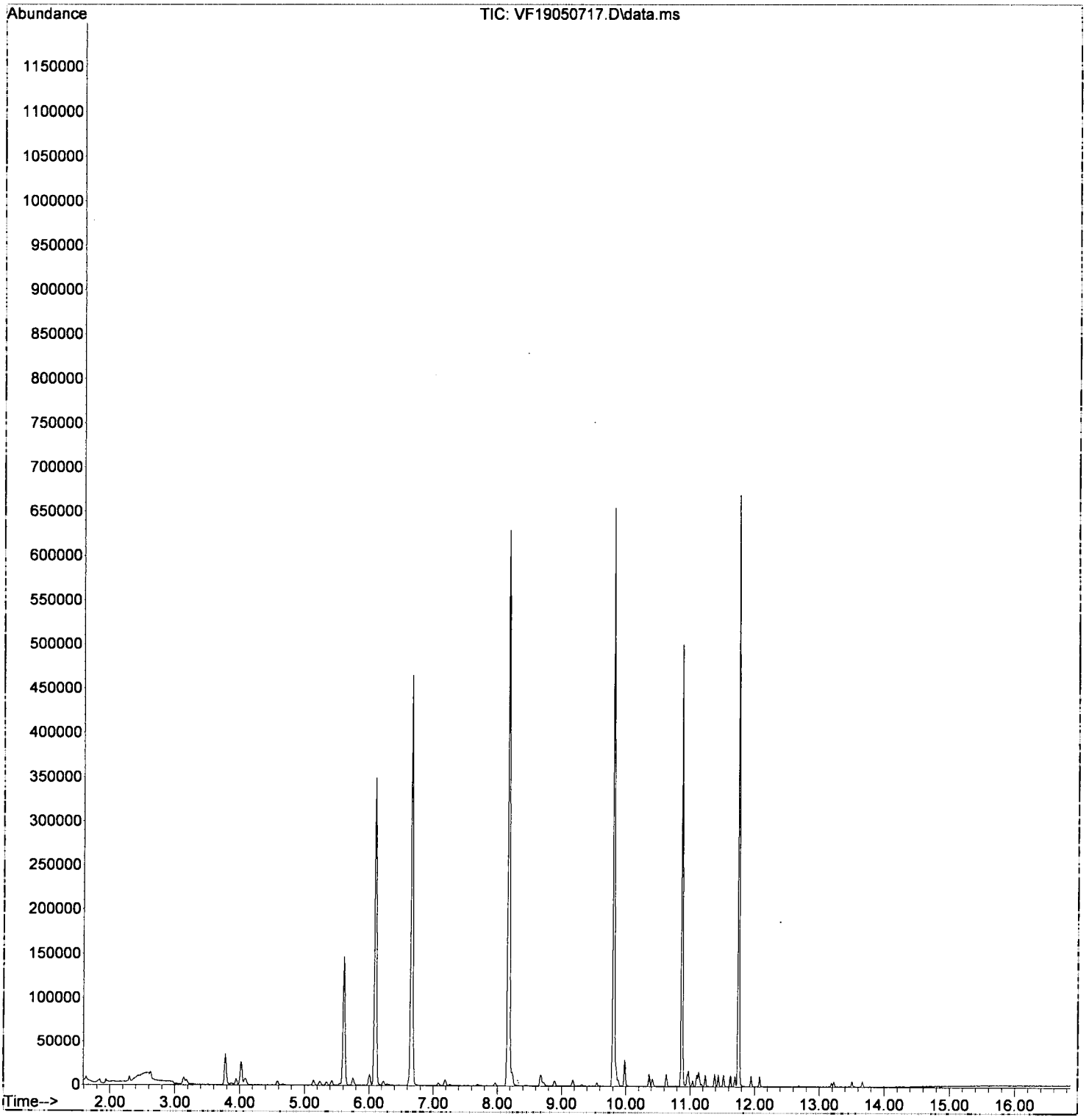
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01	ug/L	80
50) Ethylbenzene	9.849	91	12168	0.92	ug/L	95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49	ug/L	91
52) m,p-Xylenes (2)	9.983	91	16601	1.69	ug/L	91
53) o-Xylene	10.366	91	7663	0.83	ug/L	98
54) Styrene	10.415	104	4261	0.66	ug/L	87
55) Bromoform	0.000		0	N.D.	d	
56) Isopropylbenzene	10.634	105	8865	0.81	ug/L	94
59) Bromobenzene	10.956	156	2646	1.00	ug/L #	81
60) n-Propylbenzene	10.974	91	10761	0.90	ug/L	96
61) 1,1,2,2-Tetrachloroethane	11.041	83	2364	0.76	ug/L	87
62) 2-Chlorotoluene	11.108	126	2215	0.93	ug/L	95
63) 1,3,5-Trimethylbenzene	11.132	105	6404	0.79	ug/L	96
64) 1,2,3-Trichloropropane	11.145	110	973	0.83	ug/L #	68
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
66) 4-Chlorotoluene	11.236	91	6529	0.91	ug/L	99
67) tert-Butylbenzene	11.382	91	4016	0.88	ug/L	81
68) 1,2,4-Trimethylbenzene	11.437	105	6383	0.77	ug/L	98
69) sec-Butylbenzene	11.522	105	7874	0.82	ug/L	98
70) 4-Isopropyltoluene	11.625	119	5898	0.75	ug/L	95
71) 1,3-Dichlorobenzene	11.698	146	4151	0.90	ug/L	96
72) 1,4-Dichlorobenzene	11.759	146	4797	1.01	ug/L	82
73) n-Butylbenzene	11.948	91	5710	0.84	ug/L	94
74) 1,2-Dichlorobenzene	12.081	146	3856	0.87	ug/L	94
75) 1,2-Dibromo-3-Chloropr...	12.690	157	139	0.38	ug/L #	42
76) Hexachlorobutadiene	13.182	223	548	0.89	ug/L	89
77) 1,2,4-Trichlorobenzene	13.225	180	1879	0.76	ug/L	97
78) Naphthalene	13.505	128	4612	0.56	ug/L	99
79) 1,2,3-Trichlorobenzene	13.663	180	1872	0.74	ug/L	94

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:33:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050718.D
Acq On : 7 May 2019 10:04 pm
Operator : TB
Sample : 9E07048-CAL5
Misc : 1X 2ppb VOC MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	242998	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	271061	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	122406	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	94993	46.10	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	374305	49.71	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	417114	50.24	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	93757	50.41	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	4428	1.92	ug/L		93
3) Chloromethane	1.837	50	7222	2.13	ug/L		95
4) Vinyl Chloride	1.940	62	6417	1.91	ug/L		99
5) Bromomethane	2.305	96	5858	2.92	ug/L		94
6) Chloroethane	2.421	64	1082	2.35	ug/L	#	1
7) Trichlorofluoromethane	2.555	101	1256	2.07	ug/L		81
8) 1,1-Dichloroethene	3.127	61	8224	1.86	ug/L		78
9) Carbon Disulfide	3.139	76	8310	1.58	ug/L		96
10) Freon 113	3.175	101	5055	1.90	ug/L		83
11) Iodomethane	3.285	142	862	0.89	ug/L	#	65
12) Methylene Chloride	3.777	84	18649	5.33	ug/L		90
13) Acetone	3.875	43	6127	4.60	ug/L		90
14) t-1,2-Dichloroethene	3.936	61	7974	1.84	ug/L		90
15) n-Hexane	4.015	86	2796	3.99	ug/L		95
16) Methyl-tert-butyl-ether	4.094	73	15652	1.83	ug/L		96
17) 1,1-Dichloroethane	4.580	63	10371	1.85	ug/L		93
18) Acrylonitrile	4.660	53	2472	1.71	ug/L		98
19) c-1,2-Dichloroethene	5.134	61	7621	1.85	ug/L		82
20) 2,2-Dichloropropane	5.244	77	4599	1.66	ug/L		70
21) Bromochloromethane	5.341	49	4699	1.92	ug/L		82
22) Chloroform	5.420	83	8712	1.78	ug/L		92
23) Carbon Tetrachloride	5.548	117	2842	1.47	ug/L		100
24) Tetrahydrofuran	5.609	42	2709	1.86	ug/L		89
25) 1,1,1-Trichloroethane	5.621	97	5724	1.59	ug/L		94
27) 1,1-Dichloropropene	5.749	75	7332	1.80	ug/L		97
28) 2-Butanone (MEK)	5.755	43	7034	3.55	ug/L		95
29) Benzene	6.004	78	23365	1.88	ug/L		96
30) 1,2-Dichloroethane (EDC)	6.223	62	7997	1.88	ug/L		98
31) iso-Butyl Alcohol	6.290	43	3909	31.54	ug/L		99
33) Trichloroethene (TCE)	6.625	130	5247	1.76	ug/L		89
34) Dibromomethane	7.081	93	2709	1.71	ug/L	#	79
35) 1,2-Dichloropropane	7.184	63	5465	1.84	ug/L		95
36) Bromodichloromethane	7.257	83	3150	1.41	ug/L		89
38) c-1,3-Dichloropropene	7.963	75	4000	1.34	ug/L		85
40) Toluene	8.231	91	22780	1.97	ug/L		96
41) Tetrachloroethene (PCE)	8.675	166	5076	1.82	ug/L		90
42) 4-Methyl-2-Pentanone (...	8.681	43	10467	3.09	ug/L		91
43) t-1,3-Dichloropropene	8.723	75	3084	1.20	ug/L		85
44) 1,1,2-Trichloroethane	8.894	97	4156	1.82	ug/L		94
45) Dibromochloromethane	9.076	129	1529	1.32	ug/L		88
46) 1,3-Dichloropropane	9.174	76	7762	1.78	ug/L		82
47) 1,2-Dibromoethane (EDB)	9.313	107	2966	1.41	ug/L		83
48) 2-Hexanone	9.545	43	6383	2.81	ug/L		90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050718.D
Acq On : 7 May 2019 10:04 pm
Operator : TB
Sample : 9E07048-CAL5
Misc : 1X 2ppb VOC MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

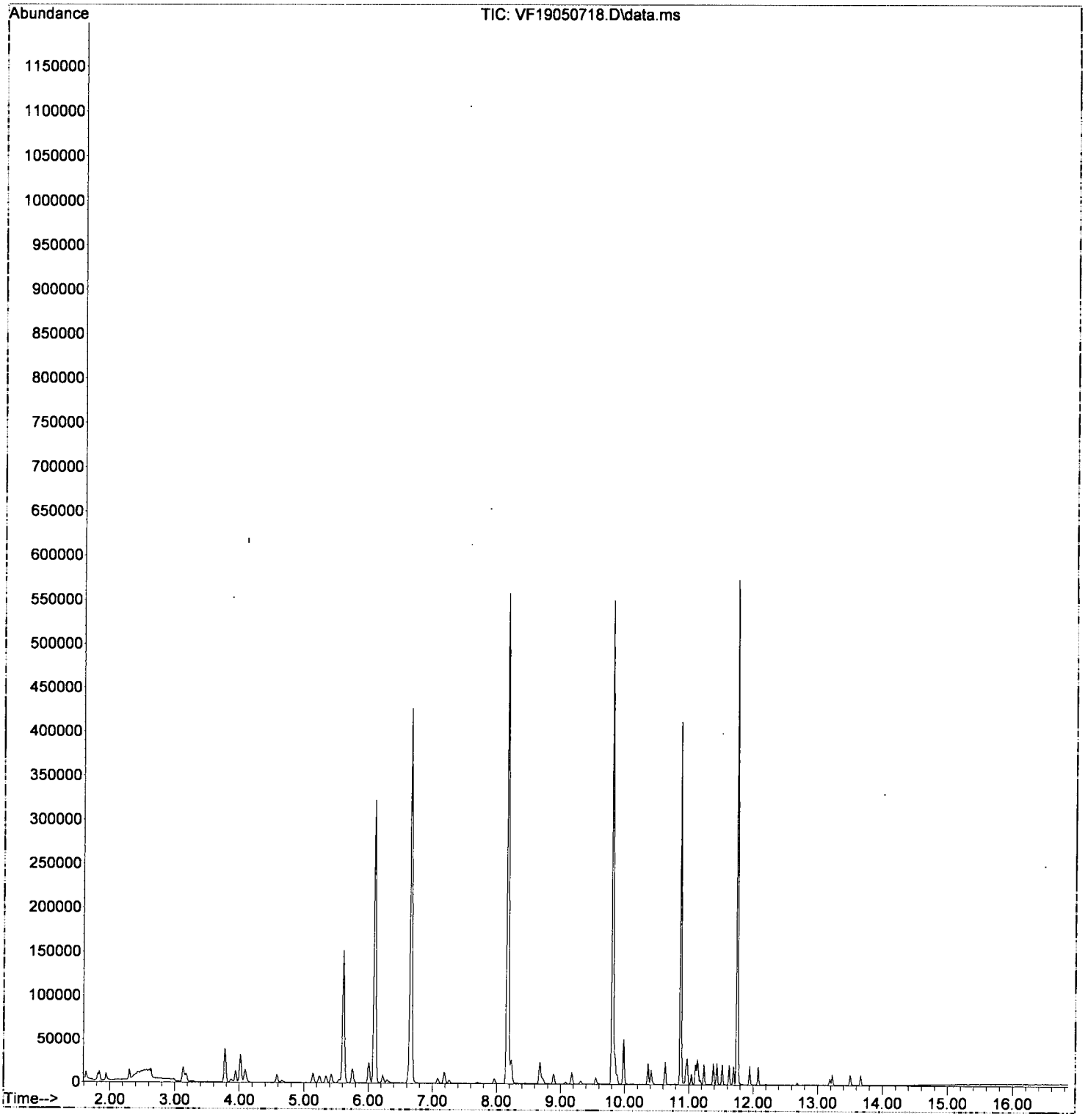
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	12836	1.99	ug/L		89
50) Ethylbenzene	9.849	91	20590	1.85	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.885	131	1701	1.26	ug/L		86
52) m,p-Xylenes (2)	9.983	91	28146	3.40	ug/L		94
53) o-Xylene	10.366	91	13306	1.71	ug/L		95
54) Styrene	10.415	104	7423	1.36	ug/L		93
55) Bromoform	10.439	173	793	1.29	ug/L		92
56) Isopropylbenzene	10.634	105	14839	1.60	ug/L		99
59) Bromobenzene	10.956	156	4463	1.94	ug/L		90
60) n-Propylbenzene	10.974	91	18352	1.78	ug/L		97
61) 1,1,2,2-Tetrachloroethane	11.041	83	4375	1.63	ug/L		97
62) 2-Chlorotoluene	11.108	126	3616	1.76	ug/L		95
63) 1,3,5-Trimethylbenzene	11.132	105	11485	1.63	ug/L		92
64) 1,2,3-Trichloropropane	11.145	110	1924	1.91	ug/L		88
65) t-1,4-Dichloro-2-butene	11.181	88	237	1.28	ug/L	#	62
66) 4-Chlorotoluene	11.236	91	11250	1.80	ug/L		97
67) tert-Butylbenzene	11.382	91	6886	1.73	ug/L		94
68) 1,2,4-Trimethylbenzene	11.437	105	11474	1.60	ug/L		92
69) sec-Butylbenzene	11.522	105	14030	1.70	ug/L		97
70) 4-Isopropyltoluene	11.625	119	10365	1.52	ug/L		93
71) 1,3-Dichlorobenzene	11.698	146	7501	1.89	ug/L		98
72) 1,4-Dichlorobenzene	11.759	146	8234	2.00	ug/L		88
73) n-Butylbenzene	11.948	91	9476	1.61	ug/L		97
74) 1,2-Dichlorobenzene	12.081	146	6890	1.80	ug/L		97
75) 1,2-Dibromo-3-Chloropr...	12.678	157	344	1.09	ug/L	#	22
76) Hexachlorobutadiene	13.189	223	977	1.83	ug/L		81
77) 1,2,4-Trichlorobenzene	13.225	180	3650	1.70	ug/L		96
78) Naphthalene	13.505	128	9150	1.28	ug/L		99
79) 1,2,3-Trichlorobenzene	13.663	180	3683	1.69	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050718.D
Acq On : 7 May 2019 10:04 pm
Operator : TB
Sample : 9E07048-CAL5
Misc : 1X 2ppb VOC MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050719.D
Acq On : 7 May 2019 10:31 pm
Operator : TB
Sample : 9E07048-CAL6
Misc : 1X 5ppb VOC MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:41 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.099	168	248863	50.00	ug/L	0.00
37) Chlorobenzene-d5 (I)	9.803	117	279254	50.00	ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	125861	50.00	ug/L	0.00
System Monitoring Compounds						
26) Dibromofluoromethane (S)	5.606	111	99623	47.20	ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.658	114	382252	49.57	ug/L	0.00
39) Toluene-d8 (S)	8.167	98	428207	50.06	ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.868	174	96094	50.24	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.633	85	11506	4.87	ug/L	97
3) Chloromethane	1.840	50	16881	4.86	ug/L	97
4) Vinyl Chloride	1.944	62	16421	4.77	ug/L	99
5) Bromomethane	2.302	96	12080	5.89	ug/L	96
6) Chloroethane	2.430	64	2287	4.85	ug/L #	1
7) Trichlorofluoromethane	2.558	101	3188	5.12	ug/L	97
8) 1,1-Dichloroethene	3.124	61	21211	4.69	ug/L	77
9) Carbon Disulfide	3.136	76	22193	4.12	ug/L	96
10) Freon 113	3.172	101	13365	4.91	ug/L	82
11) Iodomethane	3.282	142	2570	2.60	ug/L	92
12) Methylene Chloride	3.775	84	27821	7.77	ug/L	88
13) Acetone	3.872	43	14357	10.52	ug/L	94
14) t-1,2-Dichloroethene	3.939	61	21082	4.74	ug/L	96
15) n-Hexane	4.018	86	4468	6.23	ug/L #	77
16) Methyl-tert-butyl-ether	4.091	73	40294	4.61	ug/L	97
17) 1,1-Dichloroethane	4.578	63	27022	4.71	ug/L	96
18) Acrylonitrile	4.663	53	6728	4.55	ug/L	99
19) c-1,2-Dichloroethene	5.137	61	19884	4.71	ug/L	98
20) 2,2-Dichloropropane	5.241	77	11848	4.18	ug/L	74
21) Bromochloromethane	5.344	49	11857	4.72	ug/L	89
22) Chloroform	5.423	83	23401	4.66	ug/L	93
23) Carbon Tetrachloride	5.551	117	7941	4.02	ug/L	97
24) Tetrahydrofuran	5.600	42	7275	4.88	ug/L	93
25) 1,1,1-Trichloroethane	5.624	97	15328	4.16	ug/L	93
27) 1,1-Dichloropropene	5.752	75	19265	4.63	ug/L	98
28) 2-Butanone (MEK)	5.752	43	19168	9.44	ug/L	95
29) Benzene	6.007	78	60741	4.78	ug/L	97
30) 1,2-Dichloroethane (EDC)	6.226	62	21115	4.84	ug/L	97
31) iso-Butyl Alcohol	6.299	43	10550	83.12	ug/L	100
33) Trichloroethene (TCE)	6.628	130	14302	4.67	ug/L	95
34) Dibromomethane	7.078	93	7109	4.37	ug/L	86
35) 1,2-Dichloropropane	7.188	63	14217	4.68	ug/L	98
36) Bromodichloromethane	7.261	83	8768	3.83	ug/L	98
38) c-1,3-Dichloropropene	7.966	75	11116	3.61	ug/L	91
40) Toluene	8.228	91	57774	4.85	ug/L	97
41) Tetrachloroethene (PCE)	8.678	166	13448	4.68	ug/L	96
42) 4-Methyl-2-Pentanone (...	8.678	43	28905	8.28	ug/L	93
43) t-1,3-Dichloropropene	8.721	75	8937	3.38	ug/L	92
44) 1,1,2-Trichloroethane	8.891	97	10585	4.51	ug/L	85
45) Dibromochloromethane	9.073	129	4290	3.59	ug/L	92
46) 1,3-Dichloropropane	9.177	76	20889	4.65	ug/L	89
47) 1,2-Dibromoethane (EDB)	9.317	107	8553	3.94	ug/L	97
48) 2-Hexanone	9.548	43	17782	7.59	ug/L	96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050719.D
Acq On : 7 May 2019 10:31 pm
Operator : TB
Sample : 9E07048-CAL6
Misc : 1X 5ppb VOC MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:41 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

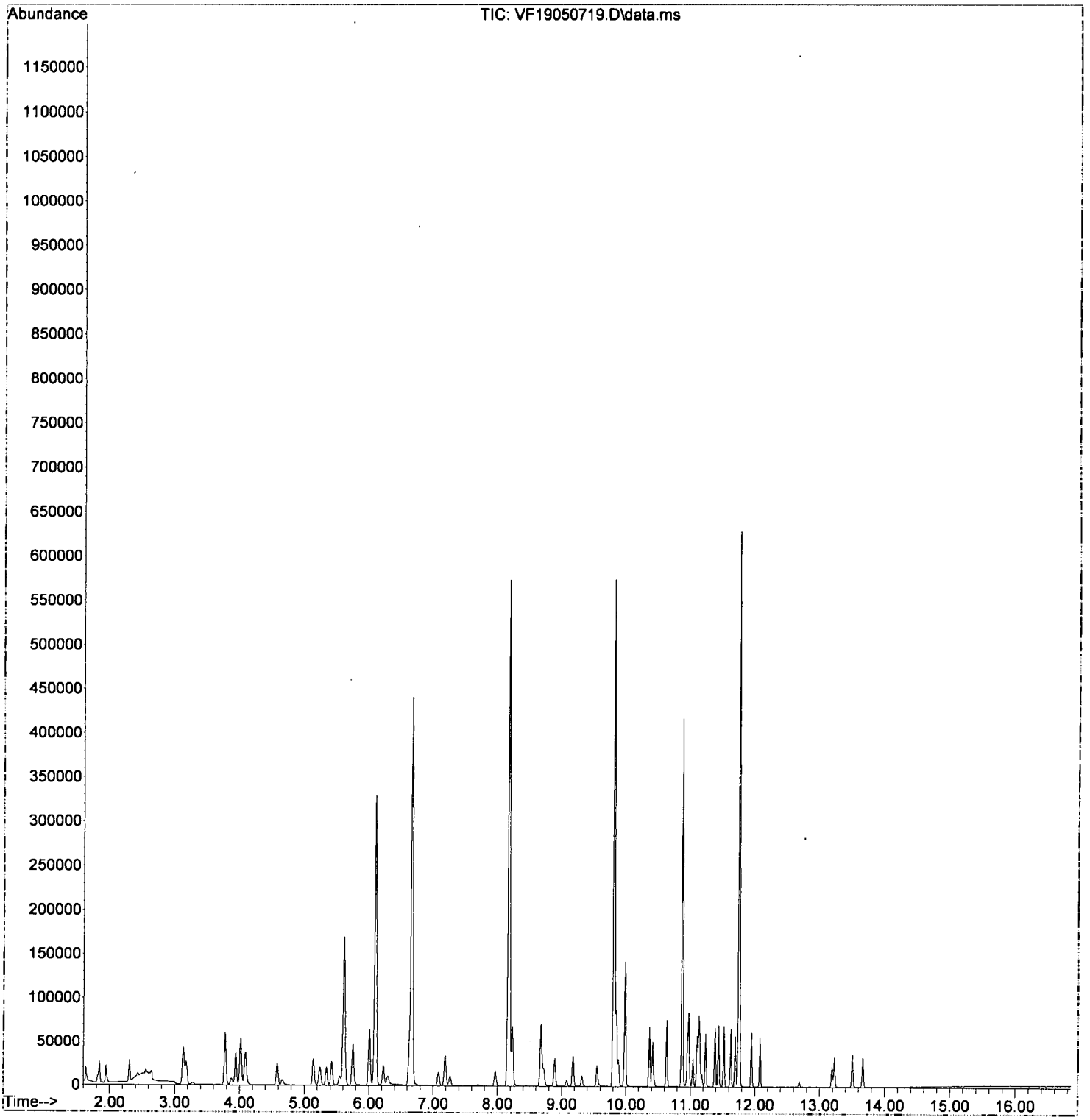
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.822	112	32582	4.91	ug/L		94
50)	Ethylbenzene	9.846	91	53767	4.68	ug/L		97
51)	1,1,1,2-Tetrachloroethane	9.882	131	4779	3.43	ug/L		94
52)	m,p-Xylenes (2)	9.980	91	76311	8.96	ug/L		96
53)	o-Xylene	10.363	91	35546	4.44	ug/L		95
54)	Styrene	10.412	104	22451	3.98	ug/L		96
55)	Bromoform	10.436	173	2131	3.36	ug/L		98
56)	Isopropylbenzene	10.631	105	42773	4.49	ug/L		97
59)	Bromobenzene	10.953	156	11371	4.81	ug/L		86
60)	n-Propylbenzene	10.971	91	49128	4.63	ug/L		96
61)	1,1,2,2-Tetrachloroethane	11.038	83	11560	4.19	ug/L		98
62)	2-Chlorotoluene	11.105	126	9901	4.68	ug/L		84
63)	1,3,5-Trimethylbenzene	11.130	105	31608	4.36	ug/L		98
64)	1,2,3-Trichloropropane	11.142	110	4758	4.59	ug/L	#	69
65)	t-1,4-Dichloro-2-butene	11.178	88	580	3.06	ug/L	#	27
66)	4-Chlorotoluene	11.233	91	30163	4.70	ug/L		96
67)	tert-Butylbenzene	11.379	91	18826	4.61	ug/L		89
68)	1,2,4-Trimethylbenzene	11.434	105	32438	4.41	ug/L		100
69)	sec-Butylbenzene	11.519	105	39097	4.59	ug/L		96
70)	4-Isopropyltoluene	11.628	119	30161	4.29	ug/L		95
71)	1,3-Dichlorobenzene	11.695	146	19402	4.75	ug/L		97
72)	1,4-Dichlorobenzene	11.762	146	20284	4.78	ug/L		97
73)	n-Butylbenzene	11.945	91	27019	4.48	ug/L		93
74)	1,2-Dichlorobenzene	12.079	146	18432	4.69	ug/L		97
75)	1,2-Dibromo-3-Chloropr...	12.681	157	1033	3.17	ug/L	#	12
76)	Hexachlorobutadiene	13.192	223	2590	4.71	ug/L		91
77)	1,2,4-Trichlorobenzene	13.228	180	9487	4.30	ug/L		98
78)	Naphthalene	13.502	128	26502	3.61	ug/L		99
79)	1,2,3-Trichlorobenzene	13.660	180	9947	4.45	ug/L		95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050719.D
Acq On : 7 May 2019 10:31 pm
Operator : TB
Sample : 9E07048-CAL6
Misc : 1X 5ppb VOC MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:41 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050720.D
Acq On : 7 May 2019 10:58 pm
Operator : TB
Sample : 9E07048-CAL7
Misc : 1X 10ppb VOC MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:43 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	264477	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	318211	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	137625	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.611	111	104380	46.54	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.664	114	404994	49.42	ug/L		0.00
39) Toluene-d8 (S)	8.172	98	462102	47.41	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.874	174	109811	52.51	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.633	85	23615	9.41	ug/L		96
3) Chloromethane	1.846	50	33122	8.97	ug/L		97
4) Vinyl Chloride	1.943	62	34298	9.37	ug/L		93
5) Bromomethane	2.308	96	23602	10.82	ug/L		100
6) Chloroethane	2.436	64	4425	8.83	ug/L	#	38
7) Trichlorofluoromethane	2.563	101	5854	8.85	ug/L		96
8) 1,1-Dichloroethene	3.135	61	43446	9.04	ug/L		79
9) Carbon Disulfide	3.148	76	47292	8.26	ug/L		99
10) Freon 113	3.184	101	27267	9.42	ug/L		85
11) Iodomethane	3.287	142	8901	8.49	ug/L		93
12) Methylene Chloride	3.780	84	42775	11.24	ug/L		90
13) Acetone	3.871	43	25591	17.64	ug/L		91
14) t-1,2-Dichloroethene	3.944	61	43282	9.16	ug/L		97
15) n-Hexane	4.024	86	7751	10.16	ug/L	#	87
16) Methyl-tert-butyl-ether	4.090	73	82410	8.86	ug/L		99
17) 1,1-Dichloroethane	4.583	63	54444	8.93	ug/L		98
18) Acrylonitrile	4.656	53	13862	8.82	ug/L		94
19) c-1,2-Dichloroethene	5.137	61	40226	8.96	ug/L		91
20) 2,2-Dichloropropane	5.240	77	25977	8.63	ug/L		71
21) Bromochloromethane	5.344	49	24444	9.16	ug/L		88
22) Chloroform	5.423	83	48731	9.14	ug/L		96
23) Carbon Tetrachloride	5.550	117	17551	8.37	ug/L		98
24) Tetrahydrofuran	5.605	42	13580	8.56	ug/L		94
25) 1,1,1-Trichloroethane	5.623	97	34343	8.77	ug/L		95
27) 1,1-Dichloropropene	5.751	75	40206	9.09	ug/L		99
28) 2-Butanone (MEK)	5.757	43	37307	17.28	ug/L		95
29) Benzene	6.007	78	124874	9.26	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.226	62	42029	9.06	ug/L		97
31) iso-Butyl Alcohol	6.293	43	23588	174.87	ug/L		96
33) Trichloroethene (TCE)	6.627	130	29569	9.09	ug/L		92
34) Dibromomethane	7.084	93	15288	8.84	ug/L		90
35) 1,2-Dichloropropane	7.187	63	30050	9.32	ug/L		98
36) Bromodichloromethane	7.260	83	19606	8.06	ug/L		99
38) c-1,3-Dichloropropene	7.966	75	26031	7.43	ug/L		85
40) Toluene	8.227	91	124435	9.17	ug/L		98
41) Tetrachloroethene (PCE)	8.677	166	29011	8.86	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.677	43	65586	16.49	ug/L		91
43) t-1,3-Dichloropropene	8.714	75	22208	7.38	ug/L		94
44) 1,1,2-Trichloroethane	8.890	97	23330	8.72	ug/L		92
45) Dibromochloromethane	9.079	129	10099	7.42	ug/L		90
46) 1,3-Dichloropropane	9.176	76	45205	8.88	ug/L		91
47) 1,2-Dibromoethane (EDB)	9.310	107	19791	8.00	ug/L		98
48) 2-Hexanone	9.547	43	42844	16.04	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050720.D
Acq On : 7 May 2019 10:58 pm
Operator : TB
Sample : 9E07048-CAL7
Misc : 1X 10ppb VOC MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:43 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

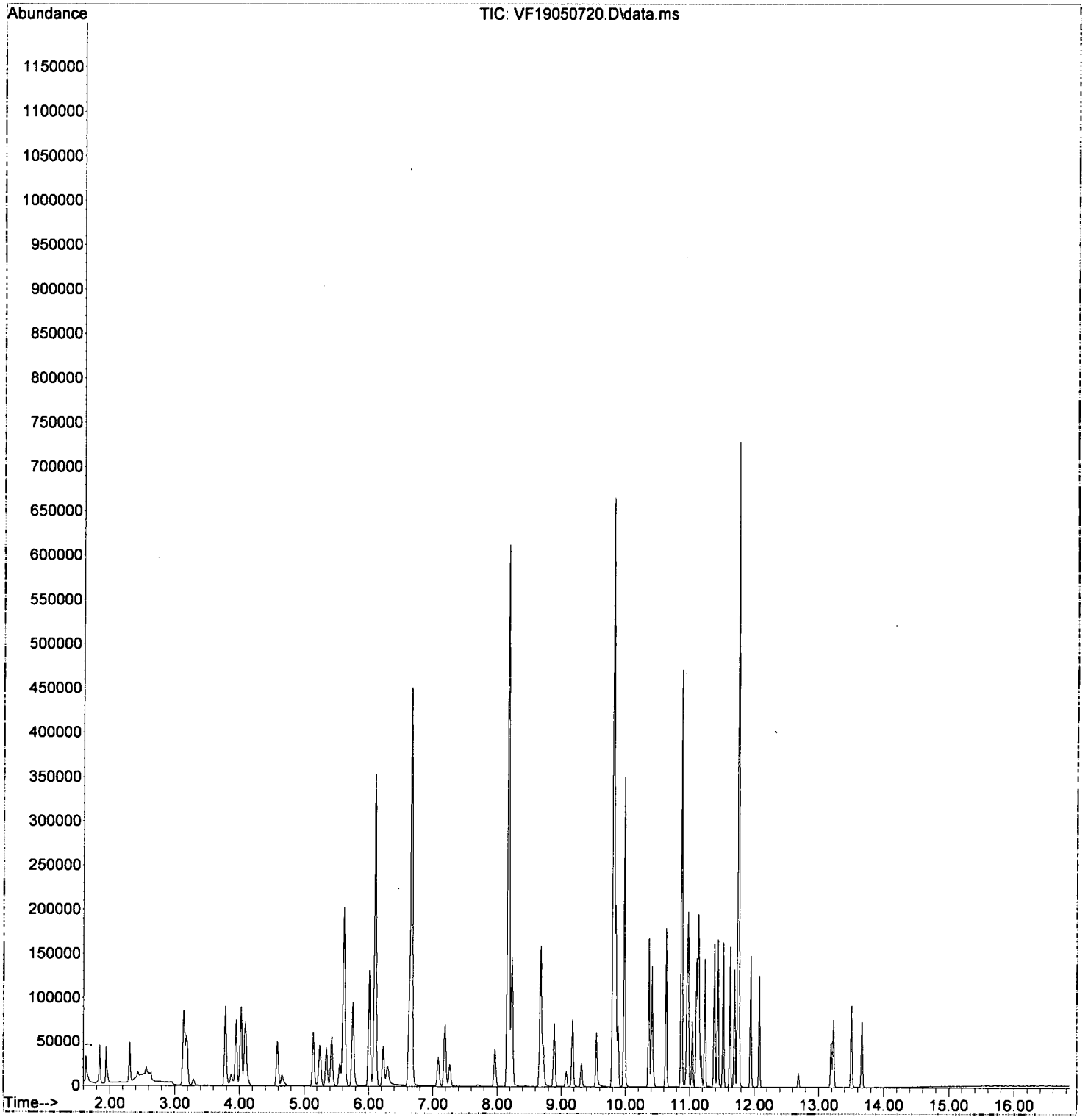
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	74844	9.90	ug/L		96
50) Ethylbenzene	9.845	91	123904	9.46	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.882	131	12247	7.72	ug/L		98
52) m,p-Xylenes (2)	9.979	91	180873	18.63	ug/L		96
53) o-Xylene	10.363	91	85079	9.33	ug/L		96
54) Styrene	10.411	104	56305	8.76	ug/L		95
55) Bromoform	10.435	173	5401	7.48	ug/L		98
56) Isopropylbenzene	10.630	105	101605	9.36	ug/L		97
59) Bromobenzene	10.959	156	26129	10.11	ug/L		95
60) n-Propylbenzene	10.971	91	115664	9.96	ug/L		97
61) 1,1,2,2-Tetrachloroethane	11.038	83	27257	9.04	ug/L		99
62) 2-Chlorotoluene	11.105	126	23610	10.21	ug/L		94
63) 1,3,5-Trimethylbenzene	11.129	105	77527	9.78	ug/L		97
64) 1,2,3-Trichloropropane	11.147	110	10739	9.47	ug/L	#	79
65) t-1,4-Dichloro-2-butene	11.178	88	1656	7.98	ug/L	#	47
66) 4-Chlorotoluene	11.232	91	71020	10.13	ug/L		97
67) tert-Butylbenzene	11.378	91	44486	9.97	ug/L		83
68) 1,2,4-Trimethylbenzene	11.439	105	78156	9.72	ug/L		100
69) sec-Butylbenzene	11.518	105	92413	9.93	ug/L		97
70) 4-Isopropyltoluene	11.628	119	73579	9.57	ug/L		98
71) 1,3-Dichlorobenzene	11.695	146	42681	9.56	ug/L		97
72) 1,4-Dichlorobenzene	11.762	146	44850	9.67	ug/L		98
73) n-Butylbenzene	11.944	91	65332	9.90	ug/L		93
74) 1,2-Dichlorobenzene	12.078	146	40089	9.33	ug/L		98
75) 1,2-Dibromo-3-Chloropr...	12.686	157	2666	7.48	ug/L	#	50
76) Hexachlorobutadiene	13.191	223	5590	9.29	ug/L		97
77) 1,2,4-Trichlorobenzene	13.228	180	21384	8.87	ug/L		98
78) Naphthalene	13.502	128	66084	8.22	ug/L		99
79) 1,2,3-Trichlorobenzene	13.666	180	21895	8.96	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050720.D
Acq On : 7 May 2019 10:58 pm
Operator : TB
Sample : 9E07048-CAL7
Misc : 1X 10ppb VOC MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:43 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050721.D
Acq On : 7 May 2019 11:25 pm
Operator : TB
Sample : 9E07048-CAL8
Misc : 1X 20ppb VOC MeOH
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.097	168	247283	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.802	117	274550	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	127087	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	104852	50.00	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.657	114	383139	50.00	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	420491	50.00	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.873	174	96557	50.00	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.632	85	46922	20.00	ug/L		97
3) Chloromethane	1.839	50	69024	20.00	ug/L		97
4) Vinyl Chloride	1.942	62	68436	20.00	ug/L		96
5) Bromomethane	2.301	96	40782	20.00	ug/L		96
6) Chloroethane	2.423	64	9373	20.00	ug/L		76
7) Trichlorofluoromethane	2.557	101	12368	20.00	ug/L		96
8) 1,1-Dichloroethene	3.123	61	89848	20.00	ug/L		78
9) Carbon Disulfide	3.141	76	107117	20.00	ug/L		99
10) Freon 113	3.177	101	54116	20.00	ug/L		82
11) Iodomethane	3.281	142	19614	20.00	ug/L		97
12) Methylene Chloride	3.773	84	71195	20.00	ug/L		89
13) Acetone	3.865	43	54252	40.00	ug/L		93
14) t-1,2-Dichloroethene	3.938	61	88360	20.00	ug/L		95
15) n-Hexane	4.017	86	14259	20.00	ug/L	#	91
16) Methyl-tert-butyl-ether	4.084	73	173881	20.00	ug/L		97
17) 1,1-Dichloroethane	4.576	63	114004	20.00	ug/L		98
18) Acrylonitrile	4.649	53	29390	20.00	ug/L		100
19) c-1,2-Dichloroethene	5.136	61	83939	20.00	ug/L		92
20) 2,2-Dichloropropane	5.240	77	56267	20.00	ug/L		81
21) Bromochloromethane	5.337	49	49879	20.00	ug/L		87
22) Chloroform	5.422	83	99732	20.00	ug/L		96
23) Carbon Tetrachloride	5.544	117	39228	20.00	ug/L		96
24) Tetrahydrofuran	5.598	42	29649	20.00	ug/L		95
25) 1,1,1-Trichloroethane	5.617	97	73208	20.00	ug/L		94
27) 1,1-Dichloropropene	5.745	75	82690	20.00	ug/L		98
28) 2-Butanone (MEK)	5.751	43	80726	40.00	ug/L		97
29) Benzene	6.000	78	252305	20.00	ug/L		96
30) 1,2-Dichloroethane (EDC)	6.219	62	86737	20.00	ug/L		98
31) iso-Butyl Alcohol	6.286	43	63060	500.00	ug/L		98
33) Trichloroethene (TCE)	6.621	130	60828	20.00	ug/L		93
34) Dibromomethane	7.077	93	32324	20.00	ug/L		84
35) 1,2-Dichloropropane	7.180	63	60316	20.00	ug/L		98
36) Bromodichloromethane	7.259	83	45494	20.00	ug/L		98
38) c-1,3-Dichloropropene	7.965	75	60464	20.00	ug/L		89
40) Toluene	8.227	91	234051	20.00	ug/L		99
41) Tetrachloroethene (PCE)	8.671	166	56499	20.00	ug/L		92
42) 4-Methyl-2-Pentanone (...	8.677	43	137264	40.00	ug/L		93
43) t-1,3-Dichloropropene	8.713	75	51961	20.00	ug/L		95
44) 1,1,2-Trichloroethane	8.890	97	46171	20.00	ug/L		92
45) Dibromochloromethane	9.078	129	23476	20.00	ug/L		95
46) 1,3-Dichloropropane	9.169	76	88346	20.00	ug/L		90
47) 1,2-Dibromoethane (EDB)	9.309	107	42675	20.00	ug/L		99
48) 2-Hexanone	9.547	43	92169	40.00	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050721.D
Acq On : 7 May 2019 11:25 pm
Operator : TB
Sample : 9E07048-CAL8
Misc : 1X 20ppb VOC MeOH
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

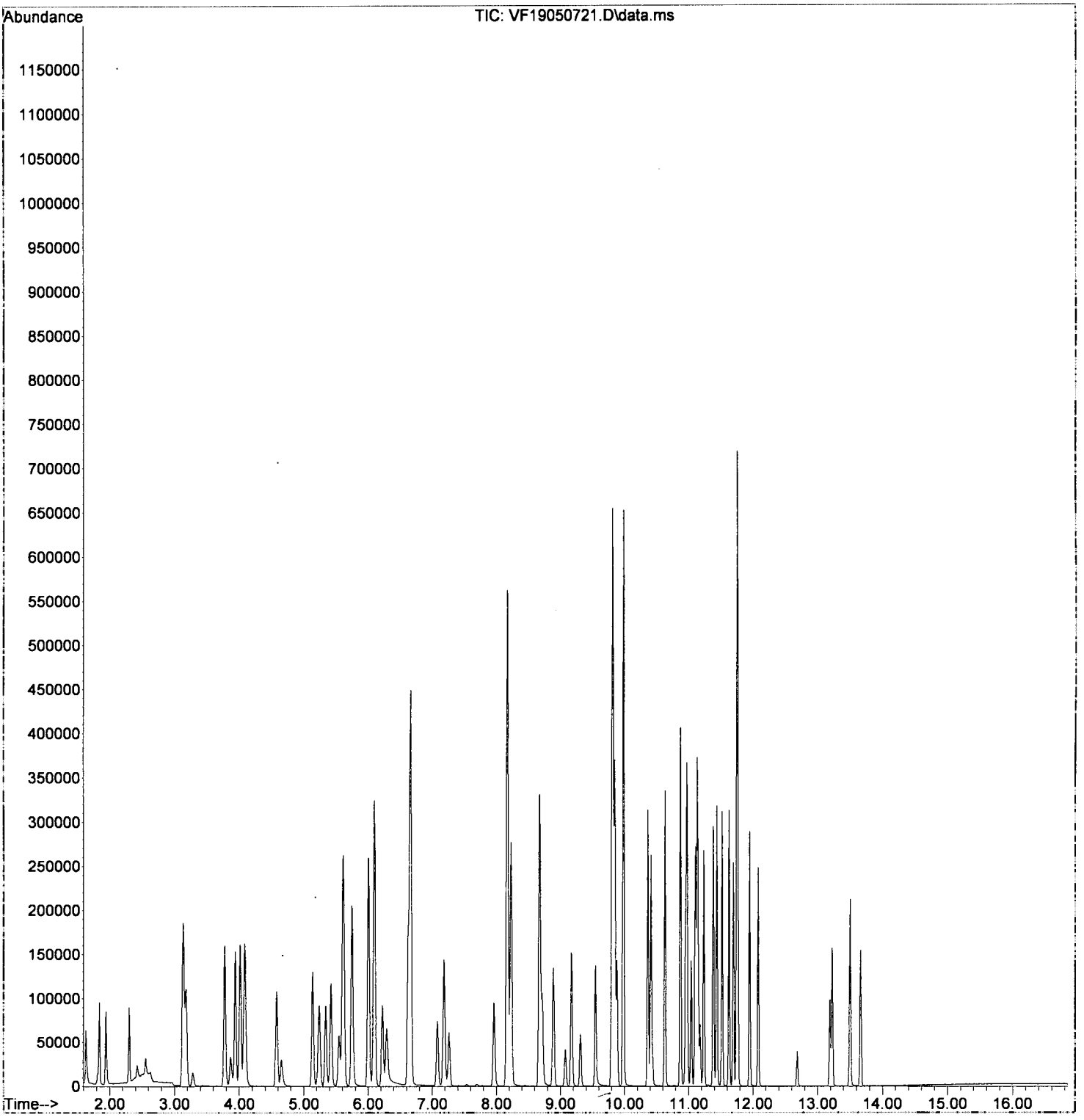
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.820	112	130501	20.00	ug/L		98
50) Ethylbenzene	9.845	91	225958	20.00	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.881	131	27384	20.00	ug/L		97
52) m,p-Xylenes (2)	9.979	91	334982	40.00	ug/L		94
53) o-Xylene	10.362	91	157388	20.00	ug/L		97
54) Styrene	10.411	104	110271	19.89	ug/L		93
55) Bromoform	10.435	173	12454	20.00	ug/L		96
56) Isopropylbenzene	10.630	105	187296	20.00	ug/L		97
59) Bromobenzene	10.952	156	47722	20.00	ug/L		86
60) n-Propylbenzene	10.970	91	214448	20.00	ug/L		96
61) 1,1,2,2-Tetrachloroethane	11.037	83	55658	20.00	ug/L		98
62) 2-Chlorotoluene	11.104	126	42696	20.00	ug/L		85
63) 1,3,5-Trimethylbenzene	11.128	105	146436	20.00	ug/L		97
64) 1,2,3-Trichloropropane	11.147	110	20933	20.00	ug/L	#	76
65) t-1,4-Dichloro-2-butene	11.177	88	3834	20.00	ug/L	#	63
66) 4-Chlorotoluene	11.232	91	129493	20.00	ug/L		95
67) tert-Butylbenzene	11.378	91	82417	20.00	ug/L		87
68) 1,2,4-Trimethylbenzene	11.439	105	148515	20.00	ug/L		100
69) sec-Butylbenzene	11.518	105	171858	20.00	ug/L		98
70) 4-Isopropyltoluene	11.627	119	141976	20.00	ug/L		97
71) 1,3-Dichlorobenzene	11.694	146	82474	20.00	ug/L		97
72) 1,4-Dichlorobenzene	11.761	146	85622	20.00	ug/L		98
73) n-Butylbenzene	11.944	91	121885	20.00	ug/L		96
74) 1,2-Dichlorobenzene	12.077	146	79323	20.00	ug/L		98
75) 1,2-Dibromo-3-Chloropr...	12.686	157	6583	20.00	ug/L	#	44
76) Hexachlorobutadiene	13.191	223	11108	20.00	ug/L		99
77) 1,2,4-Trichlorobenzene	13.227	180	44542	20.00	ug/L		99
78) Naphthalene	13.501	128	148411	20.00	ug/L		99
79) 1,2,3-Trichlorobenzene	13.665	180	45148	20.00	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050721.D
Acq On : 7 May 2019 11:25 pm
Operator : TB
Sample : 9E07048-CAL8
Misc : 1X 20ppb VOC MeOH
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050722.D
Acq On : 7 May 2019 11:52 pm
Operator : TB
Sample : 9E07048-CAL9
Misc : 1X 50ppb VOC MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:47 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	267251	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	329813	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	153580	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	111422	49.16	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	412030	49.75	ug/L		0.00
39) Toluene-d8 (S)	8.167	98	467669	46.29	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.868	174	117904	50.52	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.621	85	142427	56.17	ug/L		98
3) Chloromethane	1.834	50	191344	51.30	ug/L		98
4) Vinyl Chloride	1.931	62	198169	53.59	ug/L		96
5) Bromomethane	2.290	96	111651	50.66	ug/L		97
6) Chloroethane	2.418	64	25200	49.75	ug/L		89
7) Trichlorofluoromethane	2.545	101	32243	48.24	ug/L		98
8) 1,1-Dichloroethene	3.123	61	240834	49.60	ug/L		80
9) Carbon Disulfide	3.136	76	331432	57.26	ug/L		99
10) Freon 113	3.172	101	147538	50.45	ug/L		82
11) Iodomethane	3.282	142	85623	80.78	ug/L		91
12) Methylene Chloride	3.768	84	158529	41.21	ug/L		88
13) Acetone	3.853	43	131619	89.79	ug/L		93
14) t-1,2-Dichloroethene	3.932	61	234688	49.15	ug/L		96
15) n-Hexane	4.012	86	35578	46.17	ug/L	#	85
16) Methyl-tert-butyl-ether	4.072	73	465822	49.58	ug/L		98
17) 1,1-Dichloroethane	4.571	63	295880	48.03	ug/L		98
18) Acrylonitrile	4.644	53	77245	48.64	ug/L		97
19) c-1,2-Dichloroethene	5.131	61	219981	48.50	ug/L		92
20) 2,2-Dichloropropane	5.234	77	162582	53.47	ug/L		89
21) Bromochloromethane	5.332	49	126903	47.08	ug/L		89
22) Chloroform	5.417	83	264234	49.03	ug/L		96
23) Carbon Tetrachloride	5.545	117	126590	59.72	ug/L		96
24) Tetrahydrofuran	5.587	42	74940	46.77	ug/L		95
25) 1,1,1-Trichloroethane	5.618	97	215695	54.52	ug/L		96
27) 1,1-Dichloropropene	5.745	75	224805	50.31	ug/L		98
28) 2-Butanone (MEK)	5.739	43	207080	94.94	ug/L		97
29) Benzene	6.001	78	656370	48.14	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.220	62	220556	47.06	ug/L		98
31) iso-Butyl Alcohol	6.275	43	199734	1465.36	ug/L		96
33) Trichloroethene (TCE)	6.621	130	163754	49.82	ug/L		95
34) Dibromomethane	7.078	93	86980	49.80	ug/L		89
35) 1,2-Dichloropropane	7.181	63	161209	49.46	ug/L		98
36) Bromodichloromethane	7.260	83	144826	58.91	ug/L		97
38) c-1,3-Dichloropropene	7.960	75	189721	52.24	ug/L		89
40) Toluene	8.221	91	652612	46.42	ug/L		99
41) Tetrachloroethene (PCE)	8.671	166	156090	46.00	ug/L		92
42) 4-Methyl-2-Pentanone (...	8.671	43	398605	96.69	ug/L		95
43) t-1,3-Dichloropropene	8.714	75	174126	55.79	ug/L		95
44) 1,1,2-Trichloroethane	8.884	97	128440	46.31	ug/L		95
45) Dibromochloromethane	9.073	129	86639	61.44	ug/L		96
46) 1,3-Dichloropropane	9.170	76	243237	45.84	ug/L		91
47) 1,2-Dibromoethane (EDB)	9.310	107	128621	50.18	ug/L		99
48) 2-Hexanone	9.541	43	280127	101.20	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050722.D
Acq On : 7 May 2019 11:52 pm
Operator : TB
Sample : 9E07048-CAL9
Misc : 1X 50ppb VOC MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

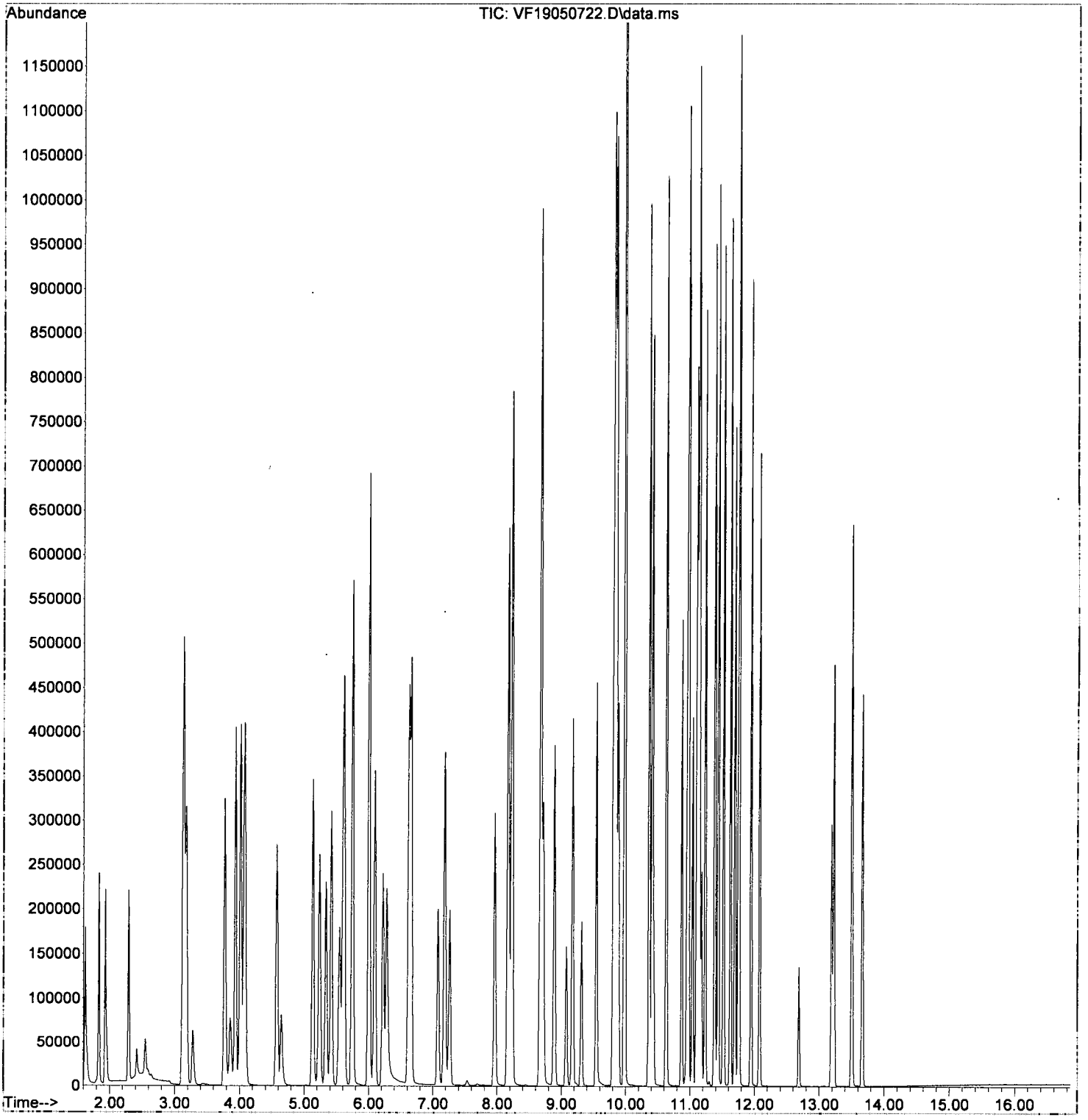
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	392199	50.04	ug/L		98
50) Ethylbenzene	9.846	91	684347	50.42	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.882	131	99762	60.65	ug/L		99
52) m,p-Xylenes (2)	9.979	91	1024139	101.80	ug/L		97
53) o-Xylene	10.363	91	494845	52.35	ug/L		97
54) Styrene	10.411	104	367293	55.14	ug/L		95
55) Bromoform	10.436	173	50592	67.63	ug/L		99
56) Isopropylbenzene	10.630	105	585625	52.06	ug/L		99
59) Bromobenzene	10.953	156	145102	50.32	ug/L		89
60) n-Propylbenzene	10.971	91	668617	51.60	ug/L		96
61) 1,1,2,2-Tetrachloroethane	11.038	83	165500	49.21	ug/L		99
62) 2-Chlorotoluene	11.099	126	133819	51.87	ug/L	#	80
63) 1,3,5-Trimethylbenzene	11.129	105	457542	51.71	ug/L		98
64) 1,2,3-Trichloropropane	11.147	110	60249	47.63	ug/L	#	81
65) t-1,4-Dichloro-2-butene	11.178	88	16499	71.22	ug/L		93
66) 4-Chlorotoluene	11.233	91	401605	51.33	ug/L		97
67) tert-Butylbenzene	11.379	91	255683	51.34	ug/L		87
68) 1,2,4-Trimethylbenzene	11.433	105	457137	50.94	ug/L		98
69) sec-Butylbenzene	11.519	105	532289	51.26	ug/L		98
70) 4-Isopropyltoluene	11.628	119	446740	52.08	ug/L		98
71) 1,3-Dichlorobenzene	11.695	146	248657	49.90	ug/L		98
72) 1,4-Dichlorobenzene	11.762	146	254182	49.13	ug/L		99
73) n-Butylbenzene	11.944	91	379675	51.55	ug/L		96
74) 1,2-Dichlorobenzene	12.078	146	232496	48.51	ug/L		99
75) 1,2-Dibromo-3-Chloropr...	12.687	157	26288	66.09	ug/L		77
76) Hexachlorobutadiene	13.191	223	33246	49.53	ug/L		98
77) 1,2,4-Trichlorobenzene	13.222	180	133873	49.74	ug/L		98
78) Naphthalene	13.502	128	456299	50.88	ug/L		99
79) 1,2,3-Trichlorobenzene	13.666	180	132079	48.42	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050722.D
Acq On : 7 May 2019 11:52 pm
Operator : TB
Sample : 9E07048-CAL9
Misc : 1X 50ppb VOC MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050723.D
Acq On : 8 May 2019 12:19 am
Operator : TB
Sample : 9E07048-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

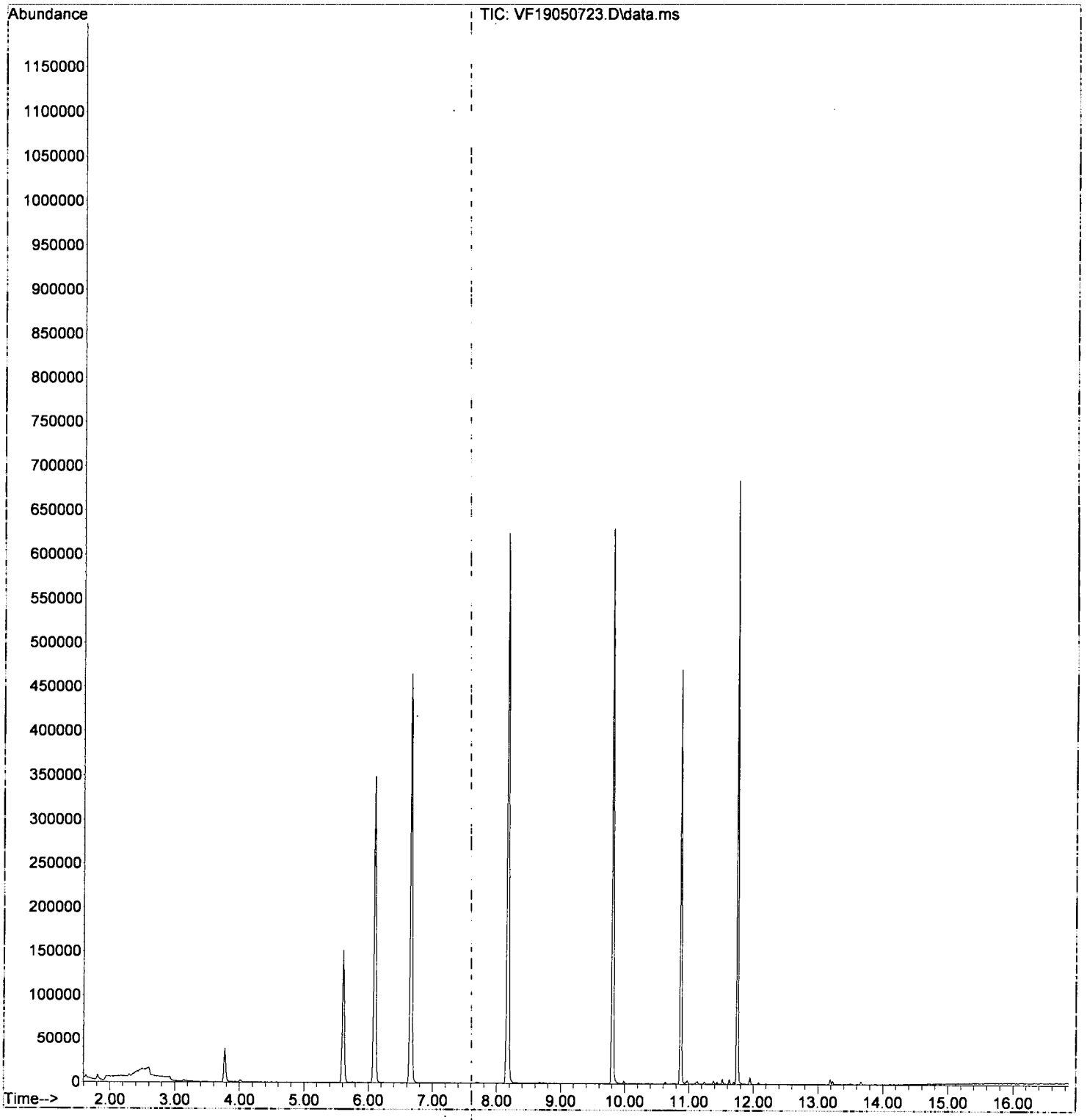
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.096	168	267959	50.00 ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	327429	50.00 ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	140340	50.00 ug/L		0.00
System Monitoring Compounds						
26) Dibromofluoromethane (S)	5.604	111	101432	47.18 ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.656	114	412382	49.81 ug/L		0.00
39) Toluene-d8 (S)	8.165	98	473267	48.89 ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	113704	52.62 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.625	85	356	0.14 ug/L		82
3) Chloromethane	1.838	50	631	0.17 ug/L		86
5) Bromomethane	2.300	96	1170	0.52 ug/L		89
9) Carbon Disulfide	3.146	76	1804	0.53 ug/L		86
10) Freon 113	3.170	101	608	0.22 ug/L	#	69
11) Iodomethane	3.286	142	410	1.40 ug/L	#	83
12) Methylene Chloride	3.772	84	18030	1.33 ug/L		87
13) Acetone	3.864	43	1398	1.02 ug/L		80
14) t-1,2-Dichloroethene	3.937	61	613	0.14 ug/L		98
27) 1,1-Dichloropropene	5.743	75	565	0.14 ug/L	#	66
28) 2-Butanone (MEK)	5.756	43	215	0.10 ug/L		54
33) Trichloroethene (TCE)	6.620	130	345	0.11 ug/L	#	79
41) Tetrachloroethene (PCE)	8.676	166	632	0.21 ug/L		92
49) Chlorobenzene	9.819	112	921	0.12 ug/L	#	1
50) Ethylbenzene	9.850	91	1271	0.10 ug/L		84
52) m,p-Xylenes (2)	9.984	91	2009	0.22 ug/L		98
54) Styrene	10.416	104	346	0.24 ug/L	#	41
56) Isopropylbenzene	10.629	105	1471	0.15 ug/L		96
59) Bromobenzene	10.957	156	230	0.09 ug/L	#	78
60) n-Propylbenzene	10.975	91	2680	0.24 ug/L		99
62) 2-Chlorotoluene	11.109	126	287	0.13 ug/L	#	74
63) 1,3,5-Trimethylbenzene	11.133	105	1491	0.21 ug/L		96
66) 4-Chlorotoluene	11.237	91	1122	0.17 ug/L		91
67) tert-Butylbenzene	11.377	91	1260	0.30 ug/L		79
68) 1,2,4-Trimethylbenzene	11.438	105	1366	0.19 ug/L		91
69) sec-Butylbenzene	11.517	105	3620	0.42 ug/L		91
70) 4-Isopropyltoluene	11.626	119	2751	0.38 ug/L		94
71) 1,3-Dichlorobenzene	11.699	146	1117	0.26 ug/L		92
72) 1,4-Dichlorobenzene	11.760	146	1279	0.27 ug/L	#	75
73) n-Butylbenzene	11.949	91	3906	0.63 ug/L		94
74) 1,2-Dichlorobenzene	12.082	146	687	0.17 ug/L		92
76) Hexachlorobutadiene	13.190	223	621	1.08 ug/L		96
77) 1,2,4-Trichlorobenzene	13.226	180	1342	0.62 ug/L		86
78) Naphthalene	13.500	128	1186	0.55 ug/L		80
79) 1,2,3-Trichlorobenzene	13.664	180	1151	0.52 ug/L	#	68

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050723.D
Acq On : 8 May 2019 12:19 am
Operator : TB
Sample : 9E07048-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050724.D
Acq On : 8 May 2019 12:46 am
Operator : TB
Sample : 9E07048-CALA
Misc : 1X 100ppb VOC MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	283012	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	334077	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.747	152	156244	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.603	111	121970	50.82	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.655	114	434050	49.49	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	488712	47.76	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	115967	48.84	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	284874	106.10	ug/L		97
3) Chloromethane	1.843	50	382793	96.91	ug/L		98
4) Vinyl Chloride	1.941	62	379506	96.91	ug/L		97
5) Bromomethane	2.300	96	198553	85.08	ug/L		98
6) Chloroethane	2.427	64	44440	82.85	ug/L		92
7) Trichlorofluoromethane	2.555	101	61776	87.29	ug/L		99
8) 1,1-Dichloroethene	3.127	61	484753	94.28	ug/L		81
9) Carbon Disulfide	3.139	76	729573	119.02	ug/L		99
10) Freon 113	3.176	101	298770	96.48	ug/L		84
11) Iodomethane	3.279	142	183342	163.35	ug/L		92
12) Methylene Chloride	3.772	84	303916	74.60	ug/L		89
13) Acetone	3.863	43	275471	177.46	ug/L		95
14) t-1,2-Dichloroethene	3.936	61	486614	96.24	ug/L		98
15) n-Hexane	4.015	86	73671	90.29	ug/L	#	90
16) Methyl-tert-butyl-ether	4.082	73	966419	97.13	ug/L		98
17) 1,1-Dichloroethane	4.575	63	579727	88.86	ug/L		98
18) Acrylonitrile	4.648	53	161749	96.17	ug/L		98
19) c-1,2-Dichloroethene	5.135	61	453832	94.48	ug/L		94
20) 2,2-Dichloropropane	5.238	77	344765	107.08	ug/L		91
21) Bromochloromethane	5.335	49	257506	90.22	ug/L		91
22) Chloroform	5.420	83	548790	96.16	ug/L		96
23) Carbon Tetrachloride	5.548	117	296253	131.97	ug/L		96
24) Tetrahydrofuran	5.591	42	159679	94.11	ug/L		94
25) 1,1,1-Trichloroethane	5.615	97	465951	111.22	ug/L		96
27) 1,1-Dichloropropene	5.743	75	469859	99.30	ug/L		98
28) 2-Butanone (MEK)	5.743	43	437402	189.37	ug/L		95
29) Benzene	6.004	78	1353074	93.72	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.223	62	450418	90.75	ug/L		98
31) iso-Butyl Alcohol	6.290	43	517270	3583.63	ug/L		93
33) Trichloroethene (TCE)	6.619	130	340985	97.96	ug/L		93
34) Dibromomethane	7.075	93	183362	99.13	ug/L		88
35) 1,2-Dichloropropane	7.179	63	333077	96.50	ug/L		100
36) Bromodichloromethane	7.258	83	330159	126.82	ug/L		99
38) c-1,3-Dichloropropene	7.963	75	428450	116.47	ug/L		91
40) Toluene	8.225	91	1331277	93.49	ug/L		99
41) Tetrachloroethene (PCE)	8.669	166	325857	94.80	ug/L		91
42) 4-Methyl-2-Pentanone (...	8.675	43	838408	200.79	ug/L		96
43) t-1,3-Dichloropropene	8.712	75	395344	125.06	ug/L		95
44) 1,1,2-Trichloroethane	8.888	97	262681	93.51	ug/L		94
45) Dibromochloromethane	9.077	129	209789	146.88	ug/L		96
46) 1,3-Dichloropropane	9.174	76	499607	92.95	ug/L		93
47) 1,2-Dibromoethane (EDB)	9.308	107	274641	105.78	ug/L		98
48) 2-Hexanone	9.545	43	591216	210.86	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050724.D
Acq On : 8 May 2019 12:46 am
Operator : TB
Sample : 9E07048-CALA
Misc : 1X 100ppb VOC MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

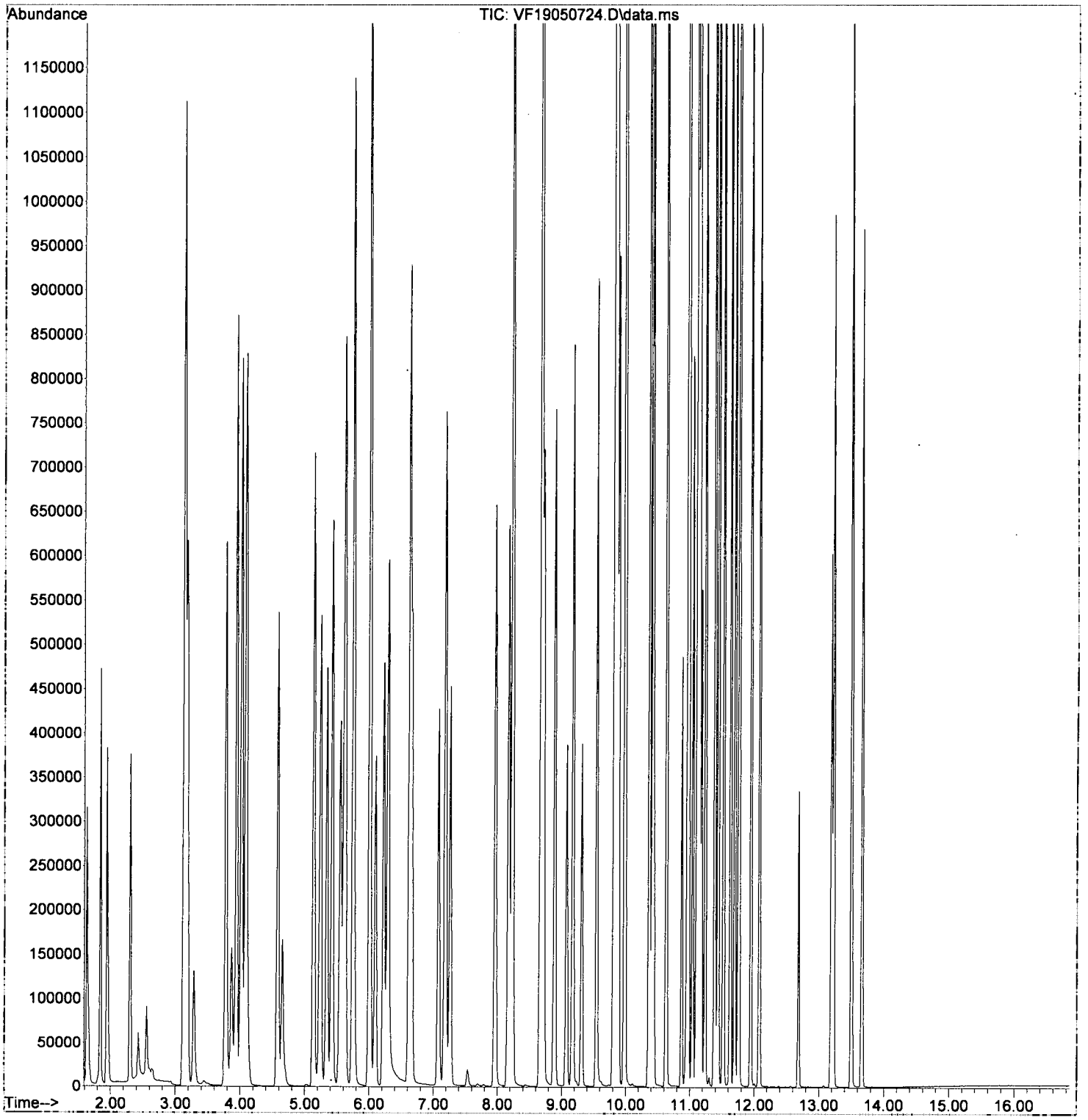
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	775570	97.68	ug/L	98
50) Ethylbenzene	9.843	91	1355629	98.61	ug/L	97
51) 1,1,1,2-Tetrachloroethane	9.880	131	228768	137.31	ug/L	98
52) m,p-Xylenes (2)	9.977	91	2053605	201.53	ug/L	97
53) o-Xylene	10.360	91	977297	102.06	ug/L	97
54) Styrene	10.409	104	736185	109.11	ug/L	94
55) Bromoform	10.433	173	132822	175.29	ug/L	98
56) Isopropylbenzene	10.628	105	1158047	101.63	ug/L	98
59) Bromobenzene	10.956	156	284944	97.13	ug/L	94
60) n-Propylbenzene	10.975	91	1317712	99.96	ug/L	98
61) 1,1,2,2-Tetrachloroethane	11.036	83	342106	99.99	ug/L	97
62) 2-Chlorotoluene	11.102	126	259978	99.06	ug/L	86
63) 1,3,5-Trimethylbenzene	11.127	105	898558	99.82	ug/L	97
64) 1,2,3-Trichloropropane	11.145	110	123481	95.96	ug/L	82
65) t-1,4-Dichloro-2-butene	11.175	88	40002	169.73	ug/L	97
66) 4-Chlorotoluene	11.236	91	778535	97.80	ug/L	99
67) tert-Butylbenzene	11.382	91	498695	98.43	ug/L	92
68) 1,2,4-Trimethylbenzene	11.437	105	897125	98.27	ug/L	99
69) sec-Butylbenzene	11.516	105	1046840	99.09	ug/L	97
70) 4-Isopropyltoluene	11.626	119	875955	100.37	ug/L	97
71) 1,3-Dichlorobenzene	11.693	146	483440	95.36	ug/L	97
72) 1,4-Dichlorobenzene	11.759	146	493681	93.80	ug/L	98
73) n-Butylbenzene	11.942	91	753712	100.60	ug/L	95
74) 1,2-Dichlorobenzene	12.076	146	456101	93.54	ug/L	98
75) 1,2-Dibromo-3-Chloropr...	12.684	157	68037	168.13	ug/L	81
76) Hexachlorobutadiene	13.189	223	64806	94.91	ug/L	99
77) 1,2,4-Trichlorobenzene	13.226	180	280911	102.60	ug/L	98
78) Naphthalene	13.499	128	996167	109.19	ug/L	99
79) 1,2,3-Trichlorobenzene	13.664	180	277018	99.82	ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050724.D
Acq On : 8 May 2019 12:46 am
Operator : TB
Sample : 9E07048-CALA
Misc : 1X 100ppb VOC MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050725.D
Acq On : 8 May 2019 1:13 am
Operator : TB
Sample : 9E07048-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	267819	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	300406	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	129798	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.606	111	103935	48.37	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	407507	49.25	ug/L		0.00
39) Toluene-d8 (S)	8.167	98	457064	51.46	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.868	174	103098	51.59	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.627	85	841	0.34	ug/L		95
3) Chloromethane	1.840	50	1886	0.52	ug/L		95
4) Vinyl Chloride	1.937	62	505	0.14	ug/L		72
5) Bromomethane	2.296	96	3276	1.47	ug/L		95
8) 1,1-Dichloroethene	3.124	61	596	0.13	ug/L		72
9) Carbon Disulfide	3.136	76	3483	0.81	ug/L		95
10) Freon 113	3.166	101	1261	0.45	ug/L	#	61
11) Iodomethane	3.282	142	1041	1.92	ug/L	#	86
12) Methylene Chloride	3.768	84	8317	Below Cal			96
13) Acetone	3.866	43	1199	0.87	ug/L		92
14) t-1,2-Dichloroethene	3.939	61	1053	0.24	ug/L		93
15) n-Hexane	4.012	86	287	0.37	ug/L		93
19) c-1,2-Dichloroethene	5.143	61	537	0.13	ug/L	#	67
22) Chloroform	5.423	83	664	0.13	ug/L		78
27) 1,1-Dichloropropene	5.752	75	946	0.23	ug/L		87
28) 2-Butanone (MEK)	5.764	43	528	0.26	ug/L		54
29) Benzene	6.013	78	1091	0.08	ug/L		80
33) Trichloroethene (TCE)	6.622	130	639	0.20	ug/L	#	73
40) Toluene	8.222	91	2295	0.18	ug/L		81
41) Tetrachloroethene (PCE)	8.672	166	986	0.35	ug/L	#	59
49) Chlorobenzene	9.815	112	1330	0.18	ug/L	#	1
50) Ethylbenzene	9.852	91	2251	0.19	ug/L		95
52) m,p-Xylenes (2)	9.986	91	3417	0.40	ug/L		95
53) o-Xylene	10.363	91	1103	0.14	ug/L		93
54) Styrene	10.412	104	460	0.26	ug/L		77
56) Isopropylbenzene	10.631	105	2232	0.24	ug/L		93
59) Bromobenzene	10.959	156	407	0.17	ug/L		89
60) n-Propylbenzene	10.977	91	4531	0.44	ug/L		99
62) 2-Chlorotoluene	11.099	126	549	0.26	ug/L		94
63) 1,3,5-Trimethylbenzene	11.129	105	2507	0.37	ug/L		94
66) 4-Chlorotoluene	11.239	91	2205	0.36	ug/L		96
67) tert-Butylbenzene	11.379	91	2213	0.57	ug/L	#	72
68) 1,2,4-Trimethylbenzene	11.440	105	2296	0.34	ug/L		92
69) sec-Butylbenzene	11.519	105	6114	0.76	ug/L		96
70) 4-Isopropyltoluene	11.628	119	4723	0.71	ug/L		94
71) 1,3-Dichlorobenzene	11.695	146	1746	0.44	ug/L		89
72) 1,4-Dichlorobenzene	11.762	146	2056	0.47	ug/L		83
73) n-Butylbenzene	11.945	91	6696	1.17	ug/L		97
74) 1,2-Dichlorobenzene	12.078	146	1157	0.31	ug/L		88
76) Hexachlorobutadiene	13.192	223	1162	2.18	ug/L		90
77) 1,2,4-Trichlorobenzene	13.228	180	2579	1.28	ug/L		96
78) Naphthalene	13.502	128	2246	0.69	ug/L		97
79) 1,2,3-Trichlorobenzene	13.660	180	2292	1.12	ug/L		82

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050725.D
Acq On : 8 May 2019 1:13 am
Operator : TB
Sample : 9E07048-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

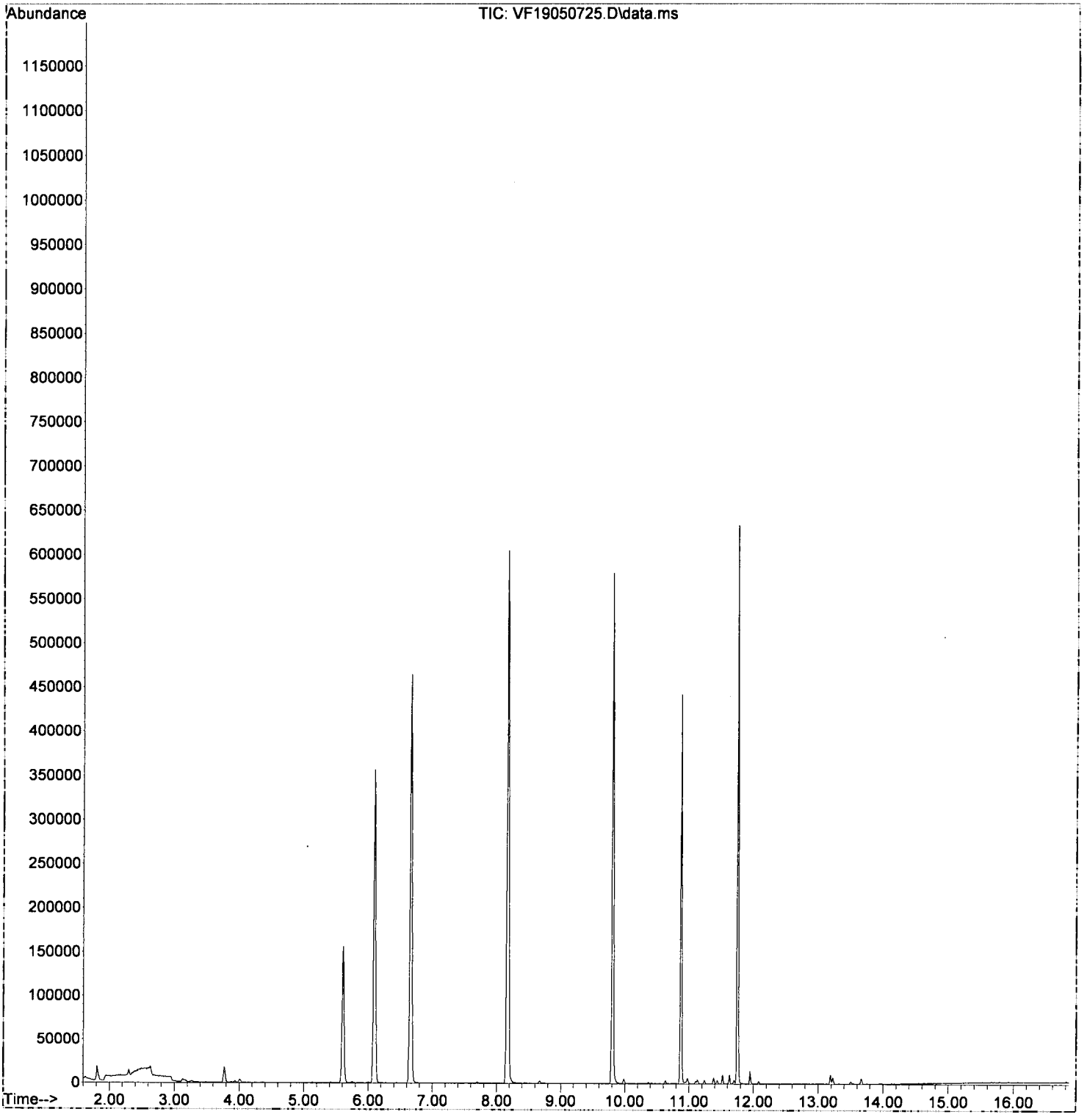
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050725.D
Acq On : 8 May 2019 1:13 am
Operator : TB
Sample : 9E07048-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050726.D
Acq On : 8 May 2019 1:40 am
Operator : TB
Sample : 9E07048-CALB
Misc : 1X 200ppb VOC MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:51 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	292078	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	382482	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.752	152	185657	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.602	111	133184	53.77	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.660	114	462700	51.12	ug/L		0.00
39) Toluene-d8 (S)	8.169	98	514201	43.89	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.870	174	136770	48.48	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.629	85	615567	222.14	ug/L		98
3) Chloromethane	1.842	50	771027	189.15	ug/L		97
4) Vinyl Chloride	1.934	62	840125	207.87	ug/L		96
5) Bromomethane	2.299	96	450898	187.21	ug/L		96
6) Chloroethane	2.426	64	99955	180.57	ug/L		96
7) Trichlorofluoromethane	2.554	101	134796	184.55	ug/L		97
8) 1,1-Dichloroethene	3.126	61	1060537	199.87	ug/L		81
9) Carbon Disulfide	3.144	76	1674733	264.74	ug/L		99
10) Freon 113	3.181	101	654791	204.88	ug/L		84
11) Iodomethane	3.284	142	519037	448.08	ug/L		91
12) Methylene Chloride	3.771	84	635093	151.05	ug/L		89
13) Acetone	3.856	43	571223	356.57	ug/L		96
14) t-1,2-Dichloroethene	3.935	61	1047640	200.76	ug/L		97
15) n-Hexane	4.014	86	154767	183.79	ug/L	#	92
16) Methyl-tert-butyl-ether	4.075	73	2232152	217.37	ug/L		97
17) 1,1-Dichloroethane	4.580	63	1166202	173.21	ug/L		97
18) Acrylonitrile	4.647	53	345965	199.32	ug/L		98
19) c-1,2-Dichloroethene	5.134	61	947367	191.11	ug/L		94
20) 2,2-Dichloropropane	5.237	77	789087	237.46	ug/L		96
21) Bromochloromethane	5.334	49	554716	188.31	ug/L		90
22) Chloroform	5.419	83	1199142	203.59	ug/L		97
23) Carbon Tetrachloride	5.547	117	741698	320.15	ug/L		96
24) Tetrahydrofuran	5.590	42	344689	196.85	ug/L		94
25) 1,1,1-Trichloroethane	5.620	97	1056735	244.42	ug/L		97
27) 1,1-Dichloropropene	5.748	75	1023128	209.51	ug/L		99
28) 2-Butanone (MEK)	5.742	43	960855	403.09	ug/L		97
29) Benzene	6.003	78	2947348	197.80	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.222	62	981773	191.66	ug/L		98
31) iso-Butyl Alcohol	6.277	43	1148494	7709.75	ug/L		93
33) Trichloroethene (TCE)	6.624	130	754687	210.08	ug/L		95
34) Dibromomethane	7.074	93	413632	216.68	ug/L		87
35) 1,2-Dichloropropane	7.184	63	726418	203.93	ug/L		99
36) Bromodichloromethane	7.257	83	802244	298.59	ug/L		99
38) c-1,3-Dichloropropene	7.962	75	1015167	241.04	ug/L		92
40) Toluene	8.224	91	2874760	176.33	ug/L		100
41) Tetrachloroethene (PCE)	8.674	166	718860	182.66	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.674	43	1832267	383.27	ug/L		98
43) t-1,3-Dichloropropene	8.711	75	955479	263.99	ug/L		96
44) 1,1,2-Trichloroethane	8.887	97	582929	181.25	ug/L		94
45) Dibromochloromethane	9.076	129	540275	330.39	ug/L		96
46) 1,3-Dichloropropane	9.173	76	1091475	177.36	ug/L		94
47) 1,2-Dibromoethane (EDB)	9.307	107	608559	204.72	ug/L		99
48) 2-Hexanone	9.538	43	1304670	406.43	ug/L		96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050726.D
Acq On : 8 May 2019 1:40 am
Operator : TB
Sample : 9E07048-CALB
Misc : 1X 200ppb VOC MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:51 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

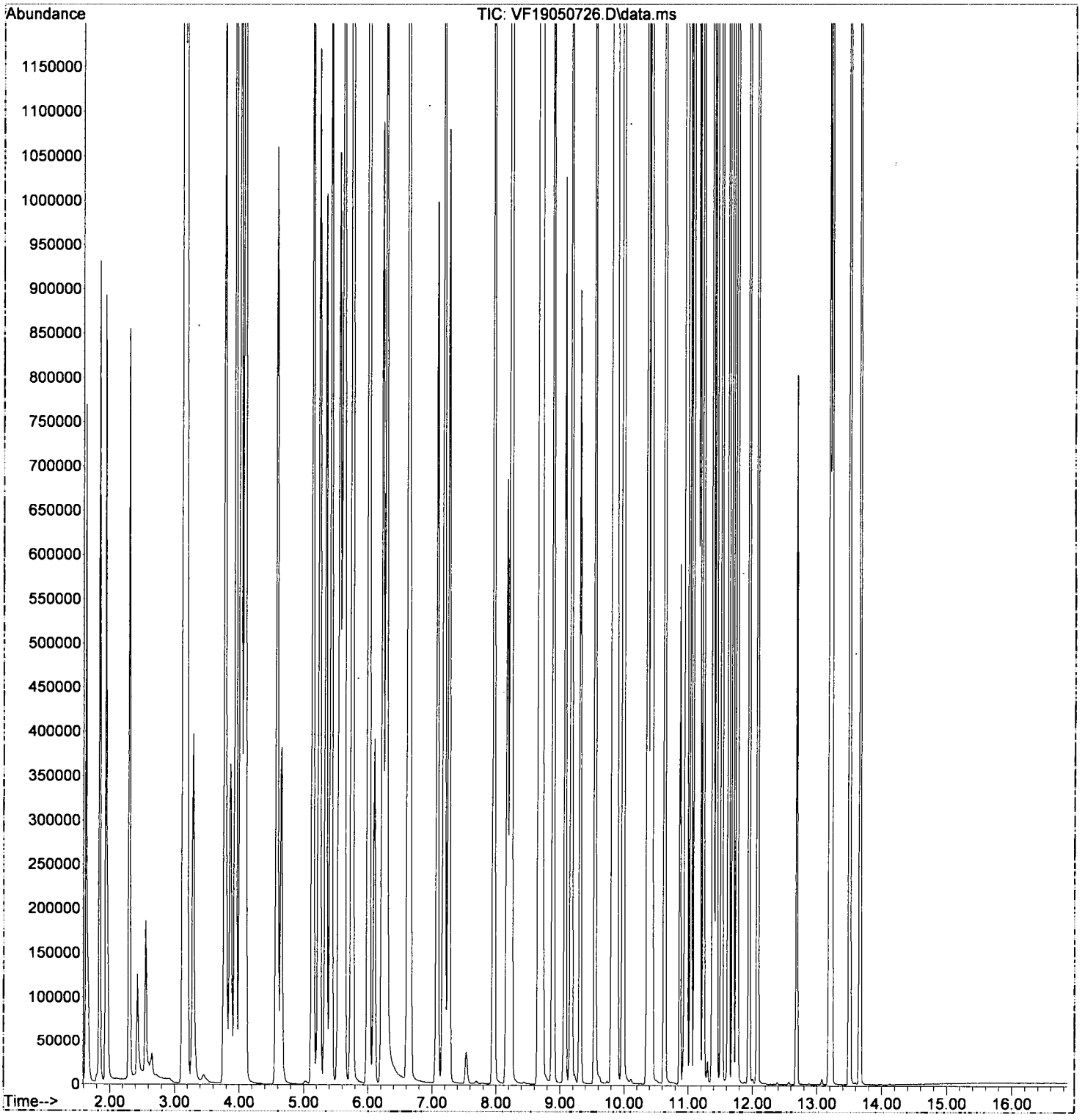
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	1783488	196.20	ug/L		96
50) Ethylbenzene	9.842	91	3128616	198.78	ug/L		98
51) 1,1,1,2-Tetrachloroethane	9.879	131	559200	293.16	ug/L		99
52) m,p-Xylenes (2)	9.982	91	4916984	421.45	ug/L		100
53) o-Xylene	10.359	91	2329915	212.52	ug/L		97
54) Styrene	10.408	104	1826906	236.51	ug/L		94
55) Bromoform	10.432	173	365594	421.44	ug/L		98
56) Isopropylbenzene	10.627	105	2723392	208.75	ug/L		99
59) Bromobenzene	10.955	156	686712	197.00	ug/L		92
60) n-Propylbenzene	10.974	91	3112598	198.71	ug/L		99
61) 1,1,2,2-Tetrachloroethane	11.041	83	754067	185.48	ug/L		99
62) 2-Chlorotoluene	11.101	126	630374	202.13	ug/L		87
63) 1,3,5-Trimethylbenzene	11.132	105	2203355	205.99	ug/L		98
64) 1,2,3-Trichloropropane	11.144	110	276178	180.62	ug/L	#	80
65) t-1,4-Dichloro-2-butene	11.174	88	106408	379.96	ug/L	#	89
66) 4-Chlorotoluene	11.235	91	1869203	197.62	ug/L		99
67) tert-Butylbenzene	11.381	91	1185300	196.89	ug/L		93
68) 1,2,4-Trimethylbenzene	11.436	105	2164127	199.50	ug/L		99
69) sec-Butylbenzene	11.515	105	2466612	196.49	ug/L		98
70) 4-Isopropyltoluene	11.625	119	2110691	203.53	ug/L		97
71) 1,3-Dichlorobenzene	11.692	146	1158673	192.34	ug/L		97
72) 1,4-Dichlorobenzene	11.758	146	1176777	188.16	ug/L		98
73) n-Butylbenzene	11.947	91	1754778	197.10	ug/L		98
74) 1,2-Dichlorobenzene	12.075	146	1085241	187.30	ug/L		99
75) 1,2-Dibromo-3-Chloropr...	12.683	157	171676	357.03	ug/L		86
76) Hexachlorobutadiene	13.188	223	148043	182.46	ug/L		98
77) 1,2,4-Trichlorobenzene	13.225	180	638432	196.23	ug/L		99
78) Naphthalene	13.498	128	2228594	205.58	ug/L		99
79) 1,2,3-Trichlorobenzene	13.663	180	614270	186.27	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050726.D
Acq On : 8 May 2019 1:40 am
Operator : TB
Sample : 9E07048-CALB
Misc : 1X 200ppb VOC MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:51 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050727.D
Acq On : 8 May 2019 2:07 am
Operator : TB
Sample : 9E07048-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.090	168	283178	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	334560	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	142077	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.603	111	108613	47.81	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.656	114	429244	49.06	ug/L		0.00
39) Toluene-d8 (S)	8.165	98	491193	49.66	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	115248	52.68	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.625	85	1945	0.74	ug/L		91
3) Chloromethane	1.832	50	1775	0.46	ug/L		89
4) Vinyl Chloride	1.935	62	946	0.25	ug/L		91
5) Bromomethane	2.294	96	2439	1.03	ug/L		92
7) Trichlorofluoromethane	2.543	101	179	0.27	ug/L		86
8) 1,1-Dichloroethene	3.115	61	1322	0.27	ug/L		73
9) Carbon Disulfide	3.133	76	7486	1.42	ug/L		97
10) Freon 113	3.170	101	2435	0.82	ug/L		86
11) Iodomethane	3.279	142	783	1.67	ug/L	#	71
12) Methylene Chloride	3.772	84	17968	0.98	ug/L		95
13) Acetone	3.870	43	1608	1.11	ug/L	#	42
14) t-1,2-Dichloroethene	3.937	61	2185	0.47	ug/L		93
15) n-Hexane	4.010	86	564	0.69	ug/L	#	70
19) c-1,2-Dichloroethene	5.129	61	818	0.19	ug/L		92
21) Bromochloromethane	5.330	49	303	0.12	ug/L	#	15
22) Chloroform	5.421	83	603	0.11	ug/L		74
23) Carbon Tetrachloride	5.543	117	295	0.71	ug/L		77
24) Tetrahydrofuran	5.597	42	229	0.14	ug/L	#	37
25) 1,1,1-Trichloroethane	5.622	97	399	0.11	ug/L		78
27) 1,1-Dichloropropene	5.743	75	2134	0.49	ug/L		94
28) 2-Butanone (MEK)	5.755	43	762	0.35	ug/L		70
29) Benzene	6.005	78	2241	0.16	ug/L		90
30) 1,2-Dichloroethane (EDC)	6.218	62	597	0.13	ug/L		75
33) Trichloroethene (TCE)	6.631	130	1252	0.38	ug/L	#	83
34) Dibromomethane	7.082	93	307	0.19	ug/L	#	76
38) c-1,3-Dichloropropene	7.964	75	355	0.48	ug/L	#	27
40) Toluene	8.231	91	3293	0.23	ug/L		89
41) Tetrachloroethene (PCE)	8.676	166	2391	0.77	ug/L		97
43) t-1,3-Dichloropropene	8.736	75	360	0.59	ug/L		47
46) 1,3-Dichloropropane	9.174	76	460	0.10	ug/L	#	51
47) 1,2-Dibromoethane (EDB)	9.314	107	158	0.29	ug/L		99
49) Chlorobenzene	9.819	112	2838	0.35	ug/L	#	67
50) Ethylbenzene	9.850	91	4704	0.35	ug/L		96
52) m,p-Xylenes (2)	9.983	91	7426	0.79	ug/L		97
53) o-Xylene	10.367	91	2422	0.27	ug/L		86
54) Styrene	10.409	104	1330	0.38	ug/L		99
56) Isopropylbenzene	10.628	105	5234	0.51	ug/L		95
59) Bromobenzene	10.963	156	887	0.35	ug/L		85
60) n-Propylbenzene	10.975	91	10278	0.91	ug/L		95
62) 2-Chlorotoluene	11.103	126	1184	0.52	ug/L	#	61
63) 1,3,5-Trimethylbenzene	11.127	105	5906	0.80	ug/L		97
66) 4-Chlorotoluene	11.237	91	4684	0.69	ug/L		92
67) tert-Butylbenzene	11.377	91	4968	1.18	ug/L	#	70

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050727.D
Acq On : 8 May 2019 2:07 am
Operator : TB
Sample : 9E07048-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

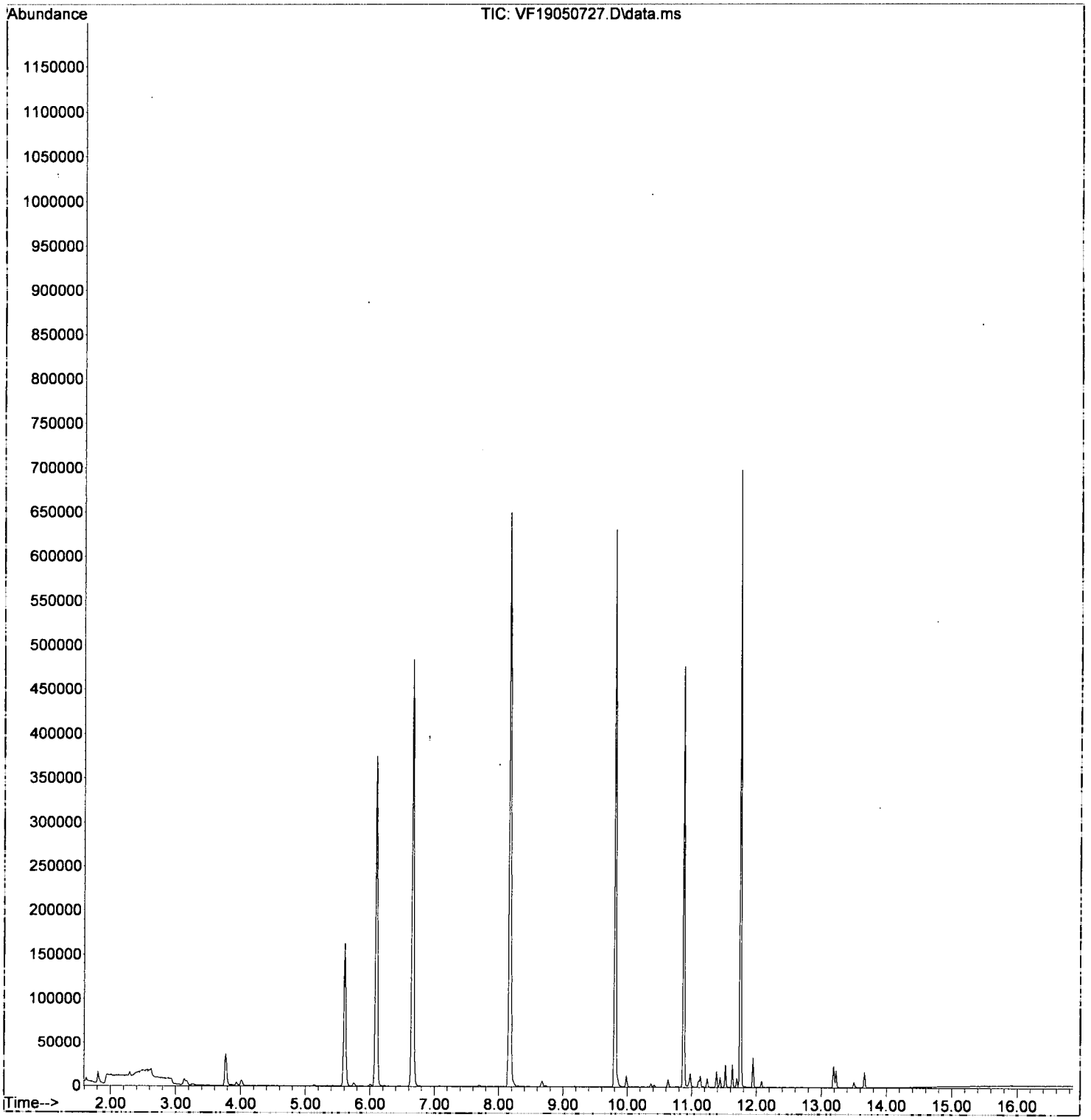
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1,2,4-Trimethylbenzene	11.437	105	5397	0.73	ug/L	96
69) sec-Butylbenzene	11.517	105	14769	1.68	ug/L	96
70) 4-Isopropyltoluene	11.626	119	11627	1.59	ug/L	95
71) 1,3-Dichlorobenzene	11.693	146	3751	0.86	ug/L	93
72) 1,4-Dichlorobenzene	11.760	146	4398	0.92	ug/L	91
73) n-Butylbenzene	11.942	91	15197	2.43	ug/L	97
74) 1,2-Dichlorobenzene	12.076	146	2583	0.63	ug/L	90
76) Hexachlorobutadiene	13.189	223	2652	4.54	ug/L	95
77) 1,2,4-Trichlorobenzene	13.226	180	5439	2.48	ug/L	95
78) Naphthalene	13.500	128	4569	0.94	ug/L	98
79) 1,2,3-Trichlorobenzene	13.664	180	5094	2.28	ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050727.D
Acq On : 8 May 2019 2:07 am
Operator : TB
Sample : 9E07048-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050728.D
Acq On : 8 May 2019 2:34 am
Operator : TB
Sample : 9E07048-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

NR

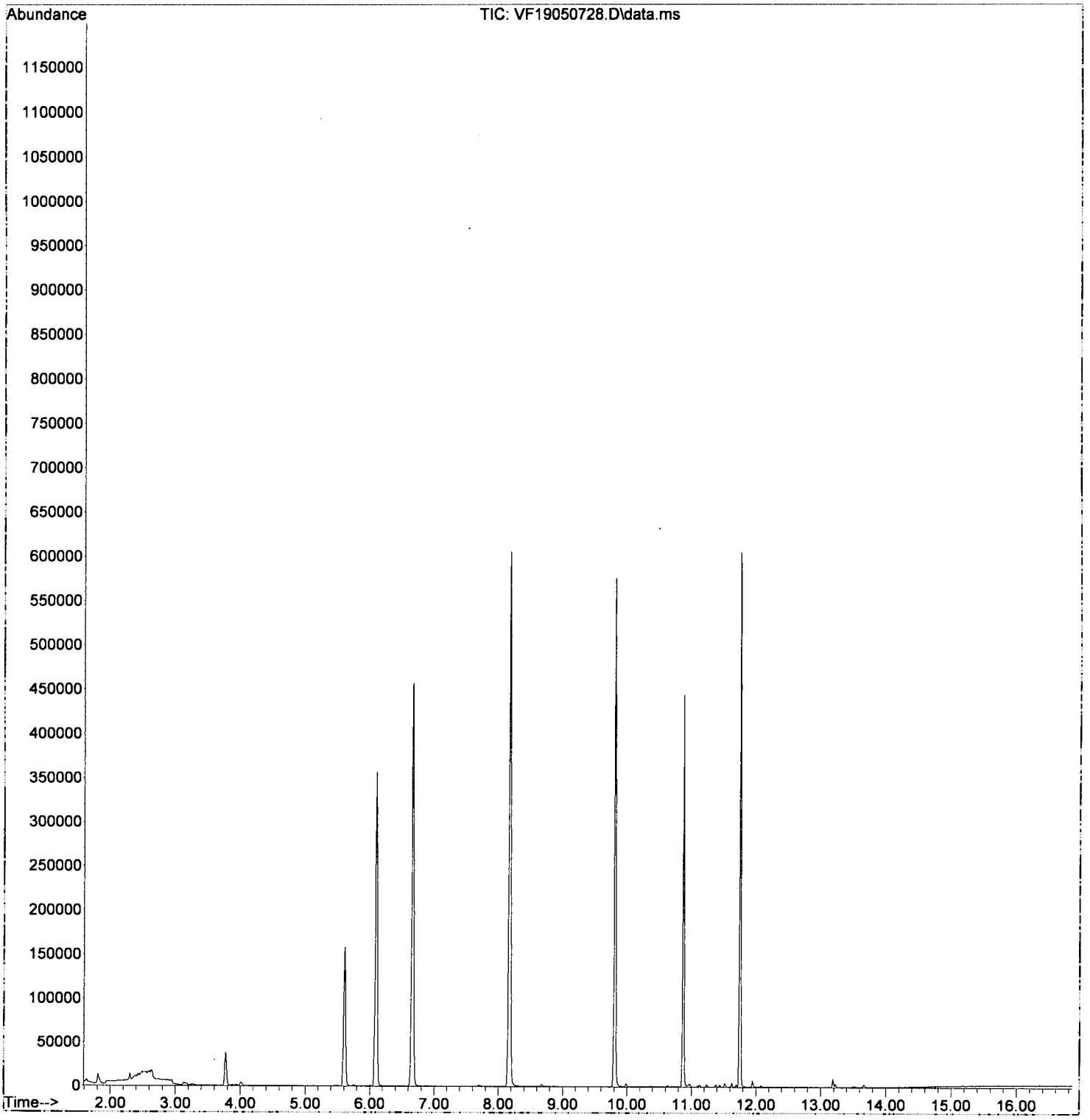
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	267878	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	295788	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	131412	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.608	111	106516	49.56	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	410042	49.54	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	458463	52.42	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	101675	50.25	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	723	0.29	ug/L		88
3) Chloromethane	1.837	50	2108	0.58	ug/L		93
5) Bromomethane	2.305	96	3673	1.65	ug/L		95
8) 1,1-Dichloroethene	3.126	61	550	0.12	ug/L		82
9) Carbon Disulfide	3.132	76	2990	0.73	ug/L		92
10) Freon 113	3.169	101	1153	0.41	ug/L	#	73
11) Iodomethane	3.278	142	737	1.67	ug/L	#	80
12) Methylene Chloride	3.771	84	17465	1.14	ug/L		87
13) Acetone	3.869	43	1671	1.22	ug/L		90
14) t-1,2-Dichloroethene	3.935	61	780	0.18	ug/L		95
15) n-Hexane	4.015	86	315	0.41	ug/L	#	89
27) 1,1-Dichloropropene	5.742	75	859	0.21	ug/L		81
28) 2-Butanone (MEK)	5.754	43	238	0.12	ug/L		54
33) Trichloroethene (TCE)	6.624	130	412	0.13	ug/L		87
40) Toluene	8.230	91	1316	0.11	ug/L		87
41) Tetrachloroethene (PCE)	8.674	166	829	0.30	ug/L		82
49) Chlorobenzene	9.818	112	1014	0.14	ug/L	#	15
50) Ethylbenzene	9.849	91	1458	0.12	ug/L		90
52) m,p-Xylenes (2)	9.982	91	2303	0.28	ug/L		97
53) o-Xylene	10.366	91	795	0.10	ug/L		84
54) Styrene	10.414	104	374	0.25	ug/L		83
56) Isopropylbenzene	10.633	105	1371	0.15	ug/L		91
59) Bromobenzene	10.956	156	244	0.10	ug/L	#	63
60) n-Propylbenzene	10.974	91	2568	0.24	ug/L		98
62) 2-Chlorotoluene	11.108	126	241	0.11	ug/L	#	79
63) 1,3,5-Trimethylbenzene	11.132	105	1233	0.18	ug/L		100
66) 4-Chlorotoluene	11.242	91	1302	0.21	ug/L		84
67) tert-Butylbenzene	11.382	91	869	0.22	ug/L		89
68) 1,2,4-Trimethylbenzene	11.442	105	1294	0.19	ug/L		92
69) sec-Butylbenzene	11.522	105	2821	0.35	ug/L		98
70) 4-Isopropyltoluene	11.625	119	2447	0.36	ug/L		92
71) 1,3-Dichlorobenzene	11.698	146	1165	0.29	ug/L		81
72) 1,4-Dichlorobenzene	11.759	146	1431	0.32	ug/L	#	55
73) n-Butylbenzene	11.947	91	3591	0.62	ug/L		99
74) 1,2-Dichlorobenzene	12.081	146	610	0.16	ug/L		93
76) Hexachlorobutadiene	13.188	223	1049	1.94	ug/L		93
77) 1,2,4-Trichlorobenzene	13.231	180	1374	0.68	ug/L		94
78) Naphthalene	13.505	128	1033	0.54	ug/L		78
79) 1,2,3-Trichlorobenzene	13.669	180	1019	0.49	ug/L		84

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050728.D
Acq On : 8 May 2019 2:34 am
Operator : TB
Sample : 9E07048-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	262163	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	288159	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	135304	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	113942	54.17	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	403276	49.79	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	440104	51.66	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	103653	49.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.636	85	59315	24.24	ug/L		97
3) Chloromethane	1.843	50	87194	24.45	ug/L		97
4) Vinyl Chloride	1.946	62	81114	23.00	ug/L		96
5) Bromomethane	2.305	96	44030	20.17	ug/L		97
6) Chloroethane	2.427	64	11583	24.18	ug/L		78
7) Trichlorofluoromethane	2.555	101	13859	22.29	ug/L		97
8) 1,1-Dichloroethene	3.127	61	94606	20.87	ug/L		77
9) Carbon Disulfide	3.145	76	105199	18.01	ug/L		98
10) Freon 113	3.175	101	58878	21.31	ug/L		82
11) Iodomethane	3.291	142	14908	12.96	ug/L		91
12) Methylene Chloride	3.778	84	75271	21.64	ug/L		88
13) Acetone	3.869	43	56244	41.83	ug/L		95
14) t-1,2-Dichloroethene	3.942	61	92558	21.38	ug/L		99
15) n-Hexane	4.015	86	15032	19.86	ug/L	#	85
16) Methyl-tert-butyl-ether	4.088	73	182160	20.82	ug/L		99
17) 1,1-Dichloroethane	4.581	63	118241	21.57	ug/L		98
18) Acrylonitrile	4.654	53	30892	21.88	ug/L		95
19) c-1,2-Dichloroethene	5.134	61	86855	21.78	ug/L		92
20) 2,2-Dichloropropane	5.244	77	58246	21.20	ug/L		87
21) Bromochloromethane	5.341	49	51635	21.70	ug/L		91
22) Chloroform	5.420	83	103118	21.16	ug/L		97
23) Carbon Tetrachloride	5.548	117	48737	22.27	ug/L		96
24) Tetrahydrofuran	5.597	42	29827	20.26	ug/L		96
25) 1,1,1-Trichloroethane	5.621	97	83146	24.22	ug/L		96
27) 1,1-Dichloropropene	5.749	75	87420	21.58	ug/L		98
28) 2-Butanone (MEK)	5.749	43	84619	42.12	ug/L		96
29) Benzene	6.004	78	258337	20.39	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.223	62	89933	20.98	ug/L		99
31) iso-Butyl Alcohol	6.284	43	73266	504.30	ug/L		97
33) Trichloroethene (TCE)	6.625	130	62492	20.41	ug/L		94
34) Dibromomethane	7.075	93	33172	21.67	ug/L		86
35) 1,2-Dichloropropane	7.184	63	62422	20.61	ug/L		99
36) Bromodichloromethane	7.263	83	49951	20.01	ug/L		98
38) c-1,3-Dichloropropene	7.963	75	63748	20.14	ug/L		89
40) Toluene	8.225	91	234591	19.26	ug/L		99
41) Tetrachloroethene (PCE)	8.675	166	57363	21.51	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.675	43	140033	44.47	ug/L		93
43) t-1,3-Dichloropropene	8.717	75	57159	20.28	ug/L		94
44) 1,1,2-Trichloroethane	8.888	97	47579	22.53	ug/L		95
45) Dibromochloromethane	9.076	129	27231	20.10	ug/L		97
46) 1,3-Dichloropropane	9.174	76	91385	22.36	ug/L		91
47) 1,2-Dibromoethane (EDB)	9.314	107	47230	21.40	ug/L		99
48) 2-Hexanone	9.545	43	97181	42.72	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

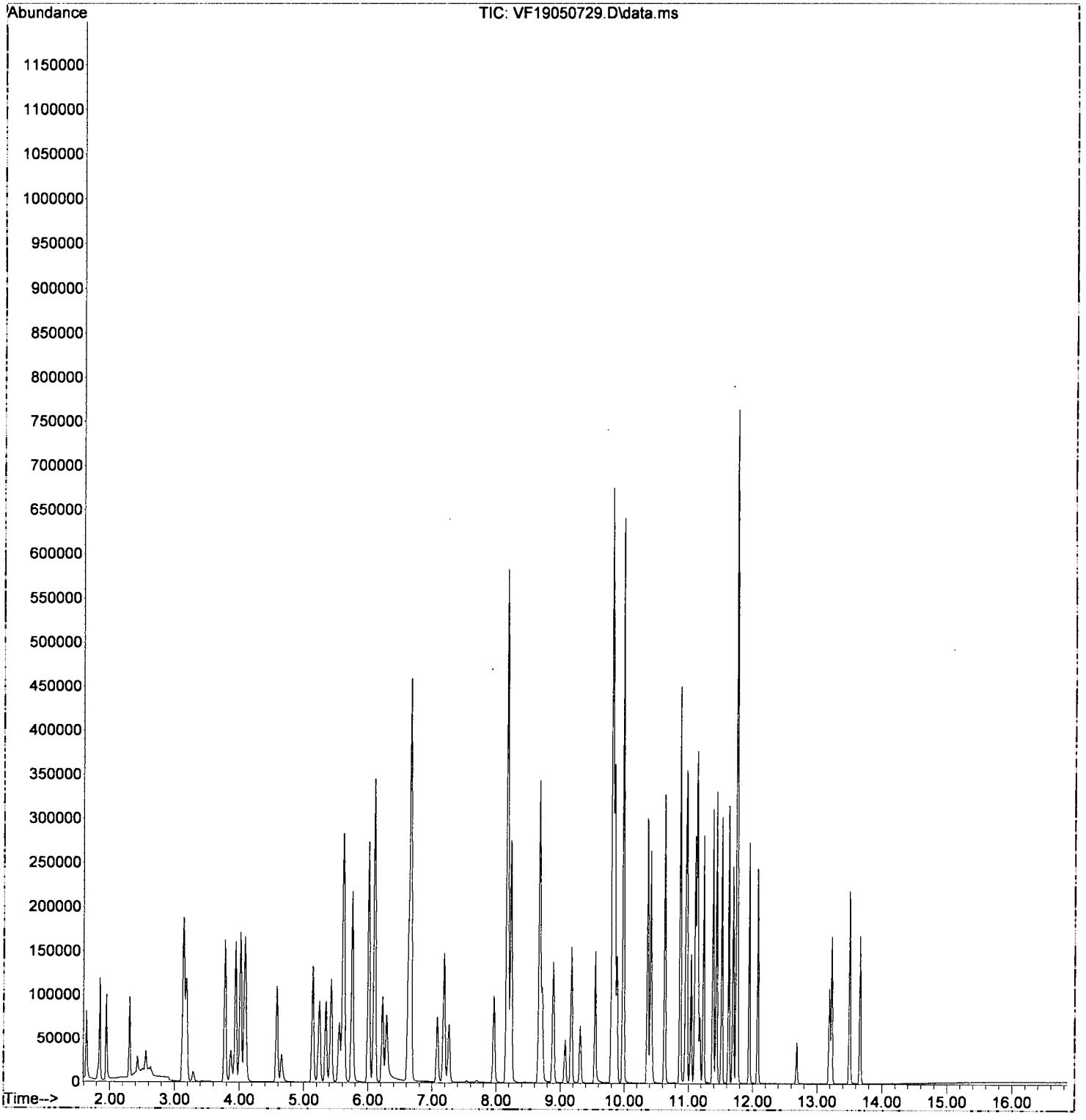
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.818	112	129383	18.63	ug/L		95
50)	Ethylbenzene	9.849	91	229244	19.76	ug/L		97
51)	1,1,1,2-Tetrachloroethane	9.879	131	31999	20.27	ug/L		99
52)	m,p-Xylenes (2)	9.983	91	335654	41.31	ug/L		97
53)	o-Xylene	10.360	91	160147	20.48	ug/L		94
54)	Styrene	10.409	104	112165	19.21	ug/L		91
55)	Bromoform	10.439	173	14365	21.50	ug/L		95
56)	Isopropylbenzene	10.628	105	191014	21.53	ug/L		97
59)	Bromobenzene	10.956	156	48811	20.05	ug/L		90
60)	n-Propylbenzene	10.974	91	217147	20.08	ug/L		97
61)	1,1,2,2-Tetrachloroethane	11.041	83	58914	22.91	ug/L		99
62)	2-Chlorotoluene	11.102	126	44168	20.32	ug/L	#	83
63)	1,3,5-Trimethylbenzene	11.126	105	147687	21.12	ug/L		97
64)	1,2,3-Trichloropropane	11.145	110	21340	20.93	ug/L	#	74
65)	t-1,4-Dichloro-2-butene	11.175	88	4327	17.63	ug/L	#	72
66)	4-Chlorotoluene	11.236	91	135416	21.06	ug/L		97
67)	tert-Butylbenzene	11.382	91	84335	21.01	ug/L		92
68)	1,2,4-Trimethylbenzene	11.437	105	148293	21.11	ug/L		98
69)	sec-Butylbenzene	11.522	105	177076	21.13	ug/L		97
70)	4-Isopropyltoluene	11.625	119	145034	20.80	ug/L		96
71)	1,3-Dichlorobenzene	11.692	146	84684	20.39	ug/L		97
72)	1,4-Dichlorobenzene	11.759	146	88242	19.44	ug/L		97
73)	n-Butylbenzene	11.948	91	124999	21.00	ug/L		97
74)	1,2-Dichlorobenzene	12.082	146	82320	21.13	ug/L		99
75)	1,2-Dibromo-3-Chloropr...	12.684	157	8264	19.59	ug/L	#	48
76)	Hexachlorobutadiene	13.189	223	11787	21.20	ug/L		95
77)	1,2,4-Trichlorobenzene	13.225	180	46492	22.22	ug/L		99
78)	Naphthalene	13.499	128	156730	19.72	ug/L		99
79)	1,2,3-Trichlorobenzene	13.663	180	47589	22.34	ug/L		95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050730.D
Acq On : 8 May 2019 3:28 am
Operator : TB
Sample : 9E07048-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:28 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

NR

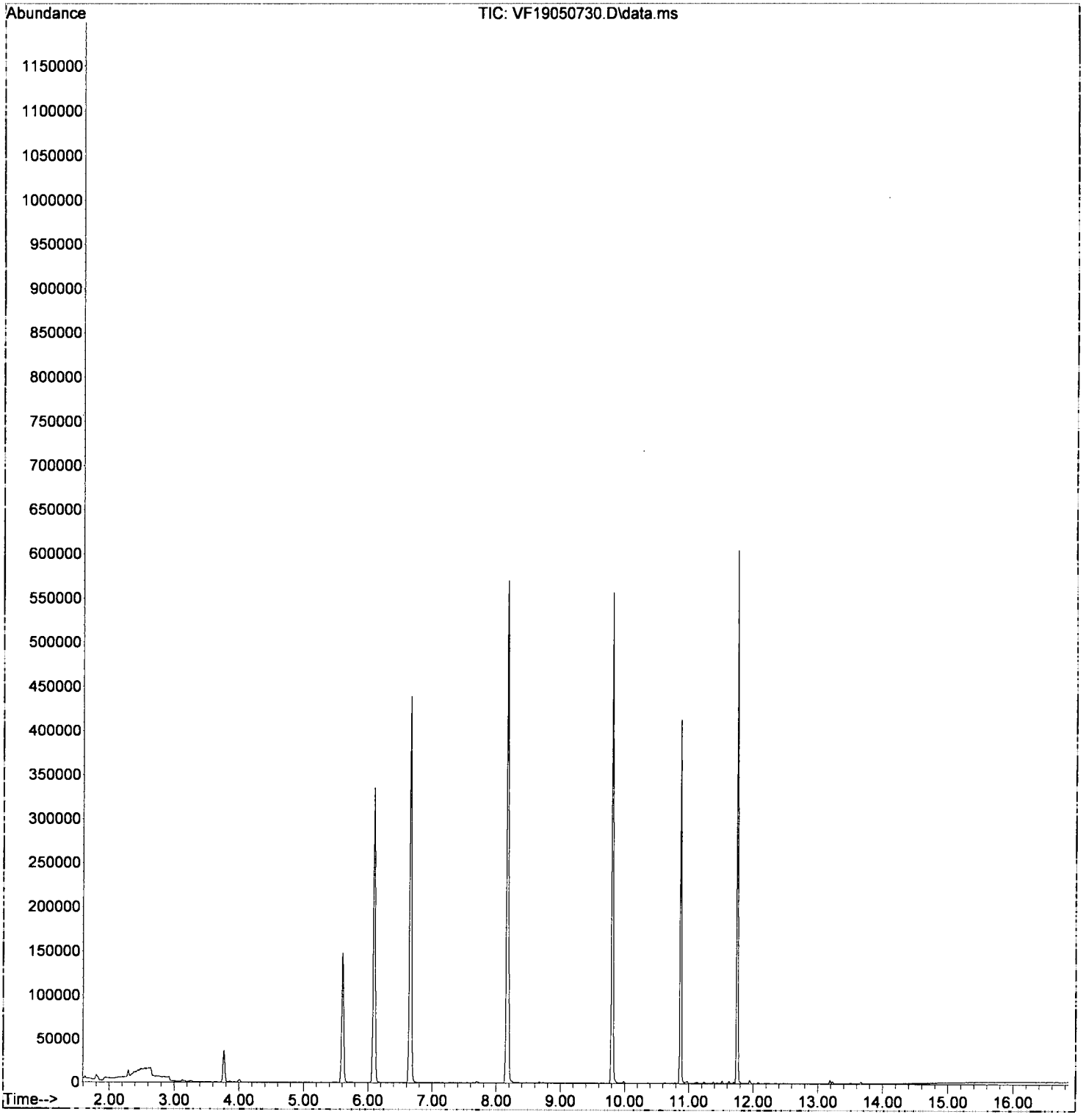
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	252291	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	281229	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	123851	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.606	111	98914	48.87	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	388439	49.83	ug/L		0.00
39) Toluene-d8 (S)	8.167	98	430453	51.77	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.868	174	95472	50.06	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.621	85	416	0.18	ug/L	#	50
3) Chloromethane	1.828	50	1703	0.50	ug/L		88
5) Bromomethane	2.296	96	3753	1.79	ug/L		96
9) Carbon Disulfide	3.130	76	1833	0.55	ug/L		94
10) Freon 113	3.166	101	648	0.24	ug/L	#	60
11) Iodomethane	3.276	142	782	1.75	ug/L	#	81
12) Methylene Chloride	3.768	84	16971	1.33	ug/L		89
13) Acetone	3.866	43	1481	1.14	ug/L		78
14) t-1,2-Dichloroethene	3.927	61	494	0.12	ug/L		84
15) n-Hexane	4.006	86	127	0.17	ug/L	#	77
27) 1,1-Dichloropropene	5.739	75	414	0.11	ug/L	#	56
28) 2-Butanone (MEK)	5.764	43	184	0.10	ug/L		54
41) Tetrachloroethene (PCE)	8.672	166	560	0.22	ug/L		97
49) Chlorobenzene	9.815	112	732	0.11	ug/L	#	1
50) Ethylbenzene	9.852	91	979	0.09	ug/L		89
52) m,p-Xylenes (2)	9.986	91	1479	0.19	ug/L		89
54) Styrene	10.424	104	105	0.21	ug/L	#	41
56) Isopropylbenzene	10.637	105	894	0.10	ug/L		90
59) Bromobenzene	10.959	156	211	0.09	ug/L		87
60) n-Propylbenzene	10.971	91	1841	0.19	ug/L		90
62) 2-Chlorotoluene	11.111	126	218	0.11	ug/L	#	45
63) 1,3,5-Trimethylbenzene	11.135	105	975	0.15	ug/L		88
66) 4-Chlorotoluene	11.239	91	923	0.16	ug/L		87
67) tert-Butylbenzene	11.379	91	687	0.19	ug/L		90
68) 1,2,4-Trimethylbenzene	11.440	105	848	0.13	ug/L		95
69) sec-Butylbenzene	11.519	105	1994	0.26	ug/L		95
70) 4-Isopropyltoluene	11.628	119	1636	0.26	ug/L		98
71) 1,3-Dichlorobenzene	11.695	146	822	0.22	ug/L		89
72) 1,4-Dichlorobenzene	11.762	146	995	0.24	ug/L	#	57
73) n-Butylbenzene	11.945	91	2355	0.43	ug/L		89
74) 1,2-Dichlorobenzene	12.078	146	553	0.16	ug/L	#	72
76) Hexachlorobutadiene	13.186	223	502	0.99	ug/L		93
77) 1,2,4-Trichlorobenzene	13.228	180	979	0.51	ug/L		96
78) Naphthalene	13.508	128	907	0.53	ug/L		78
79) 1,2,3-Trichlorobenzene	13.666	180	769	0.39	ug/L		93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050730.D
Acq On : 8 May 2019 3:28 am
Operator : TB
Sample : 9E07048-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:28 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



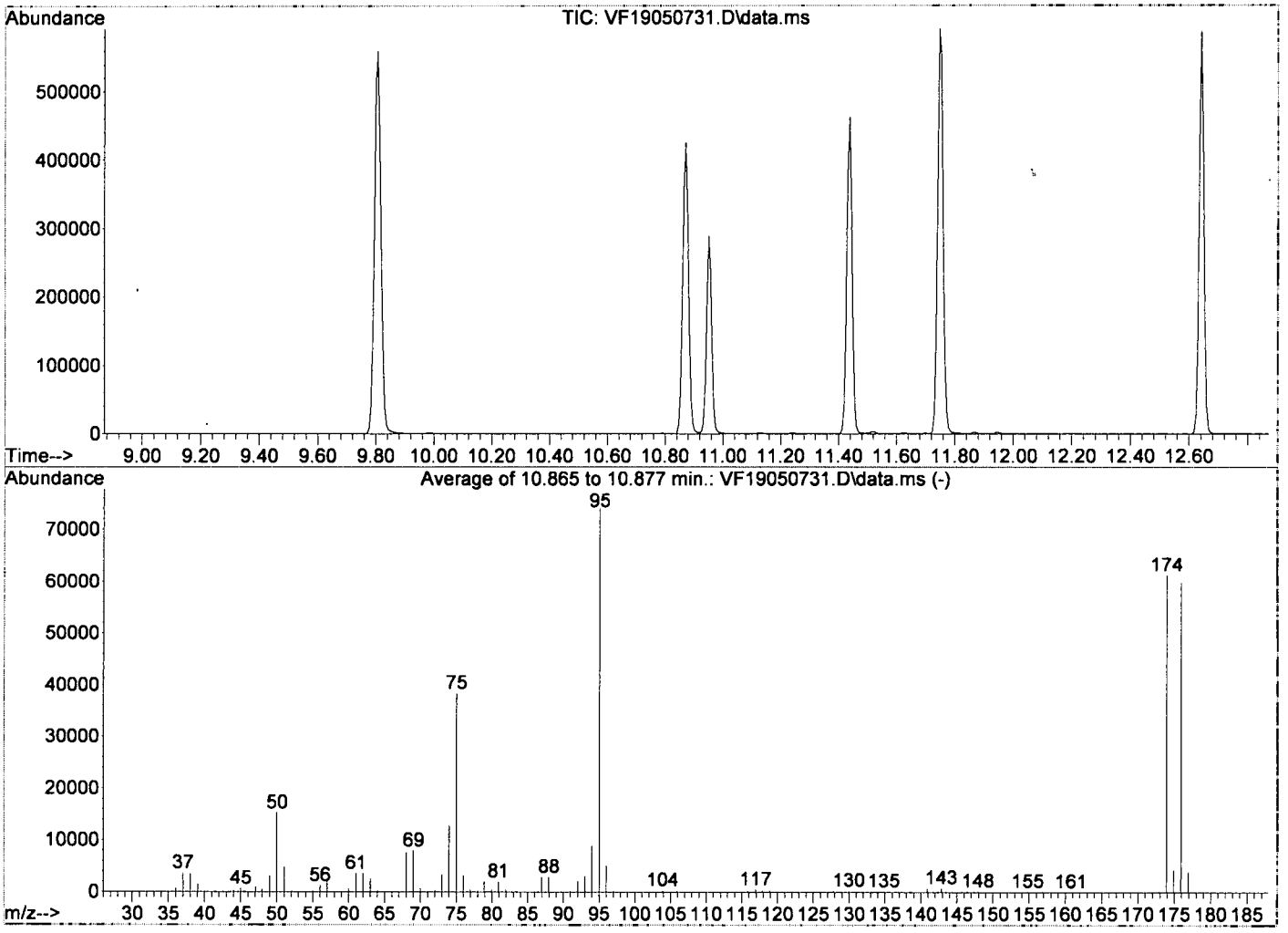
BFB

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019

5/8/19



AutoFind: Scans 1525, 1526, 1527; Background Corrected with Scan 1518

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	20.7	15284	PASS
75	95	30	60	51.9	38373	PASS
95	95	100	100	100.0	73986	PASS
96	95	5	9	6.9	5106	PASS
173	174	0.00	2	0.3	211	PASS
174	95	50	100	82.8	61272	PASS
175	174	5	9	6.9	4253	PASS
176	174	95	101	97.6	59824	PASS
177	176	5	9	6.6	3953	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/8/19

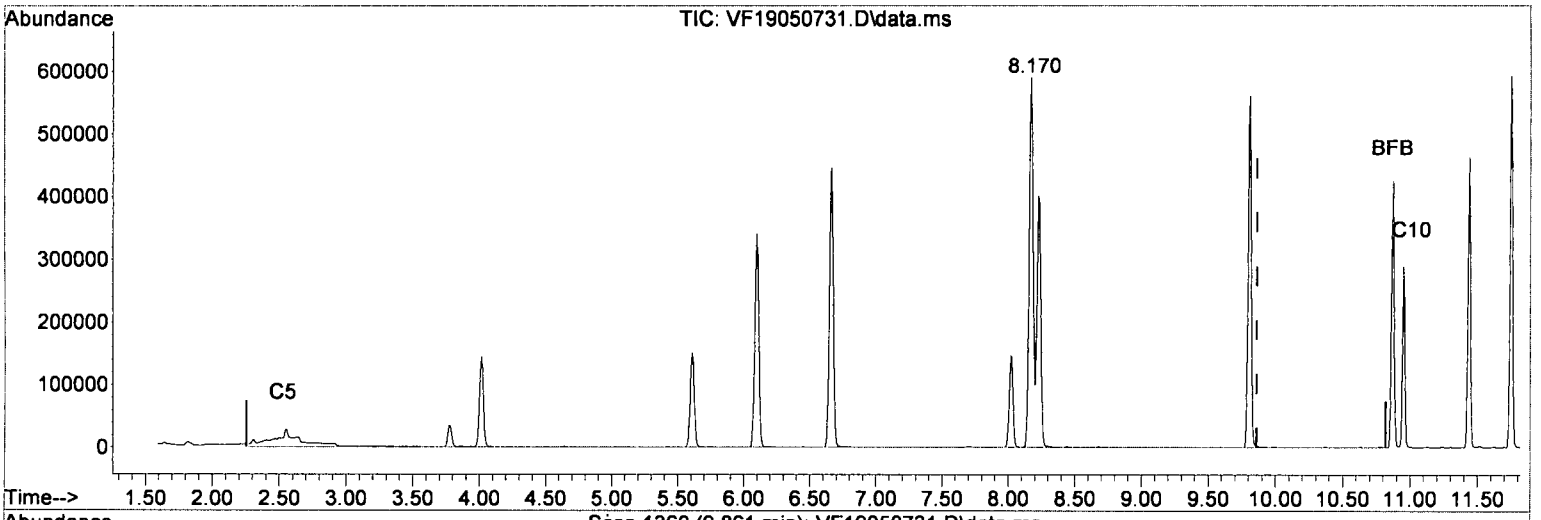
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	256053	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	927362	45.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	573331	46.12	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	876906	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1226539	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	781620	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	1843880m	142.13	ug/L	
6) TPHg (C6-C10)	9.860	TIC	1719873m	179.63	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	3432981m	256.69	ug/L	
8) NWTPH-Gx	9.870	TIC	3320447m	471.20	ug/L	

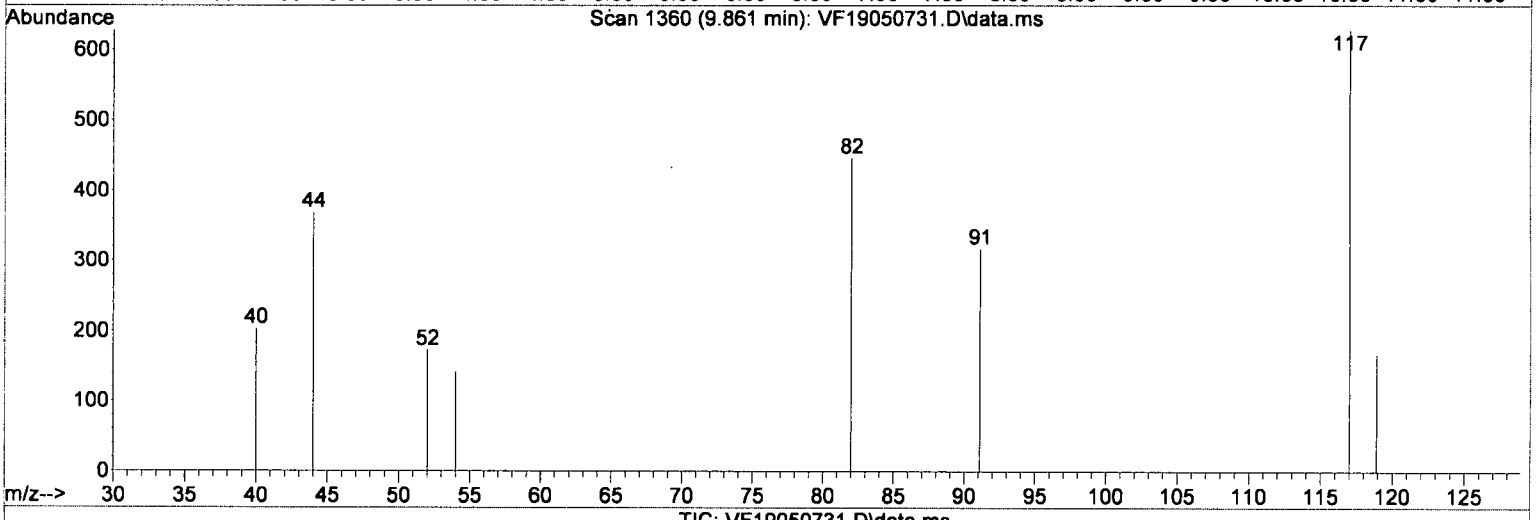
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050731.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 142.13 ug/L m

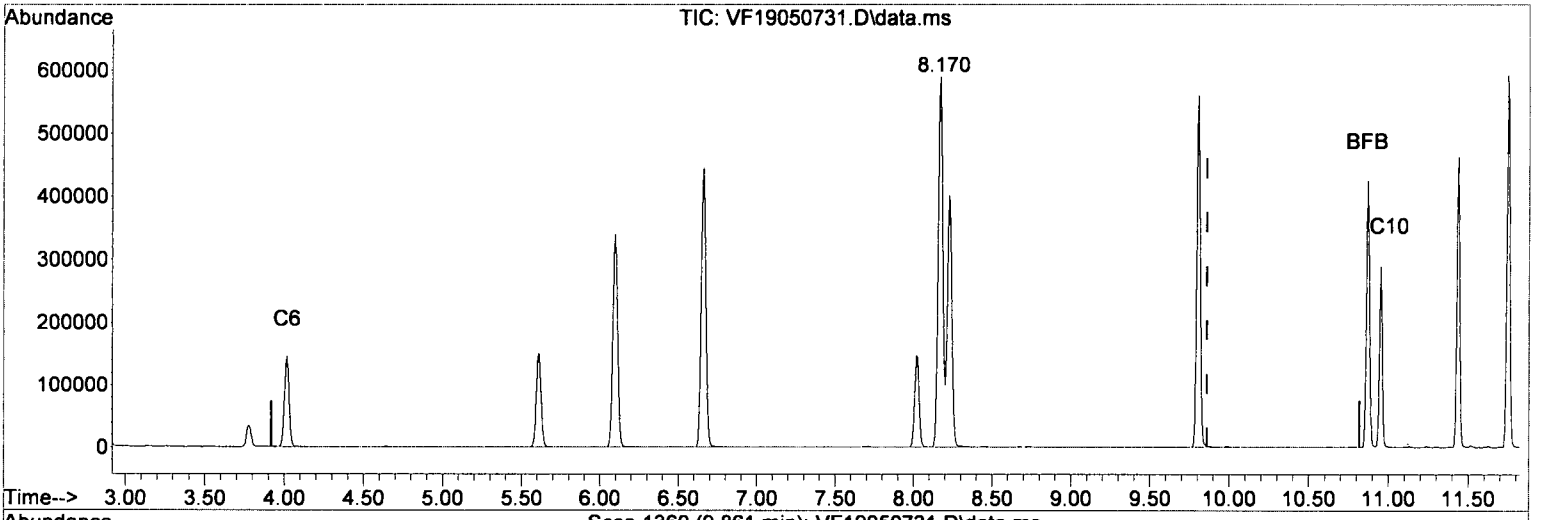
response 1843880

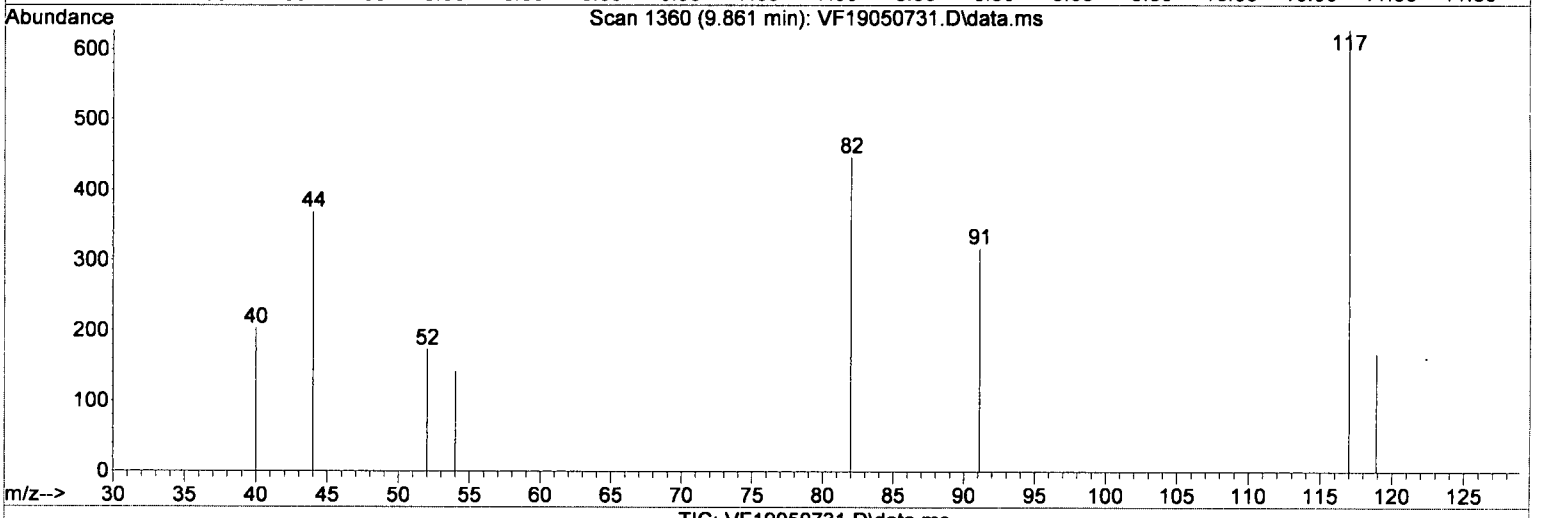
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.43#
0.00	0.00	1.05#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050731.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 179.63 ug/L m

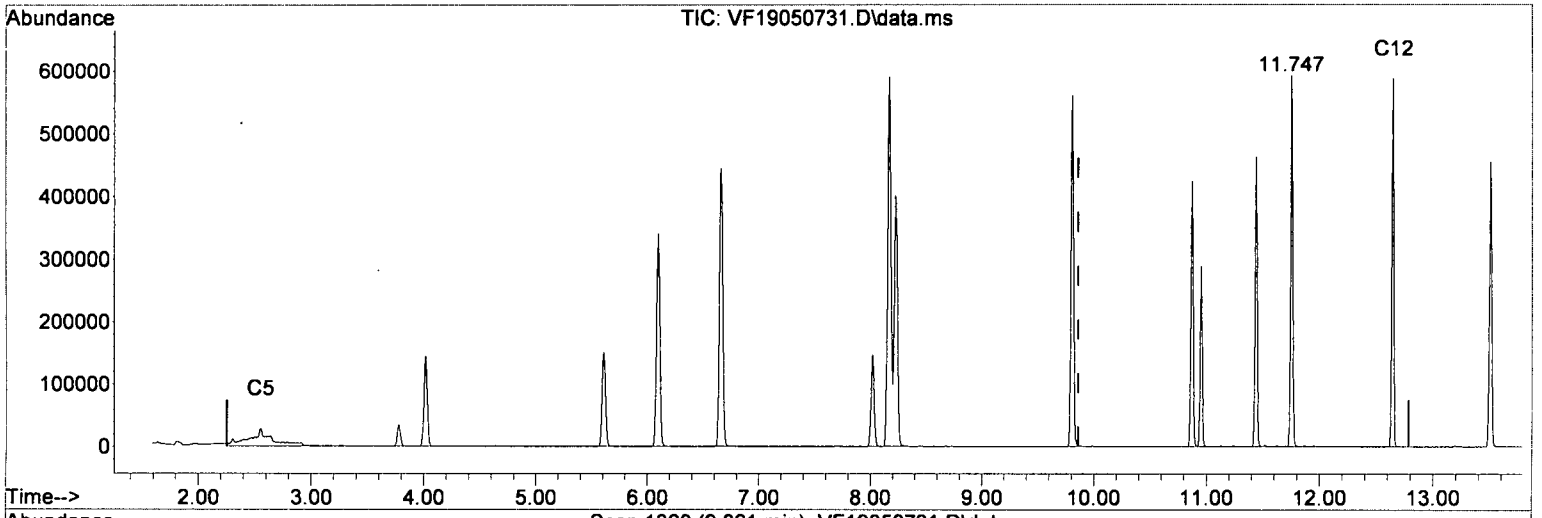
response 1719873

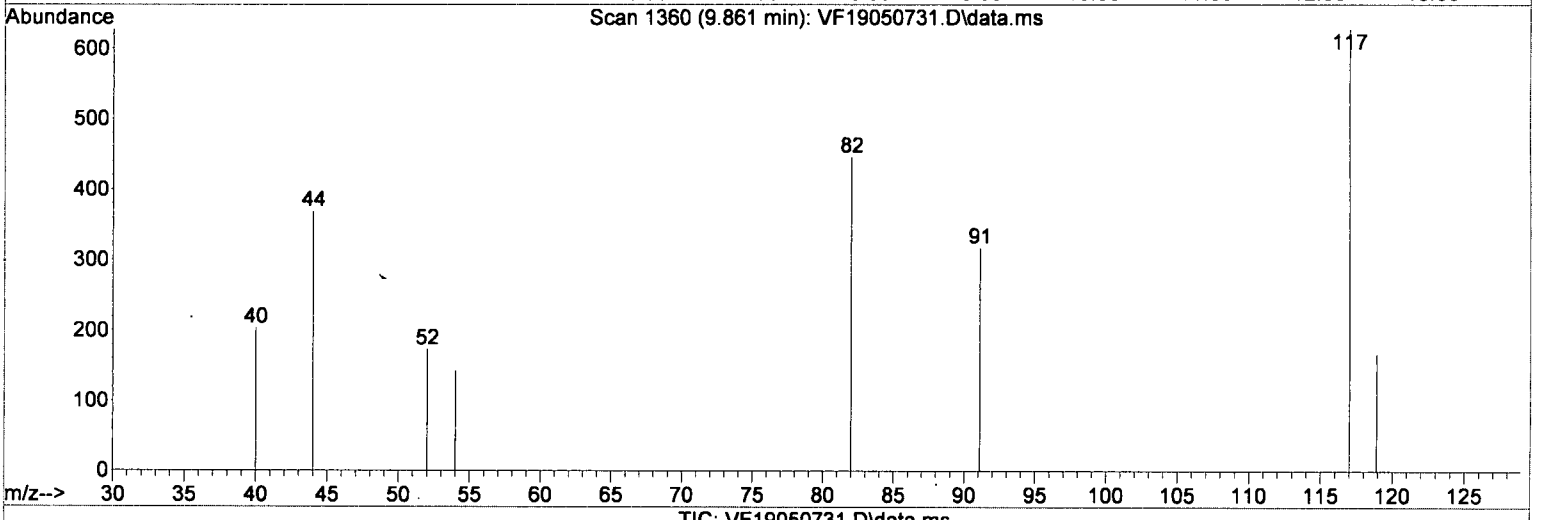
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.54#
0.00	0.00	1.13#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050731.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.860min (0.000) 256.69 ug/L m

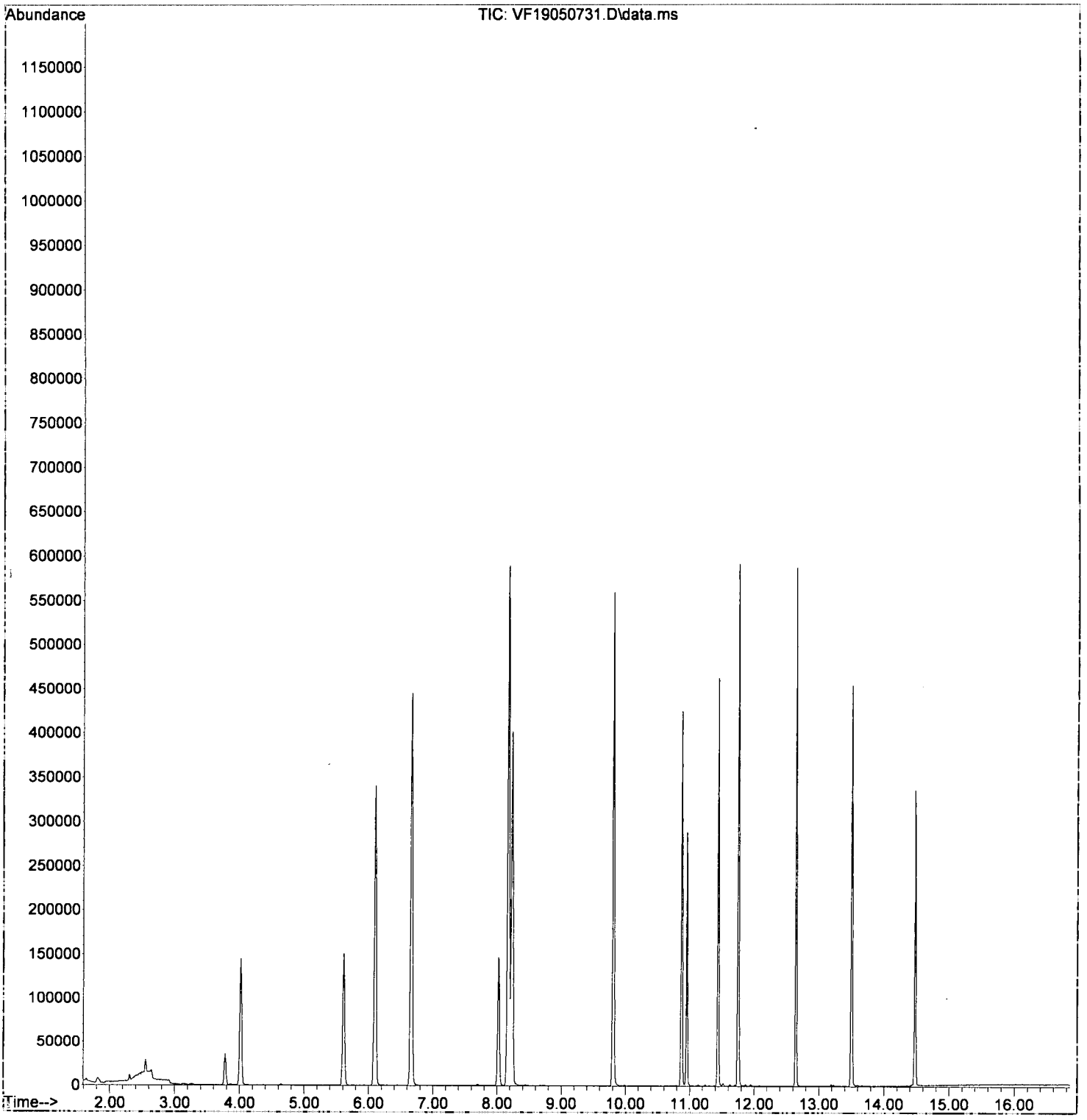
response 3432981

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.77#
0.00	0.00	0.56#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050732.D
Acq On : 8 May 2019 4:22 am
Operator : TB
Sample : 9E07048-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

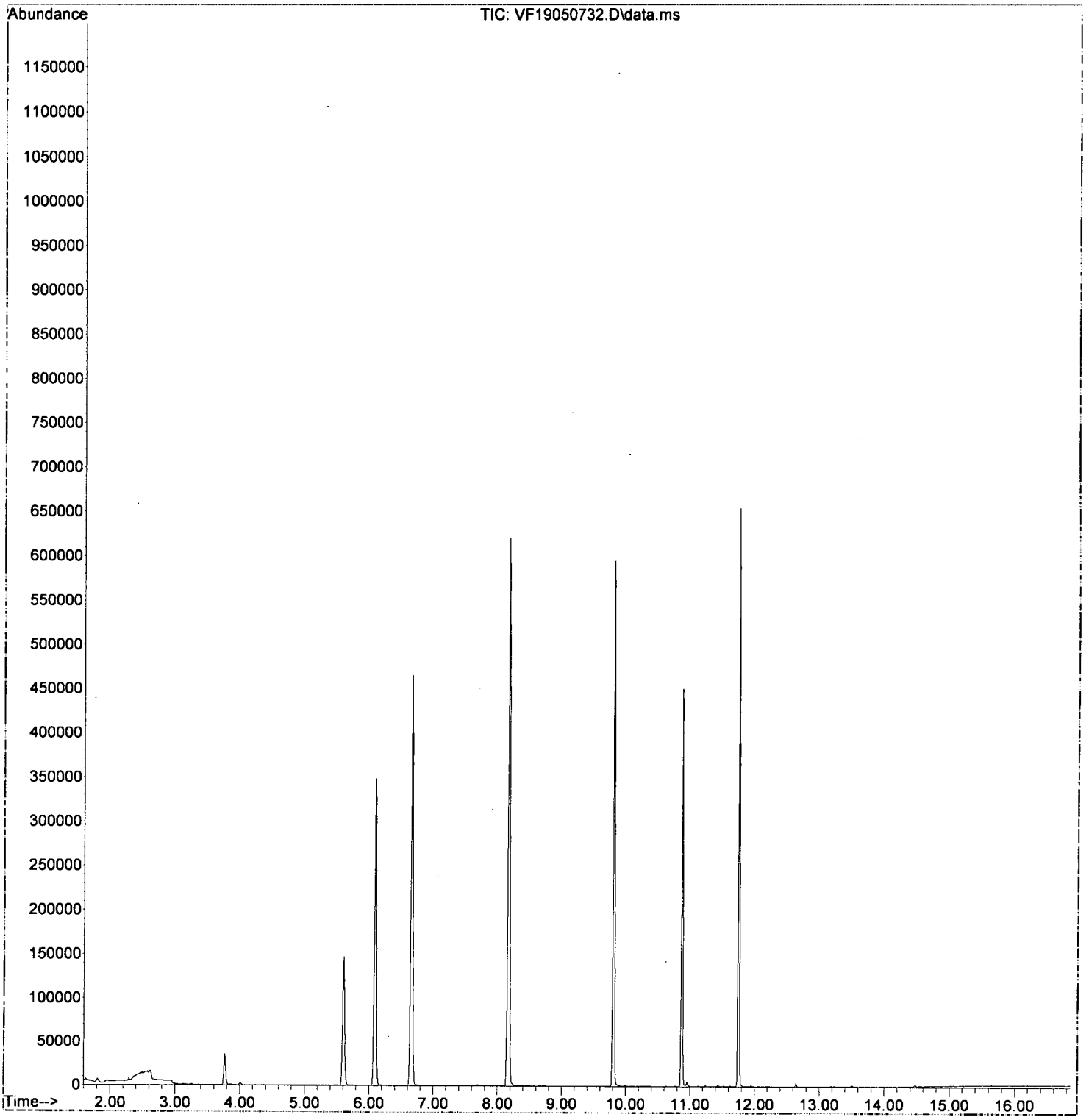
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	264063	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	949029	45.58	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	629967	49.14	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	966700	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.165	TIC	1246851	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	815701	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	435202m	7.19	ug/L	
6) TPHg (C6-C10)	9.860	TIC	326742m	14.39	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	449496m	10.92	ug/L	
8) NWTPH-Gx	9.870	TIC	14888m	25.50	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050732.D
Acq On : 8 May 2019 4:22 am
Operator : TB
Sample : 9E07048-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/8/19

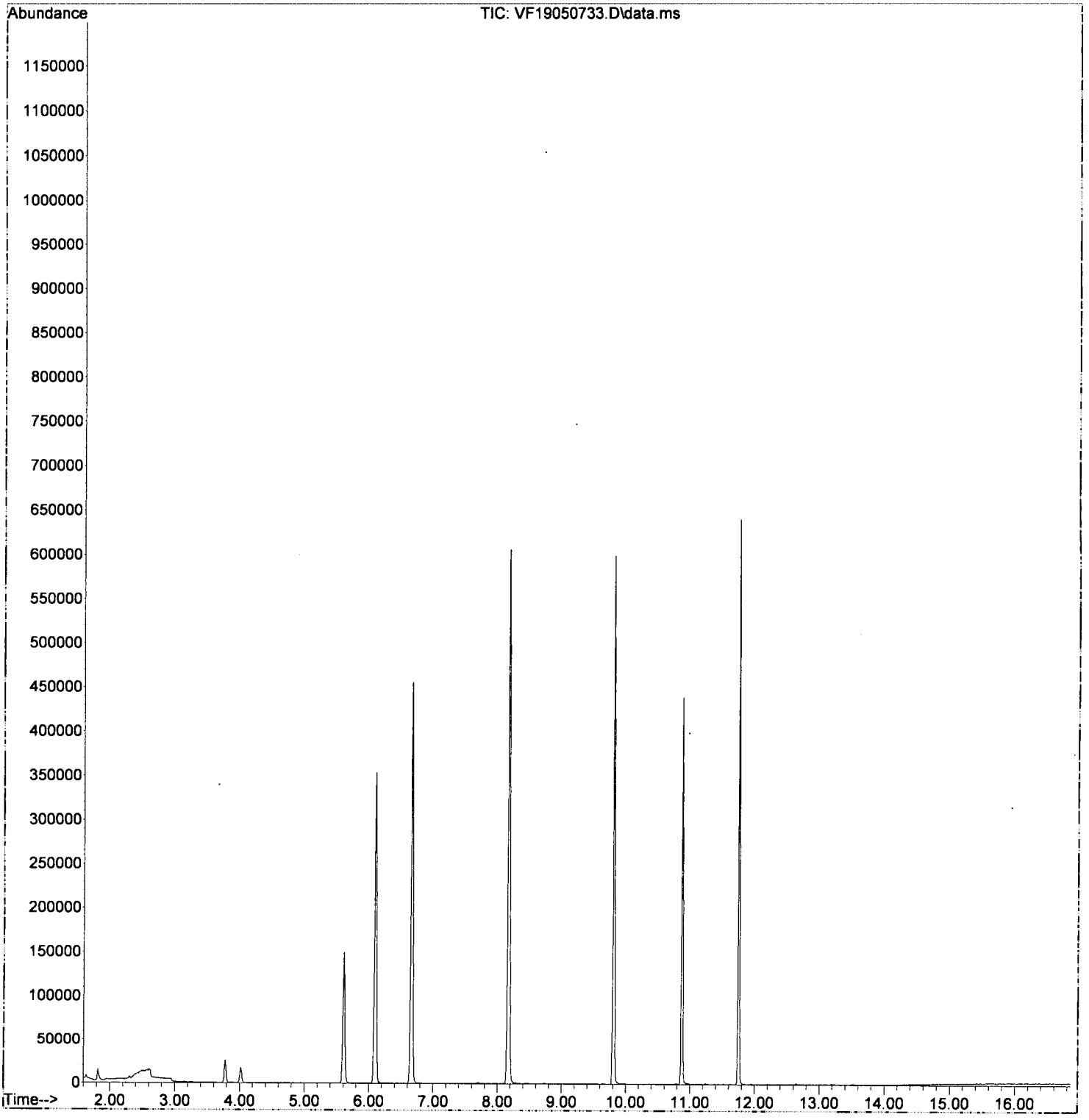
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264736	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	955227	45.76	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	619863	48.23	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	959349	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.171	TIC	1248121	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	805712	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	429036m	6.52	ug/L	<MDL
6) TPHg (C6-C10)	9.860	TIC	367227m	18.93	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	429036m	9.20	ug/L	
8) NWTPH-Gx	9.870	TIC	5129m	24.20	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050734.D
Acq On : 8 May 2019 5:16 am
Operator : TB
Sample : 9E07048-CALC
Misc : 1X 50ppb GX MeOH
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:22 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

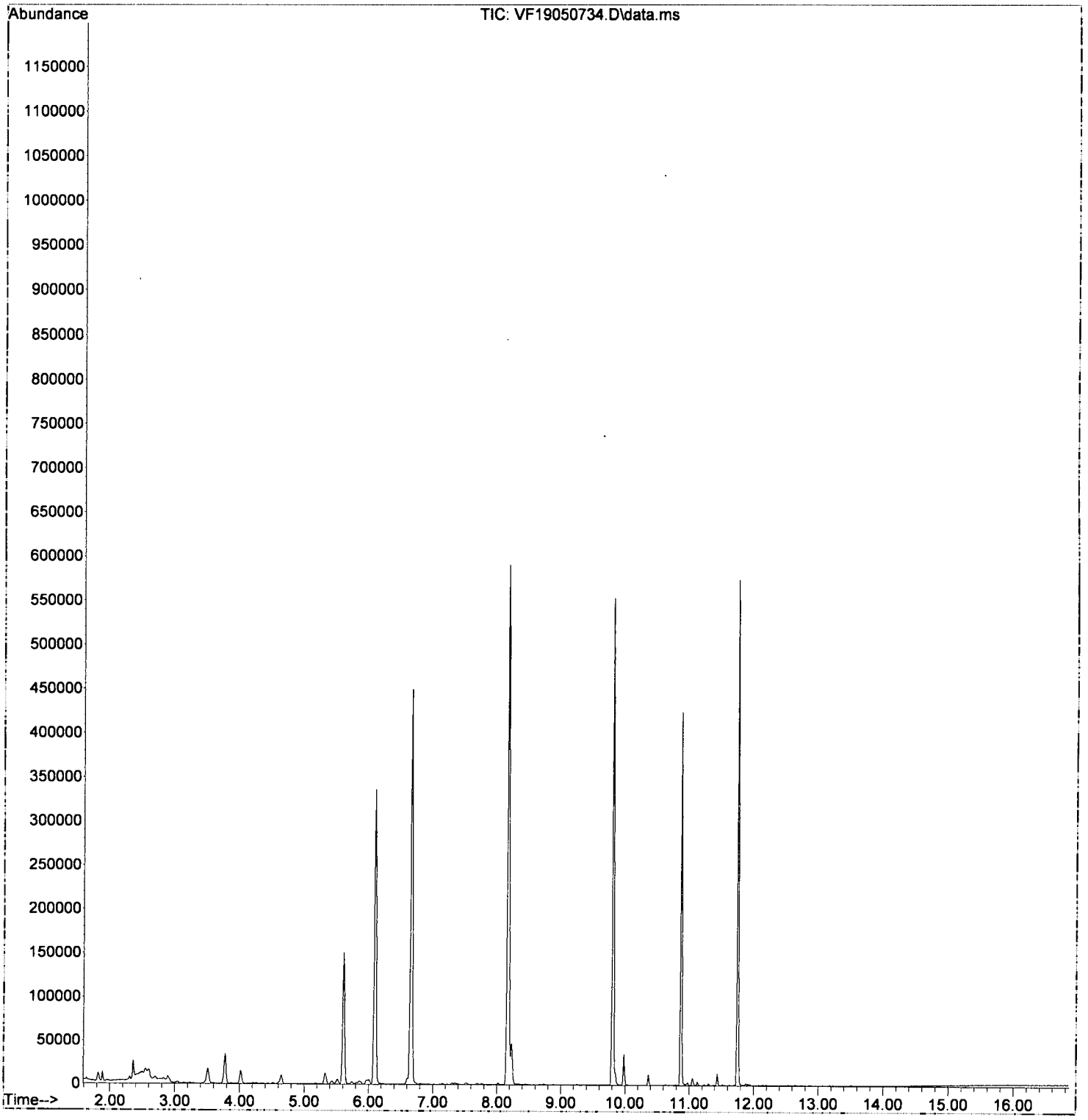
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	251815	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	944857	49.85	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	583068	47.82	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	910722	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1202713	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	768593	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	861461m	76.48	ug/L	
6) TPHg (C6-C10)	9.860	TIC	621653m	69.33	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	905552m	70.83	ug/L	
8) NWTPH-Gx	9.870	TIC	216743m	31.39	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050734.D
Acq On : 8 May 2019 5:16 am
Operator : TB
Sample : 9E07048-CALC
Misc : 1X 50ppb GX MeOH
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050735.D
Acq On : 8 May 2019 5:43 am
Operator : TB
Sample : 9E07048-CALD
Misc : 1X 100ppb GX MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:25 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

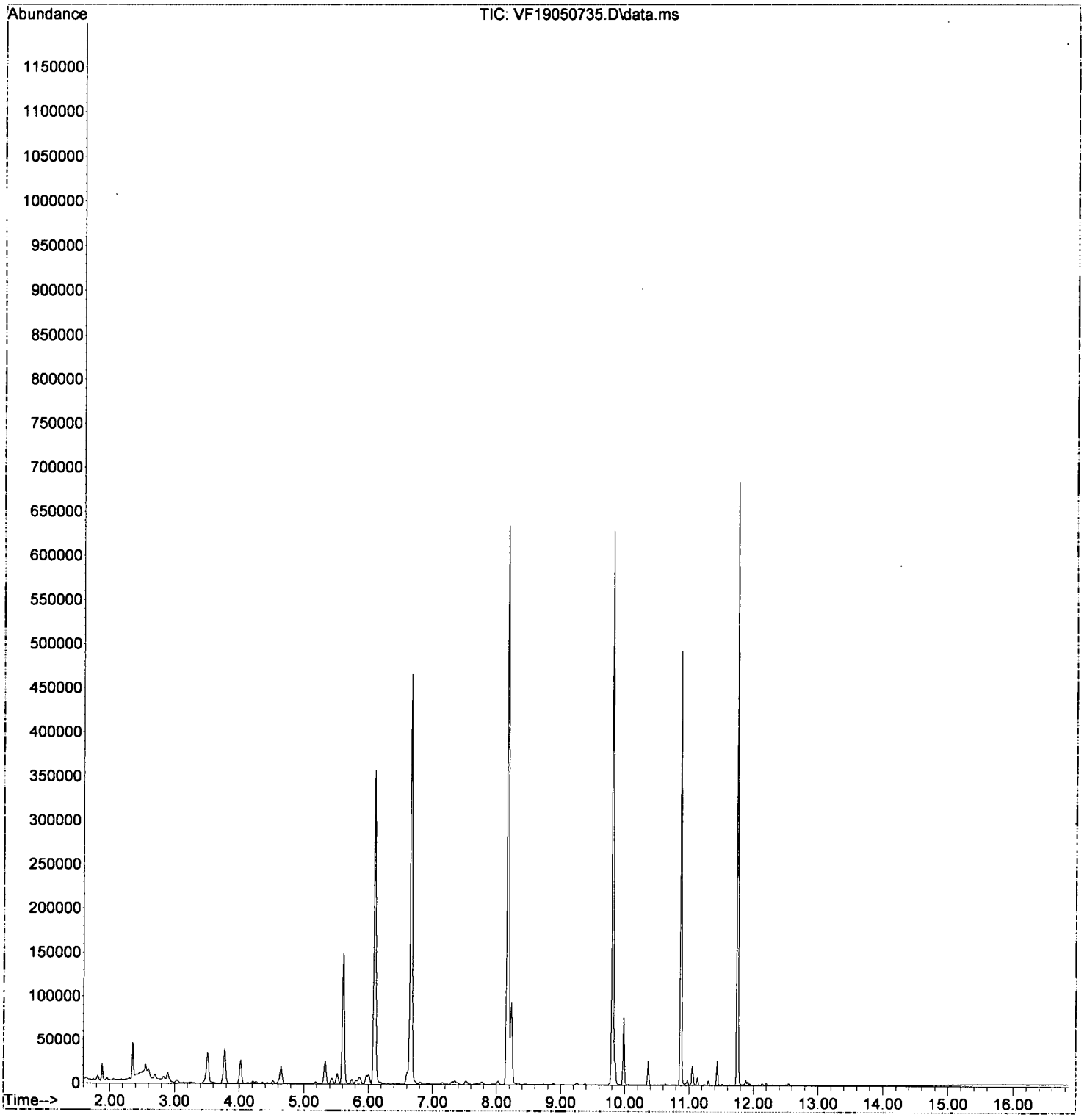
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	268659	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1016126	50.25	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	665016	51.12	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1040846	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.167	TIC	1310310	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.750	TIC	853569	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	1385857m	115.32	ug/L	
6) TPHg (C6-C10)	9.860	TIC	1022515m	106.88	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	1495406m	109.63	ug/L	
8) NWTPH-Gx	9.870	TIC	540113m	73.32	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050735.D
Acq On : 8 May 2019 5:43 am
Operator : TB
Sample : 9E07048-CALD
Misc : 1X 100ppb GX MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:25 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050736.D
Acq On : 8 May 2019 6:11 am
Operator : TB
Sample : 9E07048-CALE
Misc : 1X 250ppb GX MeOH
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:27 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

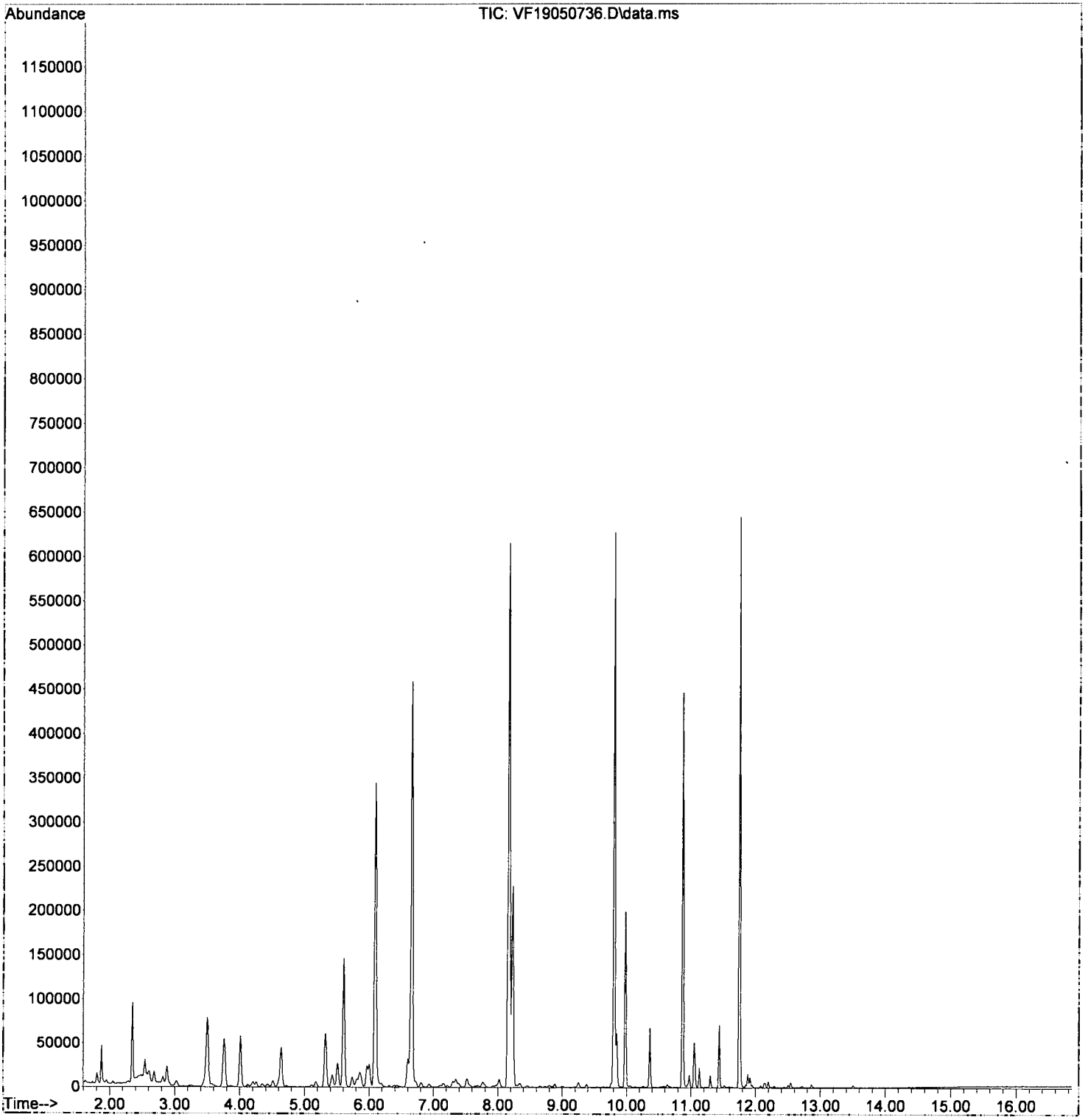
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.092	168	260344	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	976363	49.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	627727	49.80	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	970860	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.166	TIC	1270597	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	827127	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	2931259m	251.71	ug/L	
6) TPHg (C6-C10)	9.860	TIC	2228270m	240.36	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	3256728m	246.37	ug/L	
8) NWTPH-Gx	9.870	TIC	1533968m	214.89	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050736.D
Acq On : 8 May 2019 6:11 am
Operator : TB
Sample : 9E07048-CALE
Misc : 1X 250ppb GX MeOH
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:27 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050737.D
Acq On : 8 May 2019 6:38 am
Operator : TB
Sample : 9E07048-CALF
Misc : 1X 500ppb GX MeOH
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:29 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

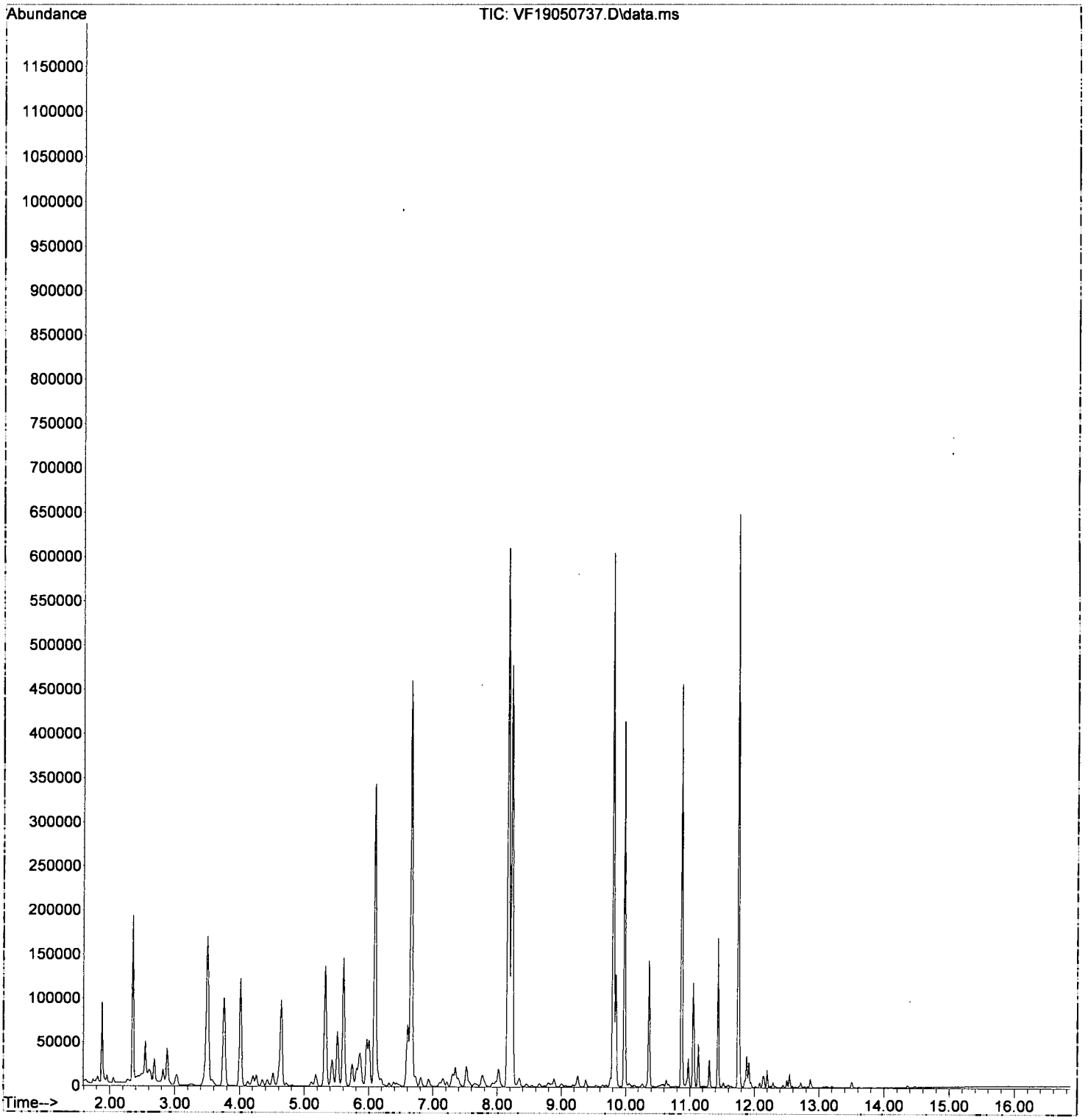
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264609	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	998574	50.14	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640403	49.98	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	999941	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1306294	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	871732	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	5892671m	497.85	ug/L	
6) TPHg (C6-C10)	9.860	TIC	4686857m	497.42	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	6691065m	498.02	ug/L	
8) NWTPH-Gx	9.870	TIC	3603975m	496.73	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050737.D
Acq On : 8 May 2019 6:38 am
Operator : TB
Sample : 9E07048-CALF
Misc : 1X 500ppb GX MeOH
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:29 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050738.D
Acq On : 8 May 2019 7:05 am
Operator : TB
Sample : 9E07048-CALG
Misc : 1X 1000ppb GX MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

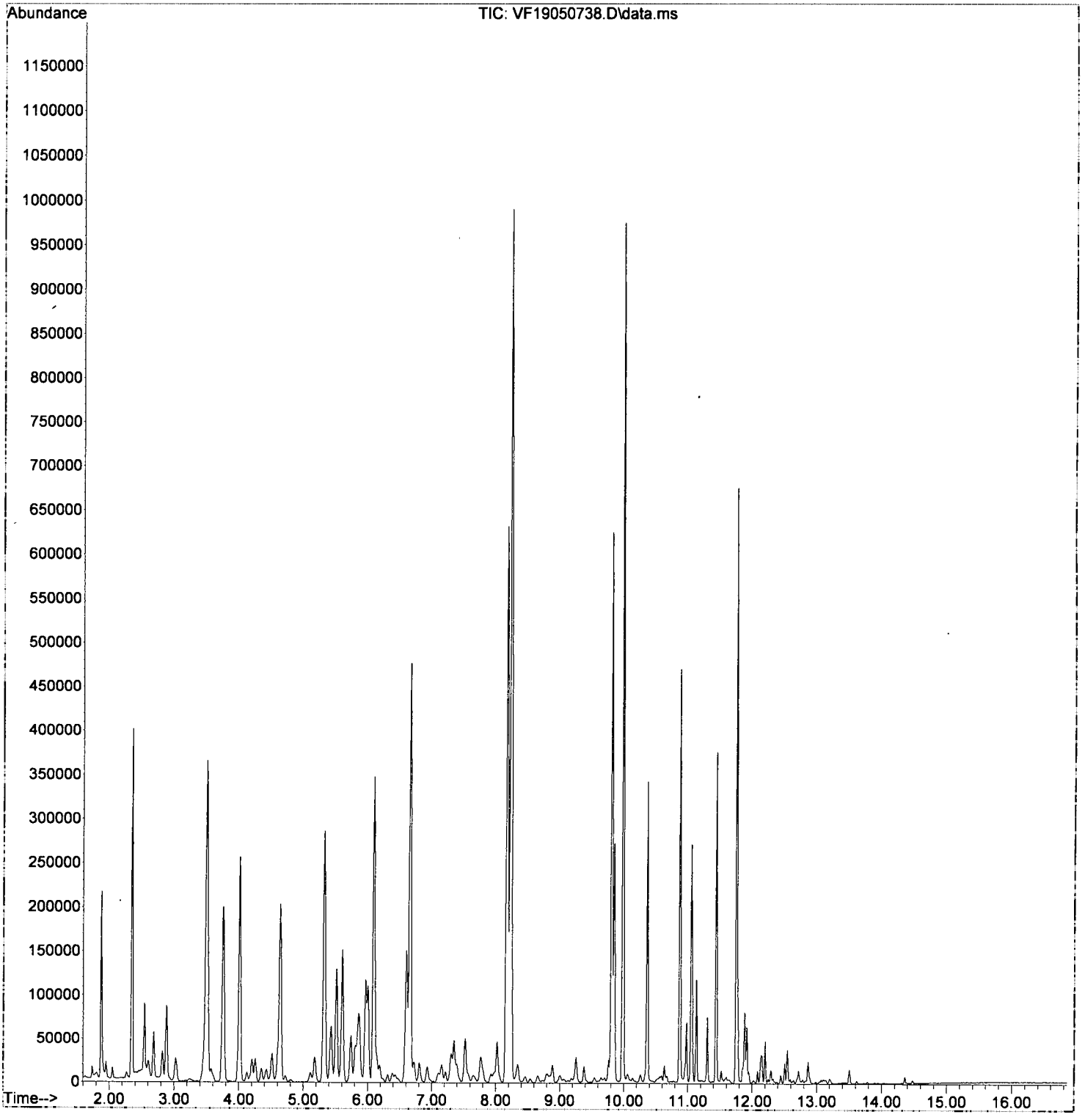
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	262223	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	994511	50.39	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	665155	52.39	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	994303	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.165	TIC	1316271	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	947602	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	12387853m	1056.13	ug/L	
6) TPHg (C6-C10)	9.860	TIC	9868759m	1056.91	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	14333454m	1076.56	ug/L	
8) NWTPH-Gx	9.870	TIC	8256018m	1148.27	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050738.D
Acq On : 8 May 2019 7:05 am
Operator : TB
Sample : 9E07048-CALG
Misc : 1X 1000ppb GX MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050739.D
Acq On : 8 May 2019 7:32 am
Operator : TB
Sample : 9E07048-CALH
Misc : 1X 2500ppb GX MeOH
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

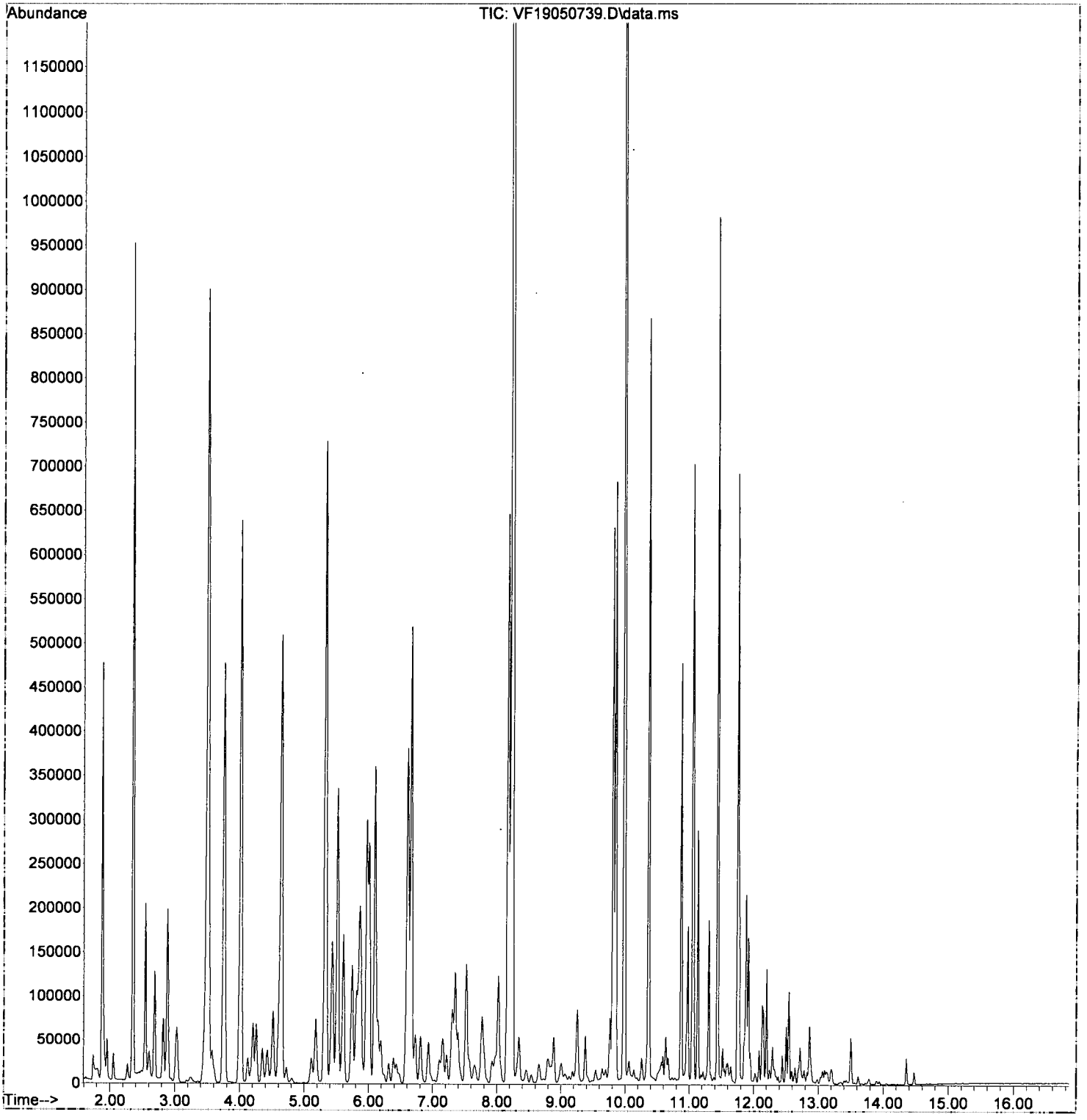
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	271709	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	1064809	52.07	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	671226	51.02	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	1029963	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1322775	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1141336	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	31174102m	2564.97	ug/L	
6) TPHg (C6-C10)	9.860	TIC	25150758m	2599.53	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	36008736m	2610.13	ug/L	
8) NWTPH-Gx	9.870	TIC	21404654m	2873.09	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050739.D
Acq On : 8 May 2019 7:32 am
Operator : TB
Sample : 9E07048-CALH
Misc : 1X 2500ppb GX MeOH
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:28:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	287647	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1135195	52.43	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	689679	49.52	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	1132386	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1419979	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1091643m	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	60591403m	4709.17	ug/L	
6) TPHg (C6-C10)	9.860	TIC	49690540m	4851.33	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	71316473m	4883.02	ug/L	
8) NWTPH-Gx	9.870	TIC	45467241m	5764.80	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

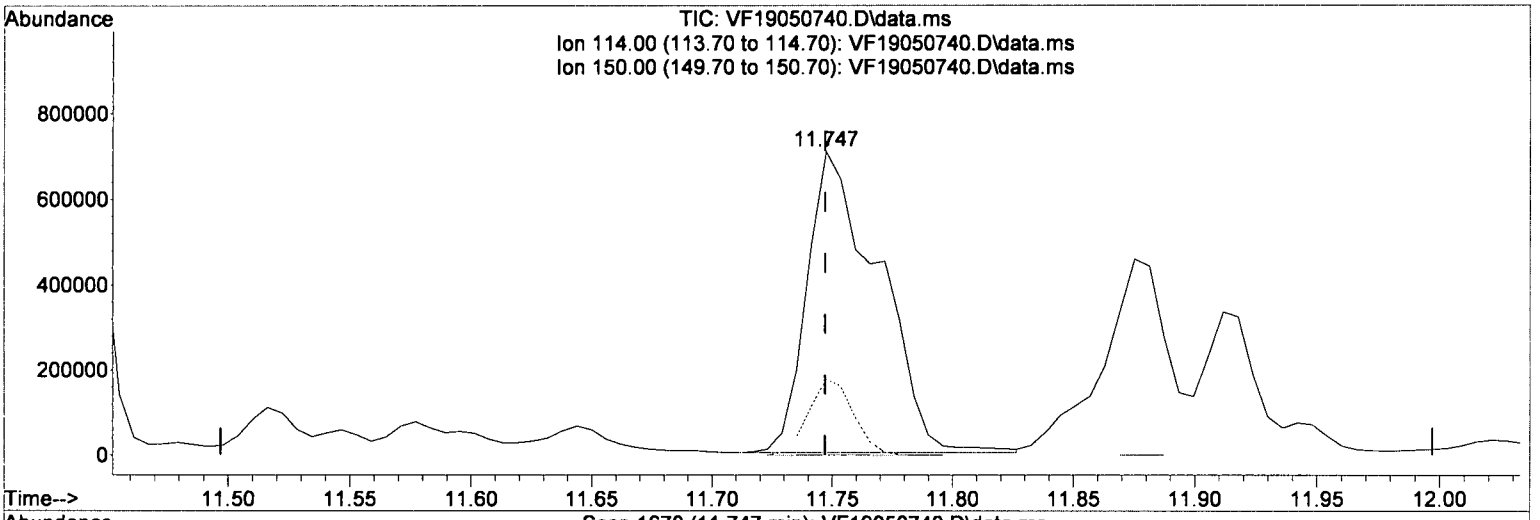
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	287647	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1135195	52.43	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	689679	49.52	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	1132386	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1419979	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1459749	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	60591403m	4709.17	ug/L	
6) TPHg (C6-C10)	9.860	TIC	49690540m	4851.33	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	70948367m	4857.81	ug/L	
8) NWTPH-Gx	9.870	TIC	45099135m	5718.13	ug/L	

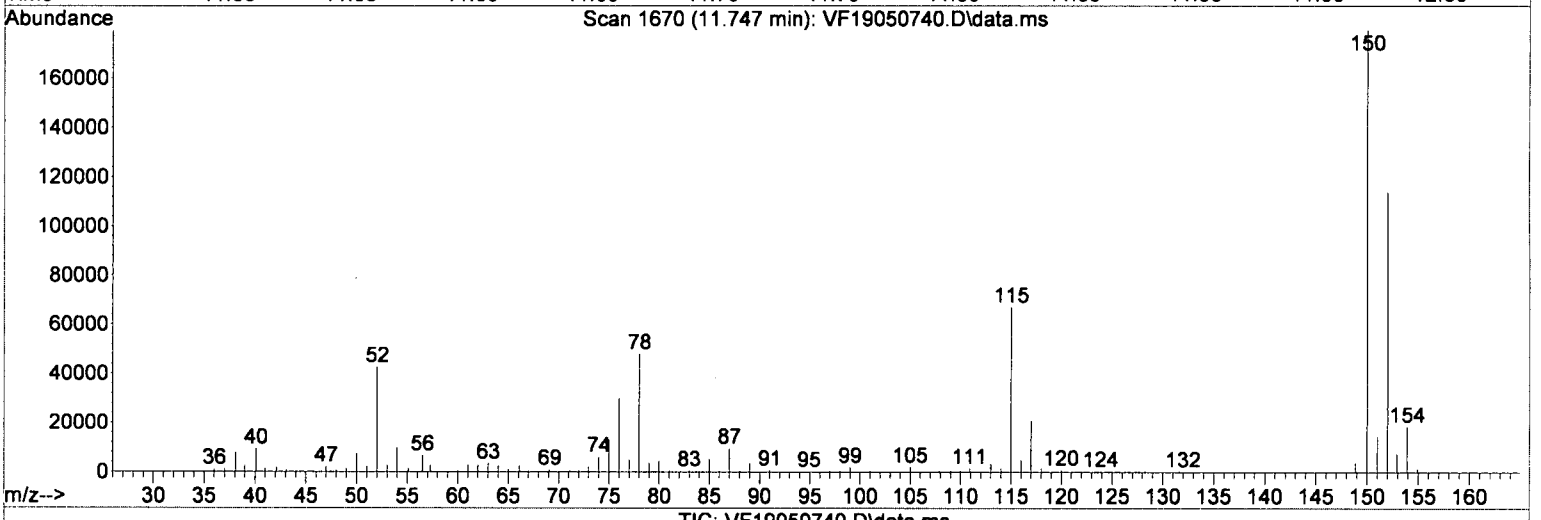
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050740.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.747min (+0.000) 0.00 ug/L

response 1459749

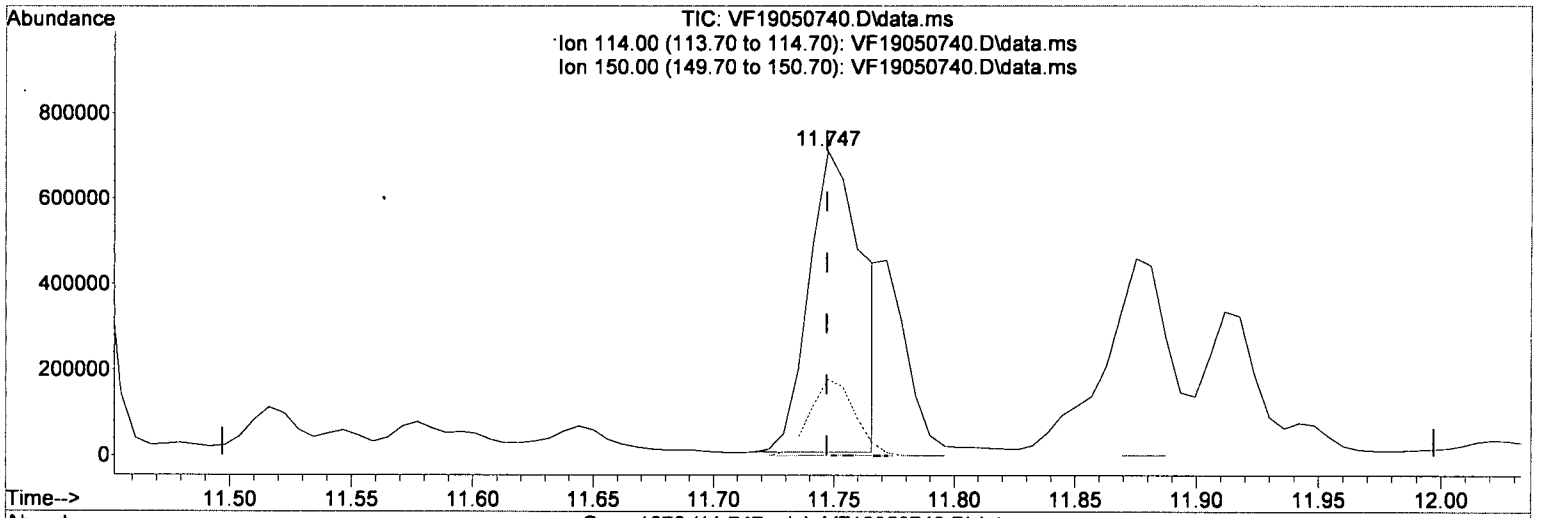
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	16.09
0.00	0.00	0.00

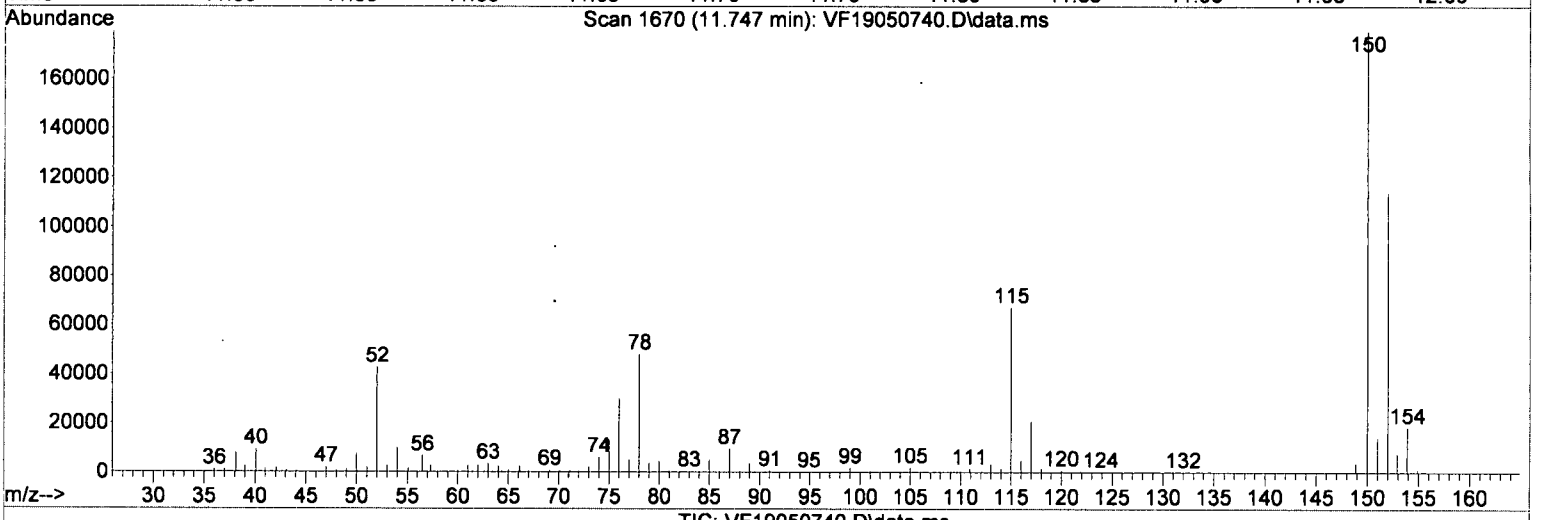
MT

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050740.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.747min (+0.000) 0.00 ug/L m

response 1091643

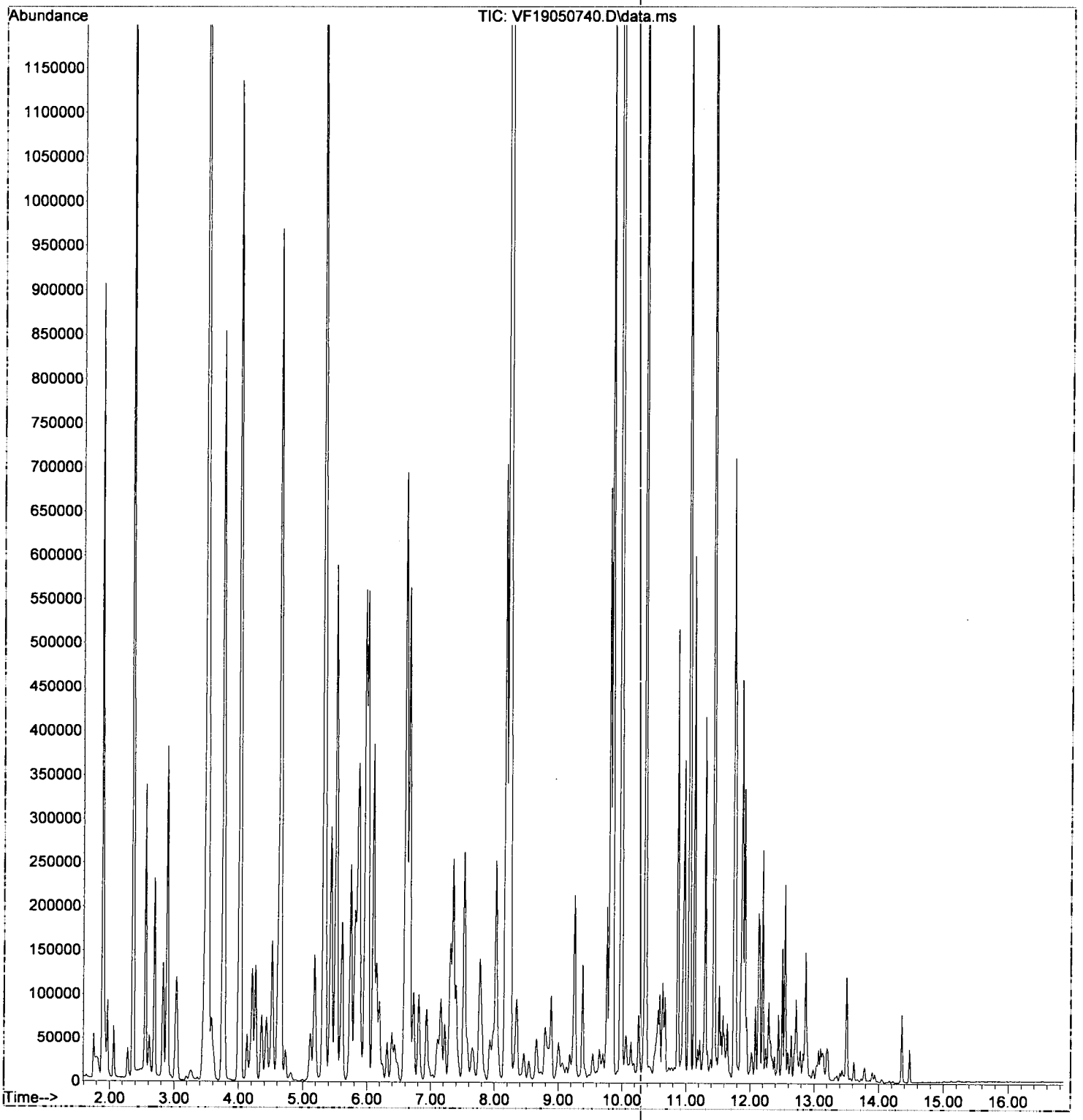
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.64
150.00	24.00	0.47
0.00	0.00	0.00

5/8/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK J 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:29:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	293025	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1412610	64.05	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	701119	49.42	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1179576	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.167	TIC	1494328	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.750	TIC	946889m	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	145061489m	11067.27	ug/L	
6) TPHg (C6-C10)	9.860	TIC	119967223m	11497.54	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	172661182m	11605.09	ug/L	
8) NWTPH-Gx	9.870	TIC	111038614m	13820.21	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK J 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	293025	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1412610	64.05	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	701119	49.42	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1179576	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.167	TIC	1494328	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.768	TIC	2214101	0.00	ug/L	0.02
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	145061489m	11067.27	ug/L	
6) TPHg (C6-C10)	9.860	TIC	119967223m	11497.54	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	171393970m	11519.91	ug/L	
8) NWTPH-Gx	9.870	TIC	109771402m	13662.49	ug/L	

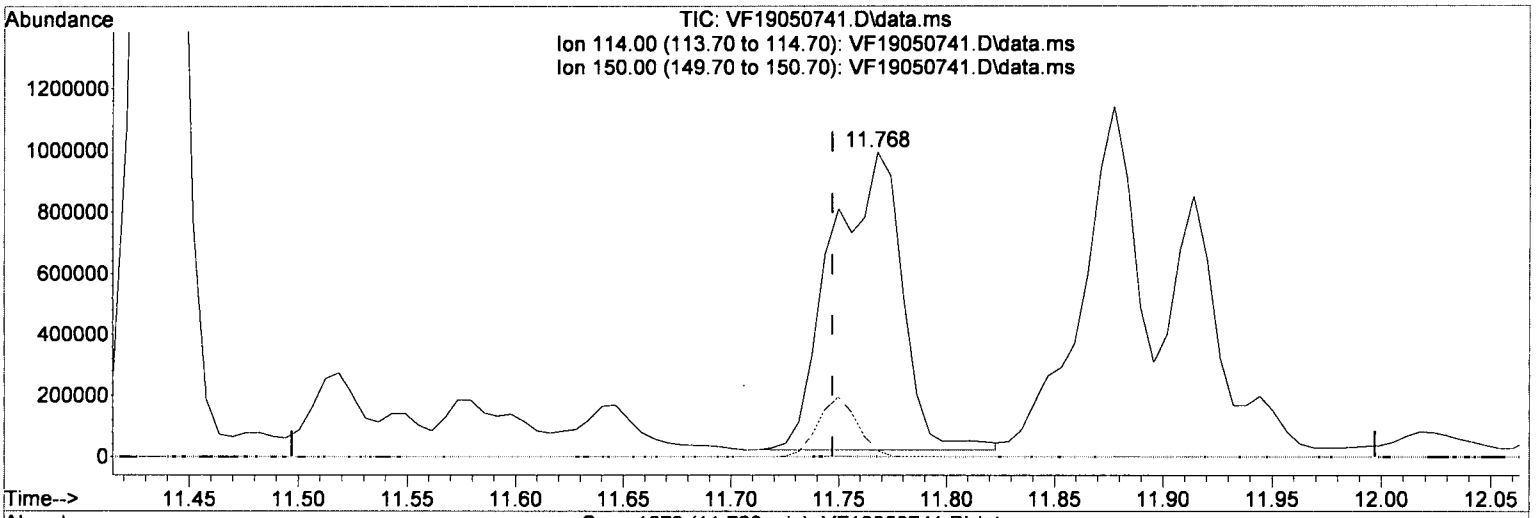
NF

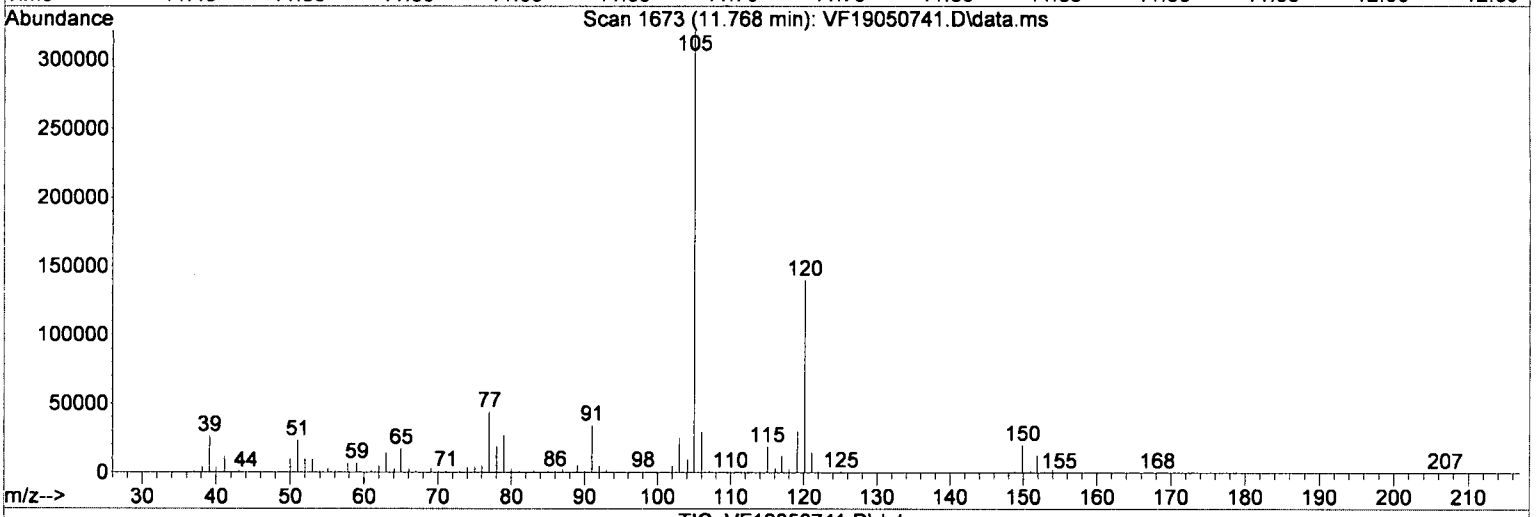
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK J TB 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050741.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.768min (+0.021) 0.00 ug/L

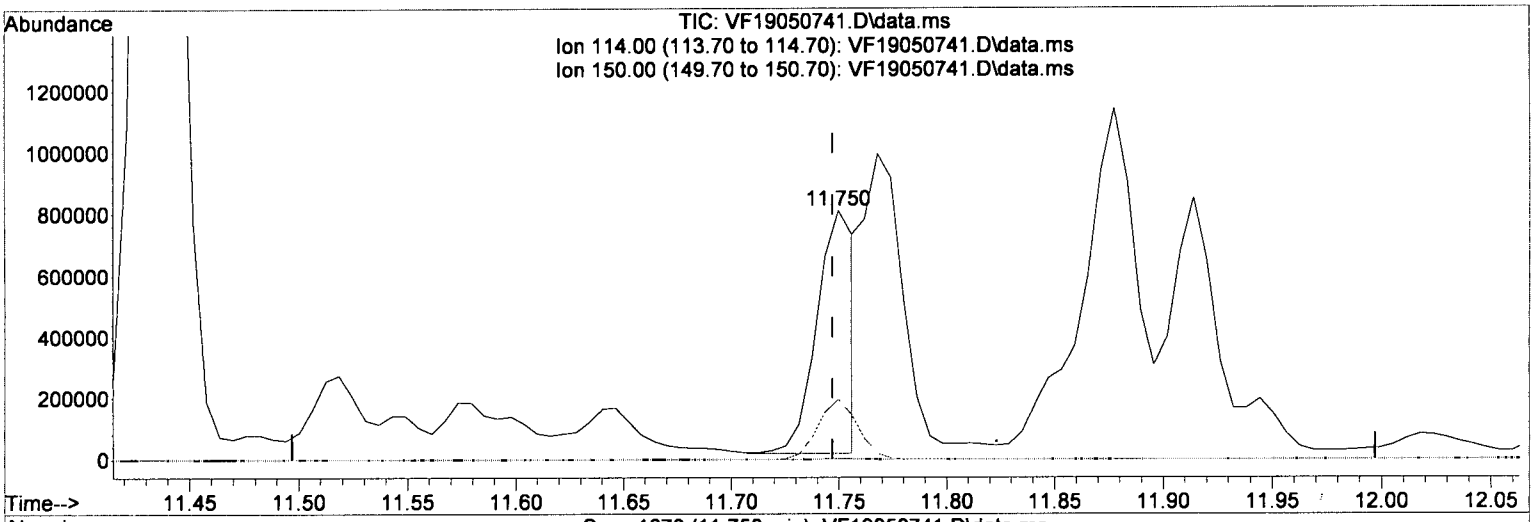
response 2214101

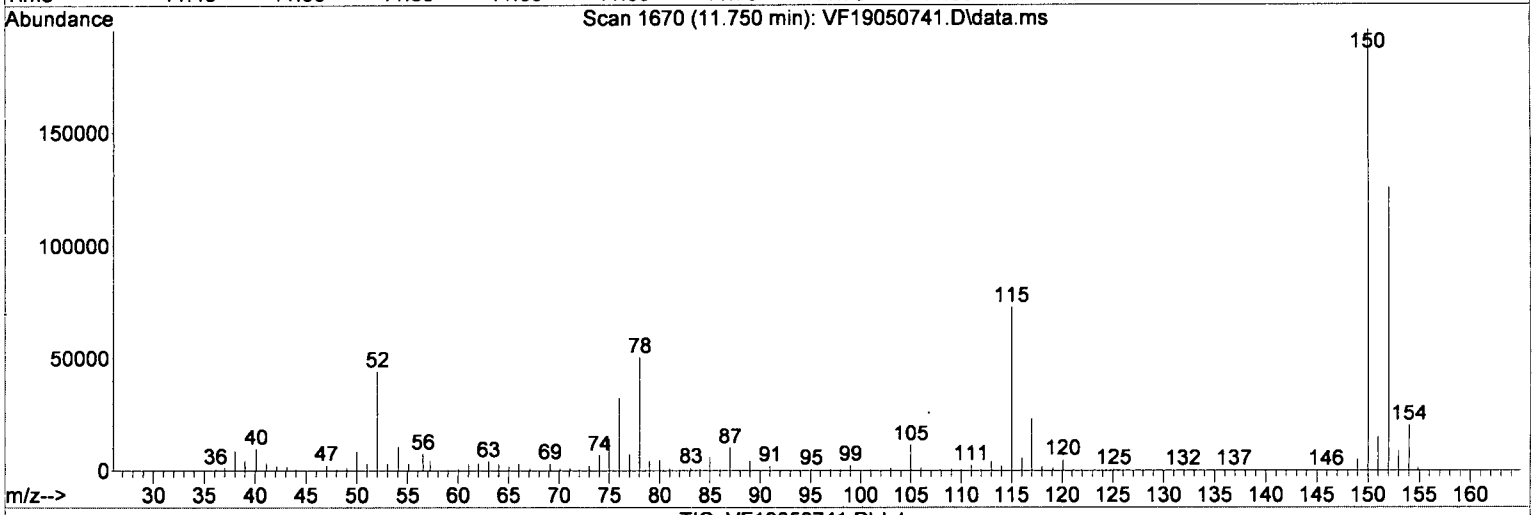
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	11.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK ~~J~~ TB 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050741.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.750min (+0.003) 0.00 ug/L m

response 946889

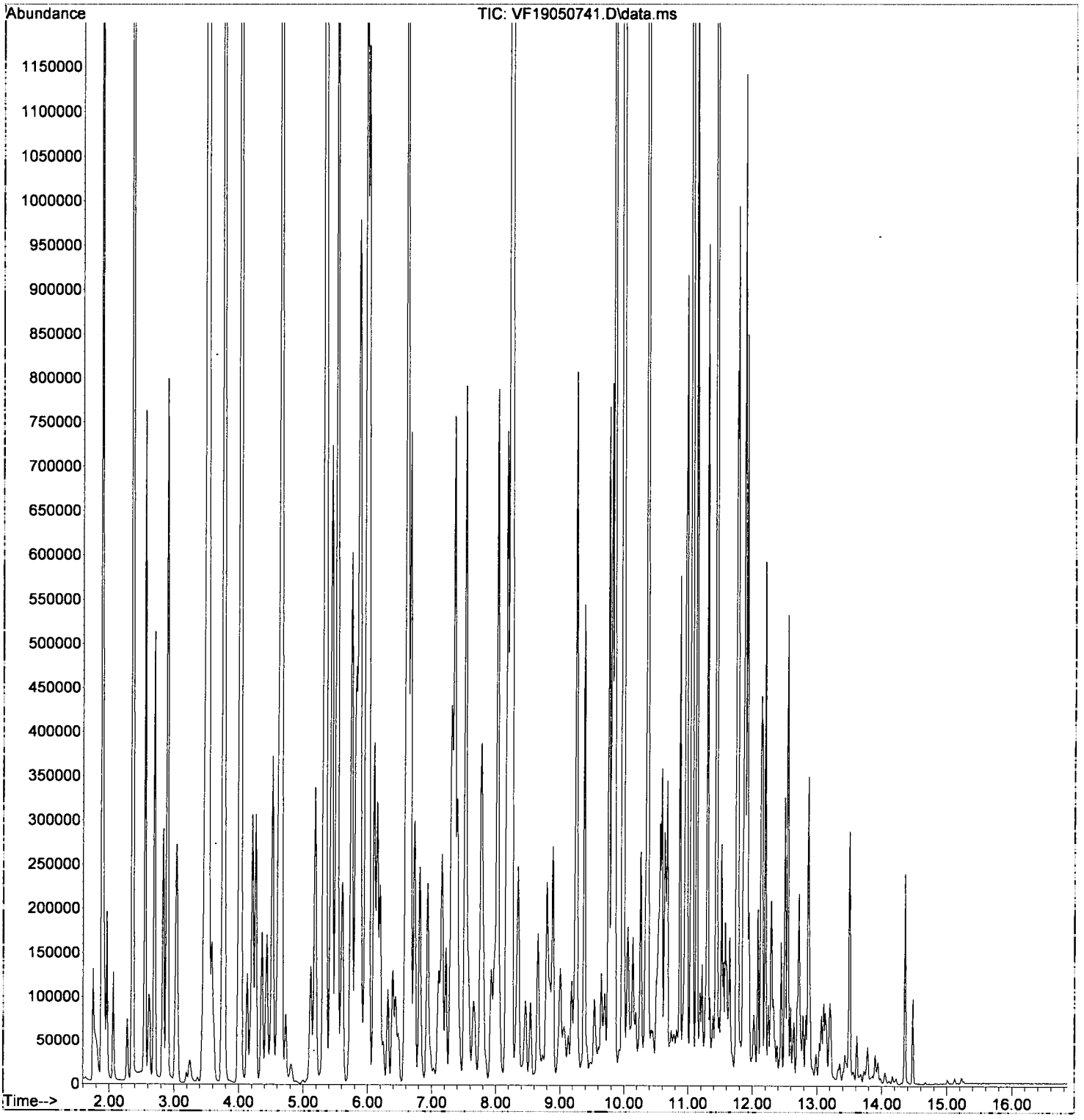
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	26.25
0.00	0.00	0.00

5/8/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK J KB 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050742.D
Acq On : 8 May 2019 8:53 am
Operator : TB
Sample : 9E07048-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:15 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

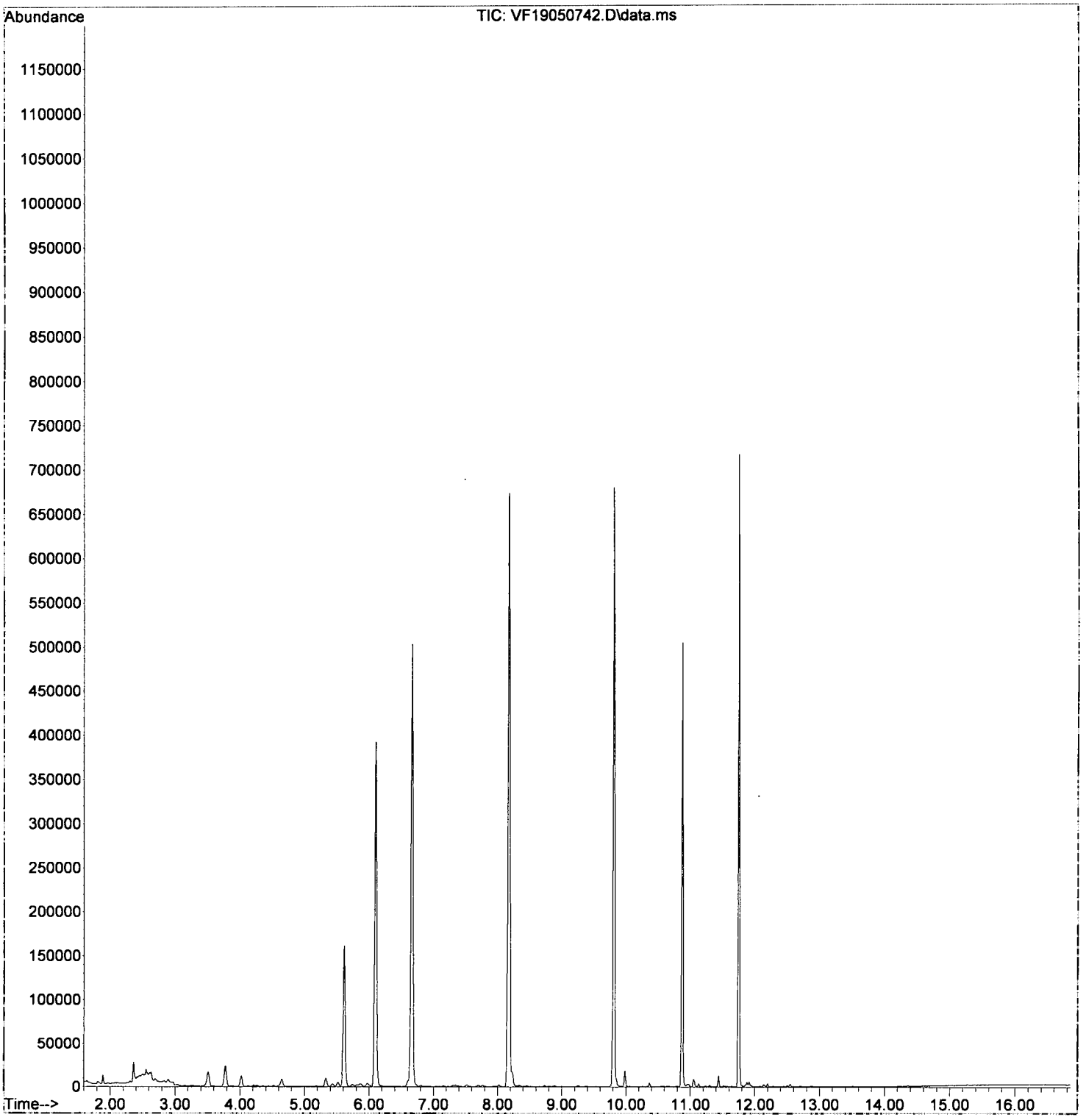
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	300299	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	1091415	46.10	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	718071	49.25	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	1100182	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.172	TIC	1429075	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	908097	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	718266m	25.30	ug/L	
6) TPHg (C6-C10)	9.860	TIC	531285m	30.49	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	783628m	30.07	ug/L	
8) NWTPH-Gx	9.870	TIC	130677m	38.75	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050742.D
Acq On : 8 May 2019 8:53 am
Operator : TB
Sample : 9E07048-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:15 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050743.D
Acq On : 8 May 2019 9:20 am
Operator : TB
Sample : 9E07048-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

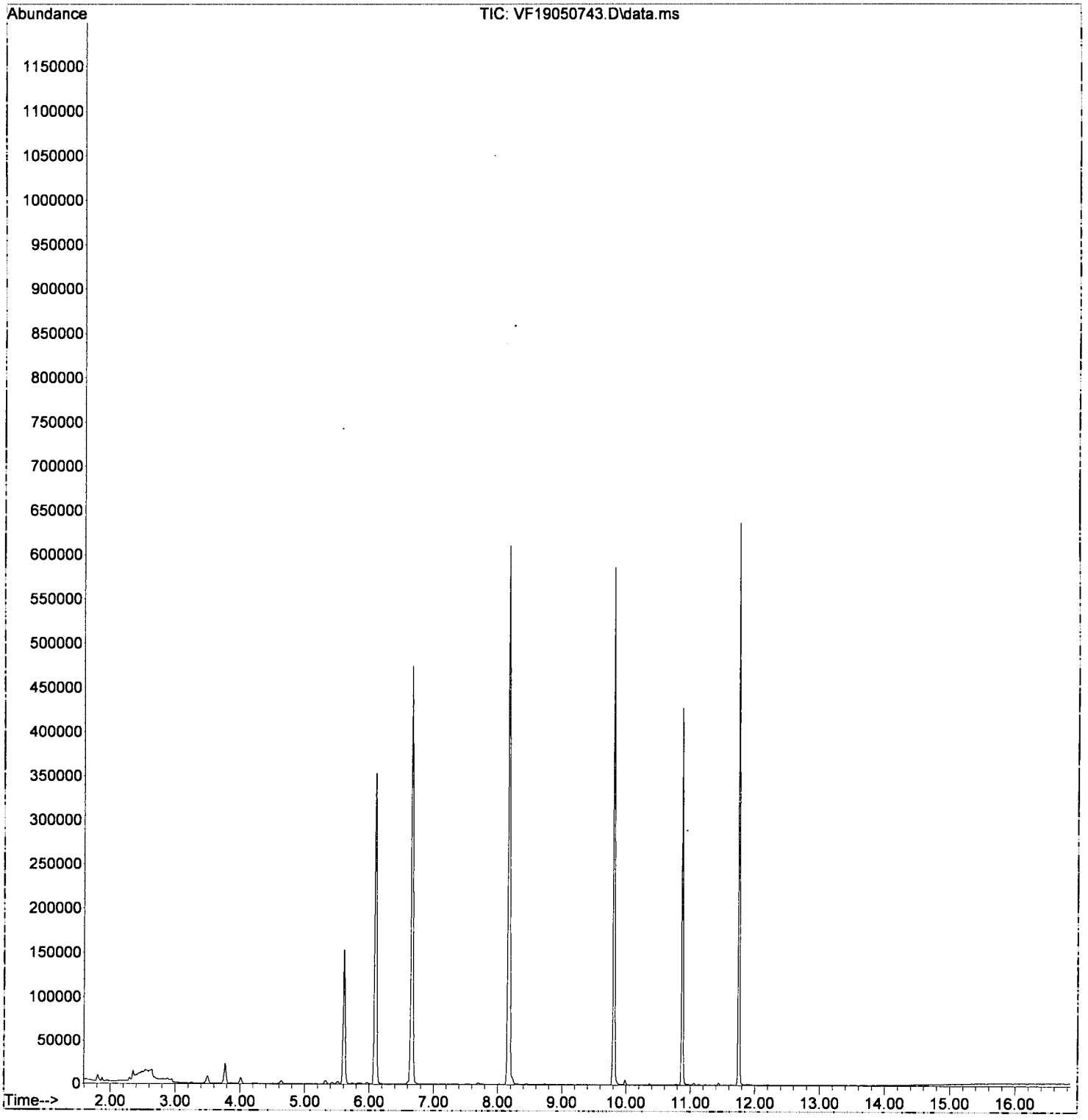
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	273596	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	987251	45.77	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	608879	45.84	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	925145	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.166	TIC	1264759	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	797642	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	502008m	11.74	ug/L	
6) TPHg (C6-C10)	9.860	TIC	398133m	20.99	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	502008m	13.72	ug/L	
8) NWTPH-Gx	9.870	TIC	19964m	26.08	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050743.D
Acq On : 8 May 2019 9:20 am
Operator : TB
Sample : 9E07048-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

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Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050744.D
Acq On    :  8 May 2019   9:47 am
Operator  : TB
Sample    : 9E07048-ICV2
Misc      : 1X  500ppb GX MeOH
ALS Vial  : 34   Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title  : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration
```

TB 5/8/19

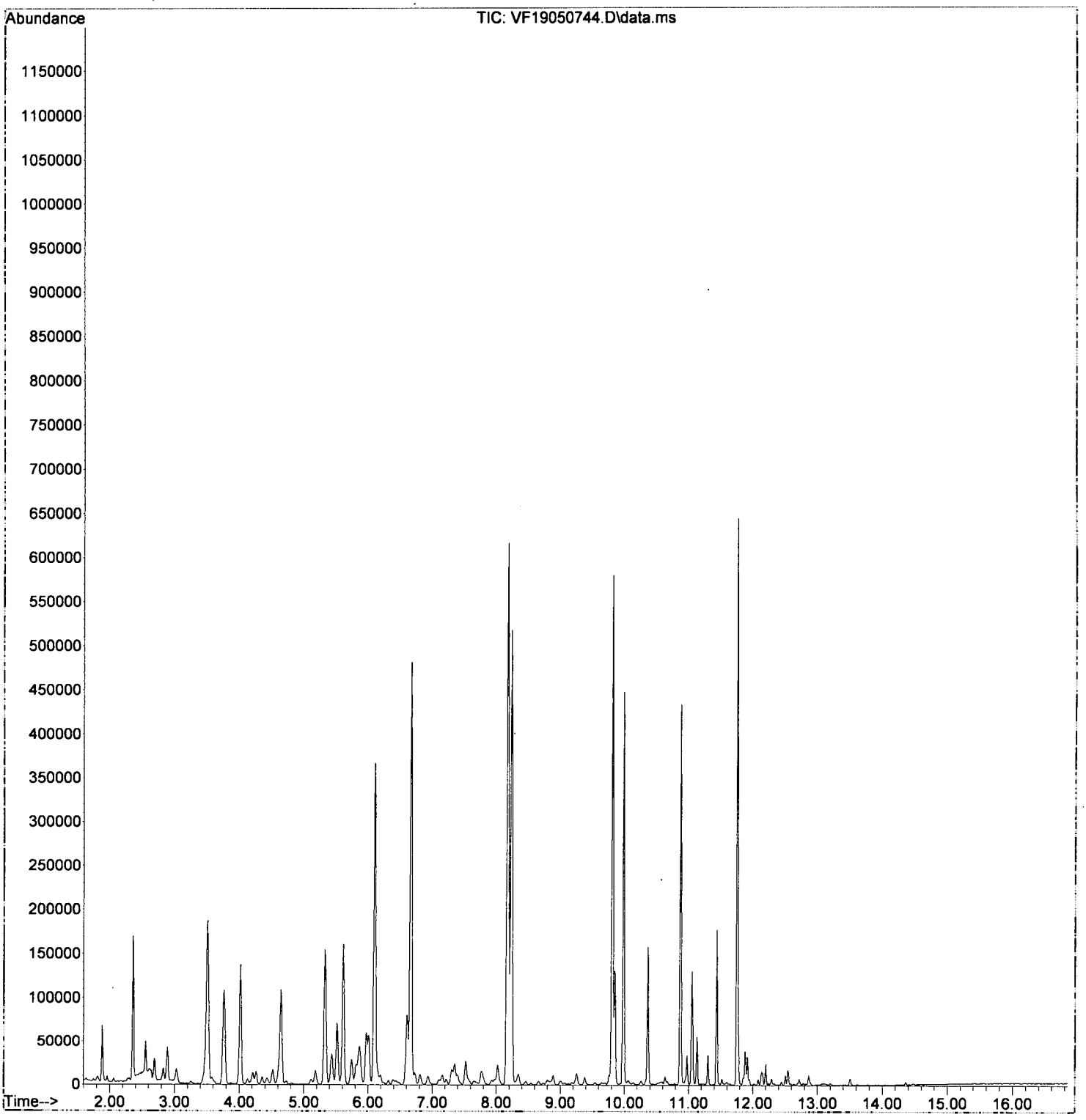
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	273841	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.663	TIC	1008883	46.73	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.873	TIC	617926	46.48	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.808	TIC	960704	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.172	TIC	1300790	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	861687	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	6428232m	533.69	ug/L	
6) TPHg (C6-C10)	9.860	TIC	5178782m	543.08	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	7312430m	532.59	ug/L	
8) NWTPH-Gx	9.870	TIC	4009491m	528.07	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050744.D
Acq On : 8 May 2019 9:47 am
Operator : TB
Sample : 9E07048-ICV2
Misc : 1X 500ppb GX MeOH
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050745.D
Acq On : 8 May 2019 10:14 am
Operator : TB
Sample : 9E07048-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

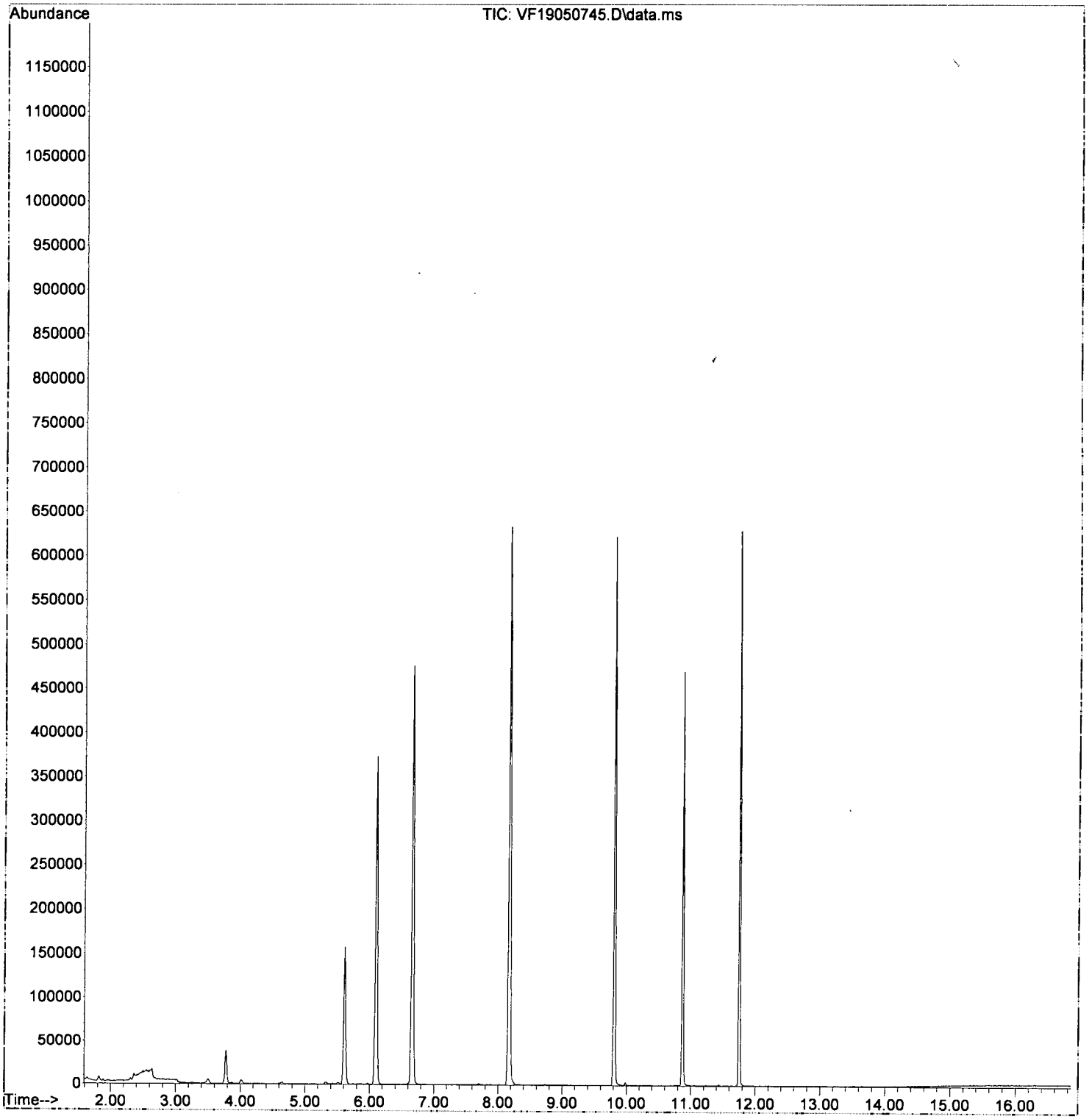
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	277007	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	1000763	45.82	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640294	47.61	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	981084	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1297377	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	828252	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	465462m	7.97	ug/L	
6) TPHg (C6-C10)	9.860	TIC	349743m	15.16	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	465878m	10.49	ug/L	
8) NWTPH-Gx	9.870	TIC	-9851m	22.28	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050745.D
Acq On : 8 May 2019 10:14 am
Operator : TB
Sample : 9E07048-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



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

Volatile Organic Compounds by EPA 8260C

Benchsheet & Analysis Sequence Data

Batch 9051092

Sequence 9E21036 (A9E0677-01)

PREPARATION BENCH SHEET

BATCH #: 9051092 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9051092-BLK1		QC	05/21/19 11:00	7.5	5							
9051092-BS1		QC	05/21/19 11:00	5	5	A19E231		250				
9051092-BS2		QC	05/21/19 11:00	5	5	A19E163		250				
A9E0427-01RE1	A	NWTPH-Gx	05/20/19 15:10	6.54	5					Gasoline in Soil - PT	MOD, PT, 1000X RR2 Due to prov	
A9E0427-01RE1	A	CA LUFT GRO	05/20/19 15:10	6.54	5					Gasoline in Soil - PT	MOD, PT, 1000X RR2 Due to prov	
A9E0427-01RE1	A	8015D-Mod Gasoline (C6-C1	05/20/19 15:10	6.54	5					Gasoline in Soil - PT	MOD, PT, 1000X RR2 Due to prov	
A9E0502-01RE1	C	8260C Full List	05/15/19 16:25	3.01	5					134947	MOD 100,000X 111TCA and DCM	
A9E0515-01	B	8260C RBDM List	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8260C BTEX+N	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	NWTPH-Gx	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	CA LUFT GRO	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8015D-Mod Gasoline (C6-C1	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8260C BTEX	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-01	B	8260C Full List	(Date Sampled)	5.17	5					HA-1(2-2.5)	FP	
9051092-DUP1		QC	05/15/19 10:30	4.92	5		A9E0515-01					
A9E0515-05	B	8260C Full List	(Date Sampled)	5.49	5					HA-1(12-12.5)	FP	
A9E0515-06	B	8260C Full List	(Date Sampled)	5.09	5					HA-1(15-15.5)	FP	
A9E0515-07	B	8260C BTEX	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	8260C RBDM List	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	NWTPH-Gx	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	8015D-Mod Gasoline (C6-C1	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
A9E0515-07	B	CA LUFT GRO	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	

Prepared By: [signature] 5/22/19 Date

Reviewed By: [signature] 5/22/19 Date

PREPARATION BENCH SHEET

BATCH #: 9051092 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
A9E0515-07	B	8260C Full List	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP	
A9E0515-07	B	8260C BTEX+N	(Date Sampled)	4.77	5					HA-2(2-2.5)	FP, Added for BatchQC in: 905109	
9051092-MS1		QC	05/15/19 14:15	4.77	5	A19E231	A9E0515-07	282			DW=86.5% @50X	
A9E0575-01	B	8260C BTEX+N	(Date Sampled)	5.11	5					13-8.8	FP	
A9E0582-01RE1	C	NWTPH-Gx	(Date Sampled)	3.42	5					2708-190515-005	FP 20,000 RR1	
A9E0582-01RE1	C	8260C Full List	(Date Sampled)	3.42	5					2708-190515-005	FP 20,000 RR1	
A9E0586-02RE1	B	8260C BTEX+N	(Date Sampled)	5.34	5					SS-5-1.5	FP 50X RR3	
A9E0670-05	B	NWTPH-Gx	05/21/19 12:15	21.38	40					SW Solids-Comp	MOD COMP	
A9E0672-01	B	NWTPH-Gx	(Date Sampled)	3.09	5					Carbon-01	FP, Custom list OUT OF TEMP	
A9E0672-01	B	8260C RBDM List	(Date Sampled)	3.09	5					Carbon-01	FP, Custom list OUT OF TEMP	
A9E0675-01	D	8260C BTEX	05/21/19 13:00	5.64	5					Catch Basin Composite	MOD	
A9E0677-01	E	8260C Full List	05/21/19 13:35	3.13	5					2708-190520-006	MOD	
A9E0677-01	E	NWTPH-Gx	05/21/19 13:35	3.13	5					2708-190520-006	MOD	

*pH <2 verified_____

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A16L123	11/30/23	Sample Prep Bal 3
A19C375	09/25/19	Methanol - Fisher (P/T) #185562

Analyte Spike(s)

Std ID	Exp. Date	Description
A19E163	11/09/19	Prim NWTPH-Gx Spike (500 ug/mL)
A19E231	11/09/19	8260B Cal. Std. B VOC Spike Mix (20-40ug/ml

Surrogate(s)

Std ID	Exp. Date	Description

SOIL MS6

Prepared By: _____ Date 5/22/19

Reviewed By: _____ Date

Worksheet

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

Sample ID	Container	Container Weight (g)	Tare Weight (g)	Net Sample Weight (g)	Formula Check
A9E0515-01	B	39.06	33.89	5.17	
A9E0515-01	C DUP	38.58	33.66	4.92	
A9E0515-05	B	39.11	33.62	5.49	
A9E0515-06	B	38.87	33.78	5.09	
A9E0515-07	B	38.44	33.67	4.77	
A9E0575-01	B	38.59	33.48	5.11	
A9E0672-01	B	36.2	33.11	3.09	

5/22/19

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

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

Batch: 9051092

Matrix Spike

Sample Weight	Final Volume	Dilution	Dry Weight
g	mL		%
4.770	5	50	86.5
			0.865

Final Spike Level	**Spike Amount**
ug/kg	**ul**
1367.88	**282**

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

A9E0515-07

5/22/19

Volatiles Composite Worksheet
Validated 5/13/16

Save file a

Sample ID	Container ID	Weight (g)		Final Volume (mL)
A9E0670-01	B	5.350		10
A9E0670-02	B	5.190		10
A9E0670-03	B	5.280		10
A9E0670-04	B	5.560		10
Composite Total Weight (g)	A9E0670-05	**21.38**		**40**

5/21/19

A9E0675

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9E0675-01	Catch Basin Composite						Sampled:	05/15/19 10:00
D Solid	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used: A	Sample Weight (g): 5.64	Volume MeOH (mL): 5 10 15	Prepared By: TAM	Prepared date/time: @ 5-21-19 13:30	Within 48 hours? Y (N)	Notes: mos

8260C BTEX Expires: 05/17/19 10:00 Due: 05/28/19 17:00

Comments: soil mg/kg

A9E0677

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9E0677-01	2708-190520-006	Sampled: 05/20/19 15:00

		Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
E Solid	40 mL VOA - In House Prep - 5035 (MeOH)	X	3.13	(5) 10 15	MS @	13:35	(Y) N	MOD, Strong Odor

8260C Full List Expires: 05/22/19 15:00 Due: 05/23/19 17:00
Comments: Strong Odor

NWTPH-Gx Expires: 05/22/19 15:00 Due: 05/28/19 17:00
Comments: Strong Odor

A9E0515

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0515-01 HA-1(2-2.5) Sampled: **05/15/19 10:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.06	Tare Weight (g): 33.89	Volume MeOH (mL): 5 10 15 Other	Notes:
Dup C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.58	Tare Weight (g): 33.66	Volume MeOH (mL): 5 10 15 Other	Notes:

8260 Due: TAT:

A9E0515-02 HA-1(5-5.5) Sampled: **05/15/19 11:00**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.05	Tare Weight (g): 33.83	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 37.31	Tare Weight (g): 33.24	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: TAT:

A9E0515-03 HA-1(8-8.5) Sampled: **05/15/19 11:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.29	Tare Weight (g): 33.81	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.88	Tare Weight (g): 33.90	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: TAT:

A9E0515-04 HA-1(9.5-10) Sampled: **05/15/19 12:00**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 37.98	Tare Weight (g): 33.77	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.59	Tare Weight (g): 33.79	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: TAT:

A9E0515-05 HA-1(12-12.5) Sampled: **05/15/19 12:45**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.11	Tare Weight (g): 33.62	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.07	Tare Weight (g): 33.76	Volume MeOH (mL): 5 10 15 Other	Notes:

8260 Due: TAT:

Weighed by: _____ @ 5/18/19 1955

Methanol Reagent ID: A19C375~ Balance ID: A18J327~

A9E0515

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0515-06 — **HA-1(15-15.5)** — Sampled: **05/15/19 13:15**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	38.87	33.78	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	39.00	33.64	5 10 15 Other	

8260

Due: TAT:

A9E0515-07 — **HA-2(2-2.5)** — Sampled: **05/15/19 14:15**

MS

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	38.44	33.67	5 10 15 Other	DW=% 6.5%
C Soil	40 mL VOA - 5035 (MeOH)	38.51	33.76	5 10 15 Other	

Due: TAT:

A9E0515-08 — **HA-2(5-5.5)** — Sampled: **05/15/19 14:45**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	38.53	33.63	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	38.70	33.54	5 10 15 Other	

Due: TAT:

A9E0515-09 — **HA-2(7-7.5)** — Sampled: **05/15/19 15:15**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	38.72	33.93	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	38.27	33.69	5 10 15 Other	

Due: TAT:

A9E0515-10 — **HA-2(9.5-10)** — Sampled: **05/15/19 15:30**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	38.37	33.95	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	38.77	33.53	5 10 15 Other	

Due: TAT:

Weighed by: _____ @ 5/15/19 1955

Methanol Reagent ID: A19C375~ Balance ID: A18J327~

A9E0575

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0575-01 | **13-8.8** | Sampled: **05/16/19 09:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.59	Tare Weight (g): 33.48	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.83	Tare Weight (g): 33.50	Volume MeOH (mL): 5 10 15 Other	Notes:

BTEXN | Due: | TAT:

A9E0575-02 | **14-8.2** | Sampled: **05/16/19 10:00**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.77	Tare Weight (g): 33.55	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.80	Tare Weight (g): 33.57	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: | TAT:

A9E0575-03 | **15-8.7** | Sampled: **05/16/19 10:10**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.38	Tare Weight (g): 33.47	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.73	Tare Weight (g): 33.43	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: | TAT:

A9E0575-04 | **16-8.8** | Sampled: **05/16/19 10:20**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.01	Tare Weight (g): 33.58	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 40.10	Tare Weight (g): 34.09	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: | TAT:

A9E0575-05 | **17-8.9** | Sampled: **05/16/19 10:30**

B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 42.30	Tare Weight (g): 34.11	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.8019	Tare Weight (g): 33.59	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: 5/17 | TAT:

Weighed by: MD @ 5/17/19 10:52

Methanol Reagent ID: A19C375~ Balance ID: A18J327~

A9E0672

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9E0672-01		Carbon-01			Sampled: 05/17/19 09:00
B Solid	40 mL VOA - 5035 (MeOH)	Container Weight (g): 36.20	Tare Weight (g): 33.11	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Solid	40 mL VOA - 5035 (MeOH)	Container Weight (g): 36.55	Tare Weight (g): 33.48	Volume MeOH (mL): (5) 10 15 Other	Notes:
GX RBOM		Due:	TAT:		DW cancelled

out of temp

Weighed by: _____ @ 5/21/19 1235

Methanol Reagent ID: A19C379 Balance ID: A16J327

A9E0670

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9E0670-01 — **SW Solids-1A** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.34 S acc 5/21/19	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, HS, absorbent

Expires: acc 5/21/19 Due:

A9E0670-02 — **SW Solids-1B** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.19	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, odor, absorbent

Expires: acc 5/21/19 Due:

A9E0670-03 — **SW Solids-1C** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.28	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, absorbent

Expires: acc 5/21/19 Due:

A9E0670-04 — **SW Solids-1D** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B		A	5.50	~~5~~ 10 15	AKK @	5/21/19 1215	Y N	Mod, absorbent

Expires: acc 5/21/19 Due:

A9E0670-05 — **SW Solids-Comp** — Sampled: **05/20/19 10:00**

Soil	40 mL VOA - In House Prep - 5035 (MeOH)	Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B				5 10 15	@	acc 5/21/19	Y N	

NWTPH-Gx — Expires: 05/27/19 10:00 Due: 05/21/19 17:00

VOLS COMPOSITE

6X

Item Analyte Ranges

GASOLINE IN SOIL - PT

Item Number: SPE008-30G

VPH Aliphatic >C6-C8	0 to 1000 mg/Kg
Benzene	0 to 100 mg/Kg
Ethylbenzene	0 to 100 mg/Kg
Methyl tert-butyl ether (MTBE)	0 to 100 mg/Kg
Naphthalene	0 to 100 mg/Kg
Toluene	0 to 100 mg/Kg
Total Purgeable Hydrocarbons	15 to 2000 mg/Kg
m+p-Xylene	0 to 300 mg/Kg
o-Xylene	0 to 100 mg/Kg
Xylene, total	0 to 300 mg/Kg
VPH Aliphatic >C8-C10	0 to 1000 mg/Kg
VPH Aliphatic C5-C6	0 to 1000 mg/Kg
VPH Aliphatic C5-C8	0 to 1500 mg/Kg
VPH Aliphatic C5-C8 Unadjusted	0 to 1500 mg/Kg
VPH Aliphatic C9-C12	0 to 1500 mg/Kg
VPH Aliphatic C9-C12 Unadjusted	0 to 1500 mg/Kg
VPH Aromatic >C8-C10	0 to 1000 mg/Kg
VPH Aromatic C9-C10	0 to 1500 mg/Kg
VPH Aromatic >C10-C12	0 to 1500 mg/Kg
VPH Aromatic C8-C10	0 to 1000 mg/Kg
VPH Aliphatic >C10-C12	0 to 1500 mg/Kg
C10-C12 Aliphatic Hydrocarbons	0 to 2000 mg/Kg
C10-C12 Aromatics Hydrocarbons	0 to 2000 mg/Kg
VPH Aromatics >C12-C13	0 to 2000 mg/Kg
Gasoline Range Organics (GRO)	100 to 2000 mg/kg 1370
Gasoline range organics (GRO), C4-C12	100 to 2000 mg/Kg
Gasoline range organics (GRO), C5-C10	100 to 2000 mg/Kg
Gasoline Range Organics, C6-C10	10 to 2000 mg/Kg 1260
Gasoline Range Organics, C6-C12	100 to 2000 mg/Kg
Total VPH	100 to 2000 mg/Kg

End of SPE008-30G ranges

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9E21036** Instrument: **VOA-GCMS6**

Date: **05/21/19 10:39** Calibration: **A9E0804**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E21036-IBL1	Soil	QC	QC			A19D196	
2	9E21036-TUN1	Soil	QC	QC			A19D196	
3	9E21036-CCV1	Soil	QC	QC			A19D196	
4	9051092-BS1	Soil	QC	QC		9051092	A19D196	
5	9E21036-CCV2	Soil	QC	QC			A19D196	
6	9051092-BS2	Soil	QC	QC		9051092	A19D196	
7	9051092-BLK1	Soil	QC	QC		9051092	A19D196	
8	9E21036-IBL2	Soil	QC	QC			A19D196	
9	A9E0586-02RE1	Soil	8260C BTEX+N		05/24/19	9051092	A19D196	
10	A9E0427-01RE1	Soil	8015D-Mod Gasoline (C6-C10) by GC		05/21/19	9051092	A19D196	
"	"	Soil	CA LUFT GRO	"	05/21/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/21/19	9051092	A19D196	
11	A9E0575-01	Soil	8260C BTEX+N		05/22/19	9051092	A19D196	
12	9E21036-IBL3	Soil	QC	QC			A19D196	
13	A9E0515-01	Soil	8260C Full List		05/29/19	9051092	A19D196	
"	"	Soil	8015D-Mod Gasoline (C6-C10) by GC	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX+N	(QC Source)		9051092	A19D196	
"	"	Soil	8260C RBDM List	(QC Source)		9051092	A19D196	
"	"	Soil	CA LUFT GRO	(QC Source)		9051092	A19D196	
"	"	Soil	NWTPH-Gx	(QC Source)		9051092	A19D196	
14	9051092-DUP1	Soil	QC	QC		9051092	A19D196	
15	A9E0515-05	Soil	8260C Full List		05/29/19	9051092	A19D196	
16	A9E0515-06	Soil	8260C Full List		05/29/19	9051092	A19D196	
17	A9E0515-07	Soil	8260C Full List		05/29/19	9051092	A19D196	
"	"	Soil	8015D-Mod Gasoline (C6-C10) by GC	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX	(QC Source)		9051092	A19D196	
"	"	Soil	8260C BTEX+N	(QC Source)		9051092	A19D196	
"	"	Soil	8260C RBDM List	(QC Source)		9051092	A19D196	
"	"	Soil	CA LUFT GRO	(QC Source)		9051092	A19D196	
"	"	Soil	NWTPH-Gx	(QC Source)		9051092	A19D196	
18	9051092-MS1	Soil	QC	QC		9051092	A19D196	
19	9E21036-IBL4	Soil	QC	QC			A19D196	
20	A9E0582-01RE1	Soil	8260C Full List	Hahn and Associates	05/22/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/22/19	9051092	A19D196	
21	9E21036-IBL5	Soil	QC	QC			A19D196	
22	A9E0672-01	Soil	8260C RBDM List		05/24/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/24/19	9051092	A19D196	
23	A9E0670-05	Soil	NWTPH-Gx		05/24/19	9051092	A19D196	
24	9E21036-IBL6	Soil	QC	QC			A19D196	
25	A9E0502-01RE1	Soil	8260C Full List		05/22/19	9051092	A19D196	
26	A9E0675-01	Soil	8260C BTEX		05/28/19	9051092	A19D196	
27	A9E0677-01	Soil	8260C Full List	Hahn and Associates	05/23/19	9051092	A19D196	
"	"	Soil	NWTPH-Gx	"	05/28/19	9051092	A19D196	
28	9E21036-IBL7	Soil	QC	QC			A19D196	

Comments: TMDL MRL for 1112 TCA, $CHBrCl_2$, $CHBr_3$, CCl_4

TMDL = MRL for DCM (Q55)

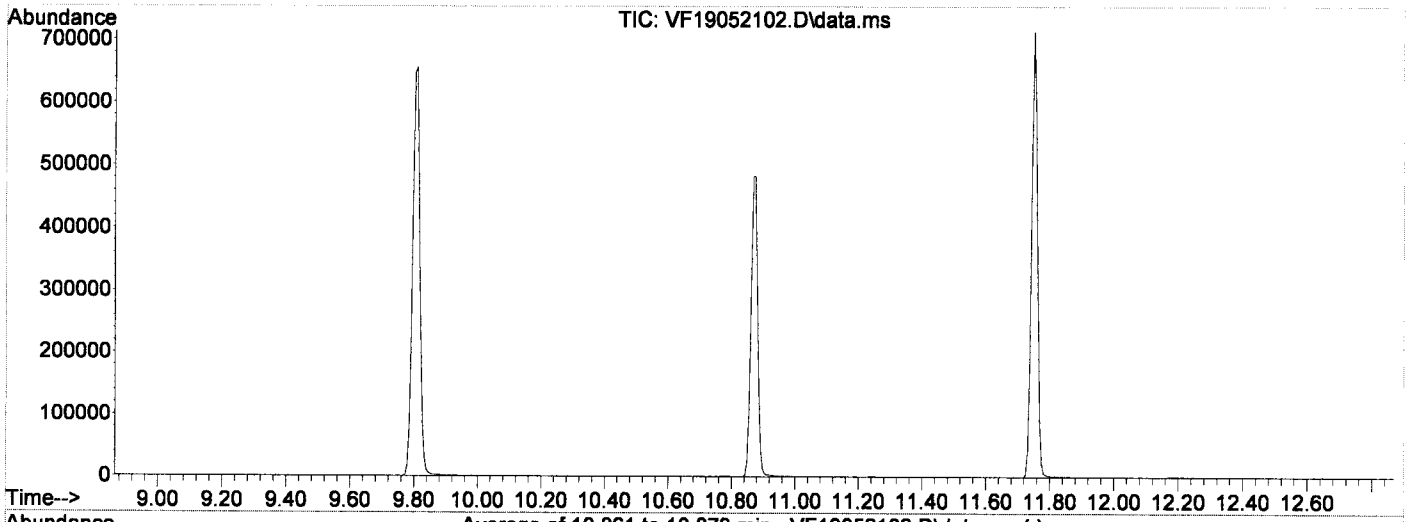
Data Entered By: 5/22/19

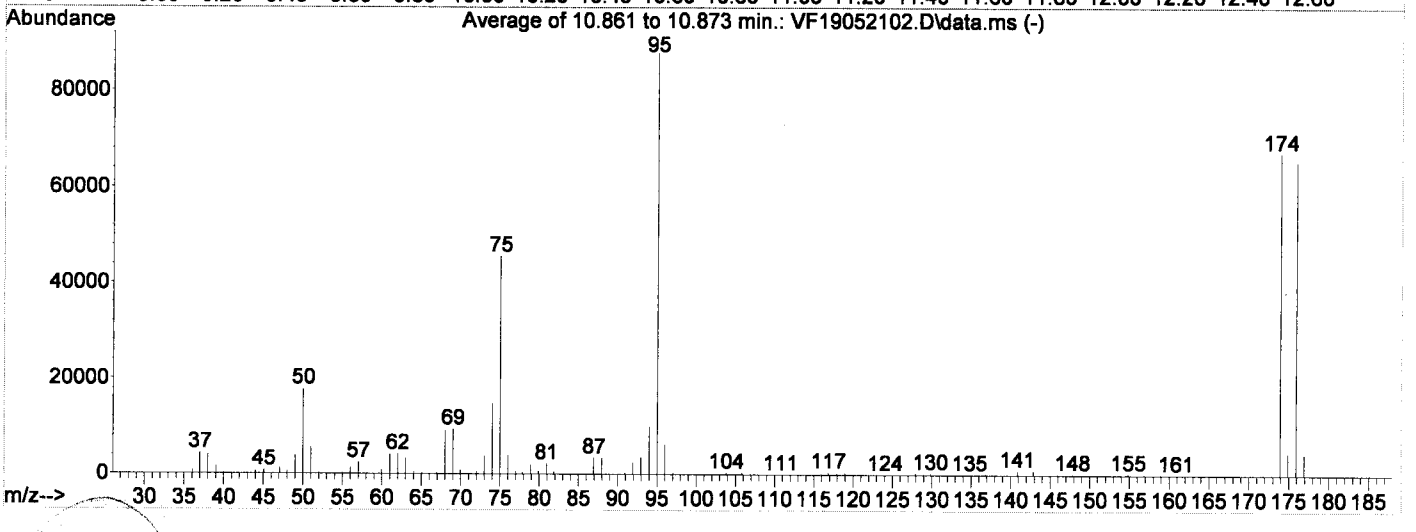
Data Reviewed By: 5/22/19

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 13:32:58 2019





AutoFind: Scans 1524, 1525, 1526; Background Corrected with Scan 1518

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	20.2	17747	PASS
75	95	30	60	51.9	45544	PASS
95	95	100	100	100.0	87738	PASS
96	95	5	9	7.1	6197	PASS
173	174	0.00	2	0.1	83	PASS
174	95	50	200	76.5	67144	PASS
175	174	5	9	6.9	4646	PASS
176	174	95	101	97.2	65264	PASS
177	176	5	9	6.7	4357	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:47:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/21/19

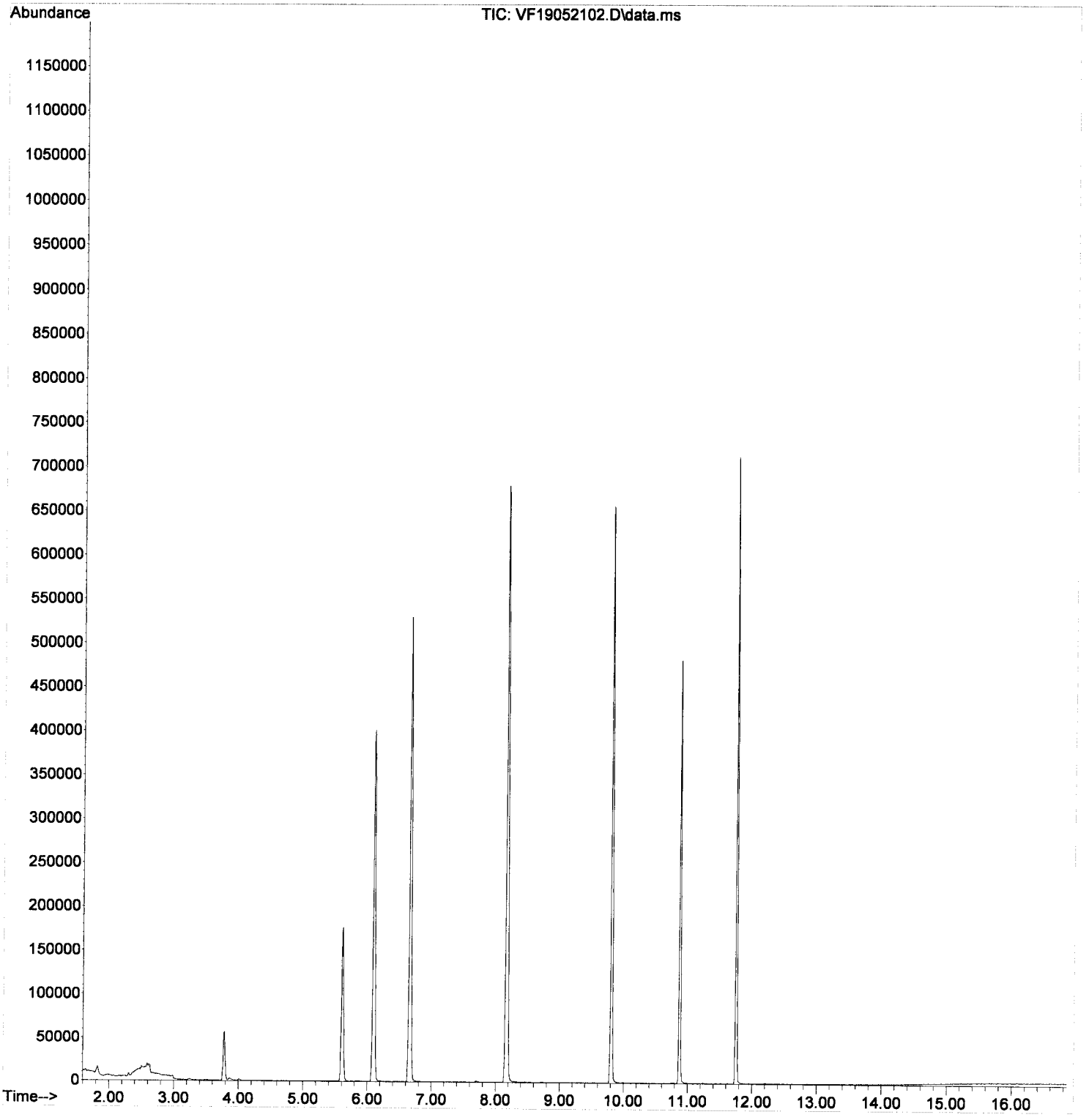
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.098	168	305021	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.809	117	349527	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	148454	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (S)	5.611	111	119419	48.80 ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.657	114	474446	50.34 ug/L	0.00
39) Toluene-d8 (S)	8.166	98	526733	50.97 ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.873	174	116943	51.16 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.845	50	790	0.19 ug/L	84
5) Bromomethane	2.308	96	1405	0.55 ug/L	96
9) Carbon Disulfide	3.141	76	269	0.26 ug/L	77
12) Methylene Chloride	3.780	84	27315	3.38 ug/L	99
13) Acetone	3.877	43	4210	2.69 ug/L	96
28) 2-Butanone (MEK)	5.763	43	449	0.19 ug/L	54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:47:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/29/19

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	131	0.00	
2		Dichlorodifluoromethane	20.000	24.382	-21.9#	158	0.00	Q56
3	P	Chloromethane	20.000	20.348	-1.7	130	0.00	
4	C	Vinyl Chloride	20.000	20.851	-4.3	133	0.00	
5		Bromomethane	20.000	22.431	-12.2	149	0.00	
6		Chloroethane	20.000	16.726	16.4	106	0.00	
7		Trichlorofluoromethane	20.000	18.932	5.3	118	0.00	
8	C	1,1-Dichloroethene	20.000	16.194	19.0	101	0.00	
9		Carbon Disulfide	20.000	19.327	3.4	131	0.00	
10		Freon 113	20.000	20.174	-0.9	128	0.00	
11		Iodomethane	20.000	21.850	-9.3	171	0.00	
12		Methylene Chloride	20.000	14.295	28.5#	95	0.00	Q55
13		Acetone	40.000	35.948	10.1	110	0.00	
14		t-1,2-Dichloroethene	20.000	17.701	11.5	108	0.00	
15		n-Hexane	20.000	18.850	5.7	124	0.00	
16		Methyl-tert-butyl-ether	20.000	19.684	1.6	123	0.00	
17	P	1,1-Dichloroethane	20.000	17.979	10.1	107	0.00	
18		Acrylonitrile	20.000	20.276	-1.4	121	0.00	
19		c-1,2-Dichloroethene	20.000	19.978	0.1	118	0.00	
20		2,2-Dichloropropane	20.000	25.023	-25.1#	151	0.00	Q56
21		Bromochloromethane	20.000	20.306	-1.5	120	0.00	
22	C	Chloroform	20.000	19.981	0.1	121	0.00	
23		Carbon Tetrachloride	20.000	24.588	-22.9#	172	0.00	Q56
24		Tetrahydrofuran	20.000	18.479	7.6	114	0.00	
25		1,1,1-Trichloroethane	20.000	23.224	-16.1	135	0.00	
26	S	Dibromofluoromethane (S)	50.000	49.838	0.3	124	0.00	
27		1,1-Dichloropropene	20.000	20.266	-1.3	123	0.00	
28		2-Butanone (MEK)	40.000	38.615	3.5	119	0.00	
29		Benzene	20.000	19.555	2.2	122	0.00	
30		1,2-Dichloroethane (EDC)	20.000	18.538	7.3	114	0.00	
31		iso-Butyl Alcohol	500.000	581.588	-16.3	168	0.00	
32	S	1,4-Difluorobenzene (S)	50.000	49.891	0.2	131	0.00	
33		Trichloroethene (TCE)	20.000	19.450	2.8	121	0.00	
34		Dibromomethane	20.000	20.411	-2.1	120	0.00	
35	C	1,2-Dichloropropane	20.000	20.092	-0.5	125	0.00	
36		Bromodichloromethane	20.000	20.955	-4.8	143	0.00	
37		Chlorobenzene-d5 (I)	50.000	50.000	0.0	148	0.00	
38		c-1,3-Dichloropropene	20.000	19.312	3.4	142	0.00	
39	S	Toluene-d8 (S)	50.000	47.550	4.9	135	0.00	
40	C	Toluene	20.000	18.225	8.9	133	0.00	
41		Tetrachloroethene (PCE)	20.000	19.459	2.7	129	0.00	
42		4-Methyl-2-Pentanone (MIBK)	40.000	39.523	1.2	127	0.00	
43		t-1,3-Dichloropropene	20.000	20.178	-0.9	154	0.00	
44		1,1,2-Trichloroethane	20.000	20.575	-2.9	132	0.00	
45		Dibromochloromethane	20.000	21.558	-7.8	176	0.00	
46		1,3-Dichloropropane	20.000	19.895	0.5	129	0.00	
47		1,2-Dibromoethane (EDB)	20.000	19.523	2.4	142	0.00	
48		2-Hexanone	40.000	37.783	5.5	131	0.00	
49	P	Chlorobenzene	20.000	19.148	4.3	143	0.00	
50	C	Ethylbenzene	20.000	19.809	1.0	143	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 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		1,1,1,2-Tetrachloroethane	20.000	23.269	-16.3	190	0.00
52		m,p-Xylenes (2)	40.000	42.355	-5.9	144	0.00
53		o-Xylene	20.000	21.388	-6.9	149	0.00
54		Styrene	20.000	19.904	0.5	148	0.00
55	P	Bromoform	20.000	25.847	-29.2#	204	0.00 -Q56
56		Isopropylbenzene	20.000	22.451	-12.3	150	0.00
57	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	142	0.00
58	S	4-Bromofluorobenzene (S)	50.000	52.145	-4.3	150	0.00
59		Bromobenzene	20.000	21.273	-6.4	145	0.00
60		n-Propylbenzene	20.000	22.340	-11.7	150	0.00
61	P	1,1,2,2-Tetrachloroethane	20.000	23.615	-18.1	145	0.00
62		2-Chlorotoluene	20.000	22.019	-10.1	149	0.00
63		1,3,5-Trimethylbenzene	20.000	23.066	-15.3	147	0.00
64		1,2,3-Trichloropropane	20.000	21.199	-6.0	138	0.00
65		t-1,4-Dichloro-2-butene	20.000	22.891	-14.5	203	0.00
66		4-Chlorotoluene	20.000	22.309	-11.5	148	0.00
67		tert-Butylbenzene	20.000	22.311	-11.6	145	0.00
68		1,2,4-Trimethylbenzene	20.000	22.840	-14.2	144	0.00
69		sec-Butylbenzene	20.000	22.712	-13.6	148	0.00
70		4-Isopropyltoluene	20.000	22.011	-10.1	144	0.00
71		1,3-Dichlorobenzene	20.000	20.859	-4.3	140	0.00
72		1,4-Dichlorobenzene	20.000	19.566	2.2	138	0.00
73		n-Butylbenzene	20.000	22.675	-13.4	148	0.00
74		1,2-Dichlorobenzene	20.000	20.674	-3.4	135	0.00
75		1,2-Dibromo-3-Chloropropane	20.000	21.189	-5.9	182	0.00
76		Hexachlorobutadiene	20.000	20.419	-2.1	136	0.00
77		1,2,4-Trichlorobenzene	20.000	21.296	-6.5	133	0.00
78		Naphthalene	20.000	18.333	8.3	131	0.00
79		1,2,3-Trichlorobenzene	20.000	20.709	-3.5	130	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/26/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	324912	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	405034	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	180218	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.602	111	129920	49.84	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.655	114	500840	49.89	ug/L		0.00
39) Toluene-d8 (S)	8.169	98	569426	47.55	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.870	174	144696	52.15	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	73953	24.38	ug/L		98
3) Chloromethane	1.837	50	89942	20.35	ug/L		98
4) Vinyl Chloride	1.934	62	91136	20.85	ug/L		97
5) Bromomethane	2.299	96	60695	22.43	ug/L		95
6) Chloroethane	2.421	64	9930	16.73	ug/L	#	71
7) Trichlorofluoromethane	2.554	101	14586	18.93	ug/L		94
8) 1,1-Dichloroethene	3.126	61	90971	16.19	ug/L		80
9) Carbon Disulfide	3.138	76	140347	19.33	ug/L		98
10) Freon 113	3.175	101	69075	20.17	ug/L		80
11) Iodomethane	3.284	142	33614	21.85	ug/L		94
12) Methylene Chloride	3.771	84	67521	14.29	ug/L		89
13) Acetone	3.862	43	59904	35.95	ug/L		96
14) t-1,2-Dichloroethene	3.935	61	94987	17.70	ug/L		97
15) n-Hexane	4.014	86	17679	18.85	ug/L	#	83
16) Methyl-tert-butyl-ether	4.081	73	213494	19.68	ug/L		98
17) 1,1-Dichloroethane	4.580	63	122140	17.98	ug/L		96
18) Acrylonitrile	4.653	53	35479	20.28	ug/L		98
19) c-1,2-Dichloroethene	5.134	61	98720	19.98	ug/L		95
20) 2,2-Dichloropropane	5.237	77	85198	25.02	ug/L		92
21) Bromochloromethane	5.335	49	59876	20.31	ug/L		89
22) Chloroform	5.420	83	120668	19.98	ug/L		97
23) Carbon Tetrachloride	5.547	117	67277	24.59	ug/L		99
24) Tetrahydrofuran	5.596	42	33709	18.48	ug/L		98
25) 1,1,1-Trichloroethane	5.620	97	98811	23.22	ug/L		98
27) 1,1-Dichloropropene	5.748	75	101728	20.27	ug/L		98
28) 2-Butanone (MEK)	5.748	43	96156	38.61	ug/L		95
29) Benzene	6.004	78	307106	19.55	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.223	62	98481	18.54	ug/L		98
31) iso-Butyl Alcohol	6.290	43	106120	581.59	ug/L		97
33) Trichloroethene (TCE)	6.624	130	73799	19.45	ug/L		95
34) Dibromomethane	7.074	93	38726	20.41	ug/L		85
35) 1,2-Dichloropropane	7.184	63	75421	20.09	ug/L		97
36) Bromodichloromethane	7.257	83	65048	20.95	ug/L		98
38) c-1,3-Dichloropropene	7.963	75	85754	19.31	ug/L		90
40) Toluene	8.224	91	312082	18.23	ug/L		98
41) Tetrachloroethene (PCE)	8.674	166	72959	19.46	ug/L		97
42) 4-Methyl-2-Pentanone (...	8.674	43	174945	39.52	ug/L		94
43) t-1,3-Dichloropropene	8.717	75	79927	20.18	ug/L		96
44) 1,1,2-Trichloroethane	8.887	97	61081	20.57	ug/L		92
45) Dibromochloromethane	9.076	129	41288	21.56	ug/L		96
46) 1,3-Dichloropropane	9.173	76	114301	19.89	ug/L		94
47) 1,2-Dibromoethane (EDB)	9.313	107	60487	19.52	ug/L		97
48) 2-Hexanone	9.544	43	120799	37.78	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

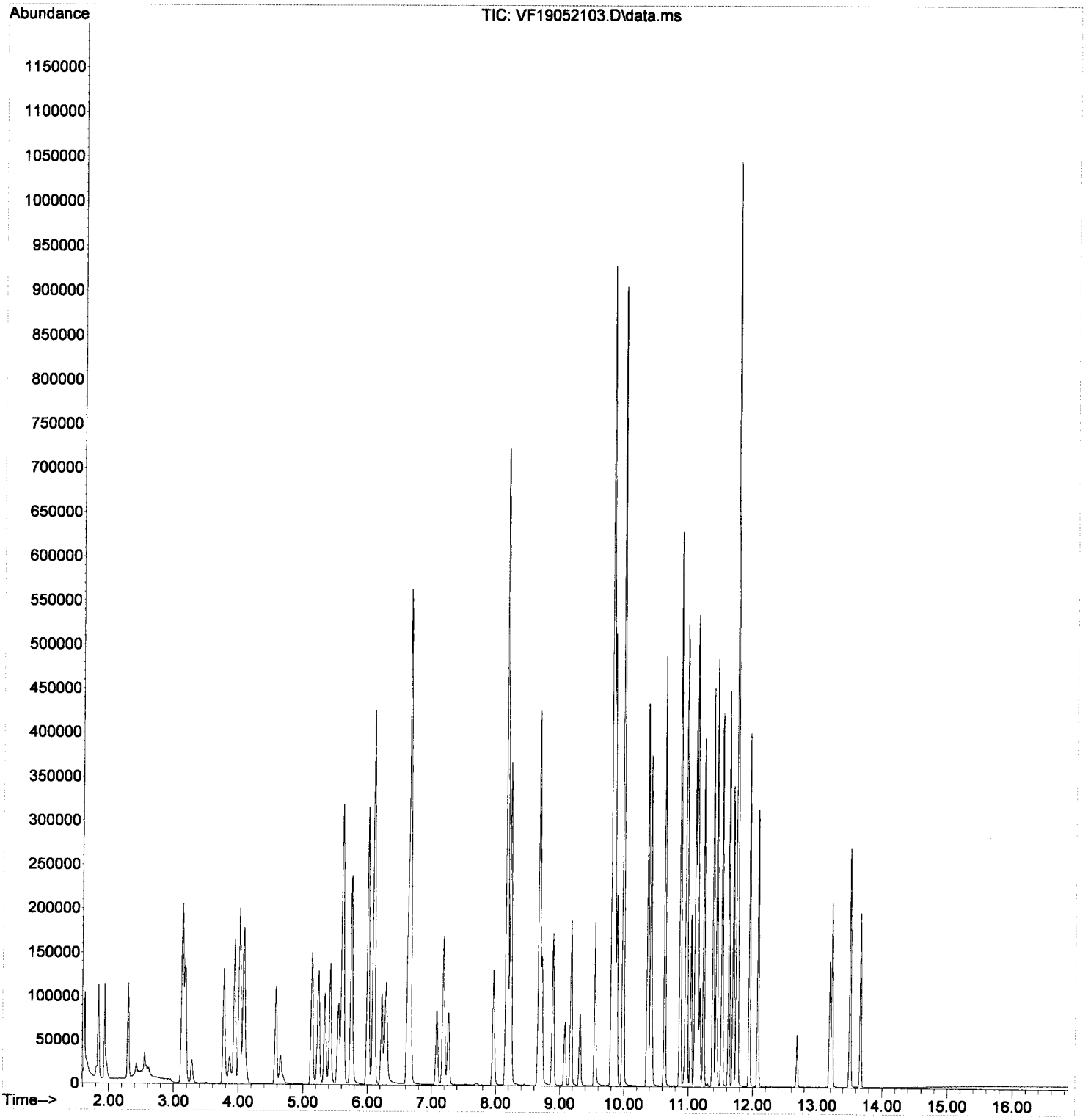
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
49) Chlorobenzene	9.818	112	186934	19.15 ug/L		94
50) Ethylbenzene	9.842	91	323004	19.81 ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.879	131	52085	23.27 ug/L		97
52) m,p-Xylenes (2)	9.982	91	483768	42.36 ug/L		98
53) o-Xylene	10.366	91	235140	21.39 ug/L		96
54) Styrene	10.408	104	163531	19.90 ug/L		95
55) Bromoform	10.432	173	25362	25.85 ug/L		96
56) Isopropylbenzene	10.627	105	280032	22.45 ug/L		96
59) Bromobenzene	10.956	156	68965	21.27 ug/L		91
60) n-Propylbenzene	10.974	91	321773	22.34 ug/L		98
61) 1,1,2,2-Tetrachloroethane	11.041	83	80871	23.62 ug/L		99
62) 2-Chlorotoluene	11.102	126	63764	22.02 ug/L		84
63) 1,3,5-Trimethylbenzene	11.126	105	214827	23.07 ug/L		95
64) 1,2,3-Trichloropropane	11.144	110	28786	21.20 ug/L	#	77
65) t-1,4-Dichloro-2-butene	11.181	88	7790	22.89 ug/L		95
66) 4-Chlorotoluene	11.235	91	191056	22.31 ug/L		98
67) tert-Butylbenzene	11.381	91	119312	22.31 ug/L		91
68) 1,2,4-Trimethylbenzene	11.436	105	213748	22.84 ug/L		99
69) sec-Butylbenzene	11.521	105	253518	22.71 ug/L		98
70) 4-Isopropyltoluene	11.625	119	204460	22.01 ug/L		96
71) 1,3-Dichlorobenzene	11.692	146	115369	20.86 ug/L		97
72) 1,4-Dichlorobenzene	11.759	146	118306	19.57 ug/L		96
73) n-Butylbenzene	11.947	91	179798	22.67 ug/L		96
74) 1,2-Dichlorobenzene	12.081	146	107297	20.67 ug/L		99
75) 1,2-Dibromo-3-Chloropr...	12.683	157	12010	21.19 ug/L	#	64
76) Hexachlorobutadiene	13.188	223	15122	20.42 ug/L		98
77) 1,2,4-Trichlorobenzene	13.225	180	59348	21.30 ug/L		96
78) Naphthalene	13.505	128	193754	18.33 ug/L		99
79) 1,2,3-Trichlorobenzene	13.663	180	58755	20.71 ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052103.D
Acq On : 21 May 2019 11:49 am
Operator : TB
Sample : 9051092-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19E231
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:27:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052104.D
Acq On : 21 May 2019 12:16 pm
Operator : TB
Sample : 9051092-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:49:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/26/19

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 (IS)	50.000	50.000	0.0	122	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	48.789	2.4	125	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	57.605	-15.2	142	0.00
4	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	130	0.00
5	H	TPHg (C5-C9)	500.000	512.304	-2.5	124	0.00
6	H	TPHg (C6-C10)	500.000	524.365	-4.9	126	0.00
7	H	CA-LUFT (C5-C12)	500.000	522.500	-4.5	127	0.00
8	H	NWTPH-Gx	500.000	544.840	-9.0	136	0.00
9		Benzene (NR)	-1.000	0.000	0.0	128	0.00
10	S	Toluene-d8 (NR)	-1.000	0.000	0.0	121	0.00
11	C	Toluene (NR)	-1.000	0.000	0.0	126	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	139	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	141	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052104.D
Acq On : 21 May 2019 12:16 pm
Operator : TB
Sample : 9051092-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:49:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

TB 5/26/19

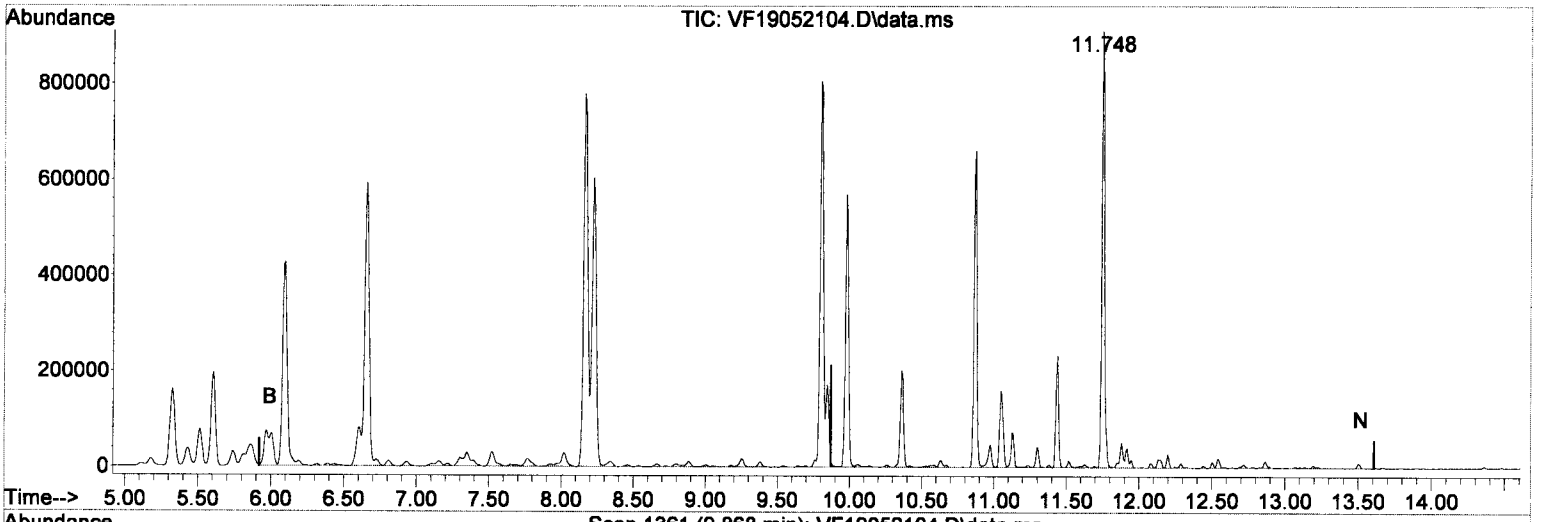
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	324051	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	1246532	48.79	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	906254	57.60	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	1301329	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.164	TIC	1575078	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	1214631	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	7316843m	512.30	ug/L	
6) TPHg (C6-C10)	9.860	TIC	5923350m	524.37	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	8494748m	522.50	ug/L	
8) NWTPH-Gx	9.870	TIC	4904931m	544.84	ug/L	

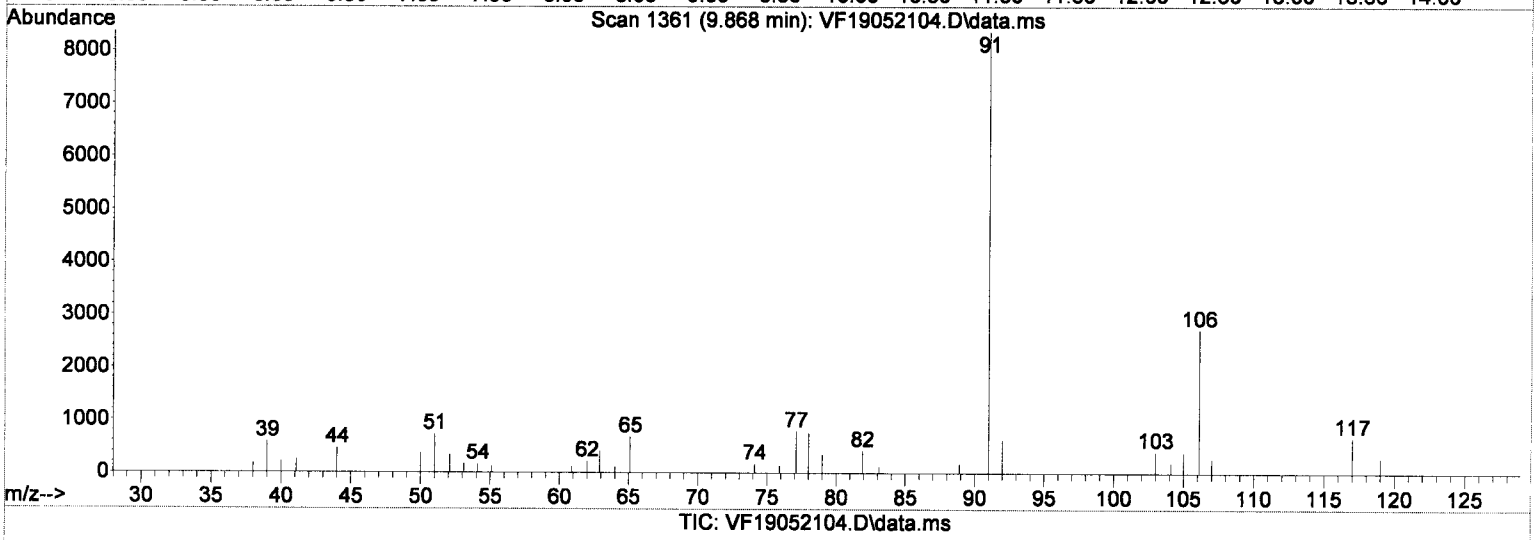
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052104.D
Acq On : 21 May 2019 12:16 pm
Operator : TB
Sample : 9051092-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 12:49:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052104.D\data.ms

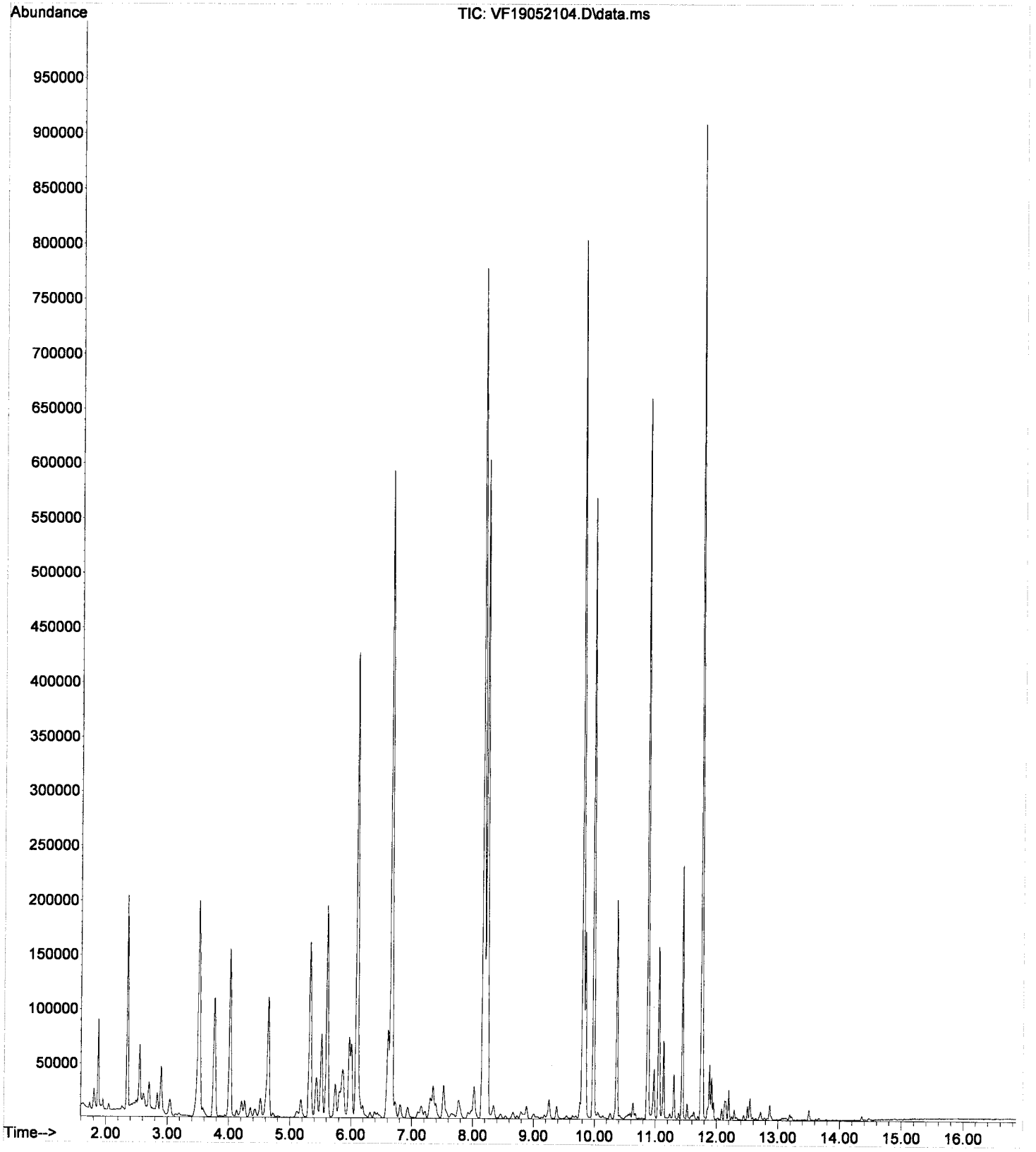
(8) NWTPH-Gx (H)

9.870min (0.000) 544.84 ug/L m

response 4904931

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

File :C:\msdchem\1\DATA\2019-05\9E21036\VF19052104.D
Operator : TB
Acquired : 21 May 2019 12:16 pm using AcqMethod VF1601RUN.M
Instrument : VOA-GCMS6
Sample Name: 9051092-BS2
Misc Info : 50X 5g/5mLx1000uL/50mL GX+MeOH A19E163
Vial Number: 4



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052105.D
Acq On : 21 May 2019 12:43 pm
Operator : TB
Sample : 9051092-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:48:38 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/26/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.102	168	343474	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	1304147	48.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	966655	57.97	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	1409722	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1723410	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1194617	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	506099m	2.93	ug/L	
6) TPHg (C6-C10)	9.860	TIC	470788m	18.43	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	510054m	6.33	ug/L	
8) NWTPH-Gx	9.870	TIC	27930m	26.37	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052105.D
Acq On : 21 May 2019 12:43 pm
Operator : TB
Sample : 9051092-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:48:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/26/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.102	168	344135	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	464763	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	195986	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	135895	49.22	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	560609	52.73	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	644677	46.92	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	161300	53.45	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.312	96	579	0.20	ug/L		80
9) Carbon Disulfide	3.163	76	460	0.28	ug/L		77
12) Methylene Chloride	3.784	84	7714	Below Cal			98
13) Acetone	3.881	43	1303	0.74	ug/L		90
15) n-Hexane	4.027	86	526	0.53	ug/L	#	58
22) Chloroform	5.426	83	565	0.09	ug/L		87
28) 2-Butanone (MEK)	5.761	43	338	0.13	ug/L		54
40) Toluene	8.231	91	2302	0.12	ug/L		94
52) m,p-Xylenes (2)	9.989	91	1630	0.12	ug/L		86

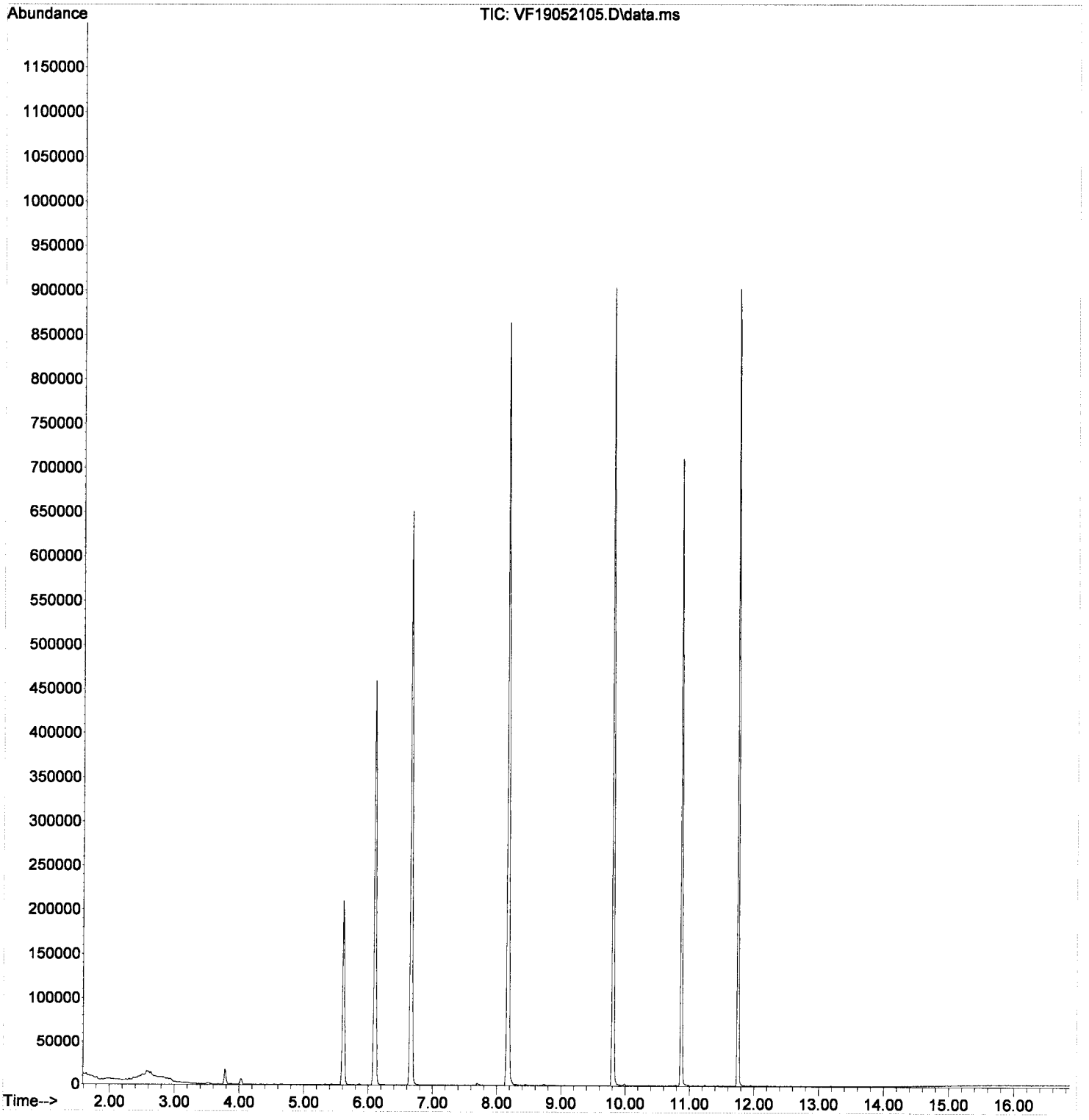
CMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052105.D
Acq On : 21 May 2019 12:43 pm
Operator : TB
Sample : 9051092-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 21 14:48:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

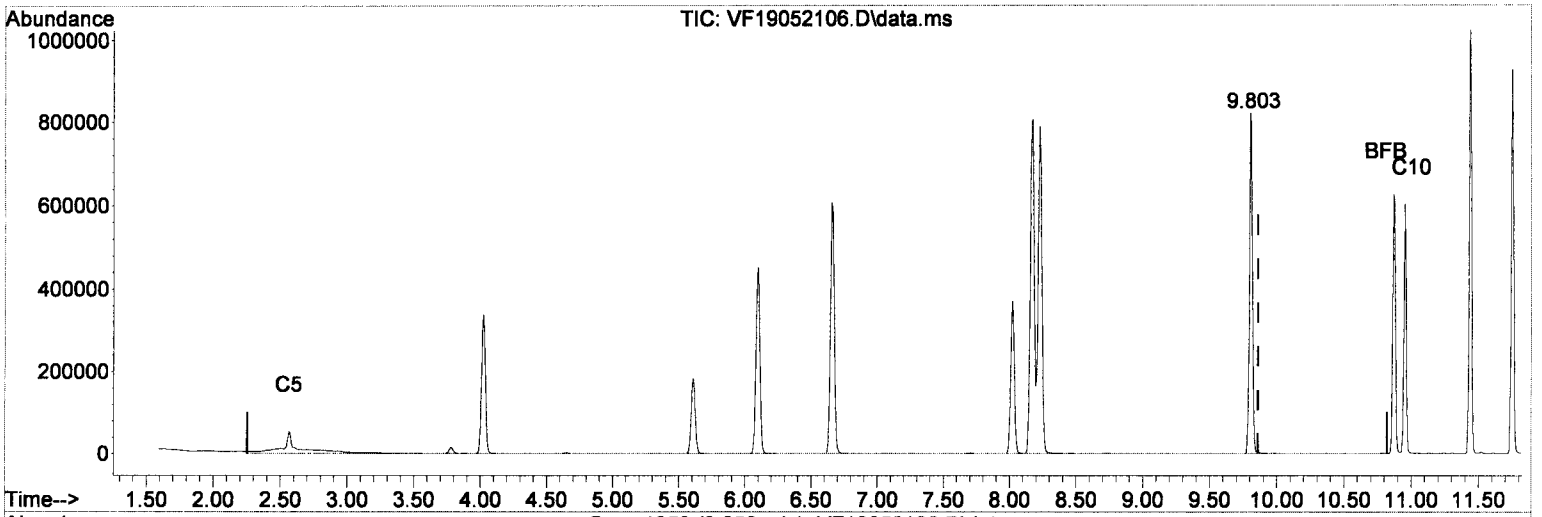
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	335724	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1248297	47.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	877704	53.85	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1297151	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.172	TIC	1672482	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	1159440	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	3503320m	220.40	ug/L	
6) TPHg (C6-C10)	9.860	TIC	3380013m	280.08	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	6660062m	390.55	ug/L	
8) NWTPH-Gx	9.870	TIC	6521353m	689.49	ug/L	

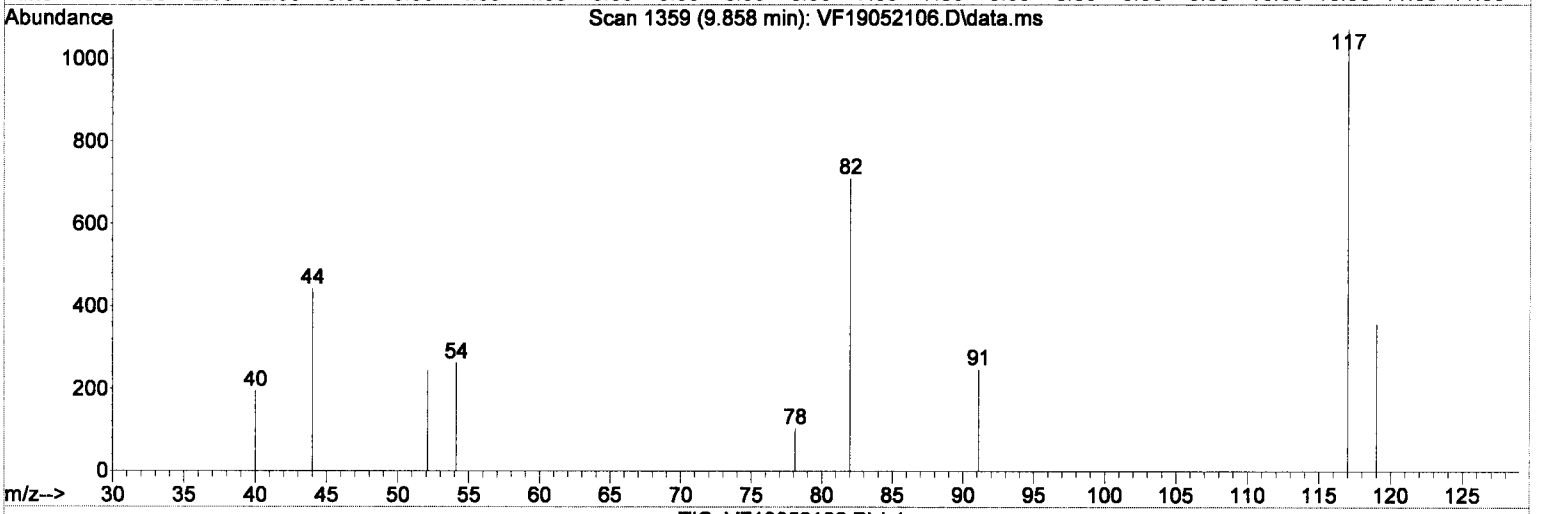
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052106.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 220.40 ug/L m

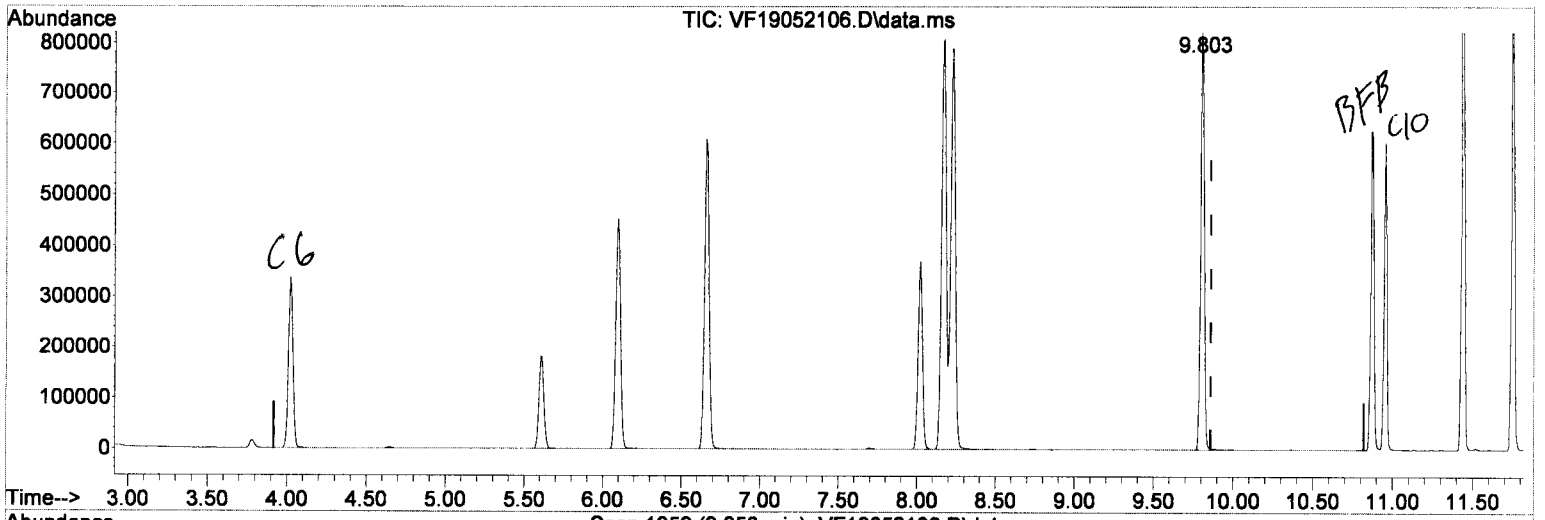
response 3503320

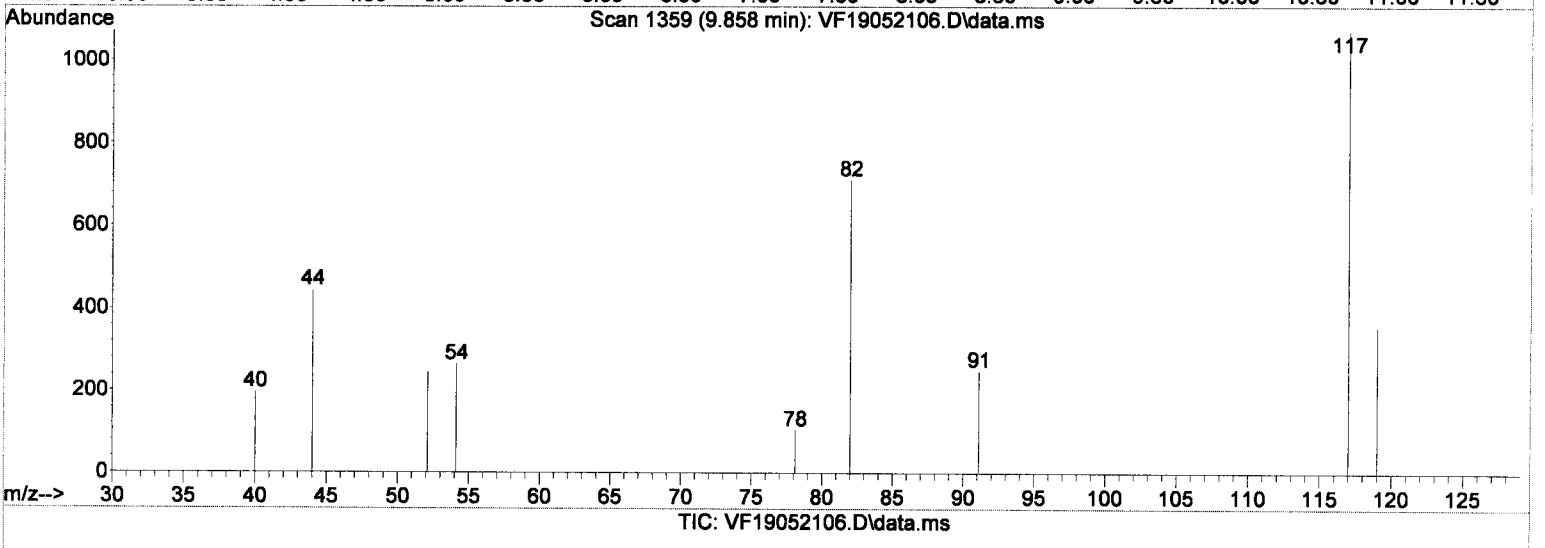
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.27#
0.00	0.00	0.94#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052106.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 280.08 ug/L m

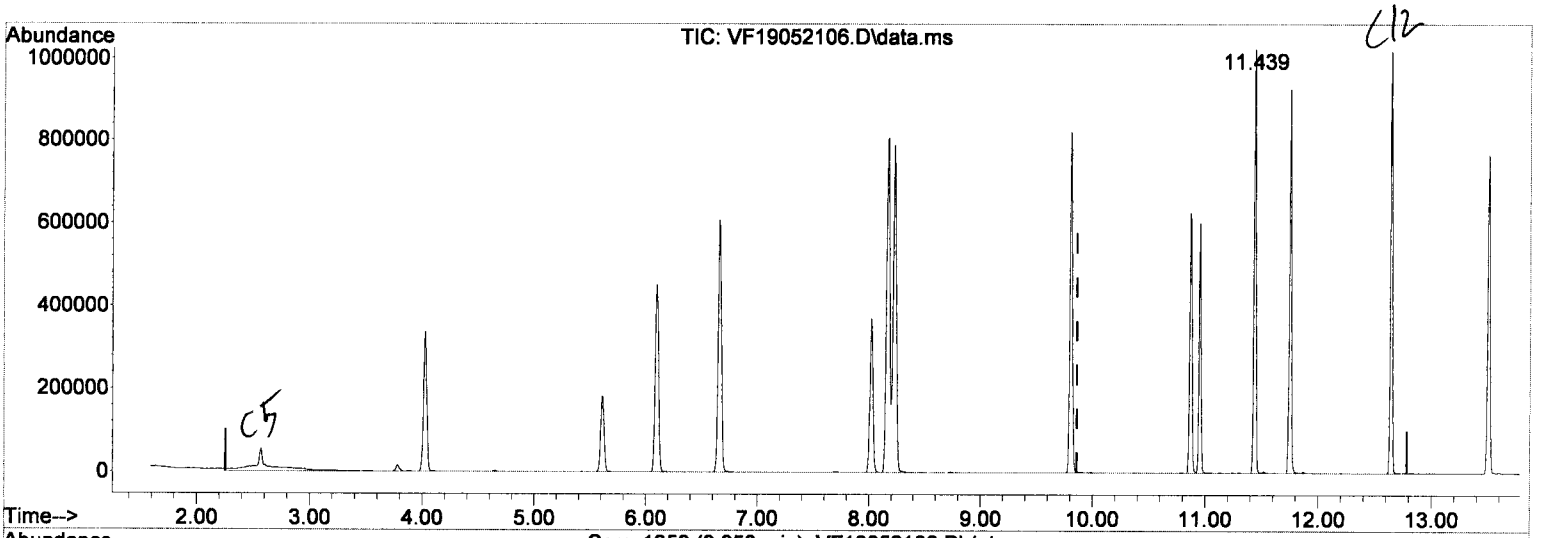
response 3380013

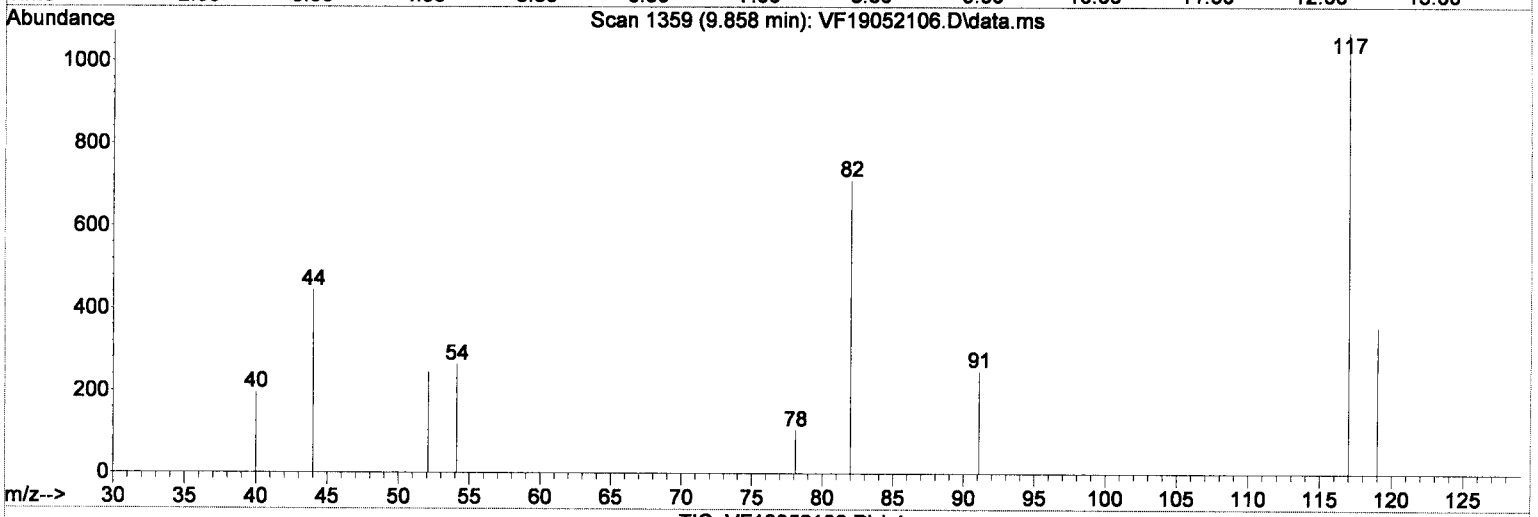
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.31#
0.00	0.00	0.97#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052106.D
Acq On : 21 May 2019 1:12 pm
Operator : TB
Sample : 9E21036-RT1
Misc : 1X 5mL VPH Marker
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:21:09 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19052106.D\data.ms

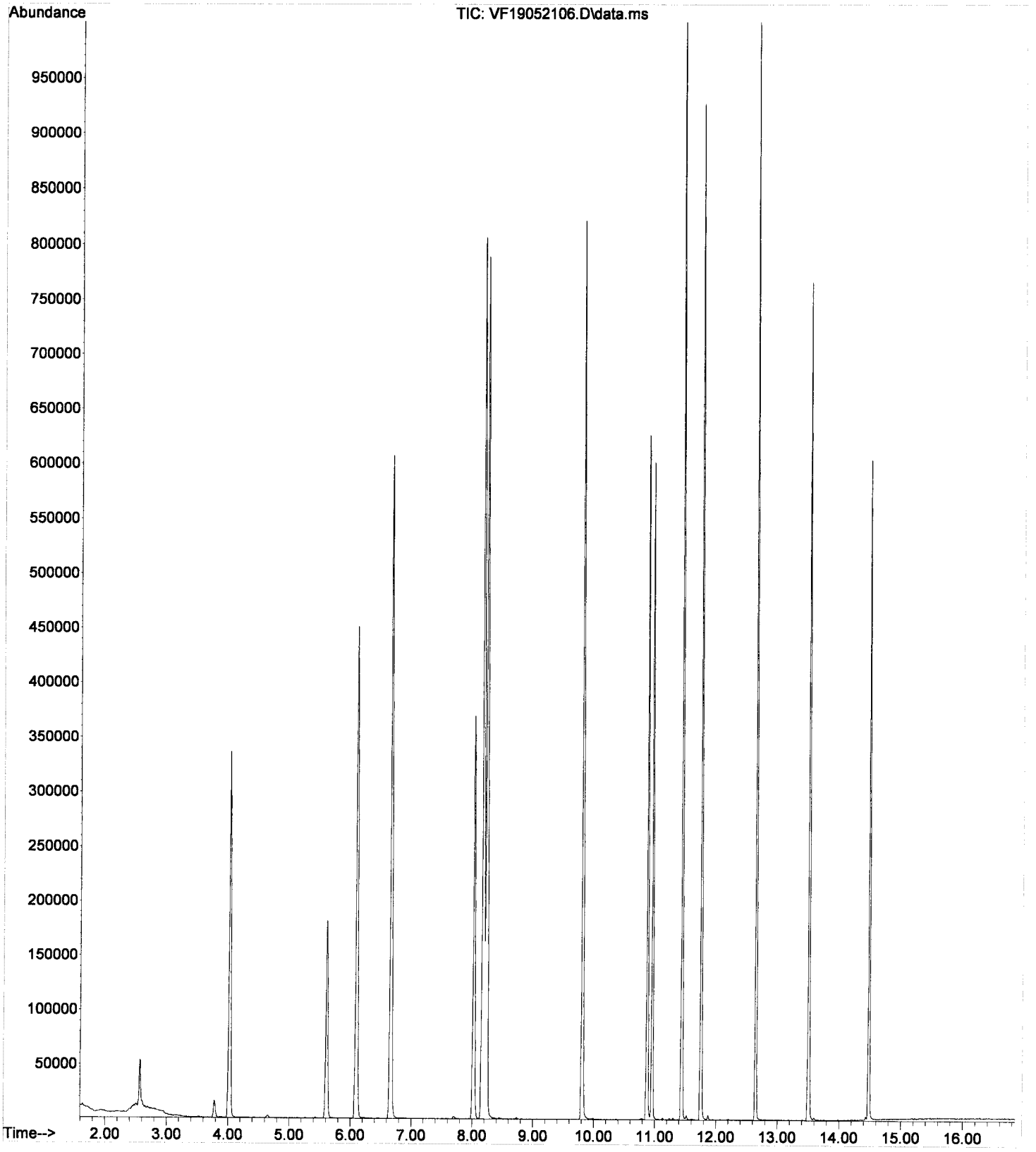
(7) CA-LUFT (C5-C12) (H)

9.860min (0.000) 390.55 ug/L m

response 6660062

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.67#
0.00	0.00	0.49#
0.00	0.00	0.00

File :C:\msdchem\1\DATA\2019-05\9E21036\VF19052106.D
Operator : TB
Acquired : 21 May 2019 1:12 pm using AcqMethod VF1601RUN.M
Instrument : VOA-GCMS6
Sample Name: 9E21036-RT1
Misc Info : 1X 5mL VPH Marker
Vial Number: 6



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052117.D
Acq On : 21 May 2019 6:13 pm
Operator : TB
Sample : 9051092-MS1
Misc : 50X ~5g/5mLx1000uL/50mL 515-07
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 10:41:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/22/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	309549	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	372203	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	164284	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.610	111	127768	51.45	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.662	114	478971	50.08	ug/L		0.00
39) Toluene-d8 (S)	8.171	98	540957	49.16	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	128187	50.68	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.637	85	71359	24.69	ug/L		99
3) Chloromethane	1.850	50	91816	21.80	ug/L		97
4) Vinyl Chloride	1.947	62	89081	21.39	ug/L		96
5) Bromomethane	2.306	96	59796	23.20	ug/L		96
6) Chloroethane	2.428	64	11172	19.75	ug/L		71
7) Trichlorofluoromethane	2.562	101	14139	19.26	ug/L		99
8) 1,1-Dichloroethene	3.134	61	88575	16.55	ug/L		83
9) Carbon Disulfide	3.152	76	133341	19.28	ug/L		99
10) Freon 113	3.189	101	65245	20.00	ug/L		82
11) Iodomethane	3.292	142	22683	16.17	ug/L	#	91
12) Methylene Chloride	3.779	84	67096	15.12	ug/L		90
13) Acetone	3.864	43	66739	42.04	ug/L		99
14) t-1,2-Dichloroethene	3.943	61	91930	17.98	ug/L		95
15) n-Hexane	4.022	86	15509	17.36	ug/L	#	89
16) Methyl-tert-butyl-ether	4.083	73	206613	20.00	ug/L		97
17) 1,1-Dichloroethane	4.582	63	120242	18.58	ug/L		96
18) Acrylonitrile	4.655	53	34881	20.92	ug/L		100
19) c-1,2-Dichloroethene	5.141	61	96236	20.44	ug/L		93
20) 2,2-Dichloropropane	5.239	77	71911	22.17	ug/L		91
21) Bromochloromethane	5.342	49	62172	22.13	ug/L		87
22) Chloroform	5.421	83	115791	20.13	ug/L		97
23) Carbon Tetrachloride	5.549	117	62214	23.93	ug/L		97
24) Tetrahydrofuran	5.598	42	33982	19.55	ug/L		96
25) 1,1,1-Trichloroethane	5.622	97	92345	22.78	ug/L		94
27) 1,1-Dichloropropene	5.750	75	96177	20.11	ug/L		98
28) 2-Butanone (MEK)	5.750	43	93102	39.24	ug/L		97
29) Benzene	6.005	78	295005	19.72	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.224	62	97419	19.25	ug/L		97
31) iso-Butyl Alcohol	6.285	43	99484	573.06	ug/L		98
33) Trichloroethene (TCE)	6.626	130	70660	19.55	ug/L		95
34) Dibromomethane	7.082	93	38342	21.21	ug/L		87
35) 1,2-Dichloropropane	7.185	63	72596	20.30	ug/L		98
36) Bromodichloromethane	7.264	83	62354	21.07	ug/L		100
38) c-1,3-Dichloropropene	7.964	75	79181	19.40	ug/L		92
40) Toluene	8.226	91	296143	18.82	ug/L		98
41) Tetrachloroethene (PCE)	8.676	166	67477	19.58	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.676	43	168874	41.52	ug/L		94
43) t-1,3-Dichloropropene	8.718	75	73948	20.31	ug/L		94
44) 1,1,2-Trichloroethane	8.889	97	57712	21.15	ug/L		94
45) Dibromochloromethane	9.077	129	38191	21.69	ug/L		97
46) 1,3-Dichloropropane	9.175	76	110188	20.87	ug/L		95
47) 1,2-Dibromoethane (EDB)	9.315	107	57020	20.02	ug/L		100
48) 2-Hexanone	9.546	43	114460	38.96	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052117.D
Acq On : 21 May 2019 6:13 pm
Operator : TB
Sample : 9051092-MS1
Misc : 50X ~5g/5mLx1000uL/50mL 515-07
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 10:41:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

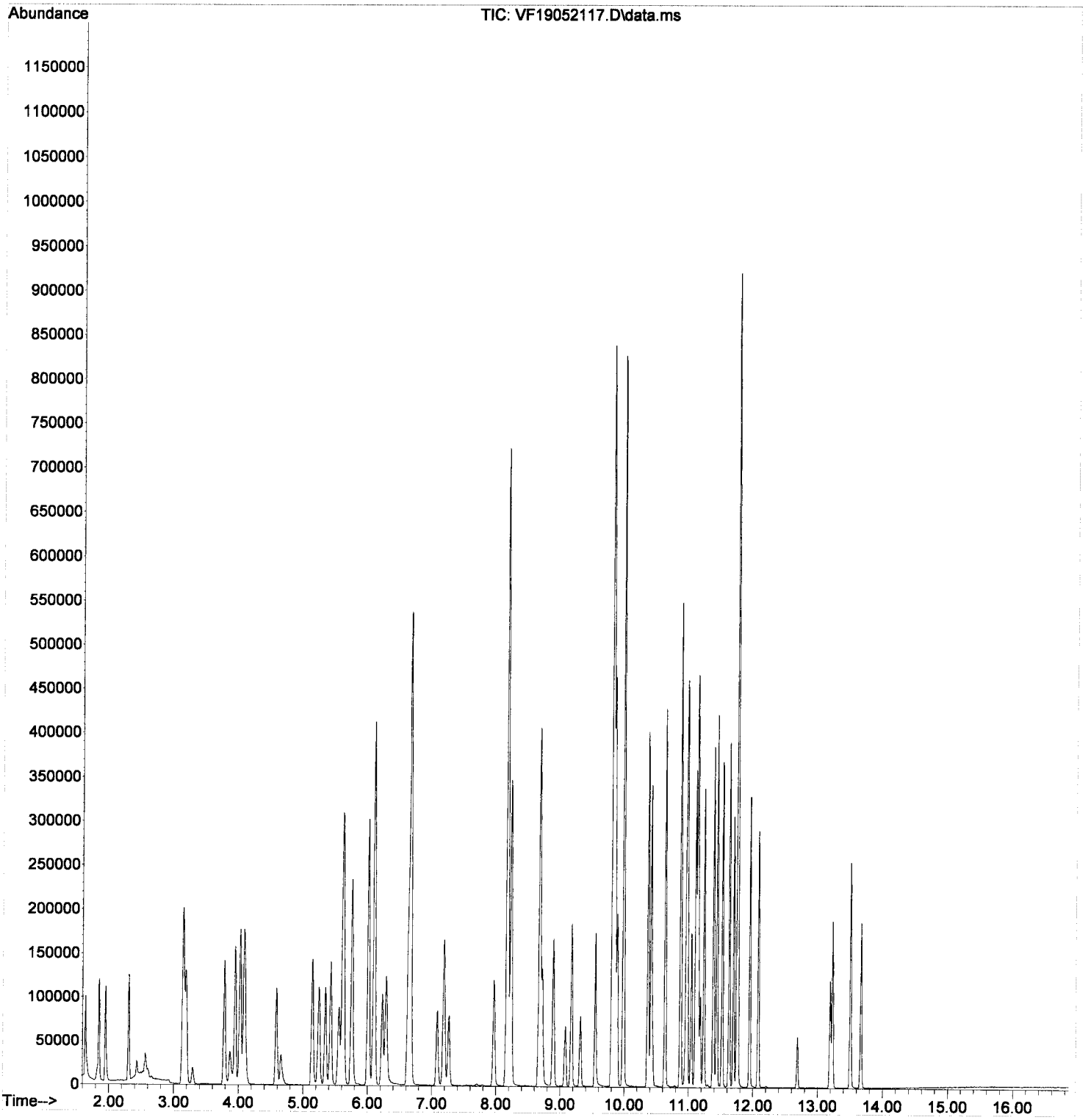
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
49) Chlorobenzene	9.819	112	170583	19.01 ug/L		95
50) Ethylbenzene	9.844	91	293591	19.59 ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.880	131	46423	22.61 ug/L		97
52) m,p-Xylenes (2)	9.978	91	435402	41.48 ug/L		94
53) o-Xylene	10.361	91	207129	20.50 ug/L		97
54) Styrene	10.410	104	142253	18.87 ug/L		94
55) Bromoform	10.434	173	22331	24.98 ug/L		98
56) Isopropylbenzene	10.629	105	245491	21.42 ug/L		97
59) Bromobenzene	10.957	156	61657	20.86 ug/L		91
60) n-Propylbenzene	10.975	91	279607	21.30 ug/L		97
61) 1,1,2,2-Tetrachloroethane	11.036	83	73532	23.55 ug/L		97
62) 2-Chlorotoluene	11.103	126	55245	20.93 ug/L	#	82
63) 1,3,5-Trimethylbenzene	11.127	105	186779	22.00 ug/L		97
64) 1,2,3-Trichloropropane	11.146	110	26506	21.41 ug/L	#	74
65) t-1,4-Dichloro-2-butene	11.176	88	6891	22.30 ug/L	#	79
66) 4-Chlorotoluene	11.237	91	168049	21.53 ug/L		98
67) tert-Butylbenzene	11.383	91	104252	21.39 ug/L		89
68) 1,2,4-Trimethylbenzene	11.438	105	187707	22.00 ug/L		99
69) sec-Butylbenzene	11.517	105	220451	21.67 ug/L		96
70) 4-Isopropyltoluene	11.626	119	176652	20.86 ug/L		96
71) 1,3-Dichlorobenzene	11.693	146	101456	20.12 ug/L		98
72) 1,4-Dichlorobenzene	11.760	146	105666	19.17 ug/L		98
73) n-Butylbenzene	11.943	91	152069	21.04 ug/L		94
74) 1,2-Dichlorobenzene	12.076	146	96494	20.40 ug/L		98
75) 1,2-Dibromo-3-Chloropr...	12.685	157	11068	21.40 ug/L	#	62
76) Hexachlorobutadiene	13.190	223	12834	19.01 ug/L		96
77) 1,2,4-Trichlorobenzene	13.226	180	52457	20.65 ug/L		98
78) Naphthalene	13.500	128	179732	18.65 ug/L		99
79) 1,2,3-Trichlorobenzene	13.664	180	52595	20.34 ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052117.D
Acq On : 21 May 2019 6:13 pm
Operator : TB
Sample : 9051092-MS1
Misc : 50X ~5g/5mLx1000uL/50mL 515-07
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 10:41:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



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

Volatile Organic Compounds by EPA 8260C

Calibration Data

Sequence 9E07048 (Cal ID A9E0804) VOA-GCMS6

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9E07048	Instrument:	VOA-GCMS6
Date:	05/07/19 18:19	Calibration:	A9E0804

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E07048-IBL1	Soil	QC	QC			A19D196	
2	9E07048-TUN1	Soil	QC	QC			A19D196	
3	9E07048-ICB1	Soil	QC	QC			A19D196	
4	9E07048-CAL1	Soil	QC	QC			A19D196	A19E092
5	9E07048-CAL2	Soil	QC	QC			A19D196	A19E093
6	9E07048-CAL3	Soil	QC	QC			A19D196	A19E094
7	9E07048-CAL4	Soil	QC	QC			A19D196	A19E095
8	9E07048-CAL5	Soil	QC	QC			A19D196	A19E096
9	9E07048-CAL6	Soil	QC	QC			A19D196	A19E097
10	9E07048-CAL7	Soil	QC	QC			A19D196	A19E098
11	9E07048-CAL8	Soil	QC	QC			A19D196	A19E099
12	9E07048-CAL9	Soil	QC	QC			A19D196	A19D177
13	9E07048-IBL2	Soil	QC	QC			A19D196	
14	9E07048-CALA	Soil	QC	QC			A19D196	A19D178
15	9E07048-IBL3	Soil	QC	QC			A19D196	
16	9E07048-CALB	Soil	QC	QC			A19D196	A19D179
17	9E07048-IBL4	Soil	QC	QC			A19D196	
18	9E07048-IBL5	Soil	QC	QC			A19D196	
19	9E07048-ICV1	Soil	QC	QC			A19D196	A19D180
20	9E07048-IBL6	Soil	QC	QC			A19D196	
21	9E07048-TUN2	Soil	QC	QC			A19D196	
22	9E07048-IBL7	Soil	QC	QC			A19D196	
23	9E07048-ICB2	Soil	QC	QC			A19D196	
24	9E07048-CALC	Soil	QC	QC			A19D196	A19E016
25	9E07048-CALD	Soil	QC	QC			A19D196	A19E017
26	9E07048-CALE	Soil	QC	QC			A19D196	A19E018
27	9E07048-CALF	Soil	QC	QC			A19D196	A19E019
28	9E07048-CALG	Soil	QC	QC			A19D196	A19B200
29	9E07048-CALH	Soil	QC	QC			A19D196	A19B201
30	9E07048-CALI	Soil	QC	QC			A19D196	A19B202
31	9E07048-CALJ	Soil	QC	QC			A19D196	A19B203
32	9E07048-IBL8	Soil	QC	QC			A19D196	
33	9E07048-IBL9	Soil	QC	QC			A19D196	
34	9E07048-ICV2	Soil	QC	QC			A19D196	A19B262
35	9E07048-IBLA	Soil	QC	QC			A19D196	

Carbon tet ↑ 1/2
Bromodichloro ↑ 1/2
1112 TCA ↑ 1/2
Bromoform ↑ 2/4

Data Entered By: 5/8/19

Data Reviewed By: 5/8/19

Comments: Iodomethane NR
↑MDL MRL for carbon tet, $BrCl_2CH$, 1112 tetrachloroethane, & Bromoform

Calibration Status Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 13:32:58 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	-1	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050714.D
2	2	0	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050715.D
3	3	0	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050716.D
4	4	1	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050717.D
5	5	2	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050718.D
6	6	5	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050719.D
7	7	10	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050720.D
8	8	20	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050721.D
9	9	50	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050722.D
10	10	100	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050724.D
11	11	200	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050726.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	May 08 10:44 2019	May 08 10:29 2019	
2	2	May 08 10:44 2019	May 08 10:30 2019	
3	3	May 08 10:44 2019	May 08 10:32 2019	
4	4	May 08 10:44 2019	May 08 10:33 2019	
5	5	May 08 10:44 2019	May 08 10:24 2019	
6	6	May 08 10:44 2019	May 08 10:24 2019	
7	7	May 08 10:44 2019	May 08 10:24 2019	
8	8	May 08 10:44 2019	May 08 10:24 2019	
9	9	May 08 10:44 2019	May 08 10:24 2019	
10	10	May 08 10:44 2019	May 08 10:24 2019	
11	11	May 08 10:44 2019	May 08 10:24 2019	

VF190507S.M Wed May 08 13:51:54 2019

↑ MDL/MRL for Carbon tetrachloride, Bromodichloro methane, 1112 tetrachloro ethane, & Bromoform

Iodomethane NR

Response Factor Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 11:54:03 2019
Response Via : Initial Calibration

Calibration Files
1 =VF19050714.D 2 =VF19050715.D 3 =VF19050716.D 4 =VF19050717.D 5 =VF19050718.D 6 =VF19050719.D
7 =VF19050720.D 8 =VF19050721.D 9 =VF19050722.D 10 =VF19050724.D 11 =VF19050726.D

		Compound	1	2	3	4	5	6	7	8	9	10	11	Avg	%RSD
1)	I	Pentafluorobenzene...	ISTD												
2)		Dichlorodifluo...		0.424	0.375	0.456	0.462	0.446	0.474	0.533	0.503	0.527	0.467		10.76
3)	P	Chloromethane			0.644	0.743	0.678	0.626	0.698	0.716	0.676	0.660	0.680		5.60
4)	C	Vinyl Chloride	0.675	0.628	0.632	0.660	0.660	0.648	0.692	0.742	0.670	0.719	0.673		5.40
5)		Bromomethane					0.485	0.446	0.412	0.418	0.351	0.386	0.416		11.21
6)		Chloroethane			0.091	0.111	0.092	0.084	0.095	0.094	0.079	0.086	0.091		10.77
7)		Trichlorofluor...		0.111	0.118	0.129	0.128	0.111	0.125	0.121	0.109	0.115	0.119		6.44
8)	C	1,1-Dichloroet...	0.967	0.818	0.851	0.780	0.846	0.852	0.821	0.908	0.901	0.856	0.908	0.864	6.06
9)		Carbon Disulfide			0.976	0.821	0.855	0.892	0.894	1.083	1.240	1.289	1.433	1.054	20.86
10)		Freon 113		0.451	0.522	0.537	0.520	0.537	0.515	0.547	0.552	0.528	0.560	0.527	5.79
11)		Iodomethane				0.121	0.089	0.103	0.168	0.198	0.320	0.324	0.444	0.221	57.97
12)		Methylene Chlo...			7.017	3.179	1.919	1.118	0.809	0.720	0.593	0.537	0.544	1.826	116.77
13)		Acetone						0.288	0.242	0.274	0.246	0.243	0.244	0.256	7.74
14)		t-1,2-Dichloro...	0.667	0.839	0.790	0.775	0.820	0.847	0.818	0.893	0.878	0.860	0.897	0.826	7.98
15)		n-Hexane						0.180	0.147	0.144	0.133	0.130	0.132	0.144	12.82
16)		Methyl-tert-bu...	1.639	1.719	1.560	1.535	1.610	1.619	1.558	1.758	1.743	1.707	1.911	1.669	6.69
17)	P	1,1-Dichloroet...	1.048	1.002	1.001	0.985	1.067	1.086	1.029	1.153	1.107	1.024	0.998	1.045	5.05
18)		Acrylonitrile				0.199	0.254	0.270	0.262	0.297	0.289	0.286	0.296	0.269	12.01
19)		c-1,2-Dichloro...	0.639	0.687	0.725	0.686	0.784	0.799	0.760	0.849	0.823	0.802	0.811	0.760	8.81
20)		2,2-Dichloropr...				0.441	0.473	0.476	0.491	0.569	0.608	0.609		0.524	13.32
21)		Bromochloromet...		0.326	0.463	0.418	0.483	0.476	0.462	0.504	0.475	0.455	0.475	0.454	11.05
22)	C	Chloroform	0.883	0.879	0.851	0.859	0.896	0.940	0.921	1.008	0.989	0.970	1.026	0.929	6.62
23)		Carbon Tetrach...				0.256	0.292	0.319	0.332	0.397	0.474	0.523	0.635	0.404	32.32
24)		Tetrahydrofuran			0.294	0.248	0.279	0.292	0.257	0.300	0.280	0.282	0.295	0.281	6.33
25)		1,1,1-Trichlor...			0.610	0.572	0.589	0.616	0.649	0.740	0.807			0.655	13.26
26)	S	Dibromofluorom...	0.381	0.367	0.382	0.369	0.391	0.400	0.395	0.424	0.417	0.431	0.456	0.401	6.96
27)		1,1-Dichloropr...		0.672	0.709	0.672	0.754	0.774	0.760	0.836	0.841	0.830	0.876	0.772	9.40
28)		2-Butanone (MEK)		0.438	0.375	0.326	0.362	0.385	0.353	0.408	0.387	0.386	0.411	0.383	8.33
29)		Benzene	2.348	2.419	2.410	2.283	2.404	2.441	2.361	2.551	2.456	2.390	2.523	2.417	3.16
30)		1,2-Dichloroet...	0.769	0.824	0.778	0.819	0.823	0.848	0.795	0.877	0.825	0.796	0.840	0.818	3.89
31)		iso-Butyl Alcohol				0.012	0.016	0.017	0.018	0.026	0.030	0.037	0.039	0.024	41.48
32)	S	1,4-Difluorobe...	1.553	1.550	1.538	1.536	1.540	1.536	1.531	1.549	1.542	1.534	1.584	1.545	0.96
33)		Trichloroethen...		0.604	0.547	0.538	0.540	0.575	0.559	0.615	0.613	0.602	0.646	0.584	6.39
34)		Dibromomethane		0.203	0.277	0.256	0.279	0.286	0.289	0.327	0.325	0.324	0.354	0.292	14.84
35)	C	1,2-Dichloropr...		0.579	0.518	0.555	0.562	0.571	0.568	0.610	0.603	0.588	0.622	0.578	5.22
36)		Bromodichlorom...				0.300	0.324	0.352	0.371	0.460	0.542	0.583	0.687	0.452	30.88
37)		Chlorobenzene-d5 (I)	ISTD												
38)		c-1,3-Dichloro...		0.320	0.330	0.369	0.398	0.409	0.551	0.575	0.641	0.664	0.473		28.49
39)	S	Toluene-d8 (S)	1.570	1.433	1.536	1.441	1.539	1.533	1.452	1.532	1.418	1.463	1.344	1.478	4.64
40)	C	Toluene	2.876	2.259	2.053	1.958	2.101	2.069	1.955	2.131	1.979	1.992	1.879	2.114	12.92

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds

41)		Tetrachloroeth...	0.458	0.399	0.467	0.416	0.468	0.482	0.456	0.514	0.473	0.488	0.470	0.463	6.89
42)		4-Methyl-2-Pen...				0.400	0.483	0.518	0.515	0.625	0.604	0.627	0.599	0.546	14.83
43)		t-1,3-Dichloro...			0.222	0.246	0.284	0.320	0.349	0.473	0.528	0.592	0.625	0.404	37.75
44)		1,1,2-Trichlor...		0.292	0.334	0.326	0.383	0.379	0.367	0.420	0.389	0.393	0.381	0.366	10.39
45)		Dibromochlorom...			0.095	0.100	0.141	0.154	0.159	0.214	0.263	0.314	0.353	0.199	46.55
46)		1,3-Dichloropr...	0.702	0.597	0.679	0.647	0.716	0.748	0.710	0.804	0.737	0.748	0.713	0.709	7.76
47)		1,2-Dibromoeth...		0.148	0.202	0.220	0.274	0.306	0.311	0.389	0.390	0.411	0.398	0.305	30.45
48)		2-Hexanone						0.318	0.337	0.420	0.425	0.442	0.426	0.395	13.41
49)	P	Chlorobenzene	1.346	1.286	1.199	1.194	1.184	1.167	1.176	1.188	1.189	1.161	1.166	1.205	4.79
50)	C	Ethylbenzene	2.234	2.098	1.941	1.892	1.899	1.925	1.947	2.058	2.075	2.029	2.045	2.013	5.16
51)		1,1,1,2-Tetrac...			0.129	0.122	0.157	0.171	0.192	0.249	0.302	0.342	0.366	0.226	40.98
52)		m,p-Xylenes (2)	1.375	1.339	1.198	1.290	1.298	1.366	1.421	1.525	1.553	1.537	1.607	1.410	9.21
53)		o-Xylene	1.466	1.318	1.198	1.191	1.227	1.273	1.337	1.433	1.500	1.463	1.523	1.357	9.19
54)		Styrene		0.589	0.624	0.662	0.685	0.804	0.885	1.004	1.114	1.102	1.194	0.866	26.04
55)	P	Bromoform					0.073	0.076	0.085	0.113	0.153	0.199		0.117	43.10
56)		Isopropylbenzene		1.286	1.242	1.378	1.369	1.532	1.597	1.705	1.776	1.733	1.780	1.540	13.52
57)	I	1,4-Dichlorobenzen...	----------			ISTD	----------								
58)	S	4-Bromofluorob...	0.769	0.787	0.781	0.797	0.766	0.763	0.798	0.760	0.768	0.742	0.737	0.770	2.59
59)		Bromobenzene	0.681	0.954	0.839	0.935	0.912	0.903	0.949	0.939	0.945	0.912	0.925	0.899	8.79
60)		n-Propylbenzene	3.893	3.768	3.659	3.802	3.748	3.903	4.202	4.219	4.354	4.217	4.191	3.996	6.08
61)	P	1,1,2,2-Tetrac...		0.780	0.801	0.835	0.894	0.918	0.990	1.095	1.078	1.095	1.015	0.950	12.78
62)		2-Chlorotoluene		0.782	0.695	0.783	0.739	0.787	0.858	0.840	0.871	0.832	0.849	0.803	7.06
63)		1,3,5-Trimethy...	2.334	2.195	2.255	2.263	2.346	2.511	2.817	2.881	2.979	2.875	2.967	2.584	12.34
64)		1,2,3-Trichlor...			0.315	0.344	0.393	0.378	0.390	0.412	0.392	0.395	0.372	0.377	7.97
65)		t-1,4-Dichloro...					0.048	0.046	0.060	0.075	0.107	0.128	0.143	0.087	45.23
66)		4-Chlorotoluene	2.057	2.222	2.106	2.307	2.298	2.397	2.580	2.547	2.615	2.491	2.517	2.376	8.11
67)		tert-Butylbenzene	1.252	1.380	1.273	1.419	1.406	1.496	1.616	1.621	1.665	1.596	1.596	1.484	9.85
68)		1,2,4-Trimethy...	2.389	2.218	2.254	2.255	2.343	2.577	2.839	2.922	2.977	2.871	2.914	2.596	11.99
69)		sec-Butylbenzene	3.045	2.649	2.741	2.782	2.865	3.106	3.357	3.381	3.466	3.350	3.321	3.097	9.59
70)		4-Isopropyltol...				2.084	2.117	2.396	2.673	2.793	2.909	2.803	2.842	2.577	12.91
71)		1,3-Dichlorobe...	1.538	1.458	1.444	1.467	1.532	1.542	1.551	1.622	1.619	1.547	1.560	1.534	3.84
72)		1,4-Dichlorobe...	1.980	1.653	1.699	1.695	1.682	1.612	1.629	1.684	1.655	1.580	1.585	1.678	6.49
73)		n-Butylbenzene	2.142	1.949	1.991	2.017	1.935	2.147	2.374	2.398	2.472	2.412	2.363	2.200	9.44
74)		1,2-Dichlorobe...	1.359	1.417	1.378	1.362	1.407	1.464	1.456	1.560	1.514	1.460	1.461	1.440	4.38
75)		1,2-Dibromo-3-...				0.049	0.070	0.082	0.097	0.129	0.171	0.218	0.231	0.131	52.52
76)		Hexachlorobuta...				0.194	0.200	0.206	0.203	0.219	0.216	0.207	0.199	0.205	4.17
77)		1,2,4-Trichlor...		0.578	0.707	0.664	0.745	0.754	0.777	0.876	0.872	0.899	0.860	0.773	13.57
78)		Naphthalene			1.639	1.629	1.869	2.106	2.401	2.919	2.971	3.188	3.001	2.414	25.87
79)		1,2,3-Trichlor...			0.623	0.661	0.752	0.790	0.795	0.888	0.860	0.886	0.827	0.787	11.97

(#) = Out of Range

Compound List Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 11:54:03 2019
Response Via : Initial Calibration

5/8/19

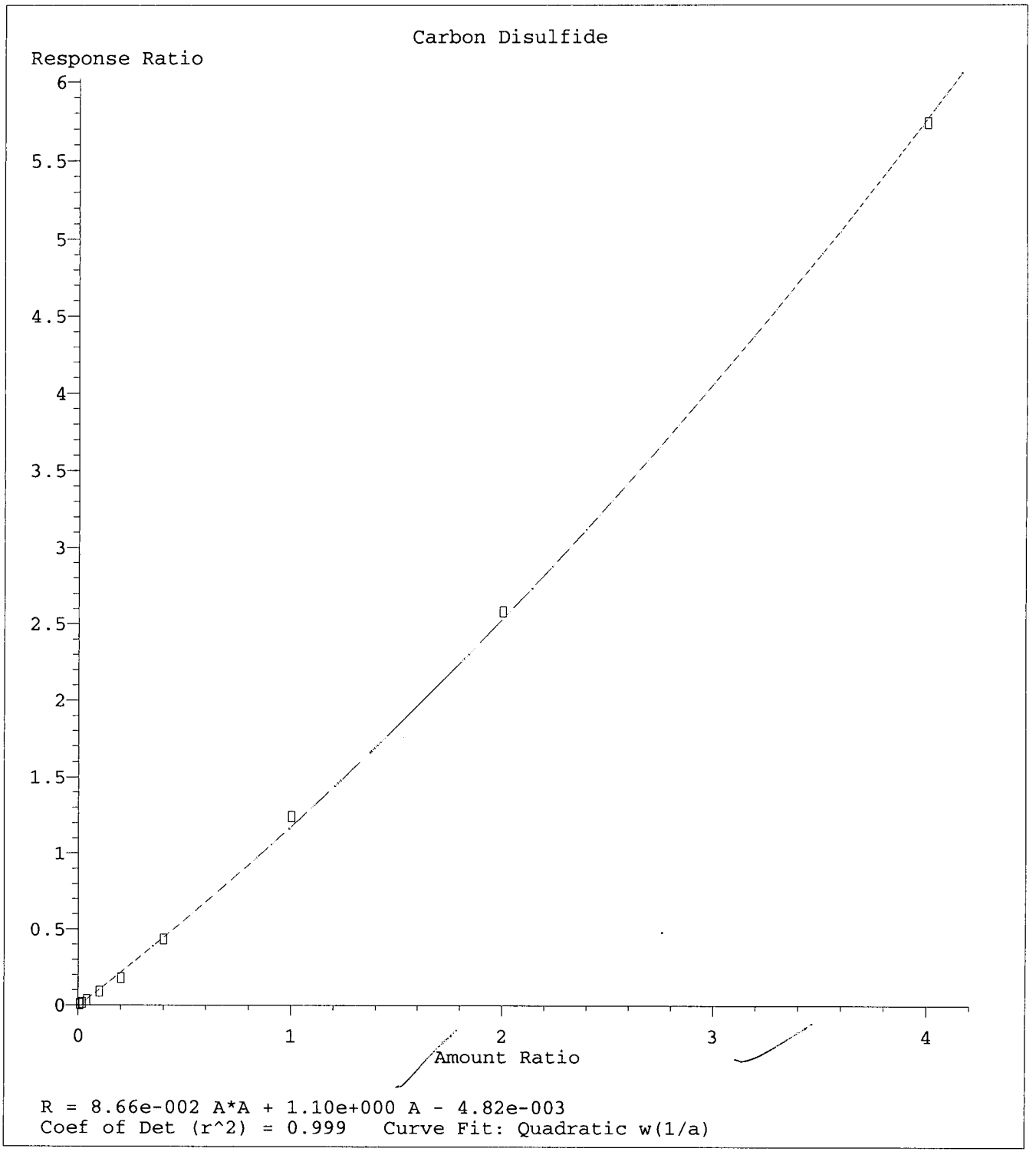
Total Cpnds : 79

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (I)	168	6.097	1.000	A	2	A	R
2		Dichlorodifluoromethane	85	1.632	0.268	A	2	A	R
3	P	Chloromethane	50	1.838	0.301	A	2	A	R
4	C	Vinyl Chloride	62	1.942	0.319	A	2	A	R
5		Bromomethane	96	2.301	0.377	A	2	A	R
6		Chloroethane	64	2.423	0.397	A	2	A	R
7		Trichlorofluoromethane	101	2.556	0.419	A	2	A	R
8	C	1,1-Dichloroethene	61	3.123	0.512	A	2	A	R
9		Carbon Disulfide	76	3.140	0.515	Q	2	A	R
10		Freon 113	101	3.177	0.521	A	2	A	R
11		Iodomethane	142	3.280	0.538	Q	2	A	R
12		Methylene Chloride	84	3.773	0.619	Q	2	A	R
13		Acetone	43	3.865	0.634	A	1	A	R
14		t-1,2-Dichloroethene	61	3.938	0.646	A	2	A	R
15		n-Hexane	86	4.016	0.659	A	3	A	R
16		Methyl-tert-butyl-ether	73	4.084	0.670	A	3	A	R
17	P	1,1-Dichloroethane	63	4.576	0.751	A	2	A	R
18		Acrylonitrile	53	4.649	0.763	A	2	A	R
19		c-1,2-Dichloroethene	61	5.136	0.842	A	2	A	R
20		2,2-Dichloropropane	77	5.240	0.859	A	2	A	R
21		Bromochloromethane	49	5.337	0.875	A	2	A	R
22	C	Chloroform	83	5.422	0.889	A	2	A	R
23		Carbon Tetrachloride	117	5.543	0.909	Q	2	A	R
24		Tetrahydrofuran	42	5.598	0.918	A	2	A	R
25		1,1,1-Trichloroethane	97	5.617	0.921	A	2	A	R
26	S	Dibromofluoromethane (S)	111	5.605	0.919	A	2	A	R
27		1,1-Dichloropropene	75	5.745	0.942	A	2	A	R
28		2-Butanone (MEK)	43	5.751	0.943	A	2	A	R
29		Benzene	78	6.000	0.984	A	2	A	R
30		1,2-Dichloroethane (EDC)	62	6.219	1.020	A	2	A	R
31		iso-Butyl Alcohol	43	6.285	1.031	Q	2	A	R
32	S	1,4-Difluorobenzene (S)	114	6.657	1.092	A	2	A	R
33		Trichloroethene (TCE)	130	6.620	1.086	A	2	A	R
34		Dibromomethane	93	7.077	1.161	A	2	A	R
35	C	1,2-Dichloropropane	63	7.180	1.178	A	2	A	R
36		Bromodichloromethane	83	7.259	1.191	Q	2	A	R
37	I	Chlorobenzene-d5 (I)	117	9.802	1.000	A	2	A	R
38		c-1,3-Dichloropropene	75	7.964	0.812	Q	2	A	R
39	S	Toluene-d8 (S)	98	8.166	0.833	A	2	A	R
40	C	Toluene	91	8.227	0.839	A	2	A	R
41		Tetrachloroethene (PCE)	166	8.671	0.885	A	2	A	R
42		4-Methyl-2-Pentanone (MIBK)	43	8.677	0.885	A	2	A	R
43		t-1,3-Dichloropropene	75	8.713	0.889	Q	2	A	R
44		1,1,2-Trichloroethane	97	8.890	0.907	A	2	A	R
45		Dibromochloromethane	129	9.078	0.926	Q	2	A	R
46		1,3-Dichloropropane	76	9.169	0.935	A	2	A	R
47		1,2-Dibromoethane (EDB)	107	9.309	0.950	Q	2	A	R
48		2-Hexanone	43	9.546	0.974	A	2	A	R
49	P	Chlorobenzene	112	9.820	1.002	A	2	A	R
50	C	Ethylbenzene	91	9.845	1.004	A	2	A	R
51		1,1,1,2-Tetrachloroethane	131	9.881	1.008	Q	2	A	R
52		m,p-Xylenes (2)	91	9.979	1.018	A	2	A	R
53		o-Xylene	91	10.362	1.057	A	2	A	R
54		Styrene	104	10.410	1.062	Q	2	A	R
55	P	Bromoform	173	10.434	1.064	Q	2	A	R

56		Isopropylbenzene	105	10.629	1.084	A	2	A	R
57	I	1,4-Dichlorobenzene-d4 (I)	152	11.749	1.000	A	2	A	R
58	S	4-Bromofluorobenzene (S)	174	10.873	0.925	A	2	A	R
59		Bromobenzene	156	10.952	0.932	A	2	A	R
60		n-Propylbenzene	91	10.970	0.934	A	2	A	R
61	P	1,1,2,2-Tetrachloroethane	83	11.037	0.939	A	2	A	R
62		2-Chlorotoluene	126	11.104	0.945	A	2	A	R
63		1,3,5-Trimethylbenzene	105	11.128	0.947	A	2	A	R
64		1,2,3-Trichloropropane	110	11.147	0.949	A	2	A	R
65		t-1,4-Dichloro-2-butene	88	11.177	0.951	Q1/a	3	A	R
66		4-Chlorotoluene	91	11.232	0.956	A	2	A	R
67		tert-Butylbenzene	91	11.378	0.968	A	2	A	R
68		1,2,4-Trimethylbenzene	105	11.439	0.974	A	2	A	R
69		sec-Butylbenzene	105	11.518	0.980	A	2	A	R
70		4-Isopropyltoluene	119	11.627	0.990	A	2	A	R
71		1,3-Dichlorobenzene	146	11.694	0.995	A	2	A	R
72		1,4-Dichlorobenzene	146	11.761	1.001	A	2	A	R
73		n-Butylbenzene	91	11.944	1.017	A	2	A	R
74		1,2-Dichlorobenzene	146	12.077	1.028	A	2	A	R
75		1,2-Dibromo-3-Chloropropane	157	12.685	1.080	Q1/a	2	A	R
76		Hexachlorobutadiene	223	13.190	1.123	A	3	A	R
77		1,2,4-Trichlorobenzene	180	13.227	1.126	A	2	A	R
78		Naphthalene	128	13.500	1.149	Q1/a	2	A	R
79		1,2,3-Trichlorobenzene	180	13.665	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

VF190507S.M Wed May 08 12:03:31 2019



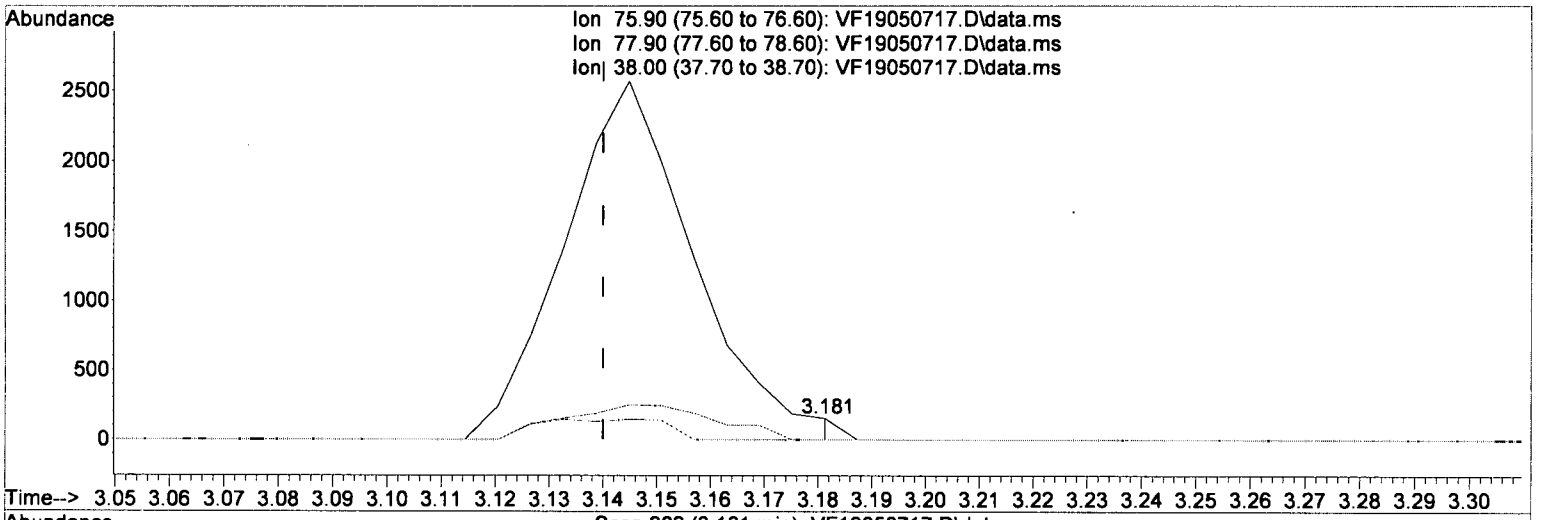
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

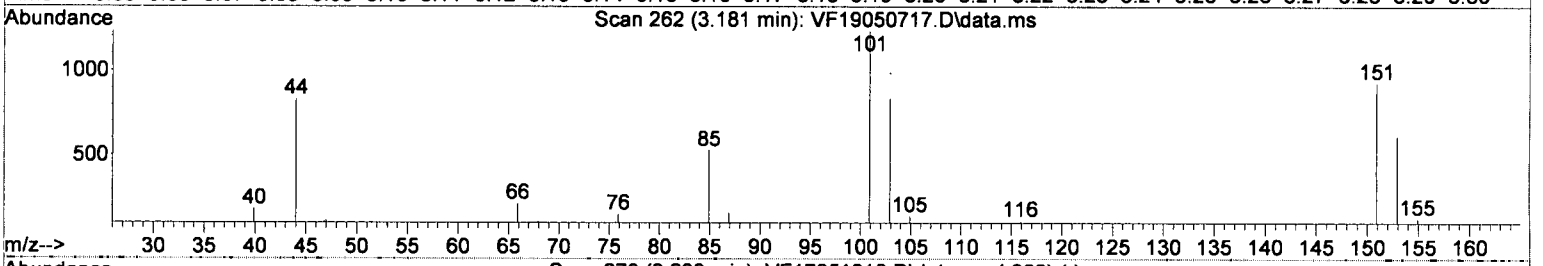
Int = 0.22

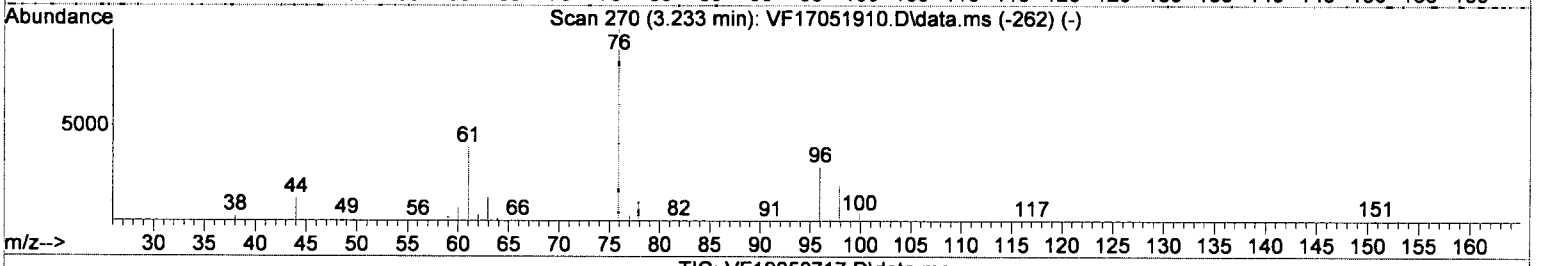
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







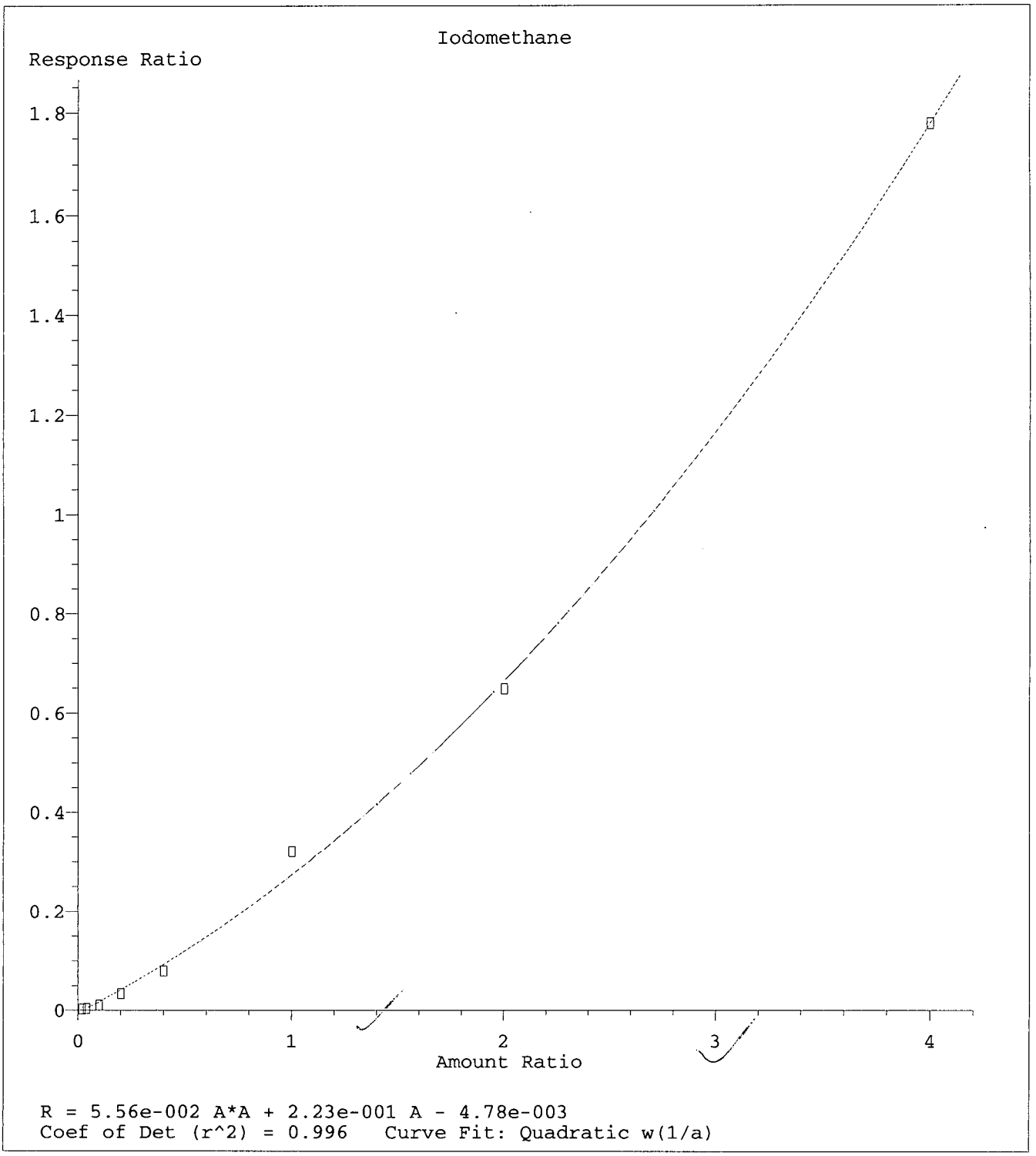
TIC: VF19050717.D\data.ms

(9) Carbon Disulfide

3.181min (+0.041) 0.22 ug/L m

response 0

Ion	Exp%	Act%
75.90	100	0.00
77.90	9.50	0.00
38.00	1.60	0.00
0.00	0.00	0.00



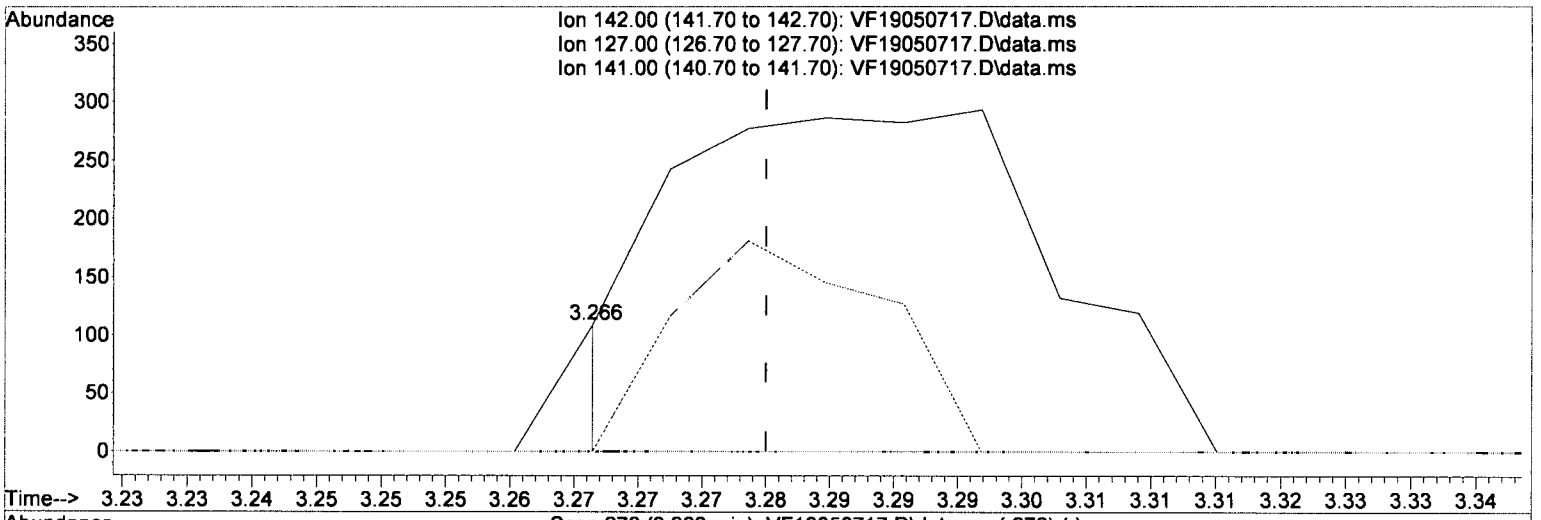
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

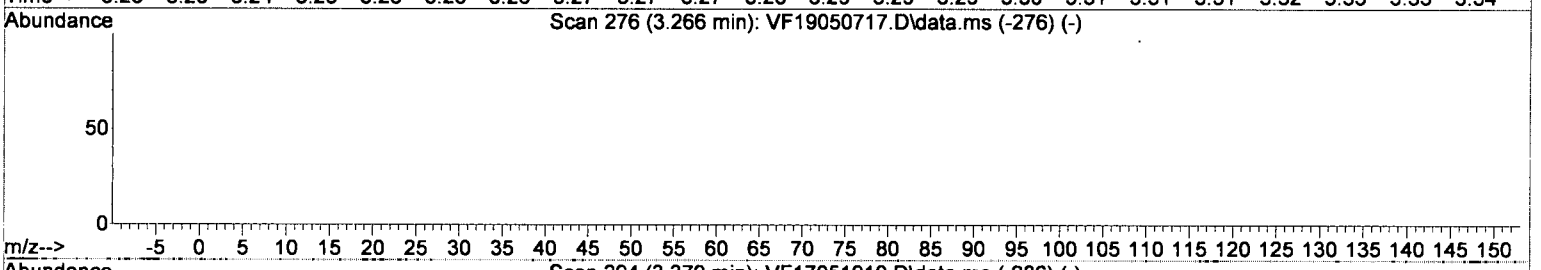
Int = 1.10

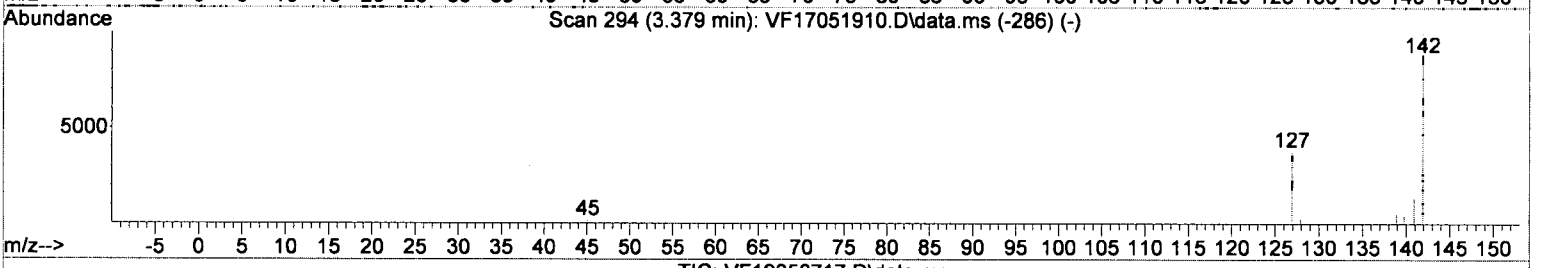
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







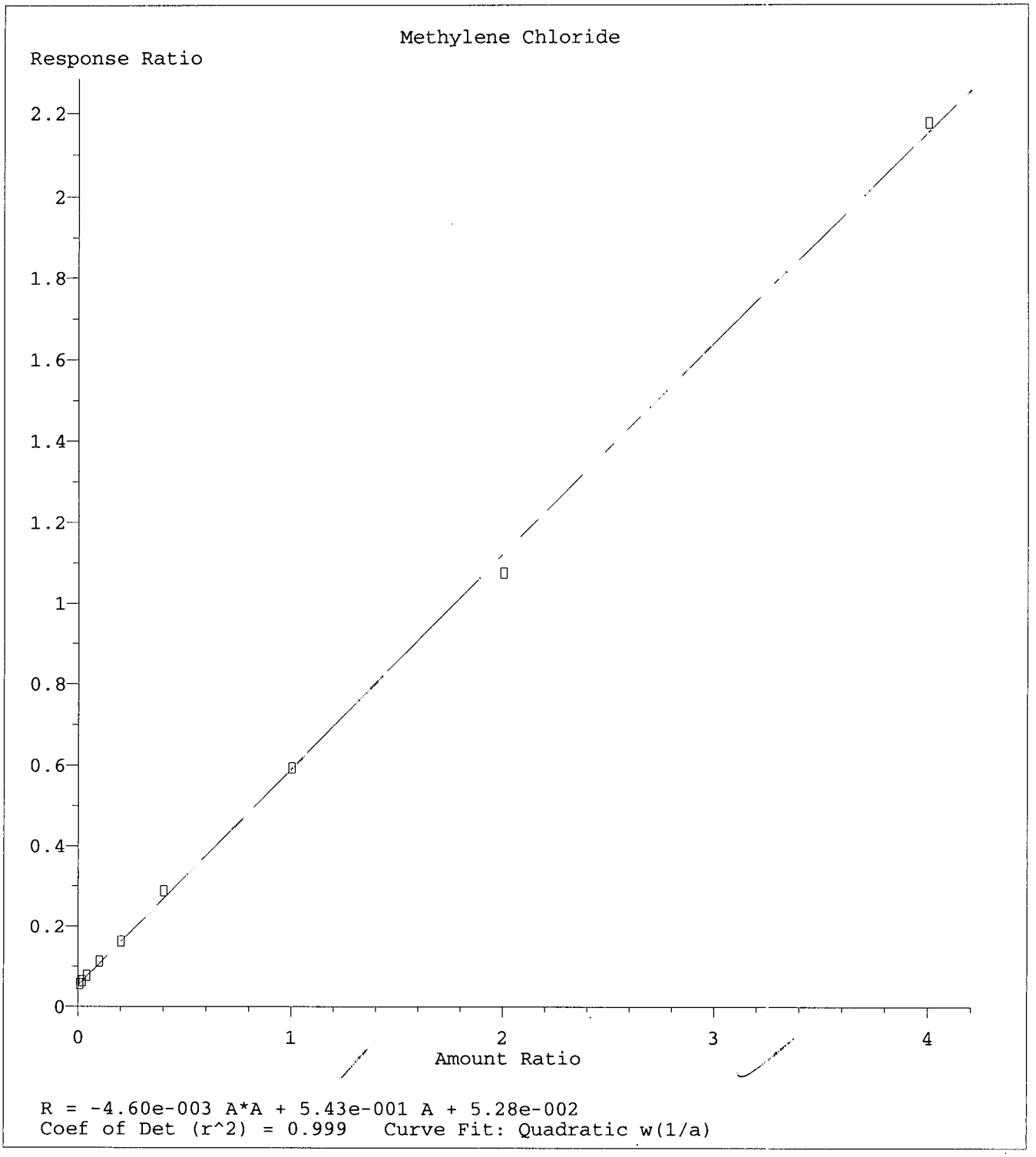
TIC: VF19050717.D\data.ms

(11) Iodomethane

3.266min (-0.014) 1.10 ug/L m

response 40

Ion	Exp%	Act%
142.00	100	100
127.00	35.00	0.00#
141.00	15.00	0.00#
0.00	0.00	0.00



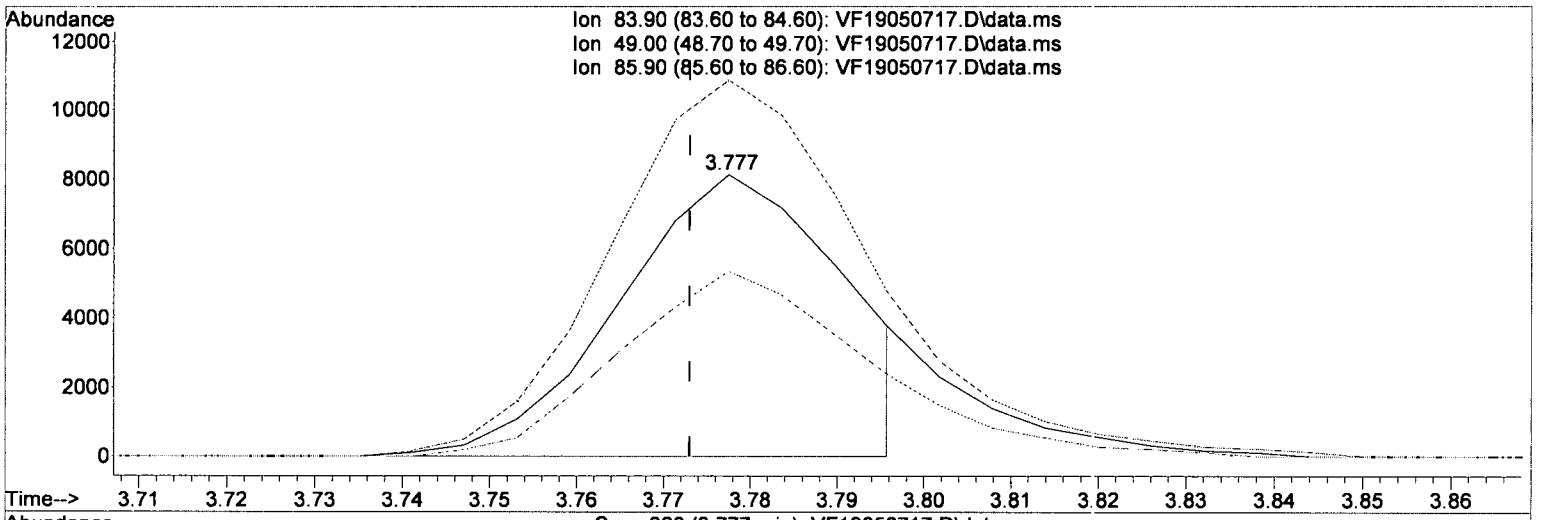
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

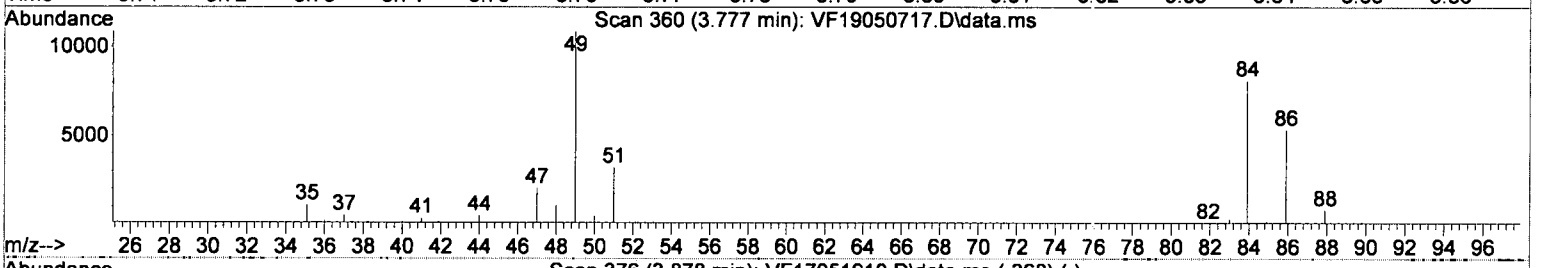
Int =(-)

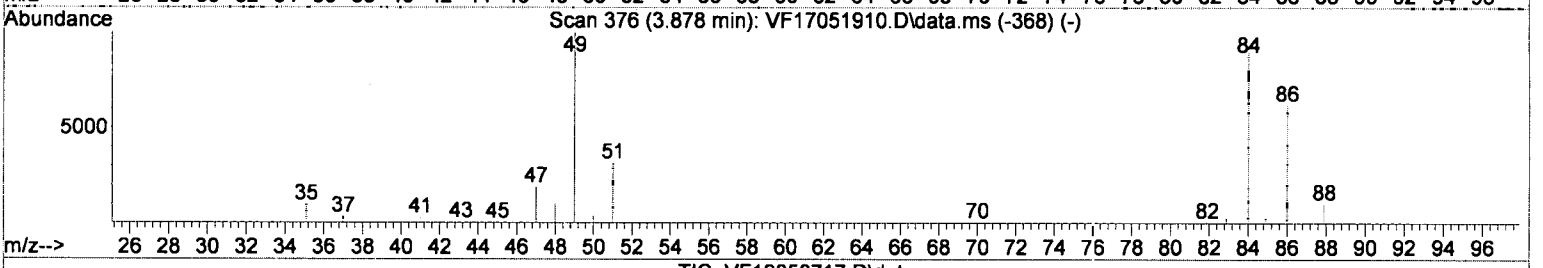
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







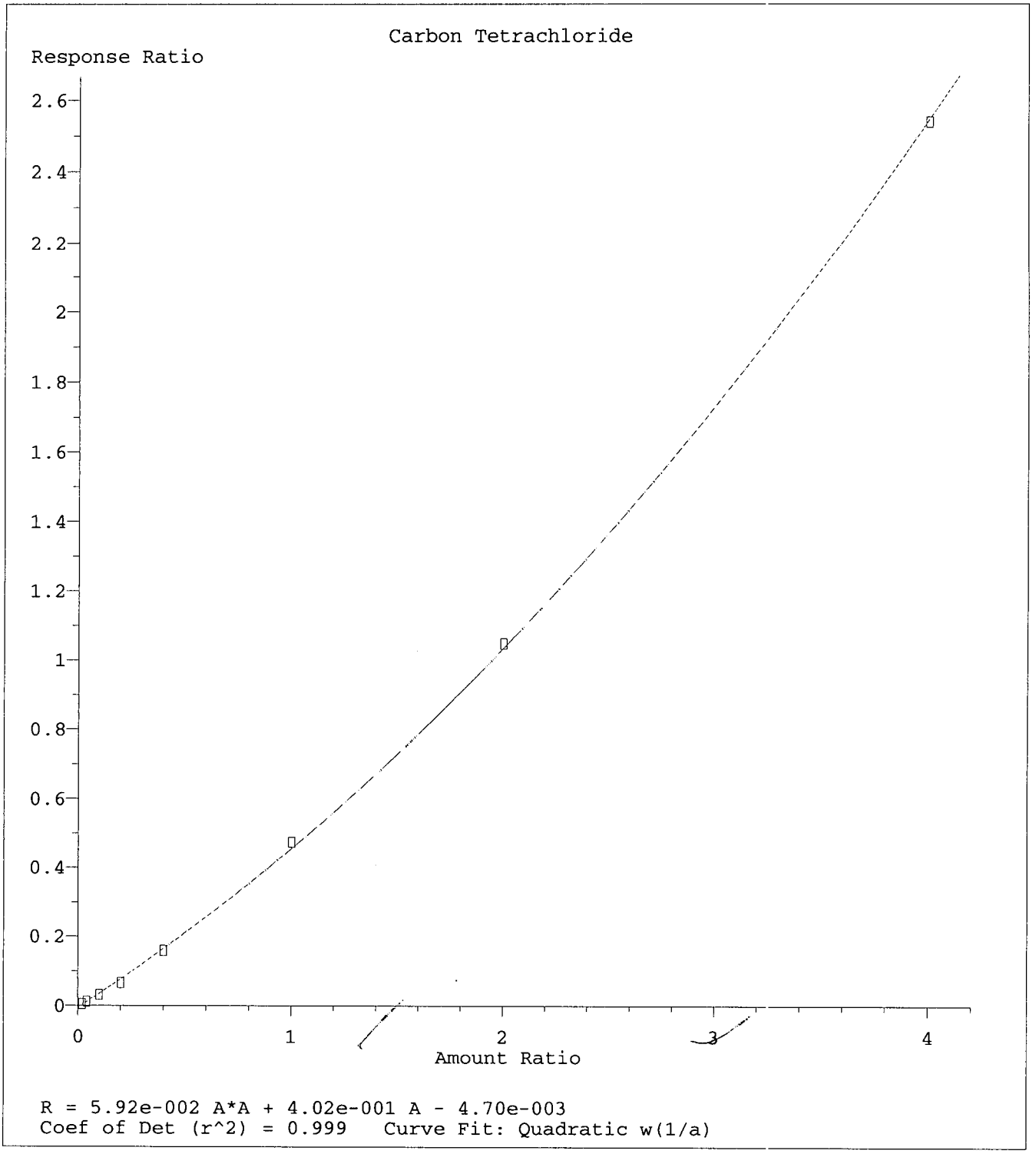
TIC: VF19050717.D\data.ms

(12) Methylene Chloride

3.777min (+0.004) 0.26 ug/L m

response 14573

Ion	Exp%	Act%
83.90	100	100
49.00	121.90	133.43
85.90	60.10	65.74
0.00	0.00	0.00



Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

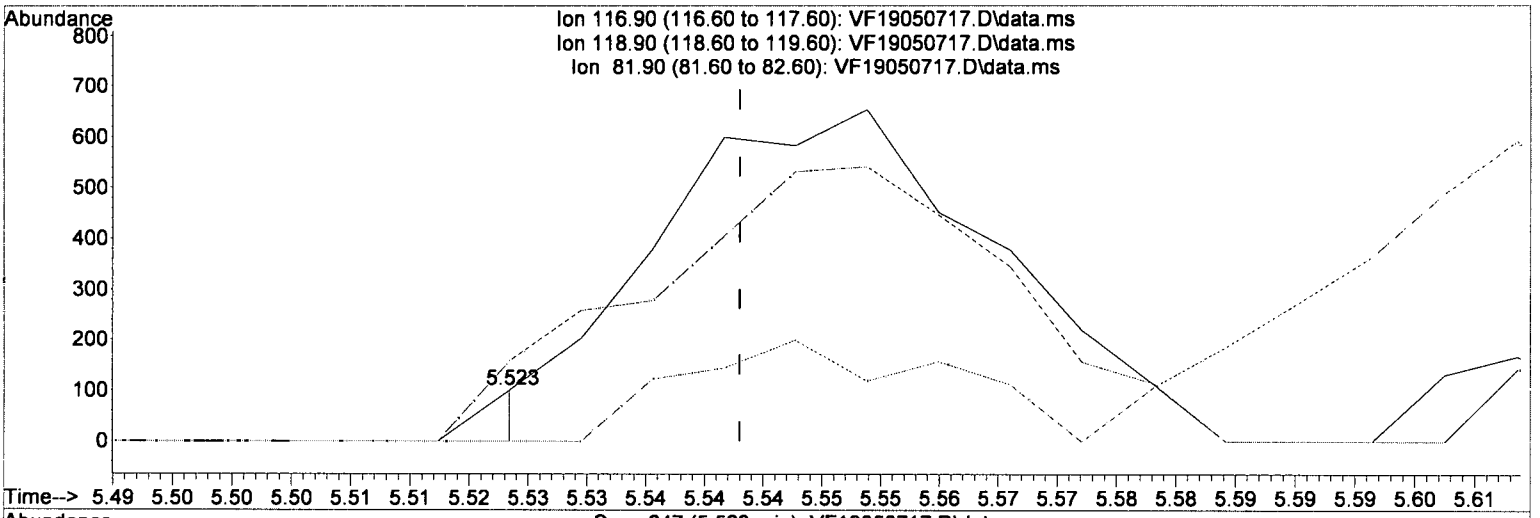
IuT = 0.60

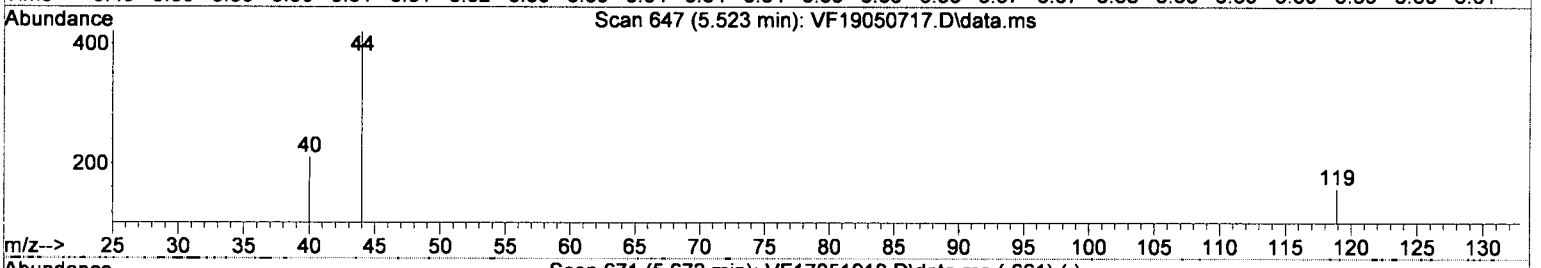
↑ MDL MRL

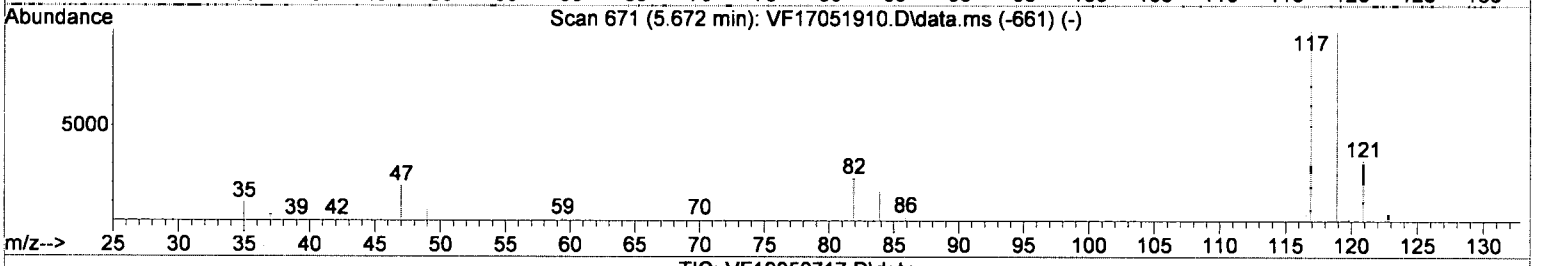
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







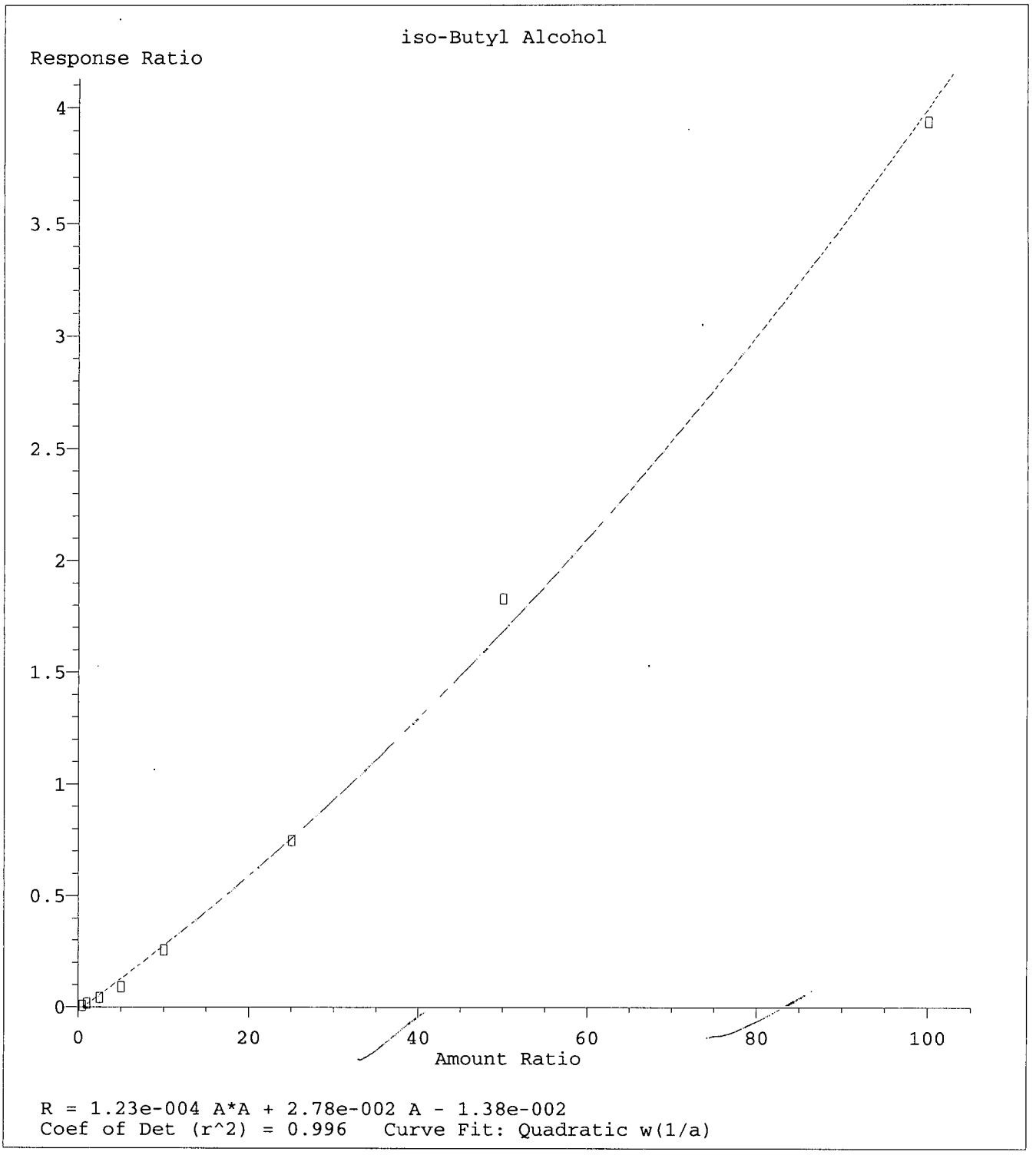
TIC: VF19050717.D\data.ms

(23) Carbon Tetrachloride

5.523min (-0.020) 0.60 ug/L m

response 37

Ion	Exp%	Act%
116.90	100	100
118.90	93.00	156.44#
81.90	23.10	0.00
0.00	0.00	0.00



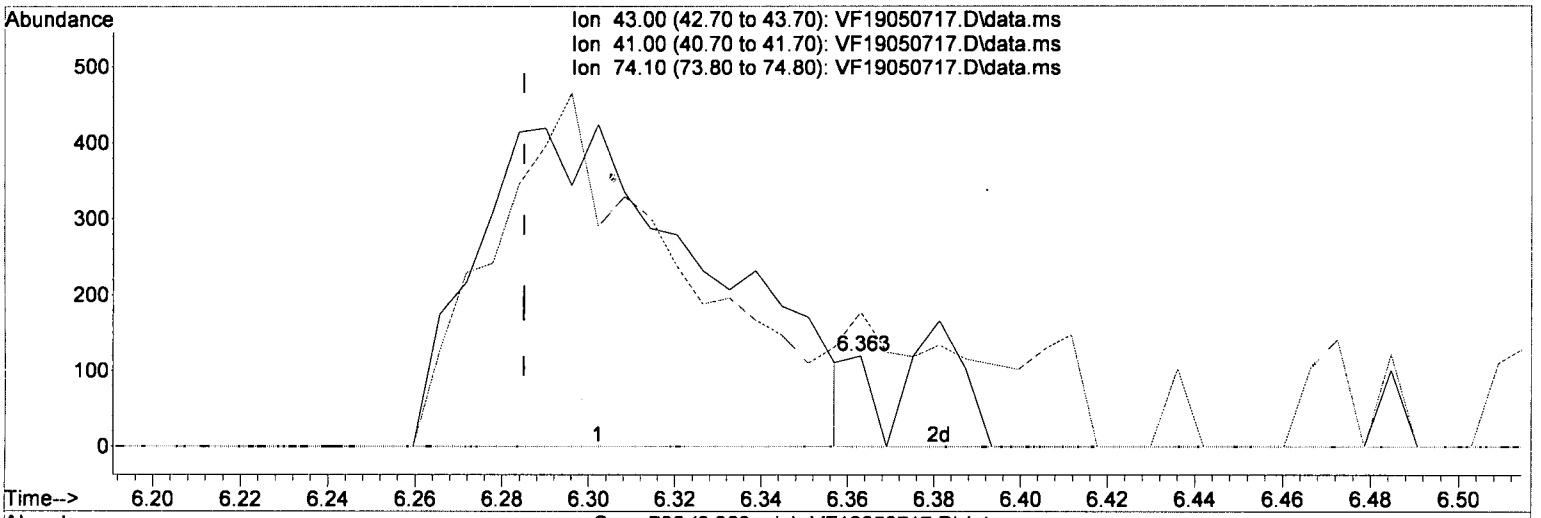
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

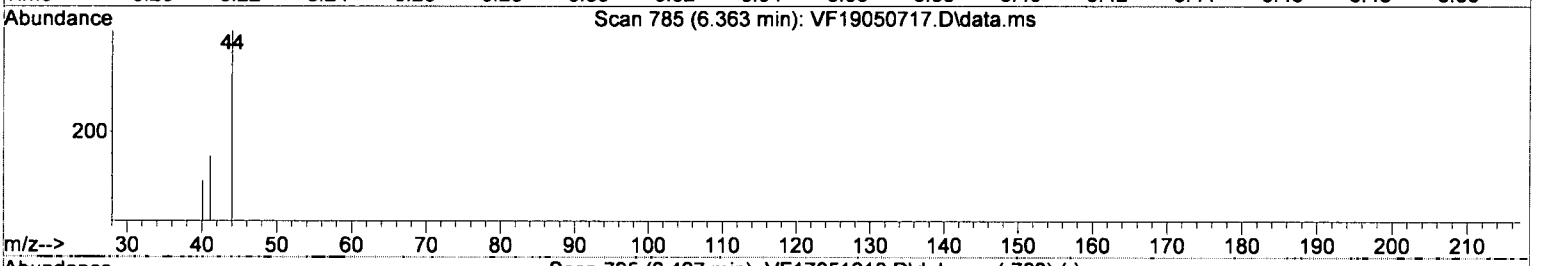
$\bar{x}_{WT} = 24.97$

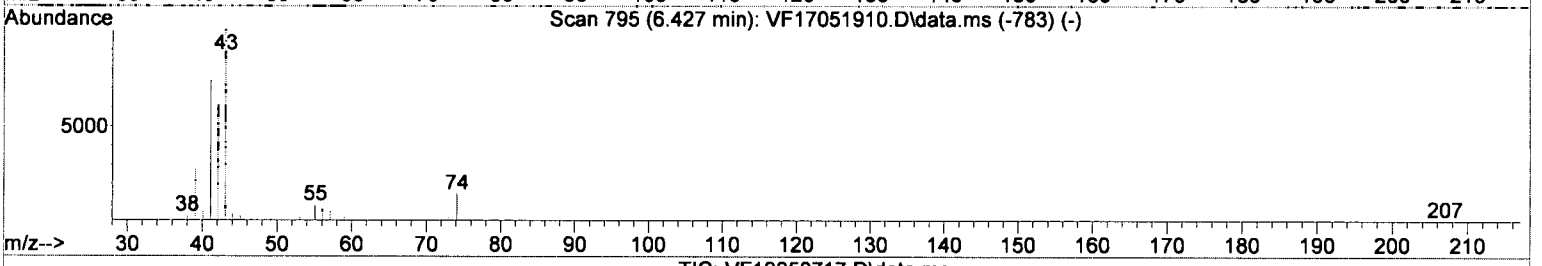
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







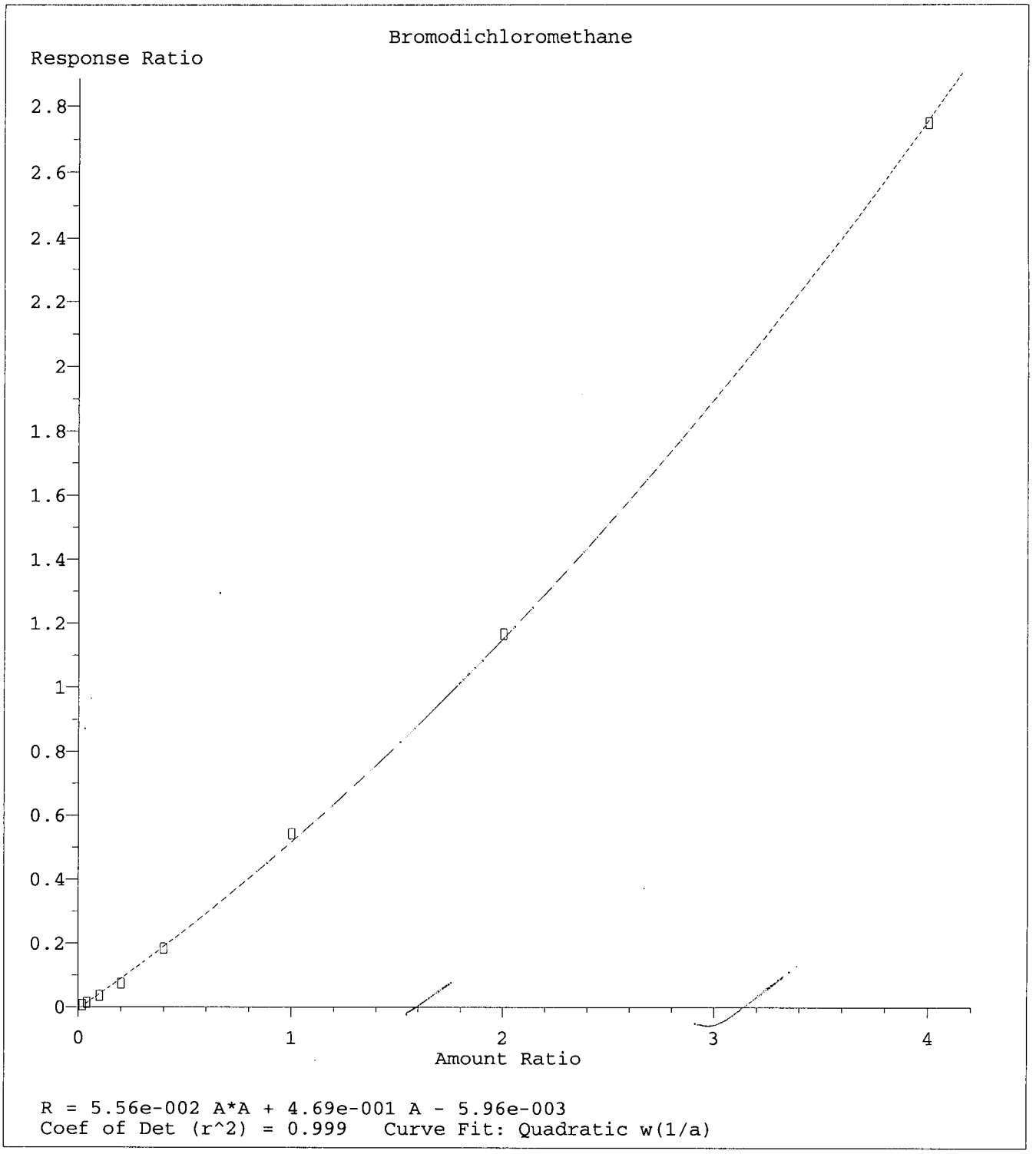
TIC: VF19050717.D\data.ms

(31) iso-Butyl Alcohol

6.363min (+0.078) 24.97 ug/L m

response 44

Ion	Exp%	Act%
43.00	100	100
41.00	78.40	148.33#
74.10	9.40	0.00
0.00	0.00	0.00



Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

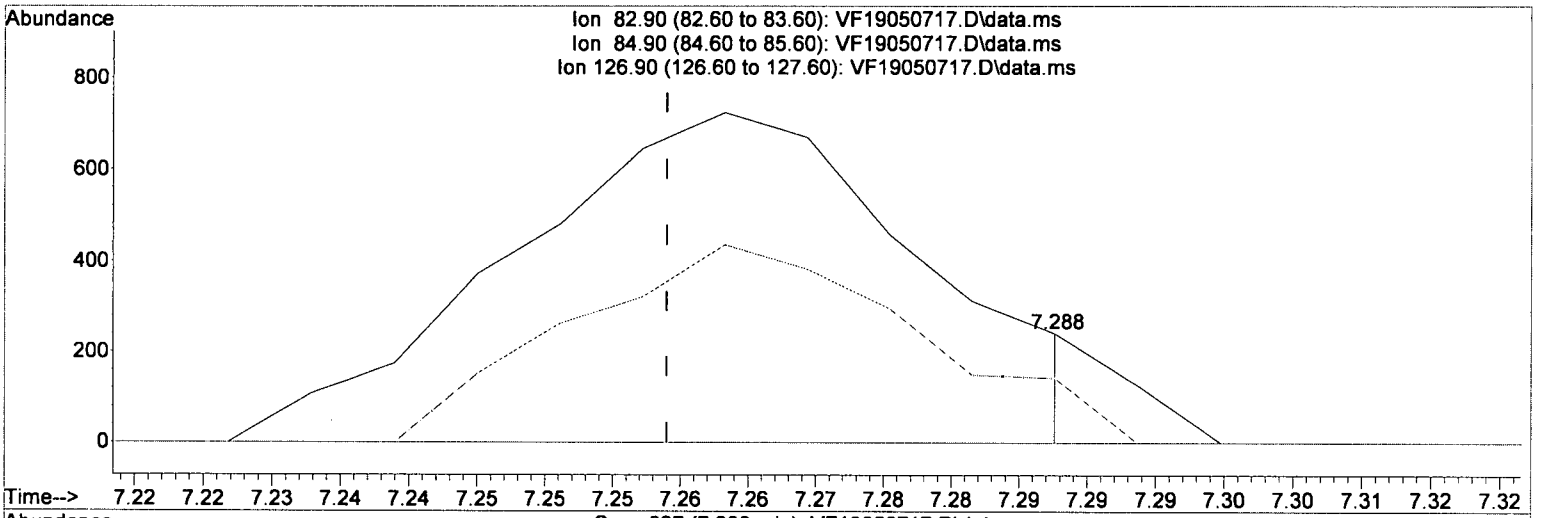
Int = 0.65

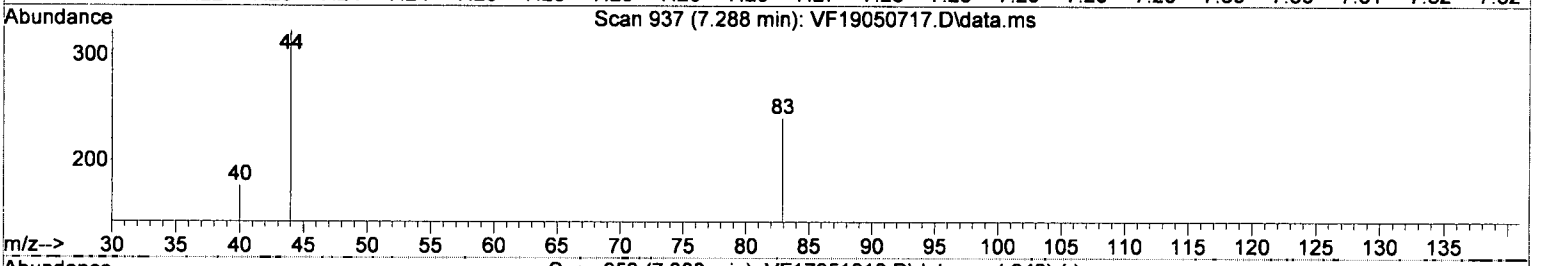
9 MDL MRL

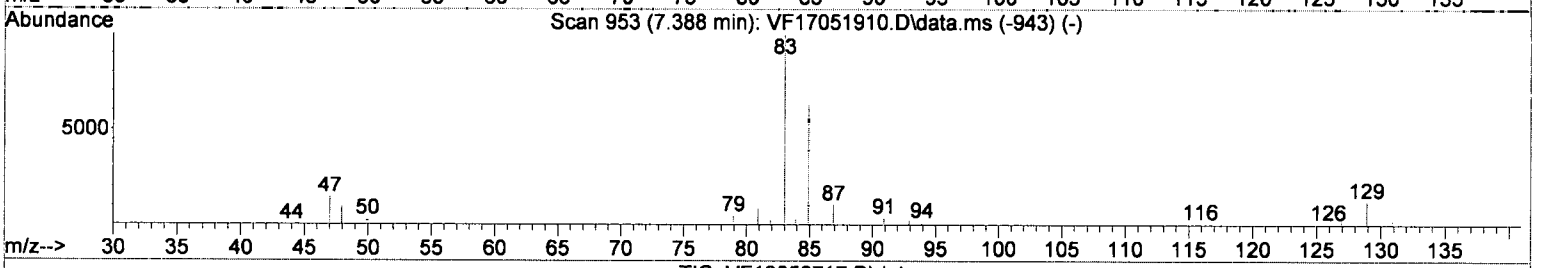
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







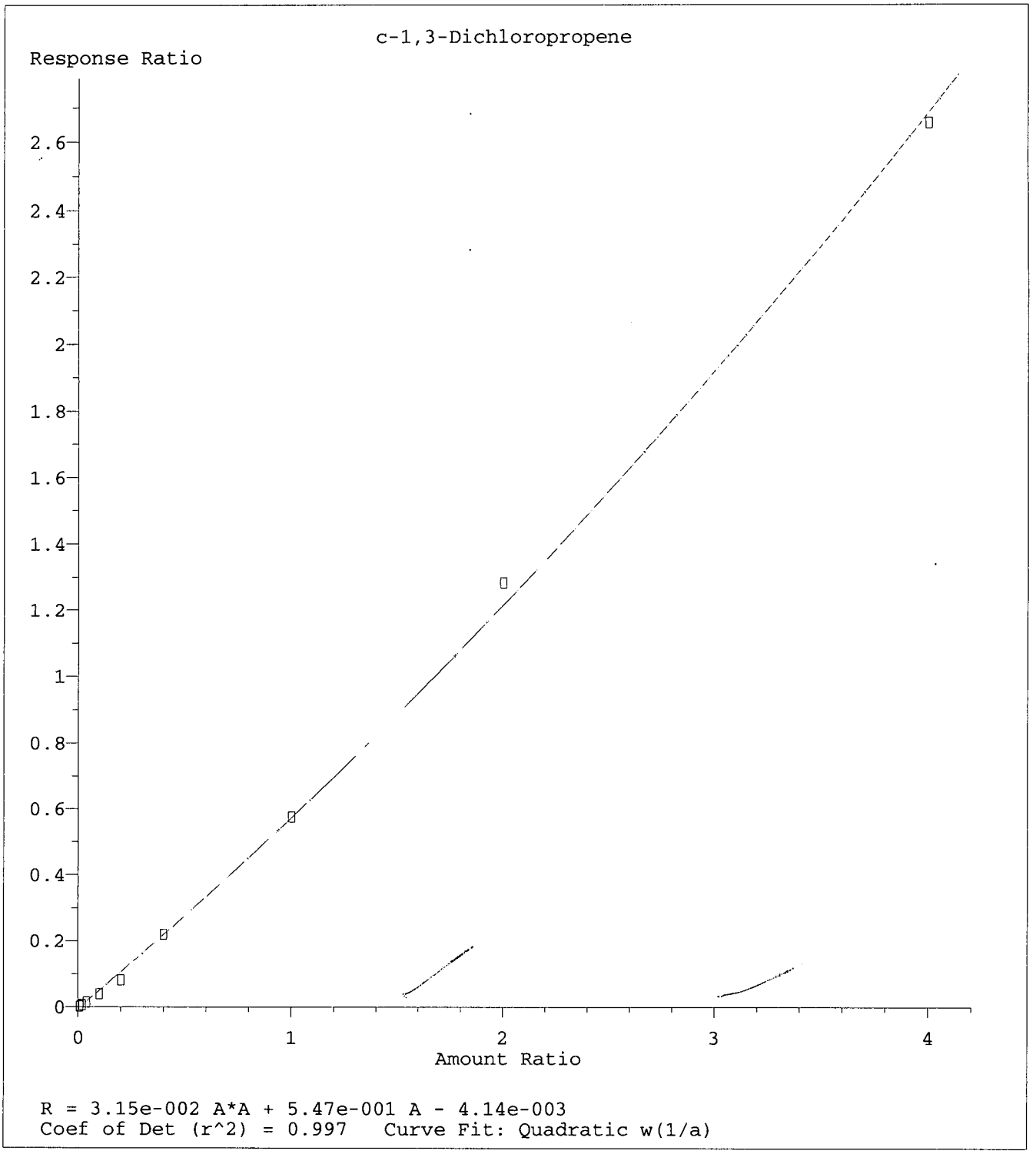
TIC: VF19050717.D\data.ms

(36) Bromodichloromethane

7.288min (+0.029) 0.65 ug/L m

response 46

Ion	Exp%	Act%
82.90	100	100
84.90	63.00	59.17
126.90	9.30	0.00
0.00	0.00	0.00



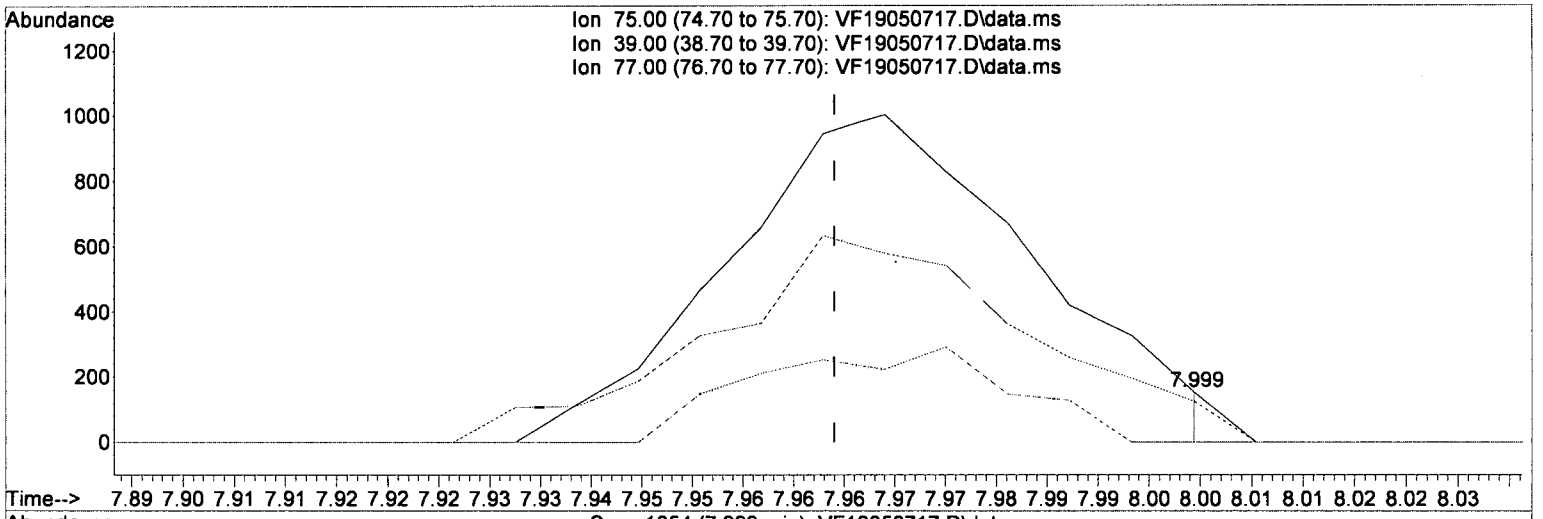
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

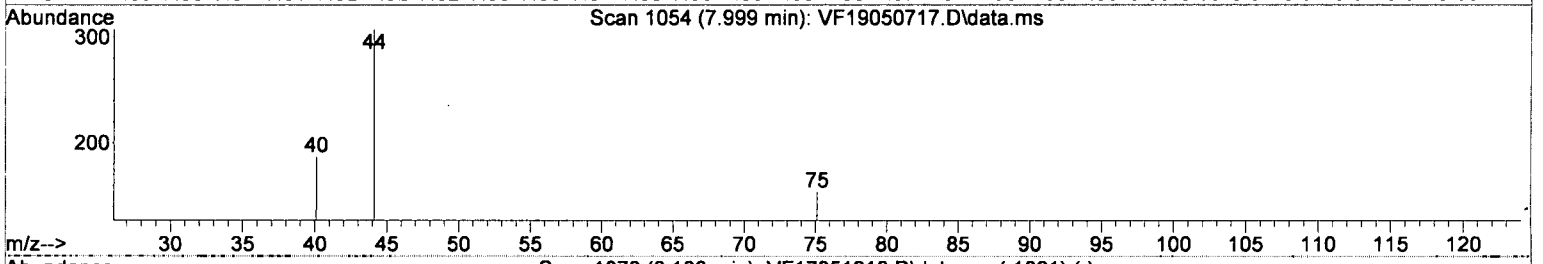
Int = 0.38

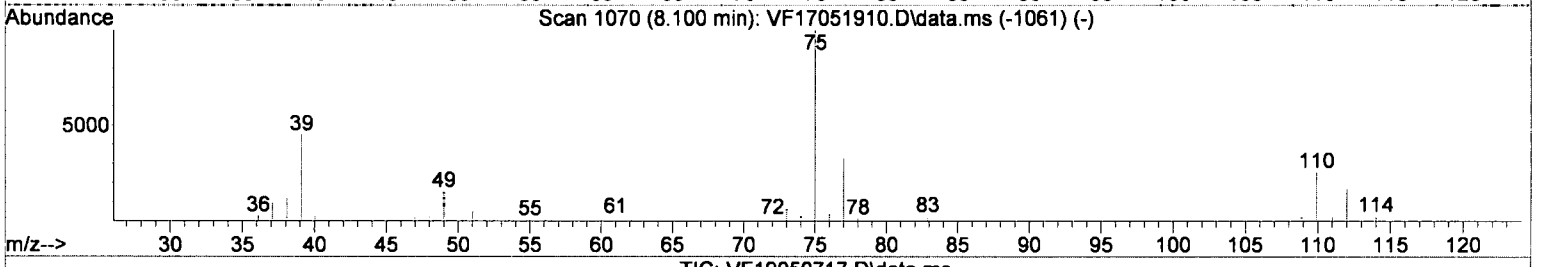
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







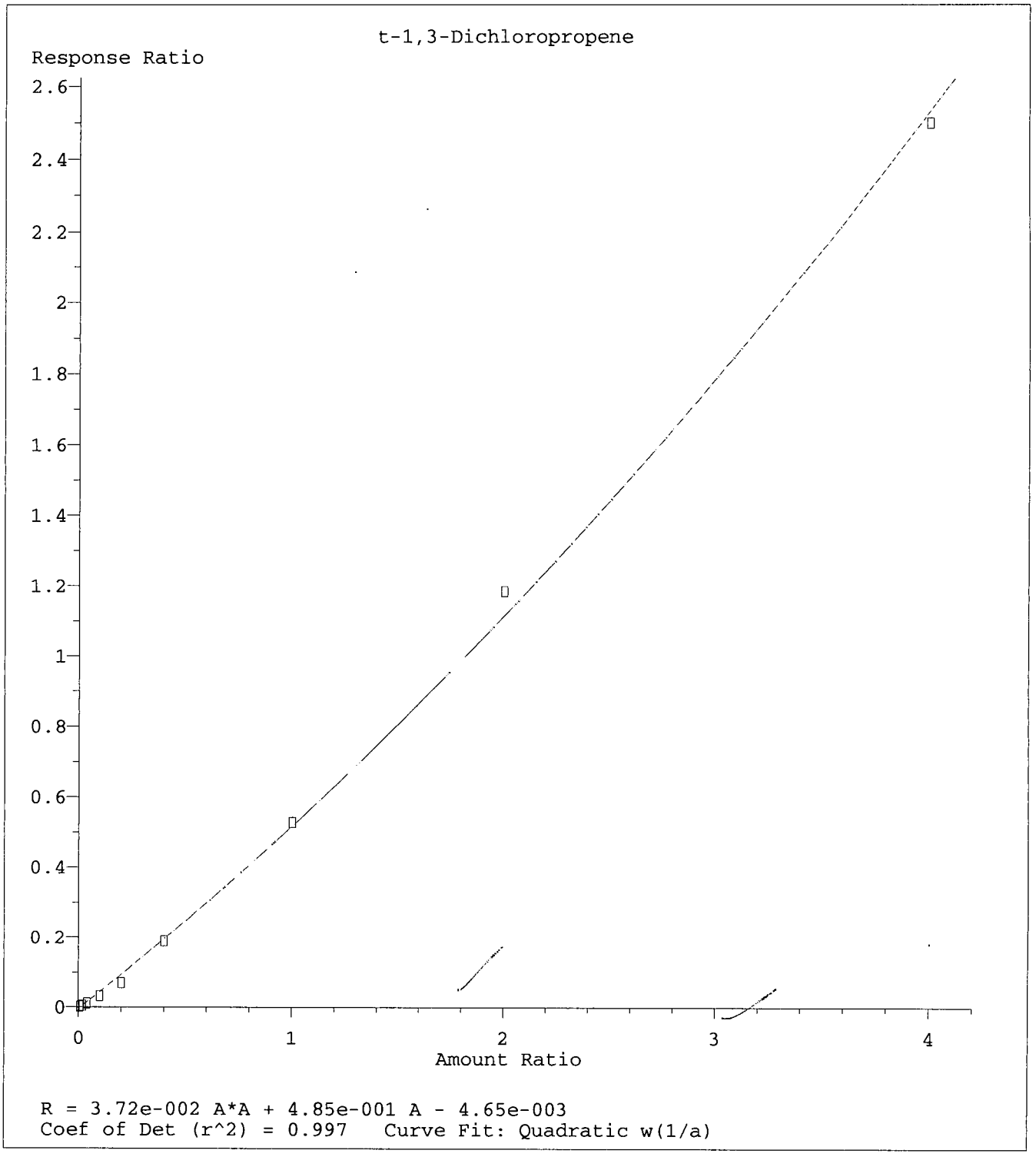
TIC: VF19050717.D\data.ms

(38) c-1,3-Dichloropropene

7.999min (+0.035) 0.38 ug/L m

response 0

Ion	Exp%	Act%
75.00	100	0.00
39.00	46.20	0.00#
77.00	33.30	0.00#
0.00	0.00	0.00



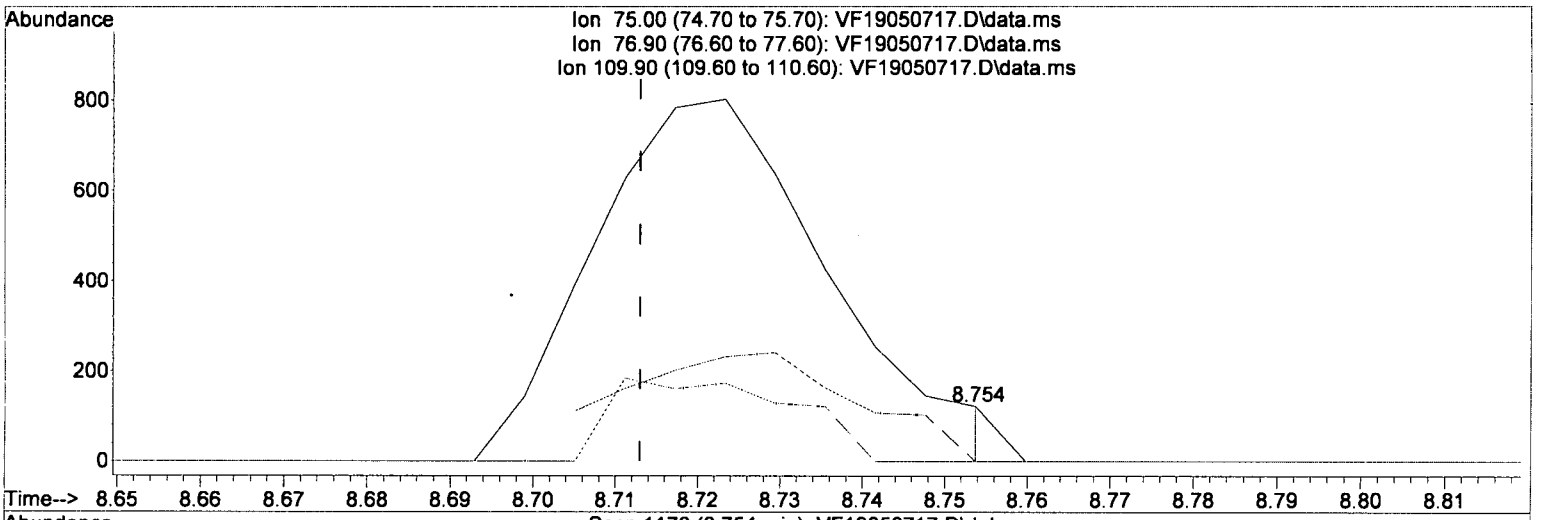
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

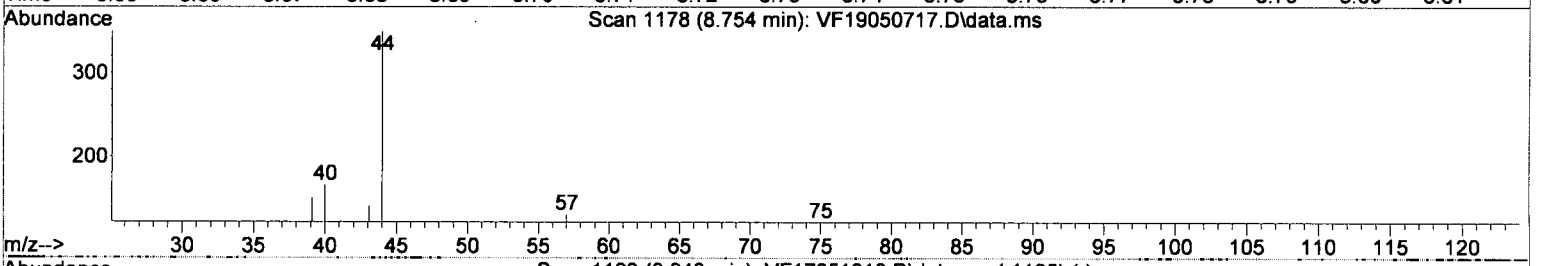
Int= 0.48

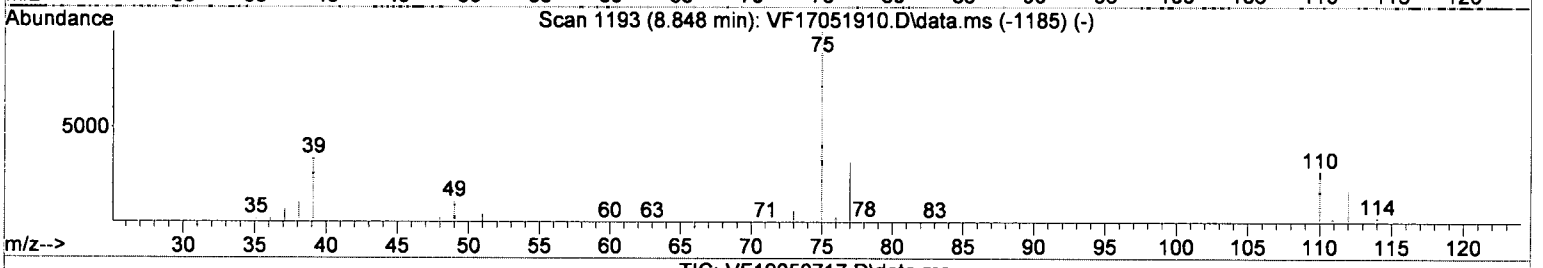
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







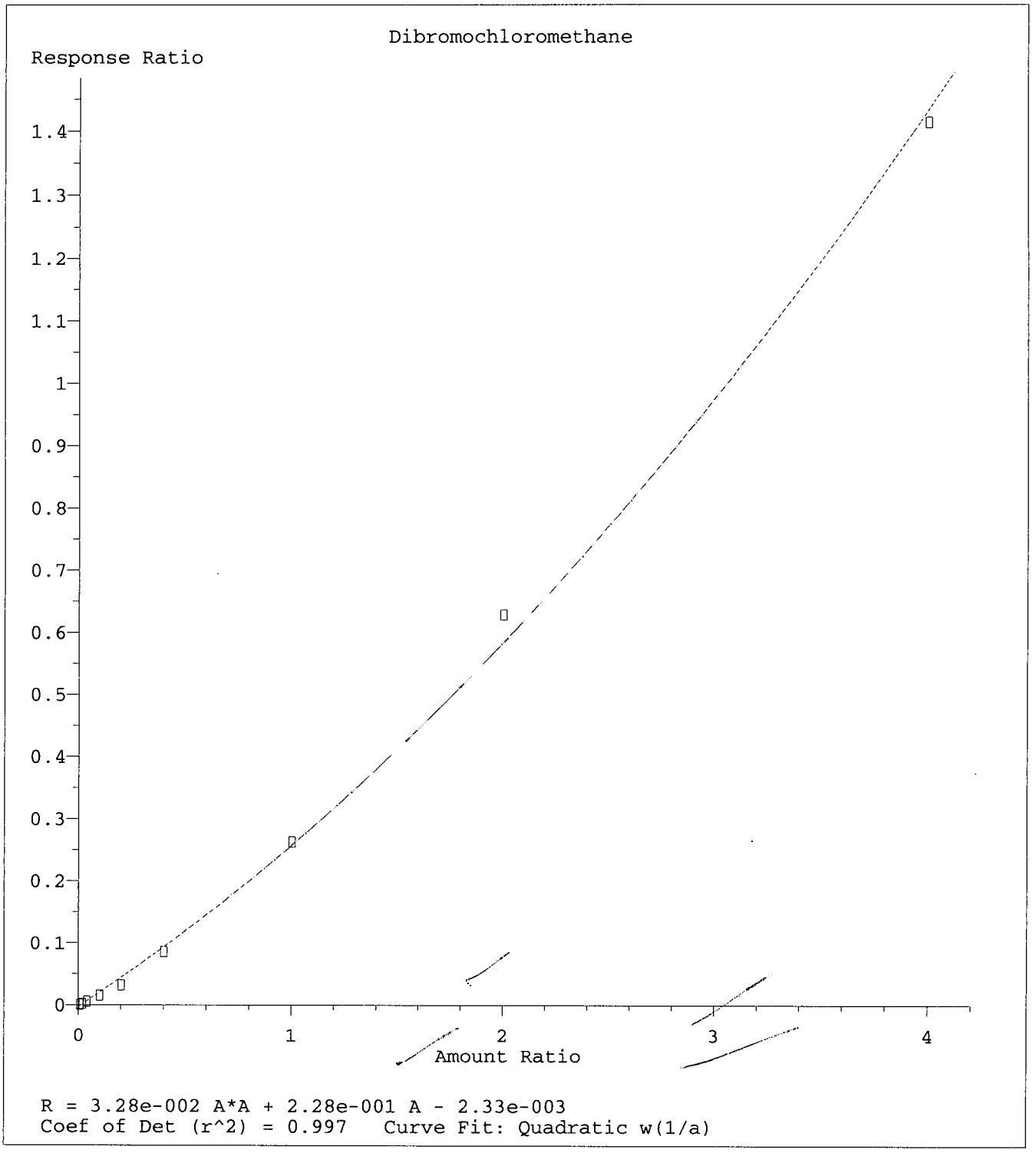
TIC: VF19050717.D\data.ms

(43) t-1,3-Dichloropropene

8.754min (+0.041) 0.48 ug/L m

response 0

Ion	Exp%	Act%
75.00	100	0.00
76.90	29.50	0.00
109.90	26.40	0.00
0.00	0.00	0.00



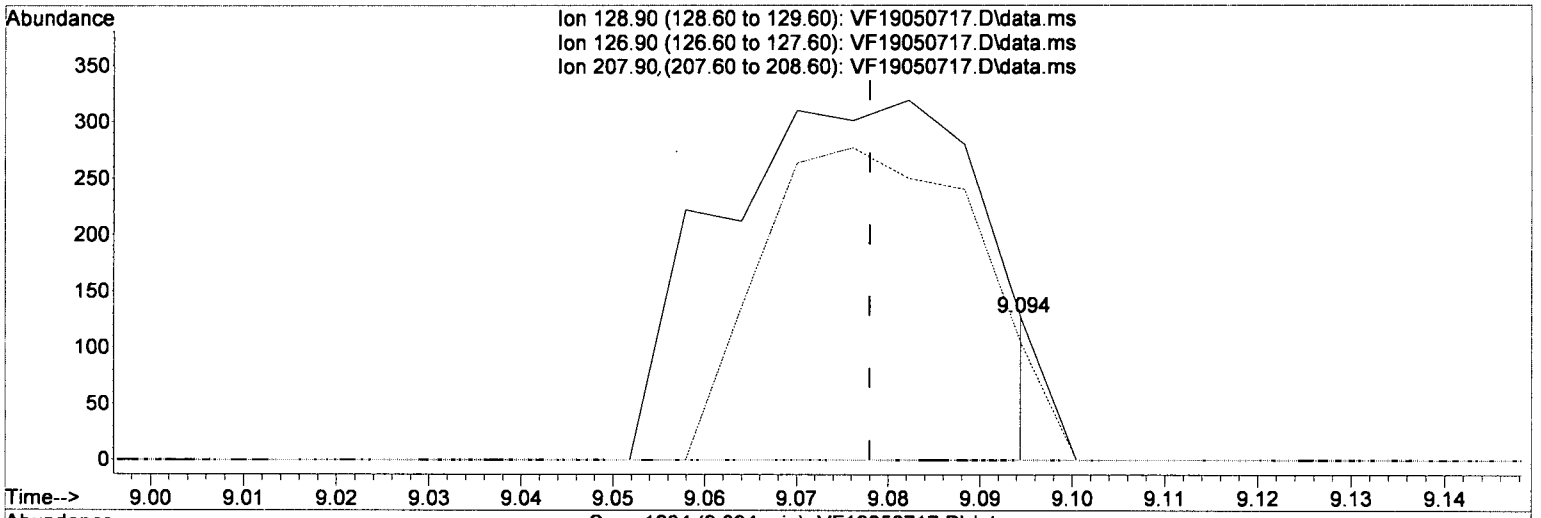
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

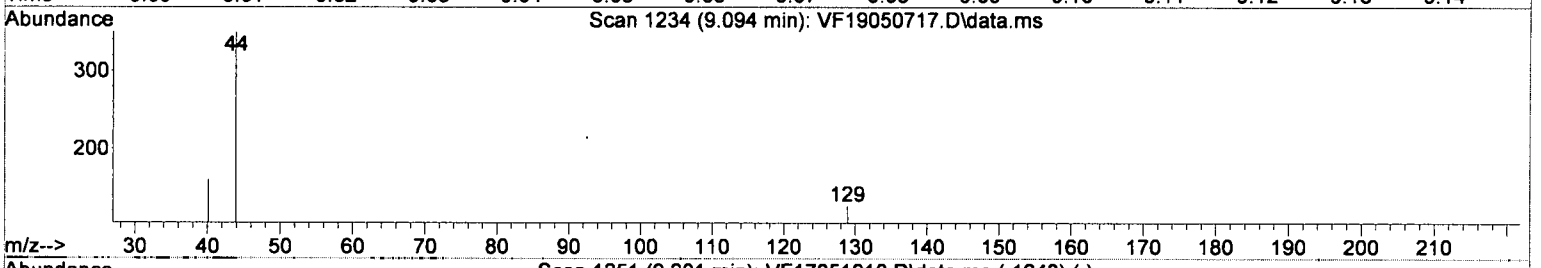
Int= 0.51

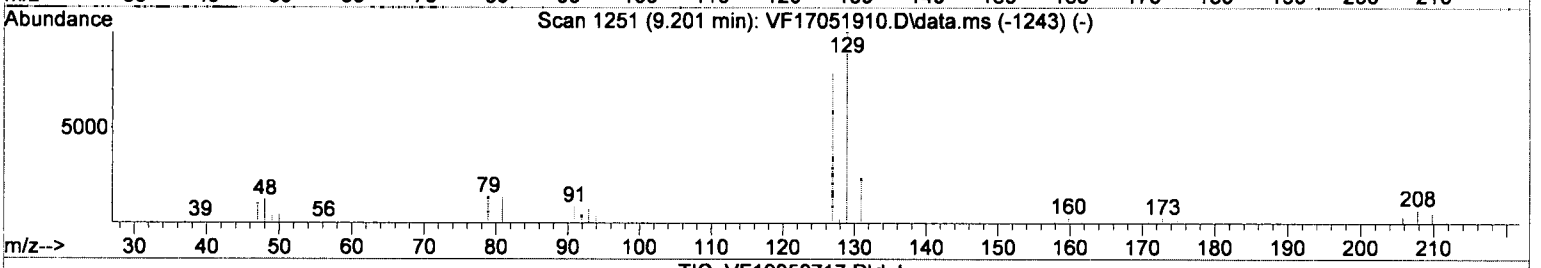
Quantitation Report (Qedit)

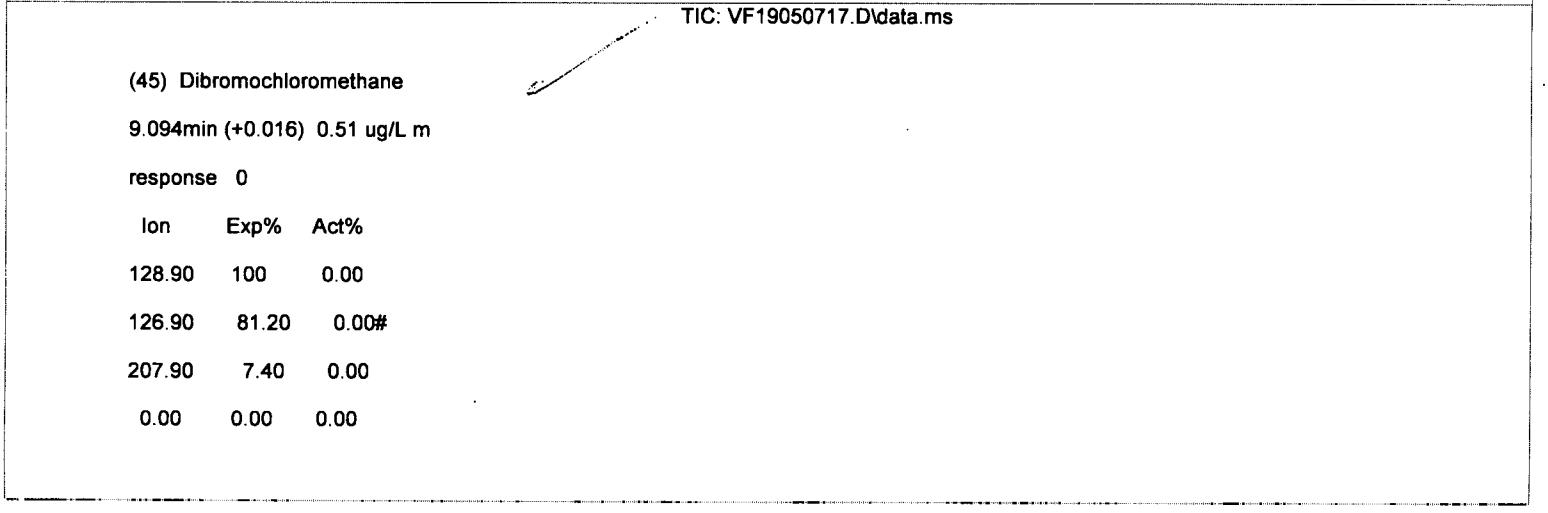
Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







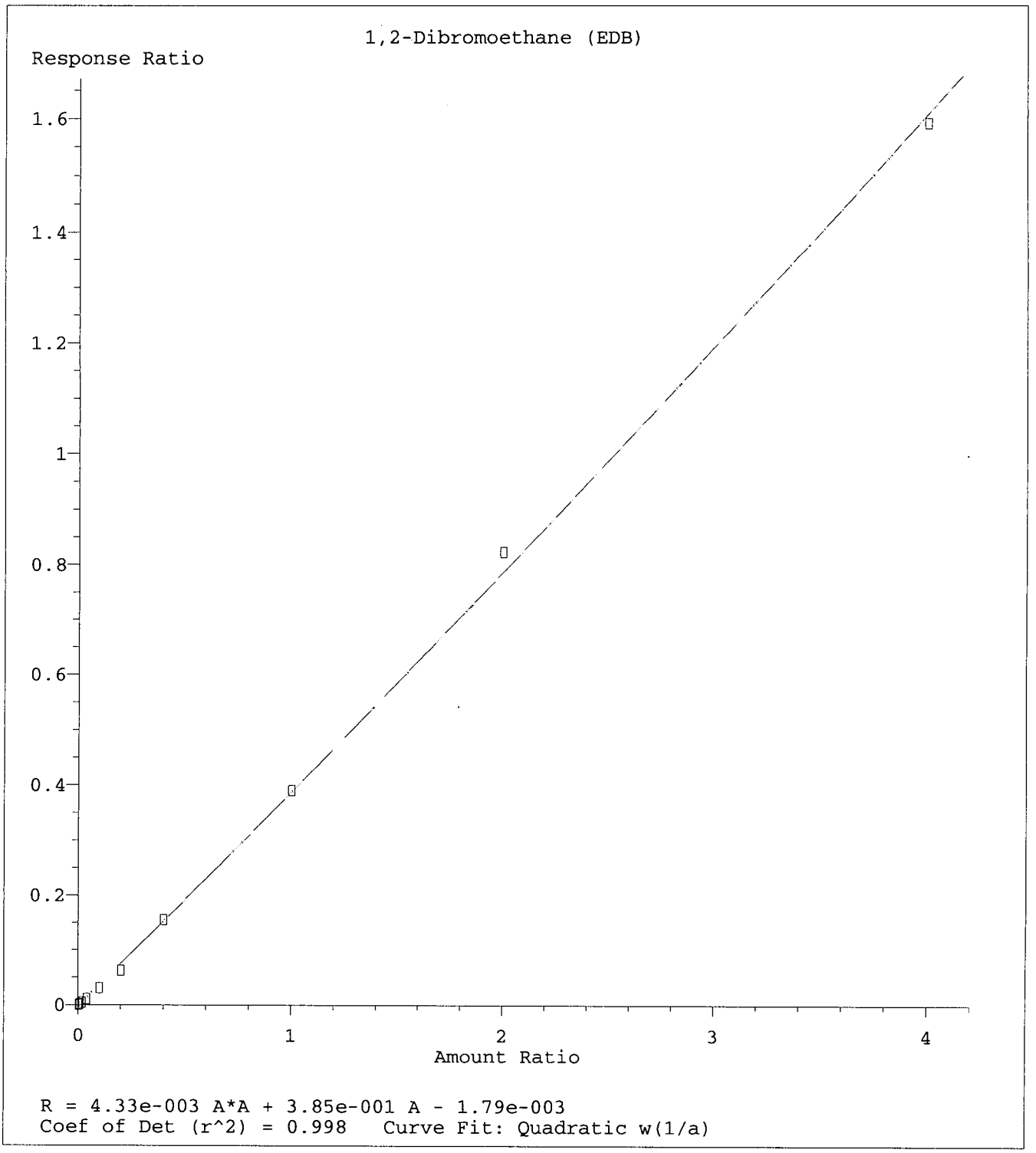


(45) Dibromochloromethane

9.094min (+0.016) 0.51 ug/L m

response 0

Ion	Exp%	Act%
128.90	100	0.00
126.90	81.20	0.00#
207.90	7.40	0.00
0.00	0.00	0.00



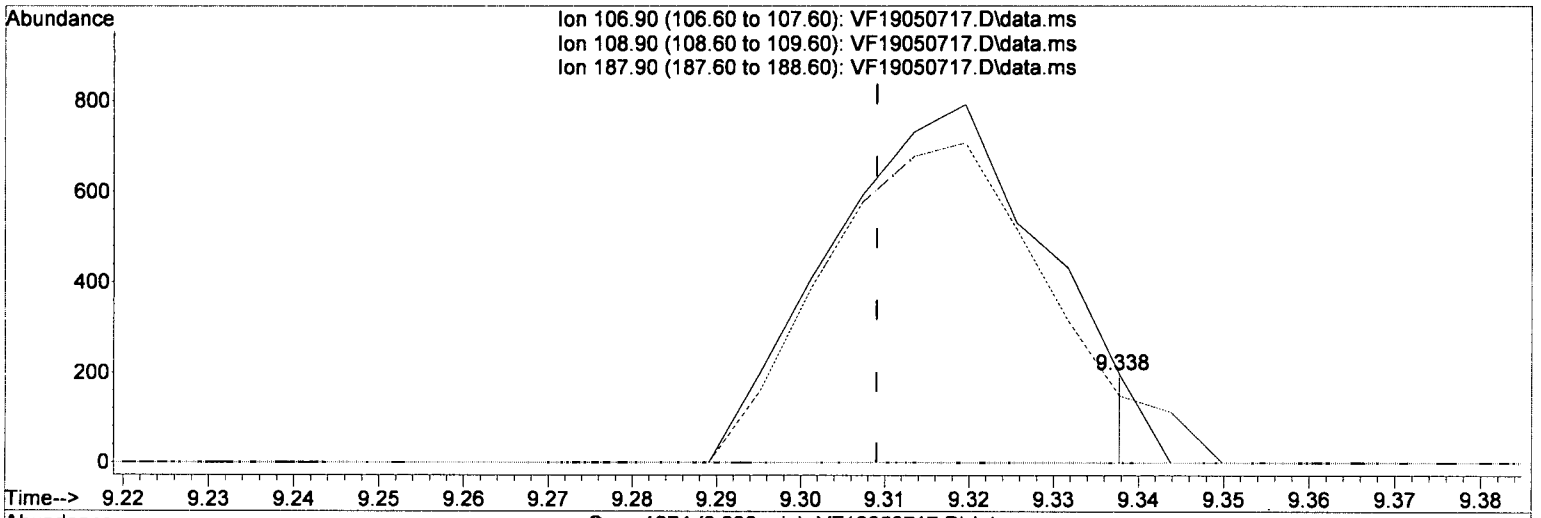
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

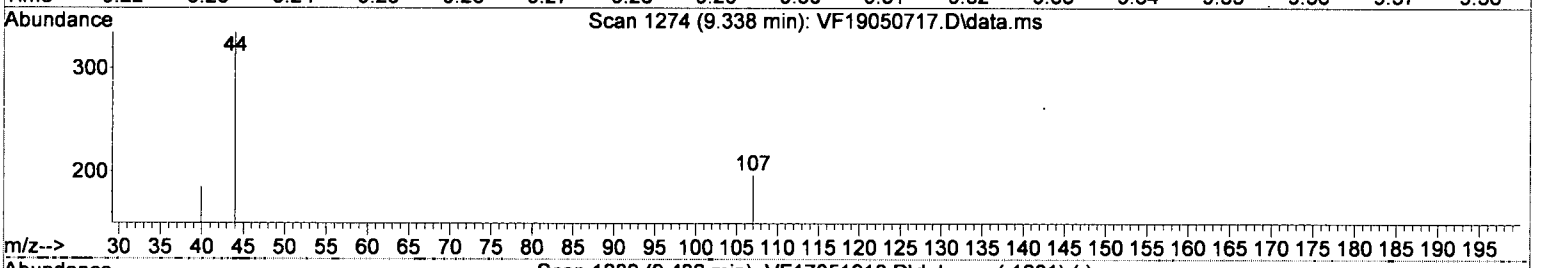
Int= 0.23

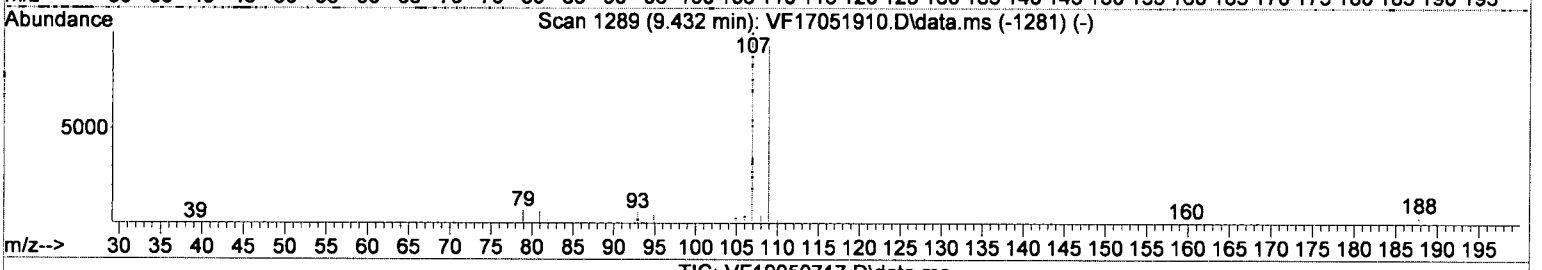
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







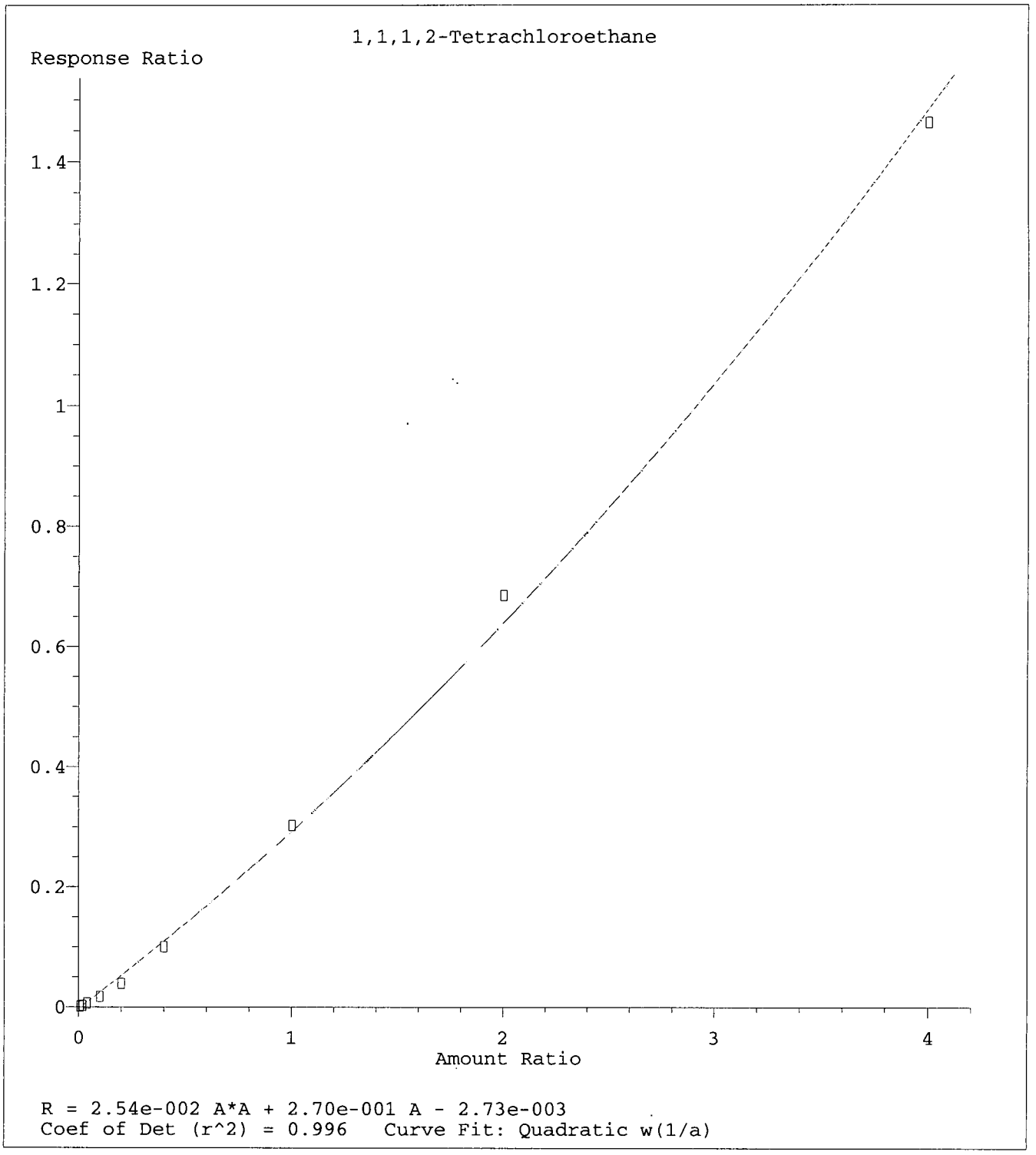
TIC: VF19050717.D\data.ms

(47) 1,2-Dibromoethane (EDB)

9.338min (+0.029) 0.23 ug/L m

response 0

Ion	Exp%	Act%
106.90	100	0.00
108.90	93.90	0.00#
187.90	4.70	0.00
0.00	0.00	0.00



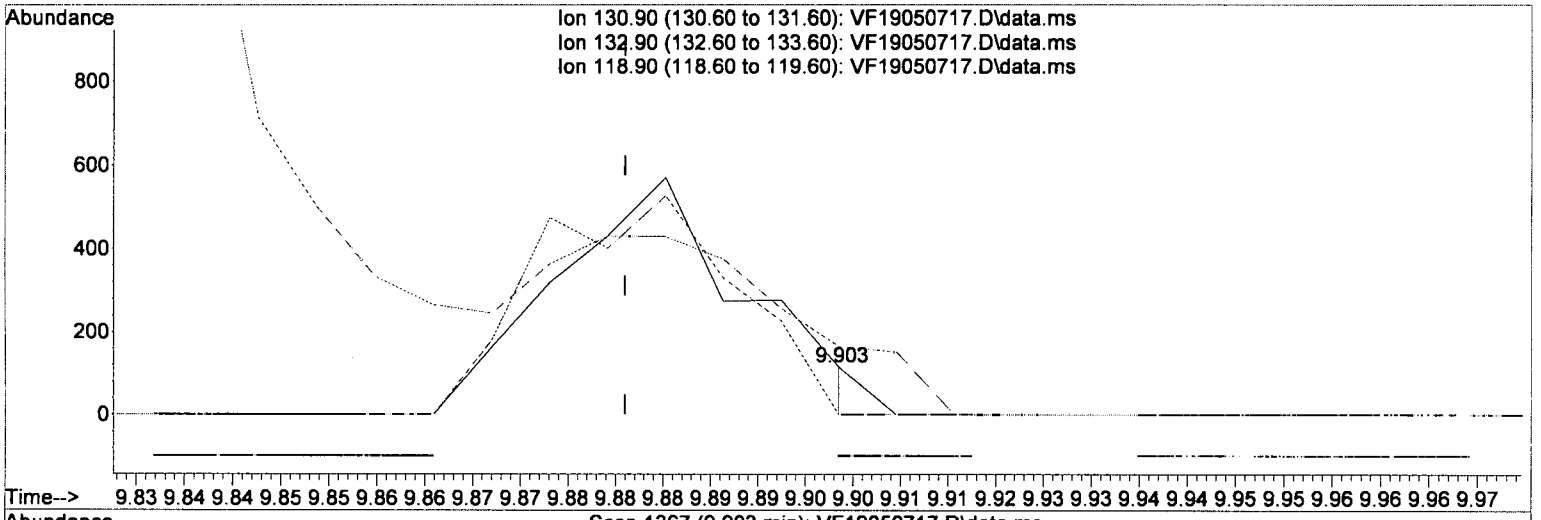
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

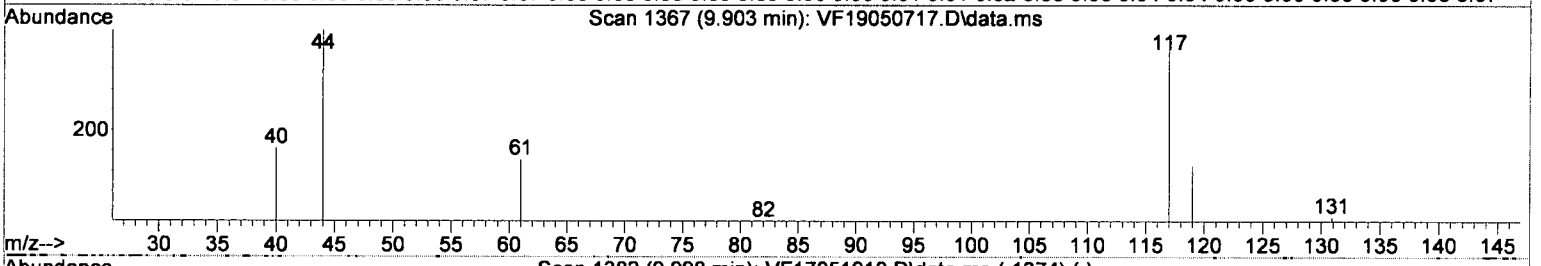
Int = 0.5 ppm MRL

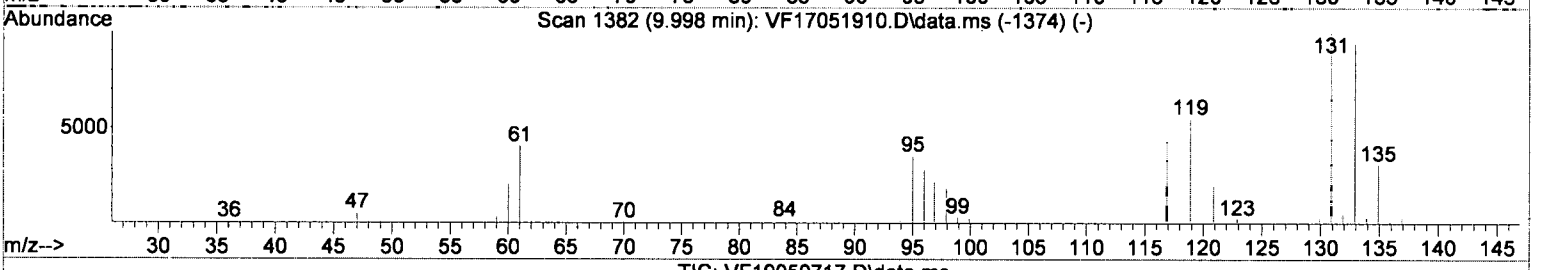
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







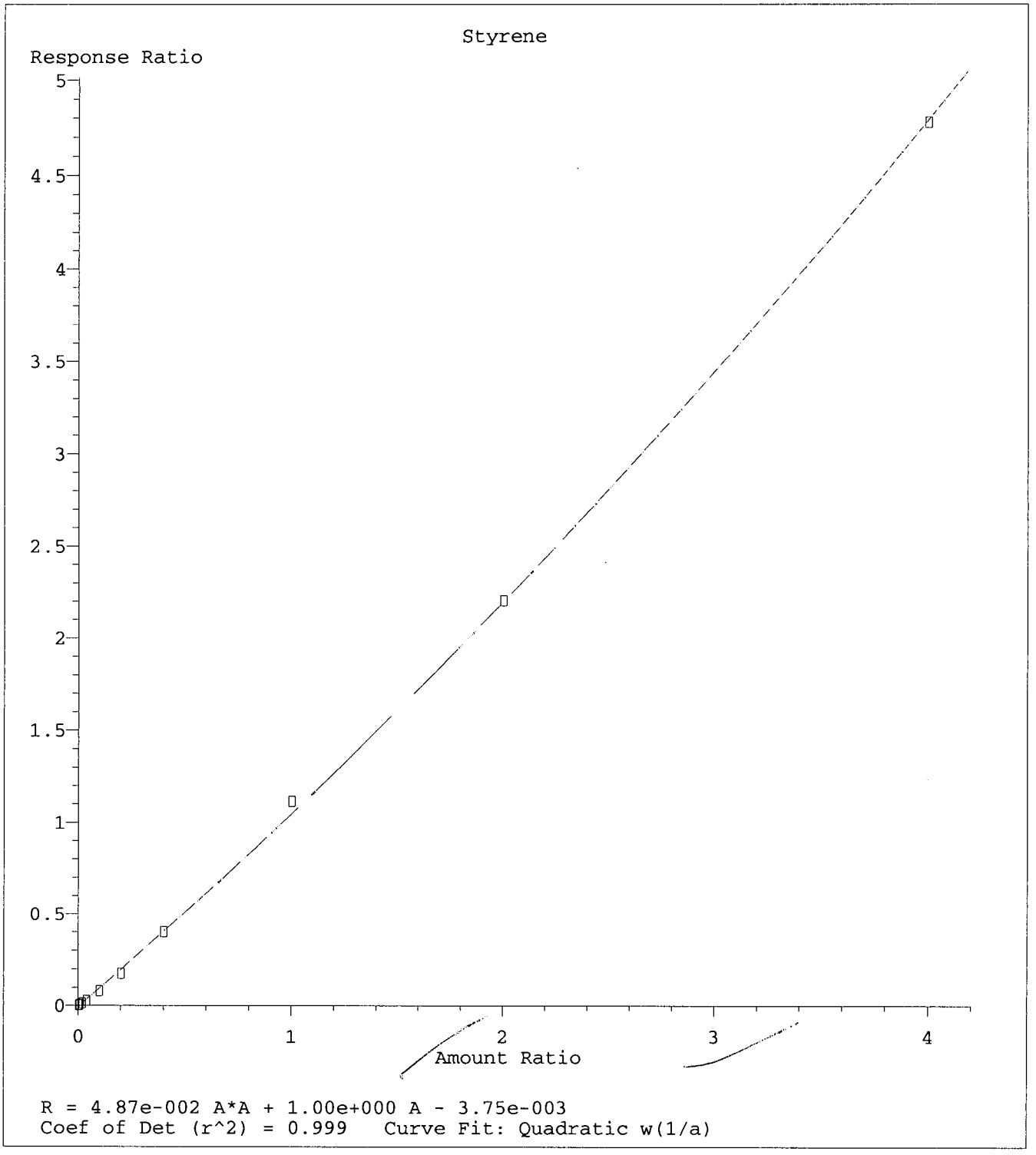
TIC: VF19050717.D\data.ms

(51) 1,1,1,2-Tetrachloroethane

9.903min (+0.022) 0.50 ug/L m

response 0

Ion	Exp%	Act%
130.90	100	0.00
132.90	95.60	0.00#
118.90	62.00	0.00#
0.00	0.00	0.00



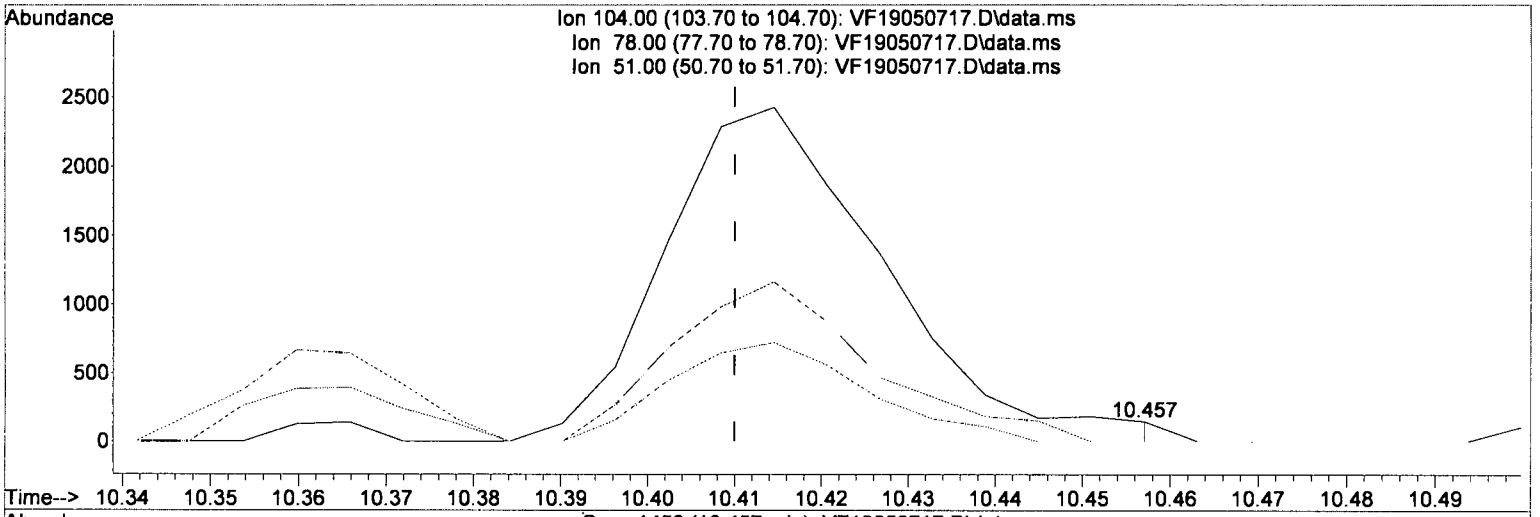
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

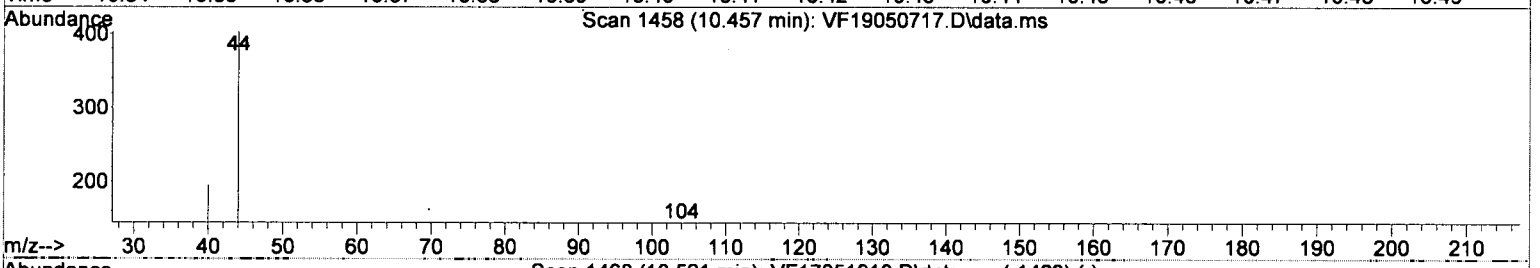
Int = 0.19

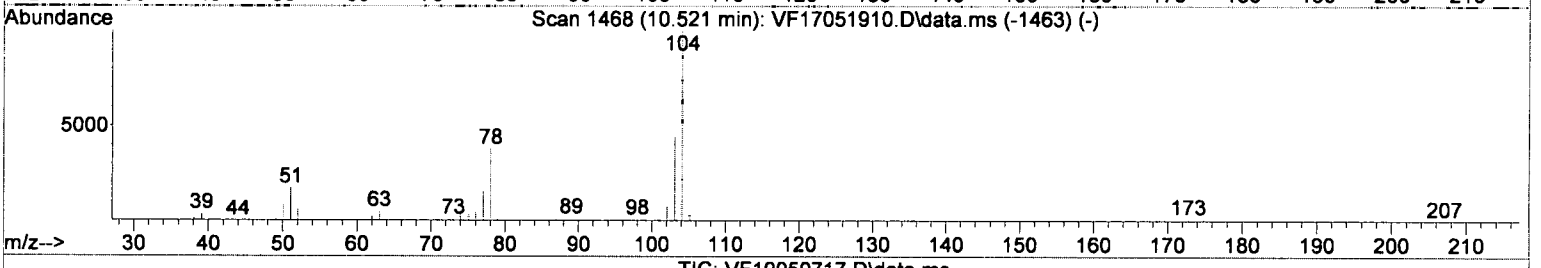
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







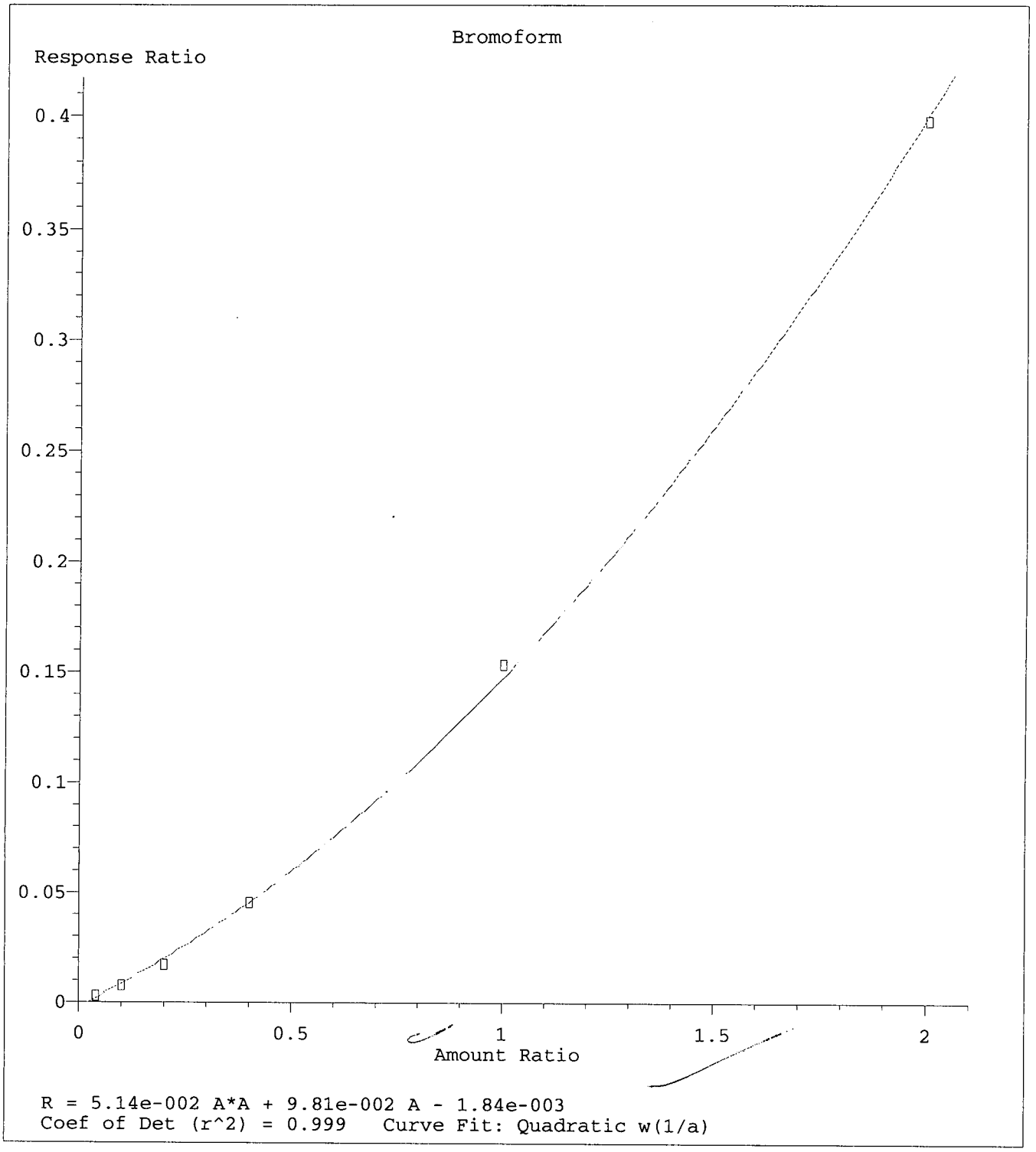
TIC: VF19050717.D\data.ms

(54) Styrene

10.457min (+0.047) 0.19 ug/L m

response 0

Ion	Exp%	Act%
104.00	100	0.00
78.00	40.60	0.00#
51.00	21.90	0.00
0.00	0.00	0.00



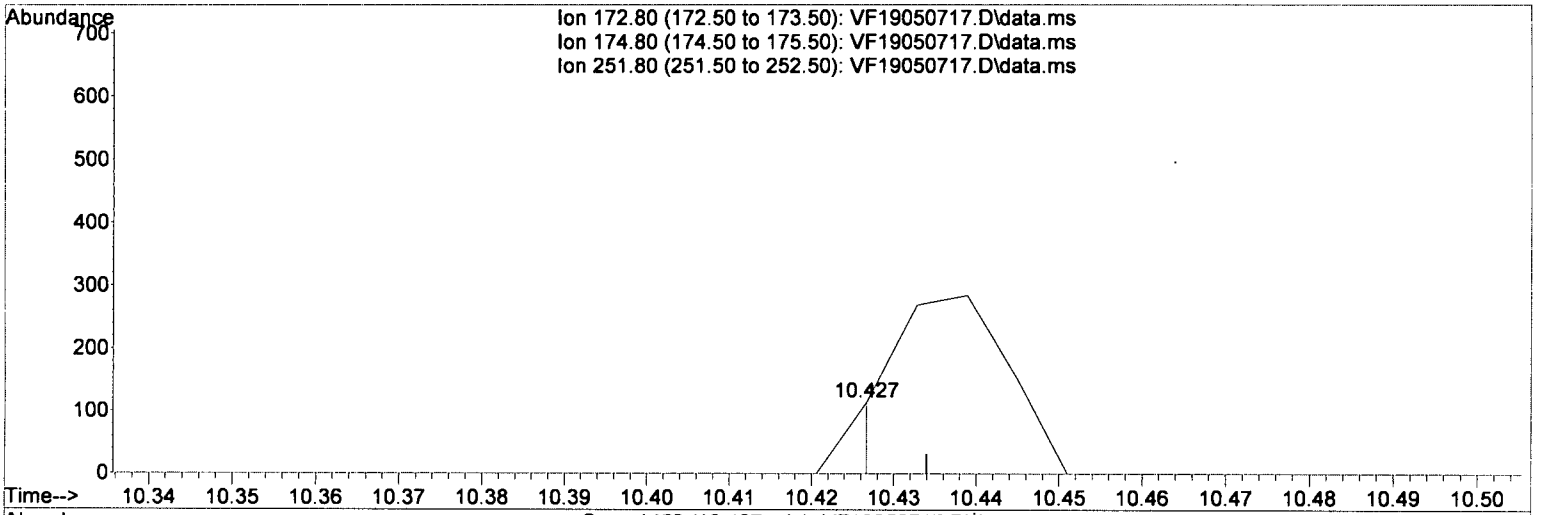
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

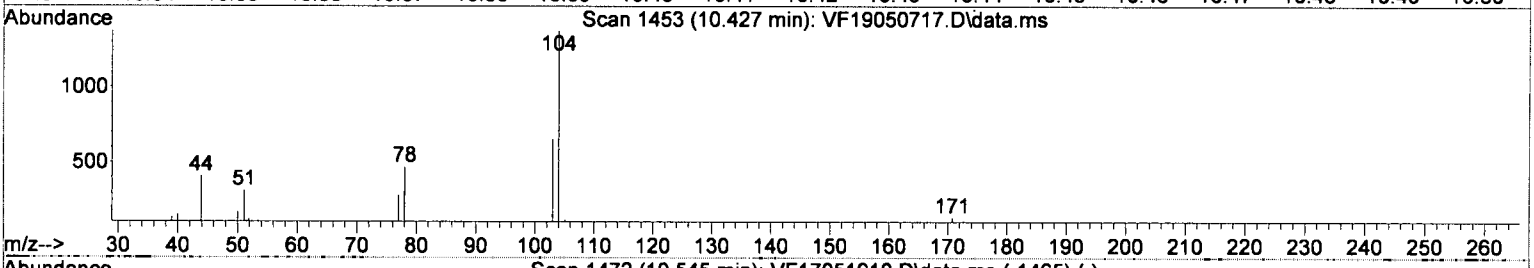
Int= 1.76
↑ MDL MRL

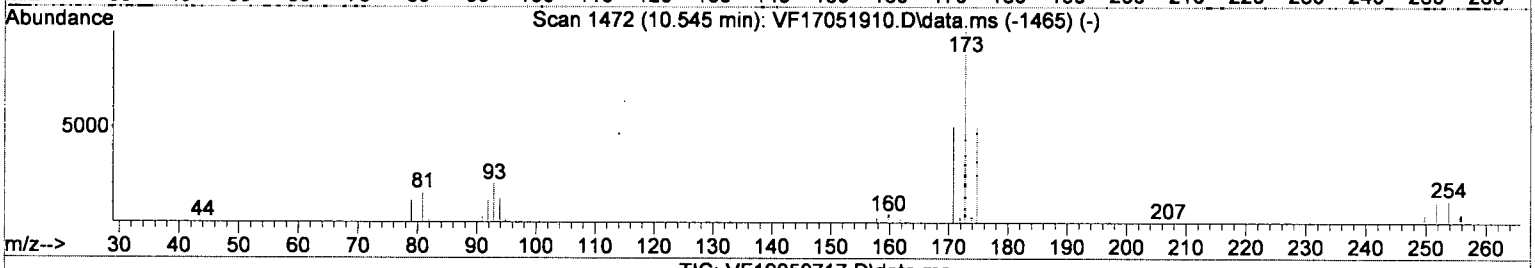
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







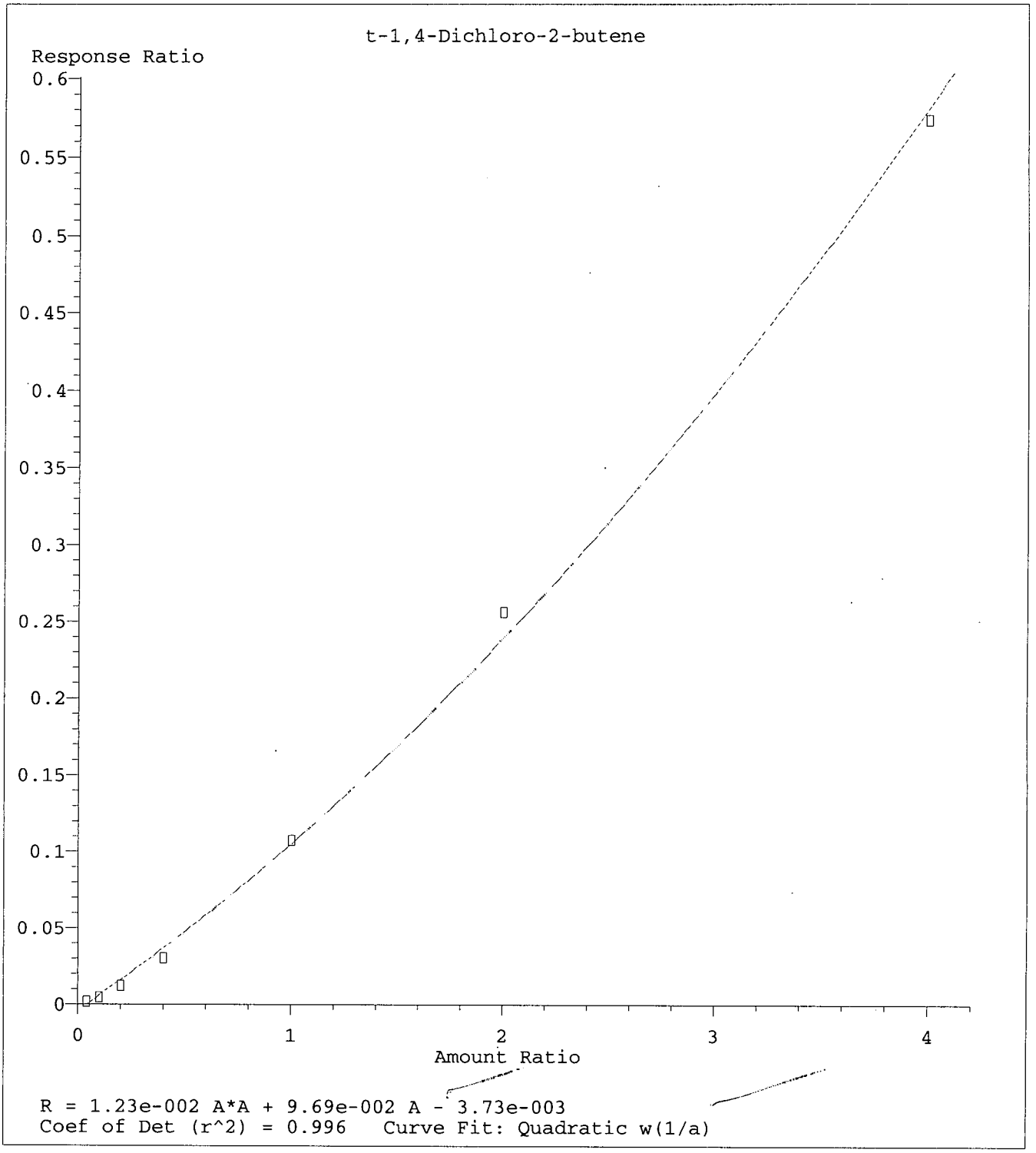
TIC: VF19050717.D\data.ms

(55) Bromoform (P)

10.427min (-0.007) 1.76 ug/L m

response 42

Ion	Exp%	Act%
172.80	100	100
174.80	49.10	0.00#
251.80	12.50	0.00
0.00	0.00	0.00



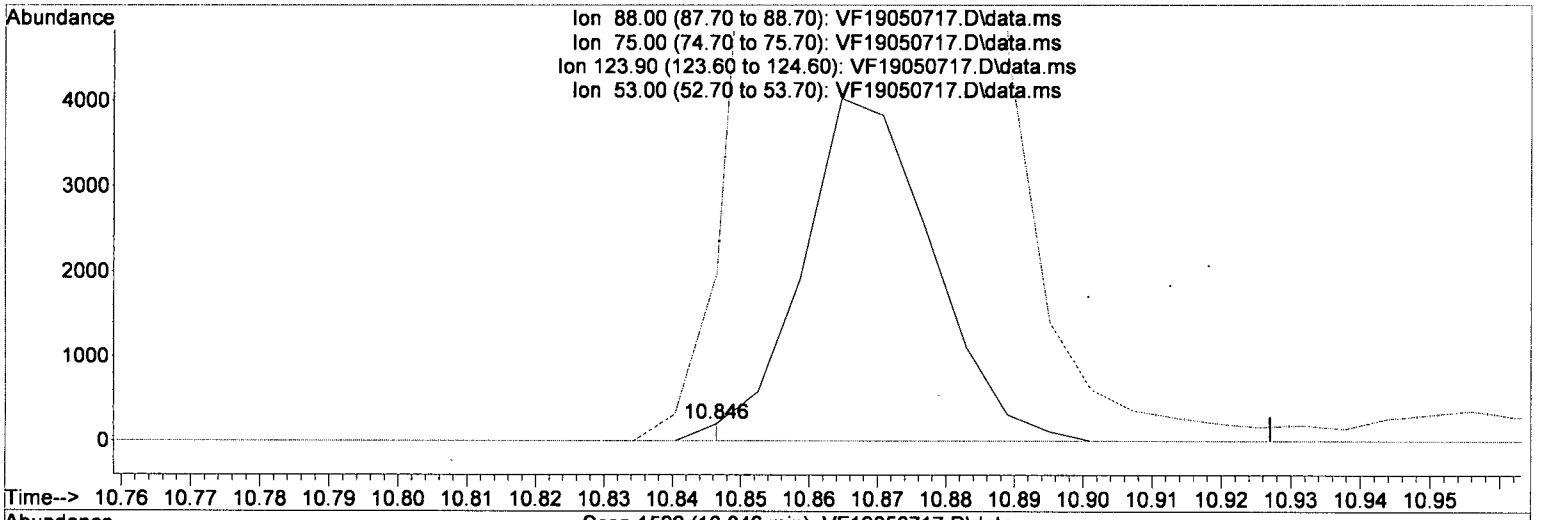
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

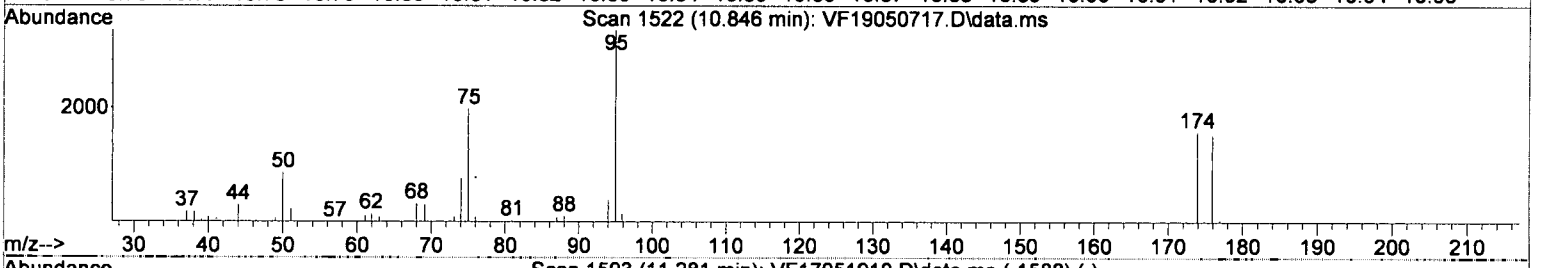
Int = 2,18

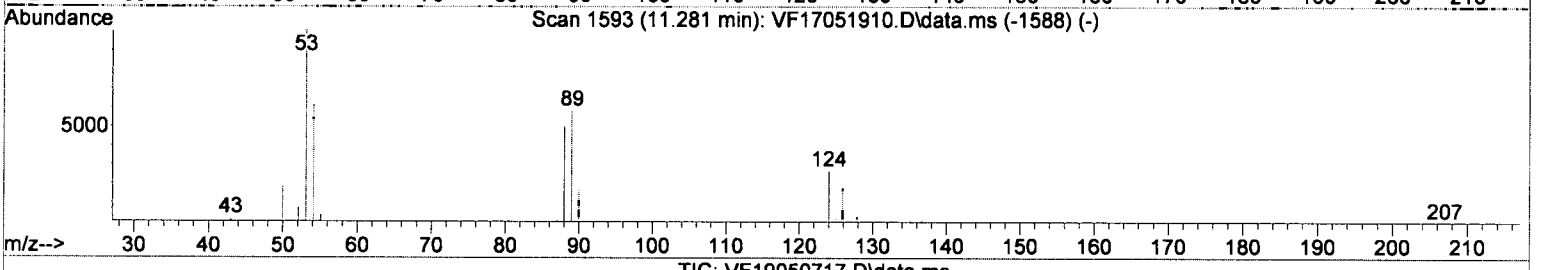
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







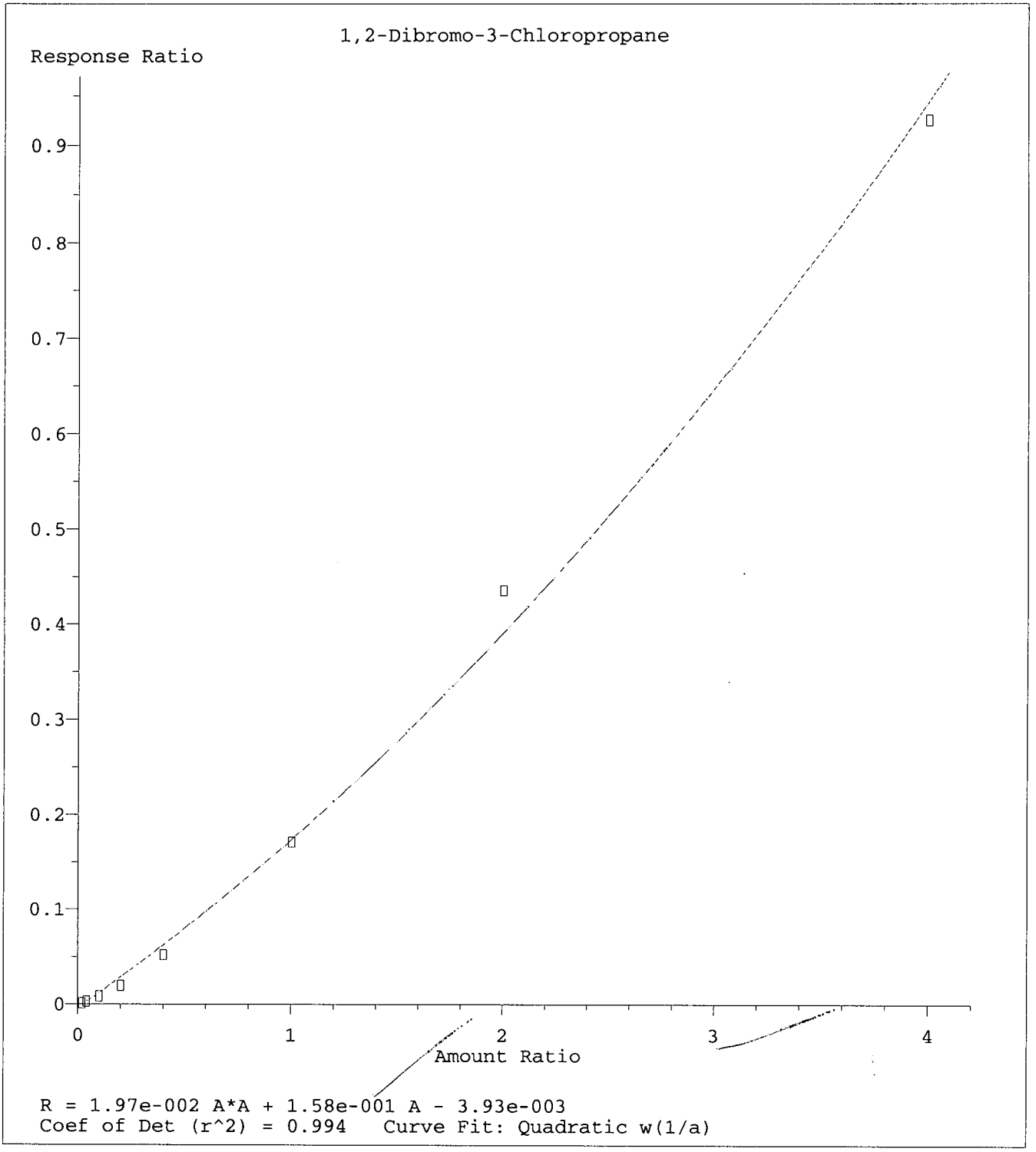
TIC: VF19050717.D\data.ms

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

10.846min (-0.331) 2.18 ug/L m

response 75

Ion	Exp%	Act%
88.00	100	100
75.00	240.20	964.56#
123.90	48.30	0.00#
53.00	249.20	0.00#



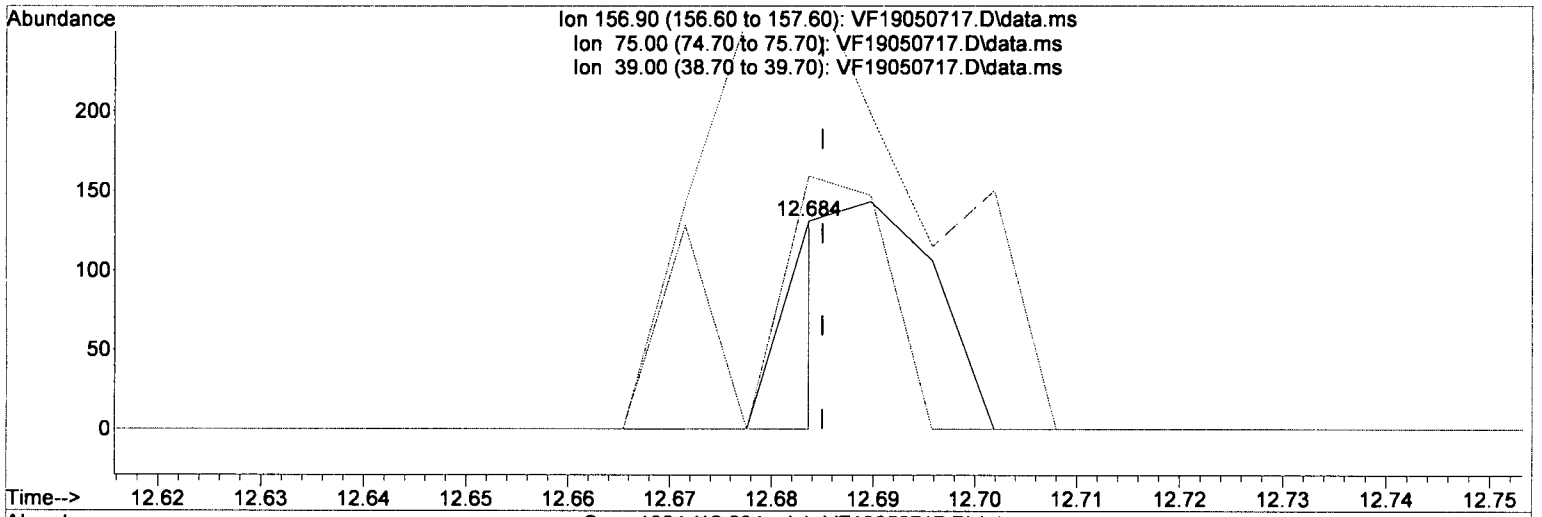
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

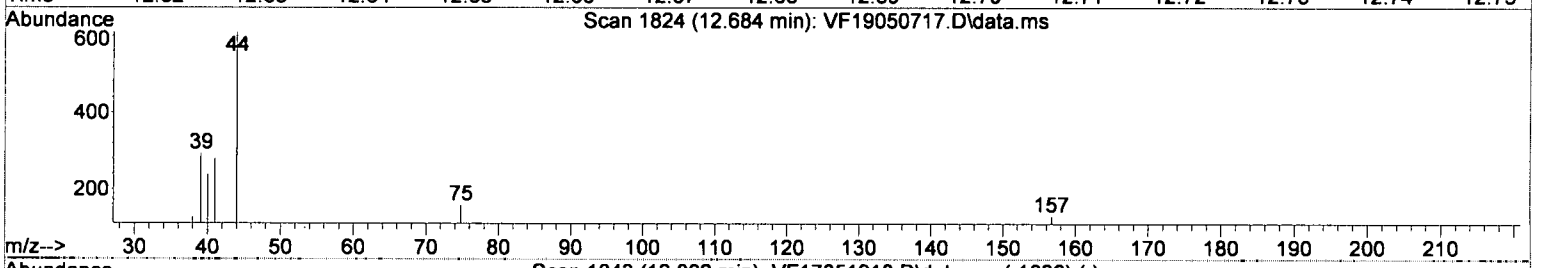
Int = 1.35

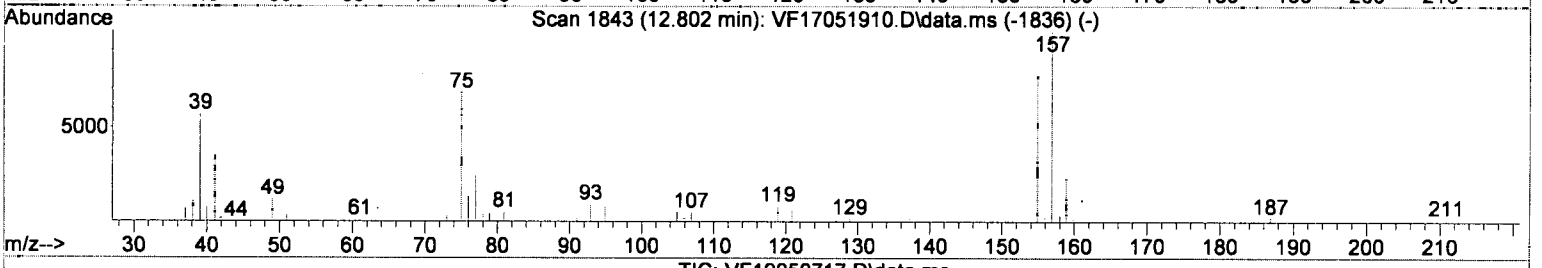
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







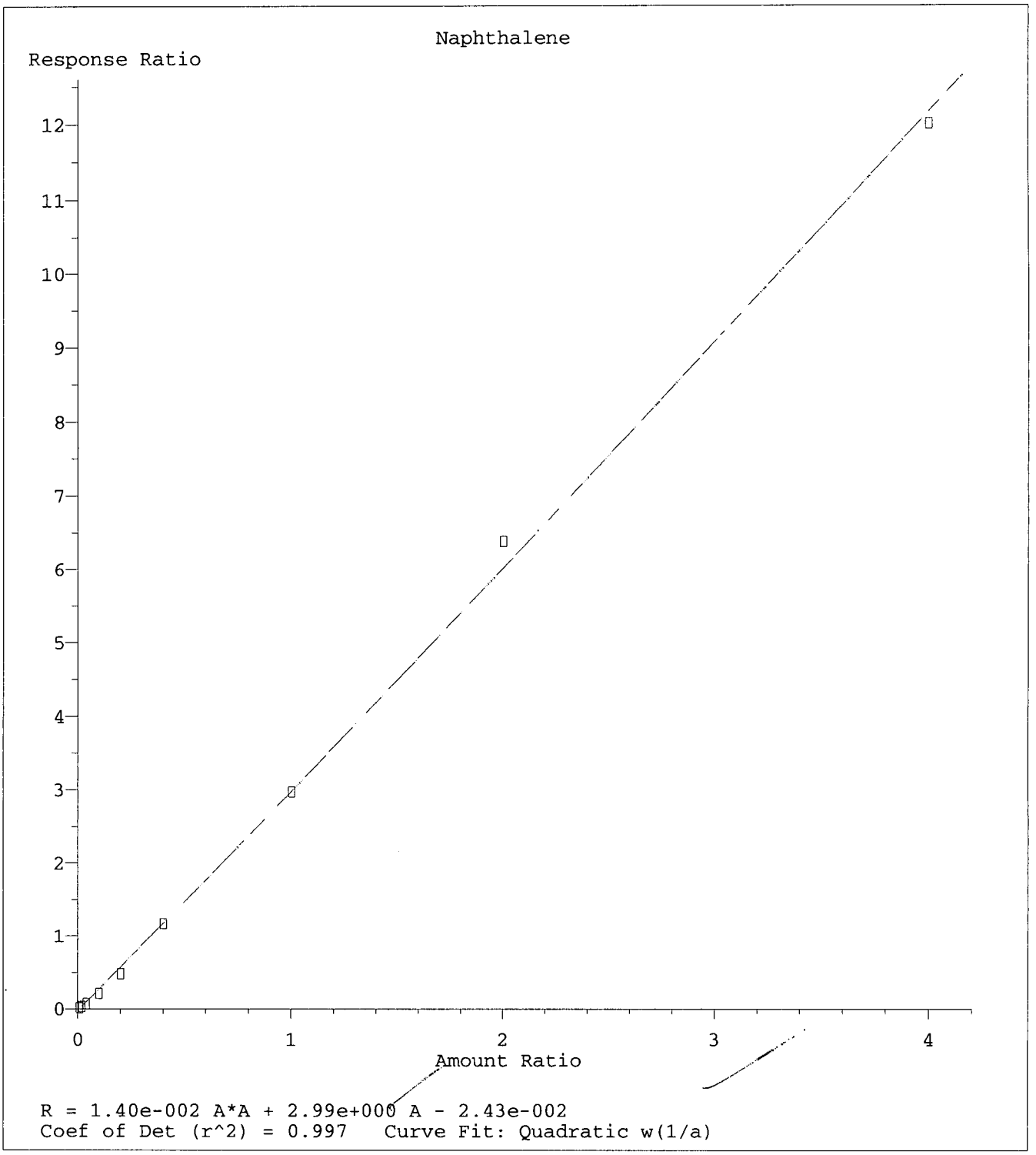
TIC: VF19050717.D\data.ms

(75) 1,2-Dibromo-3-Chloropropane

12.684min (-0.001) 1.35 ug/L m

response 48

Ion	Exp%	Act%
156.90	100	100
75.00	79.00	121.37#
39.00	63.10	223.66#
0.00	0.00	0.00



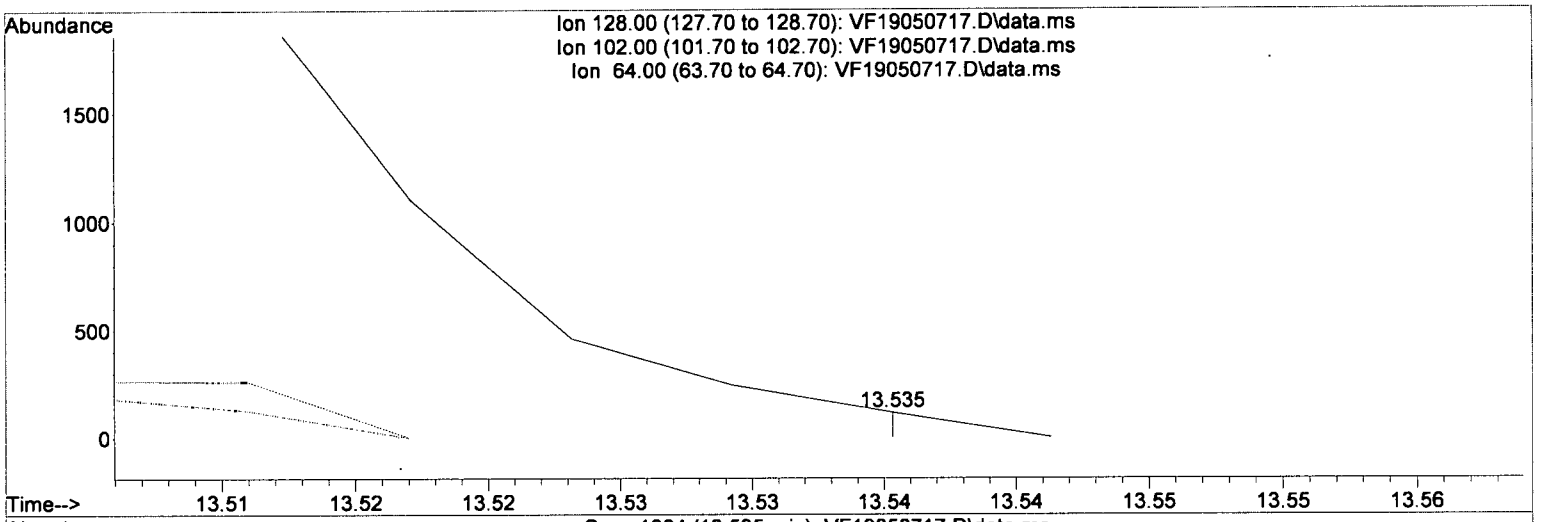
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

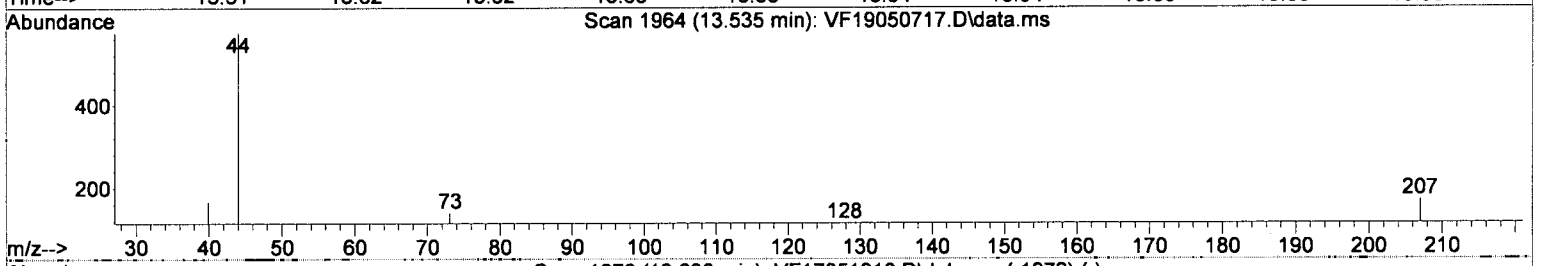
INT = 0.41

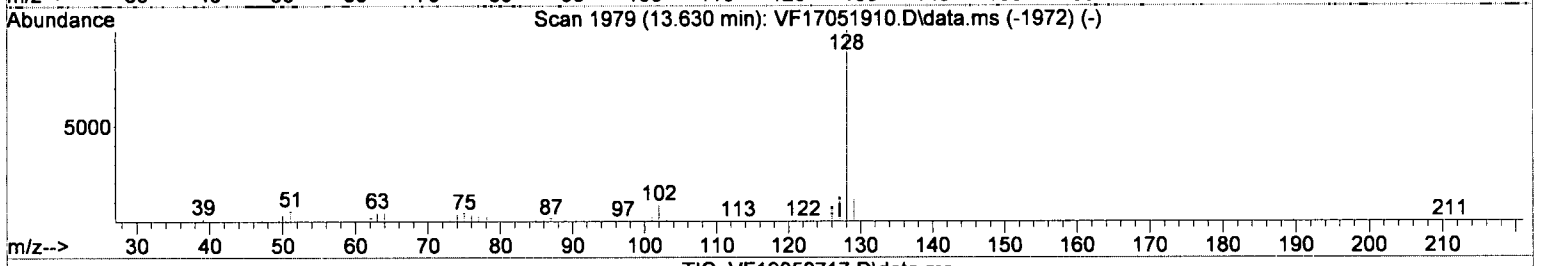
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:49:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration







TIC: VF19050717.D\data.ms

(78) Naphthalene

13.535min (+0.035) 0.41 ug/L m

response 0

Ion	Exp%	Act%
128.00	100	0.00
102.00	8.50	0.00
64.00	6.40	0.00
0.00	0.00	0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9E07048

Analysis Included
8260C Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9E07048-TUN1	MS Tune	Soil		A19D196	5/7/2019 7:21:00PM
9E07048-ICB1	Initial Cal Blank	Soil		A19D196	5/7/2019 7:48:00PM
9E07048-CAL1	Cal Standard	Soil	A19E092	"	5/7/2019 8:15:00PM
9E07048-CAL2	Cal Standard	Soil	A19E093	"	5/7/2019 8:42:00PM
9E07048-CAL3	Cal Standard	Soil	A19E094	"	5/7/2019 9:09:00PM
9E07048-CAL4	Cal Standard	Soil	A19E095	"	5/7/2019 9:36:00PM
9E07048-CAL5	Cal Standard	Soil	A19E096	"	5/7/2019 10:04:00PM
9E07048-CAL6	Cal Standard	Soil	A19E097	"	5/7/2019 10:31:00PM
9E07048-CAL7	Cal Standard	Soil	A19E098	"	5/7/2019 10:58:00PM
9E07048-CAL8	Cal Standard	Soil	A19E099	"	5/7/2019 11:25:00PM
9E07048-CAL9	Cal Standard	Soil	A19D177	"	5/7/2019 11:52:00PM
9E07048-CALA	Cal Standard	Soil	A19D178	"	5/8/2019 12:46:00AM
9E07048-CALB	Cal Standard	Soil	A19D179	"	5/8/2019 1:40:00AM
9E07048-ICV1	Initial Cal Check	Soil	A19D180	"	5/8/2019 3:01:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9E0804** Instrument: **VOA-GCMS6**

8260C Full List Sequence: **9E07048** Matrix: **Soil**

9E07048-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E07048-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9E07048

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: **A9E0804** Instrument: **VOA-GCMS6**

8260C Full List Sequence: **9E07048** Matrix: **Soil**

9E07048-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\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/8/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	106	0.00
2		Dichlorodifluoromethane	20.000	24.236	-21.2	126	0.00
3	P	Chloromethane	20.000	24.447	-22.2	126	0.00
4	C	Vinyl Chloride	20.000	23.000	-15.0	119	0.00
5		Bromomethane	20.000	20.167	-0.8	108	0.00
6		Chloroethane	20.000	24.180	-20.9	124	0.00
7		Trichlorofluoromethane	20.000	22.294	-11.5	112	0.00
8	C	1,1-Dichloroethene	20.000	20.872	-4.4	105	0.00
9		Carbon Disulfide	20.000	18.006	10.0	98	0.00
10		Freon 113	20.000	21.311	-6.6	109	0.00
11		Iodomethane	20.000	12.962	35.2#	76	0.01 — NR
12		Methylene Chloride	20.000	21.636	-8.2	106	0.00
13		Acetone	40.000	41.830	-4.6	104	0.00
14		t-1,2-Dichloroethene	20.000	21.376	-6.9	105	0.00
15		n-Hexane	20.000	19.864	0.7	105	0.00
16		Methyl-tert-butyl-ether	20.000	20.815	-4.1	105	0.00
17	P	1,1-Dichloroethane	20.000	21.571	-7.9	104	0.00
18		Acrylonitrile	20.000	21.881	-9.4	105	0.00
19		c-1,2-Dichloroethene	20.000	21.783	-8.9	103	0.00
20		2,2-Dichloropropane	20.000	21.201	-6.0	104	0.00
21		Bromochloromethane	20.000	21.702	-8.5	104	0.00
22	C	Chloroform	20.000	21.162	-5.8	103	0.00
23		Carbon Tetrachloride	20.000	22.273	-11.4	124	0.00
24		Tetrahydrofuran	20.000	20.264	-1.3	101	0.00
25		1,1,1-Trichloroethane	20.000	24.219	-21.1	114	0.00
26	S	Dibromofluoromethane (S)	50.000	54.171	-8.3	109	0.00
27		1,1-Dichloropropene	20.000	21.584	-7.9	106	0.00
28		2-Butanone (MEK)	40.000	42.115	-5.3	105	0.00
29		Benzene	20.000	20.387	-1.9	102	0.00
30		1,2-Dichloroethane (EDC)	20.000	20.981	-4.9	104	0.00
31		iso-Butyl Alcohol	500.000	504.302	-0.9	116	0.00
32	S	1,4-Difluorobenzene (S)	50.000	49.787	0.4	105	0.00
33		Trichloroethene (TCE)	20.000	20.413	-2.1	103	0.00
34		Dibromomethane	20.000	21.669	-8.3	103	0.00
35	C	1,2-Dichloropropane	20.000	20.610	-3.0	103	0.00
36		Bromodichloromethane	20.000	20.015	-0.1	110	0.00
37		Chlorobenzene-d5 (I)	50.000	50.000	0.0	105	0.00
38		c-1,3-Dichloropropene	20.000	20.143	-0.7	105	0.00
39	S	Toluene-d8 (S)	50.000	51.657	-3.3	105	0.00
40	C	Toluene	20.000	19.257	3.7	100	0.00
41		Tetrachloroethene (PCE)	20.000	21.505	-7.5	102	0.00
42		4-Methyl-2-Pentanone (MIBK)	40.000	44.467	-11.2	102	0.00
43		t-1,3-Dichloropropene	20.000	20.277	-1.4	110	0.00
44		1,1,2-Trichloroethane	20.000	22.527	-12.6	103	0.00
45		Dibromochloromethane	20.000	20.100	-0.5	116	0.00
46		1,3-Dichloropropane	20.000	22.357	-11.8	103	0.00
47		1,2-Dibromoethane (EDB)	20.000	21.395	-7.0	111	0.00
48		2-Hexanone	40.000	42.724	-6.8	105	0.00
49	P	Chlorobenzene	20.000	18.629	6.9	99	0.00
50	C	Ethylbenzene	20.000	19.761	1.2	101	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		1,1,1,2-Tetrachloroethane	20.000	20.269	-1.3	117	0.00
52		m,p-Xylenes (2)	40.000	41.307	-3.3	100	0.00
53		o-Xylene	20.000	20.475	-2.4	102	0.00
54		Styrene	20.000	19.209	4.0	102	0.00
55	P	Bromoform	20.000	21.499	-7.5	115	0.00
56		Isopropylbenzene	20.000	21.525	-7.6	102	0.00
57	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	106	0.00
58	S	4-Bromofluorobenzene (S)	50.000	49.754	0.5	107	0.00
59		Bromobenzene	20.000	20.054	-0.3	102	0.00
60		n-Propylbenzene	20.000	20.081	-0.4	101	0.00
61	P	1,1,2,2-Tetrachloroethane	20.000	22.914	-14.6	106	0.00
62		2-Chlorotoluene	20.000	20.315	-1.6	103	0.00
63		1,3,5-Trimethylbenzene	20.000	21.121	-5.6	101	0.00
64		1,2,3-Trichloropropane	20.000	20.932	-4.7	102	0.00
65		t-1,4-Dichloro-2-butene	20.000	17.631	11.8	113	0.00
66		4-Chlorotoluene	20.000	21.060	-5.3	105	0.00
67		tert-Butylbenzene	20.000	21.006	-5.0	102	0.00
68		1,2,4-Trimethylbenzene	20.000	21.106	-5.5	100	0.00
69		sec-Butylbenzene	20.000	21.130	-5.6	103	0.00
70		4-Isopropyltoluene	20.000	20.796	-4.0	102	0.00
71		1,3-Dichlorobenzene	20.000	20.394	-2.0	103	0.00
72		1,4-Dichlorobenzene	20.000	19.438	2.8	103	0.00
73		n-Butylbenzene	20.000	20.997	-5.0	103	0.00
74		1,2-Dichlorobenzene	20.000	21.126	-5.6	104	0.00
75		1,2-Dibromo-3-Chloropropane	20.000	19.592	2.0	126	0.00
76		Hexachlorobutadiene	20.000	21.199	-6.0	106	0.00
77		1,2,4-Trichlorobenzene	20.000	22.221	-11.1	104	0.00
78		Naphthalene	20.000	19.718	1.4	106	0.00
79		1,2,3-Trichlorobenzene	20.000	22.342	-11.7	105	0.00

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

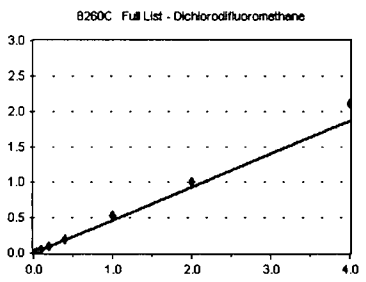
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Dichlorodifluoromethane

Curve Fit: **AVERAGE RF**

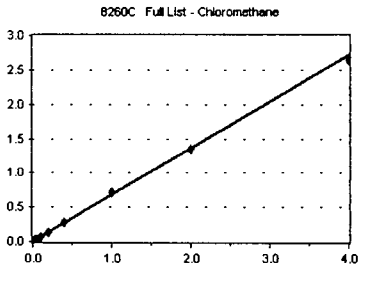


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	846	0.424	1.64
9E07048-CAL4	1	1965	0.375	1.63
9E07048-CAL5	2	4428	0.456	1.63
9E07048-CAL6	5	11506	0.462	1.63
9E07048-CAL7	10	23615	0.446	1.63
9E07048-CAL8	20	46922	0.474	1.63
9E07048-CAL9	50	142427	0.533	1.62
9E07048-CALA	100	284874	0.503	1.63
9E07048-CALB	200	615567	0.527	1.63

AVE RF **0.467** RF RSD **10.76** AVE RT **1.63**

Chloromethane

Curve Fit: **AVERAGE RF**

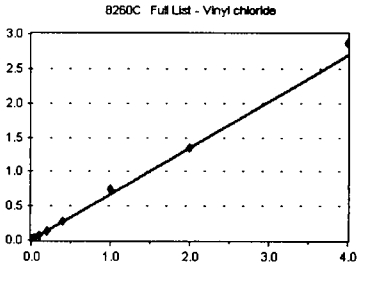


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1131~~	~~2.356~~	~~1.84~~
~~9E07048-CAL2~~	~~0.2~~	~~797~~	~~0.784~~	~~1.85~~
~~9E07048-CAL3~~	~~0.4~~	~~2048~~	~~1.026~~	~~1.85~~
9E07048-CAL4	1	3374	0.644	1.84
9E07048-CAL5	2	7222	0.743	1.84
9E07048-CAL6	5	16881	0.678	1.84
9E07048-CAL7	10	33122	0.626	1.85
9E07048-CAL8	20	69024	0.698	1.84
9E07048-CAL9	50	191344	0.716	1.83
9E07048-CALA	100	382793	0.676	1.84
9E07048-CALB	200	771027	0.660	1.84

AVE RF **0.680** RF RSD **5.60** AVE RT **1.84**

Vinyl chloride

Curve Fit: **AVERAGE RF**

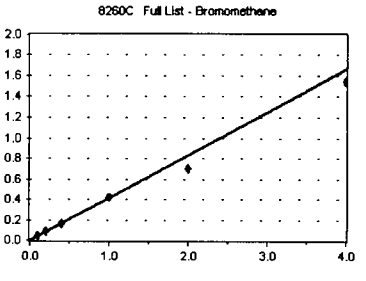


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	686	0.675	1.94
9E07048-CAL3	0.4	1253	0.628	1.95
9E07048-CAL4	1	3308	0.632	1.94
9E07048-CAL5	2	6417	0.660	1.94
9E07048-CAL6	5	16421	0.660	1.94
9E07048-CAL7	10	34298	0.648	1.94
9E07048-CAL8	20	68436	0.692	1.94
9E07048-CAL9	50	198169	0.742	1.93
9E07048-CALA	100	379506	0.670	1.94
9E07048-CALB	200	840125	0.719	1.93

AVE RF **0.673** RF RSD **5.40** AVE RT **1.94**

Bromomethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~2001~~	~~4.168~~	~~2.31~~
~~9E07048-CAL2~~	~~0.2~~	~~1145~~	~~1.127~~	~~2.30~~
~~9E07048-CAL3~~	~~0.4~~	~~2402~~	~~1.203~~	~~2.31~~
~~9E07048-CAL4~~	~~1~~	~~3078~~	~~0.588~~	~~2.30~~
~~9E07048-CAL5~~	~~2~~	~~5858~~	~~0.603~~	~~2.31~~
9E07048-CAL6	5	12080	0.485	2.30
9E07048-CAL7	10	23602	0.446	2.31
9E07048-CAL8	20	40782	0.412	2.30
9E07048-CAL9	50	111651	0.418	2.29
9E07048-CALA	100	198553	0.351	2.30
9E07048-CALB	200	450898	0.386	2.30

AVE RF **0.416** RF RSD **11.21** AVE RT **2.30**

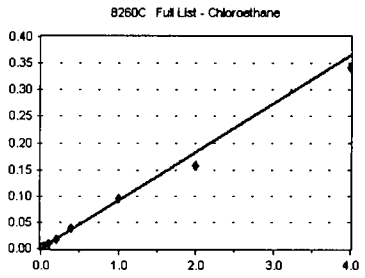
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Chloroethane

Curve Fit: **AVERAGE RF**

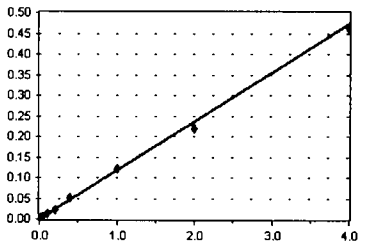


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	476	9.089	2.43
9E07048-CAL5	2	1082	0.111	2.42
9E07048-CAL6	5	2287	9.190	2.43
9E07048-CAL7	10	4425	8.366	2.44
9E07048-CAL8	20	9373	9.476	2.42
9E07048-CAL9	50	25200	9.429	2.42
9E07048-CALA	100	44440	7.851	2.43
9E07048-CALB	200	99955	8.556	2.43

AVE RF **0.091** RF RSD **10.77** AVE RT **2.43**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

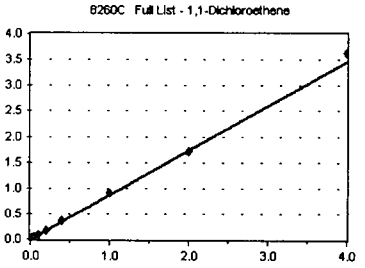


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	222	0.111	2.56
9E07048-CAL4	1	616	0.118	2.56
9E07048-CAL5	2	1256	0.129	2.56
9E07048-CAL6	5	3188	0.128	2.56
9E07048-CAL7	10	5854	0.111	2.56
9E07048-CAL8	20	12368	0.125	2.56
9E07048-CAL9	50	32243	0.121	2.55
9E07048-CALA	100	61776	0.109	2.56
9E07048-CALB	200	134796	0.115	2.55

AVE RF **0.119** RF RSD **6.44** AVE RT **2.56**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

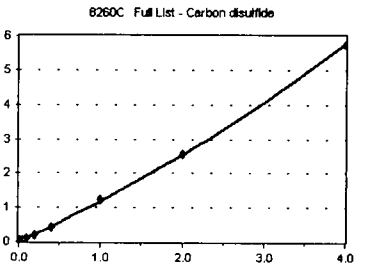


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	464	0.967	3.13
9E07048-CAL2	0.2	831	0.818	3.14
9E07048-CAL3	0.4	1699	0.851	3.14
9E07048-CAL4	1	4085	0.780	3.13
9E07048-CAL5	2	8224	0.846	3.13
9E07048-CAL6	5	21211	0.852	3.12
9E07048-CAL7	10	43446	0.821	3.14
9E07048-CAL8	20	89848	0.908	3.12
9E07048-CAL9	50	240834	0.901	3.12
9E07048-CALA	100	484753	0.856	3.13
9E07048-CALB	200	1060537	0.908	3.13

AVE RF **0.864** RF RSD **6.06** AVE RT **3.13**

Carbon disulfide

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~705~~	~~1.469~~	~~3.15~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	1949	0.976	3.14
9E07048-CAL4	1	4300	0.821	3.15
9E07048-CAL5	2	8310	0.855	3.14
9E07048-CAL6	5	22193	0.892	3.14
9E07048-CAL7	10	47292	0.894	3.15
9E07048-CAL8	20	107117	1.083	3.14
9E07048-CAL9	50	331432	1.240	3.14
9E07048-CALA	100	729573	1.289	3.14
9E07048-CALB	200	1674733	1.433	3.14

AVE RF **1.054** RF RSD **20.86** AVE RT **3.14**

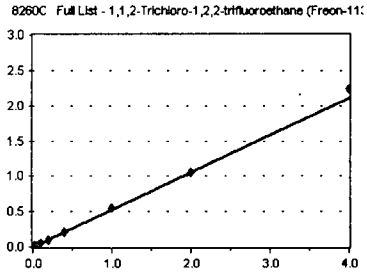
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,1,2-Trichloro-1,2,2-trifluoroetha

Curve Fit: **AVERAGE RF**

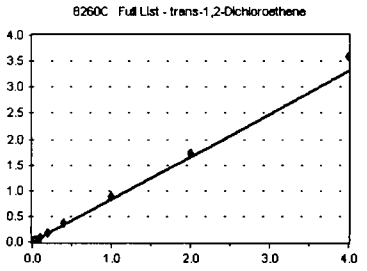


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	458	0.451	3.18
9E07048-CAL3	0.4	1041	0.522	3.18
9E07048-CAL4	1	2811	0.537	3.18
9E07048-CAL5	2	5055	0.520	3.18
9E07048-CAL6	5	13365	0.537	3.17
9E07048-CAL7	10	27267	0.515	3.18
9E07048-CAL8	20	54116	0.547	3.18
9E07048-CAL9	50	147538	0.552	3.17
9E07048-CALA	100	298770	0.528	3.18
9E07048-CALB	200	654791	0.560	3.18

AVE RF **0.527** RF RSD **5.79** AVE RT **3.18**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

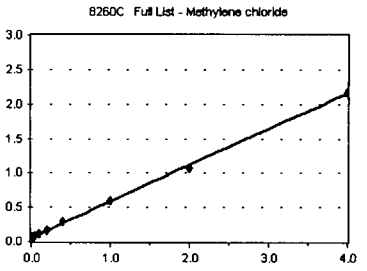


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	320	0.667	0.00
9E07048-CAL2	0.2	852	0.839	3.94
9E07048-CAL3	0.4	1577	0.790	3.95
9E07048-CAL4	1	4059	0.775	3.94
9E07048-CAL5	2	7974	0.820	3.94
9E07048-CAL6	5	21082	0.847	3.94
9E07048-CAL7	10	43282	0.818	3.94
9E07048-CAL8	20	88360	0.893	3.94
9E07048-CAL9	50	234688	0.878	3.93
9E07048-CALA	100	486614	0.860	3.94
9E07048-CALB	200	1047640	0.897	3.94

AVE RF **0.826** RF RSD **7.98** AVE RT **3.58**

Methylene chloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

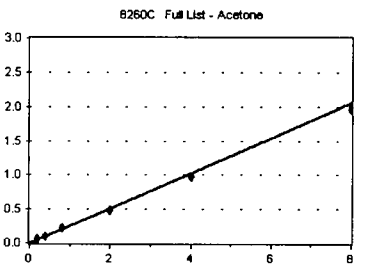


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~14820~~	~~30.870~~	~~3.78~~
~~9E07048-CAL2~~	~~0.2~~	~~13830~~	~~13.612~~	~~3.78~~
9E07048-CAL3	0.4	14007	7.017	3.78
9E07048-CAL4	1	16647	3.179	3.78
9E07048-CAL5	2	18649	1.919	3.78
9E07048-CAL6	5	27821	1.118	3.78
9E07048-CAL7	10	42775	0.809	3.78
9E07048-CAL8	20	71195	0.720	3.77
9E07048-CAL9	50	158529	0.593	3.77
9E07048-CALA	100	303916	0.537	3.77
9E07048-CALB	200	635093	0.544	3.77

AVE RF **1.826** RF RSD **116.77** AVE RT **3.77**

Acetone

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~1683~~	~~1.753~~	~~3.88~~
~~9E07048-CAL2~~	~~0.4~~	~~1611~~	~~0.793~~	~~3.87~~
~~9E07048-CAL3~~	~~0.8~~	~~2158~~	~~0.541~~	~~3.88~~
~~9E07048-CAL4~~	~~2~~	~~3535~~	~~0.338~~	~~3.88~~
~~9E07048-CAL5~~	4	~~6127~~	~~0.315~~	~~3.88~~
9E07048-CAL6	10	14357	0.288	3.87
9E07048-CAL7	20	25591	0.242	3.87
9E07048-CAL8	40	54252	0.274	3.87
9E07048-CAL9	100	131619	0.246	3.85
9E07048-CALA	200	275471	0.243	3.86
9E07048-CALB	400	571223	0.244	3.86

AVE RF **0.256** RF RSD **7.74** AVE RT **3.86**

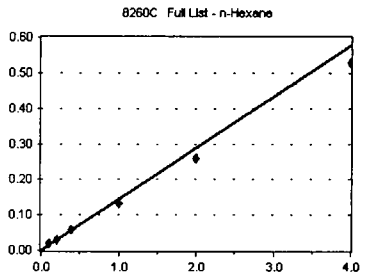
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

n-Hexane

Curve Fit: **AVERAGE RF**

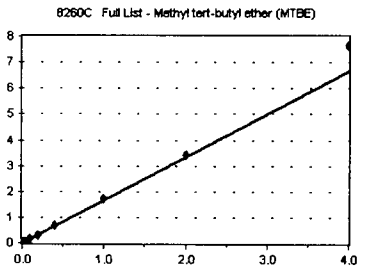


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1835~~	~~3.822~~	~~4.02~~
~~9E07048-CAL2~~	~~0.2~~	~~1841~~	~~1.812~~	~~4.02~~
~~9E07048-CAL3~~	~~0.4~~	~~2024~~	~~1.014~~	~~4.02~~
~~9E07048-CAL4~~	~~1~~	~~2150~~	~~0.411~~	~~4.02~~
~~9E07048-CAL5~~	~~2~~	~~2796~~	~~0.288~~	~~4.02~~
9E07048-CAL6	5	4468	0.180	4.02
9E07048-CAL7	10	7751	0.147	4.02
9E07048-CAL8	20	14259	0.144	4.02
9E07048-CAL9	50	35578	0.133	4.01
9E07048-CALA	100	73671	0.130	4.02
9E07048-CALB	200	154767	0.132	4.01

AVE RF **0.144** RF RSD **12.82** AVE RT **4.02**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

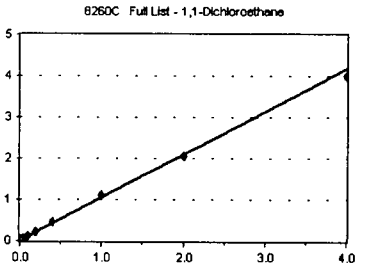


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	787	1.639	4.09
9E07048-CAL2	0.2	1746	1.719	4.08
9E07048-CAL3	0.4	3114	1.560	4.10
9E07048-CAL4	1	8040	1.535	4.09
9E07048-CAL5	2	15652	1.610	4.09
9E07048-CAL6	5	40294	1.619	4.09
9E07048-CAL7	10	82410	1.558	4.09
9E07048-CAL8	20	173881	1.758	4.08
9E07048-CAL9	50	465822	1.743	4.07
9E07048-CALA	100	966419	1.707	4.08
9E07048-CALB	200	2232152	1.911	4.08

AVE RF **1.669** RF RSD **6.69** AVE RT **4.09**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

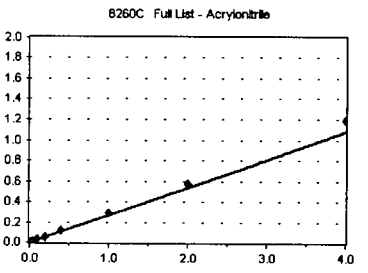


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	1.048	4.58
9E07048-CAL2	0.2	1018	1.002	4.58
9E07048-CAL3	0.4	1998	1.001	4.58
9E07048-CAL4	1	5157	0.985	4.58
9E07048-CAL5	2	10371	1.067	4.58
9E07048-CAL6	5	27022	1.086	4.58
9E07048-CAL7	10	54444	1.029	4.58
9E07048-CAL8	20	114004	1.153	4.58
9E07048-CAL9	50	295880	1.107	4.57
9E07048-CALA	100	579727	1.024	4.58
9E07048-CALB	200	1166202	0.998	4.58

AVE RF **1.045** RF RSD **5.05** AVE RT **4.58**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~256~~	~~0.128~~	~~4.67~~
9E07048-CAL4	1	1044	0.199	4.67
9E07048-CAL5	2	2472	0.254	4.66
9E07048-CAL6	5	6728	0.270	4.66
9E07048-CAL7	10	13862	0.262	4.66
9E07048-CAL8	20	29390	0.297	4.65
9E07048-CAL9	50	77245	0.289	4.64
9E07048-CALA	100	161749	0.286	4.65
9E07048-CALB	200	345965	0.296	4.65

AVE RF **0.269** RF RSD **12.01** AVE RT **4.65**

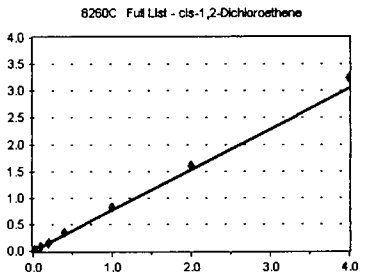
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

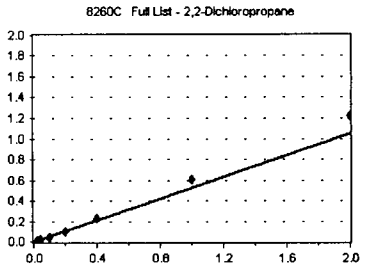


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	307	0.639	0.00
9E07048-CAL2	0.2	698	0.687	5.14
9E07048-CAL3	0.4	1447	0.725	5.14
9E07048-CAL4	1	3590	0.686	5.14
9E07048-CAL5	2	7621	0.784	5.13
9E07048-CAL6	5	19884	0.799	5.14
9E07048-CAL7	10	40226	0.760	5.14
9E07048-CAL8	20	83939	0.849	5.14
9E07048-CAL9	50	219981	0.823	5.13
9E07048-CALA	100	453832	0.802	5.14
9E07048-CALB	200	947367	0.811	5.13

AVE RF **0.760** RF RSD **8.81** AVE RT **4.67**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

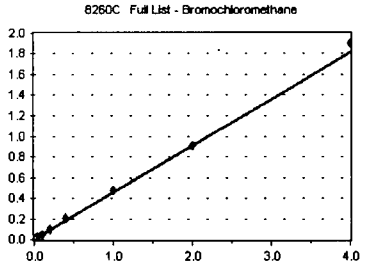


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~441~~	~~0.434~~	~~5.25~~
~~9E07048-CAL3~~	~~0.4~~	~~917~~	~~0.459~~	~~5.24~~
9E07048-CAL4	1	2310	0.441	5.24
9E07048-CAL5	2	4599	0.473	5.24
9E07048-CAL6	5	11848	0.476	5.24
9E07048-CAL7	10	25977	0.491	5.24
9E07048-CAL8	20	56267	0.569	5.24
9E07048-CAL9	50	162582	0.608	5.23
9E07048-CALA	100	344765	0.609	5.24
~~9E07048-CALB~~	~~200~~	~~789087~~	~~0.675~~	~~5.24~~

AVE RF **0.524** RF RSD **13.32** AVE RT **5.24**

Bromochloromethane

Curve Fit: **AVERAGE RF**

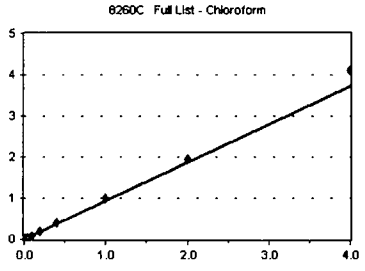


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	331	0.326	5.34
9E07048-CAL3	0.4	924	0.463	5.35
9E07048-CAL4	1	2190	0.418	5.35
9E07048-CAL5	2	4699	0.483	5.34
9E07048-CAL6	5	11857	0.476	5.34
9E07048-CAL7	10	24444	0.462	5.34
9E07048-CAL8	20	49879	0.504	5.34
9E07048-CAL9	50	126903	0.475	5.33
9E07048-CALA	100	257506	0.455	5.34
9E07048-CALB	200	554716	0.475	5.33

AVE RF **0.454** RF RSD **11.05** AVE RT **5.34**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	424	0.883	5.43
9E07048-CAL2	0.2	893	0.879	5.42
9E07048-CAL3	0.4	1699	0.851	5.42
9E07048-CAL4	1	4496	0.859	5.42
9E07048-CAL5	2	8712	0.896	5.42
9E07048-CAL6	5	23401	0.940	5.42
9E07048-CAL7	10	48731	0.921	5.42
9E07048-CAL8	20	99732	1.008	5.42
9E07048-CAL9	50	264234	0.989	5.42
9E07048-CALA	100	548790	0.970	5.42
9E07048-CALB	200	1199142	1.026	5.42

AVE RF **0.929** RF RSD **6.62** AVE RT **5.42**

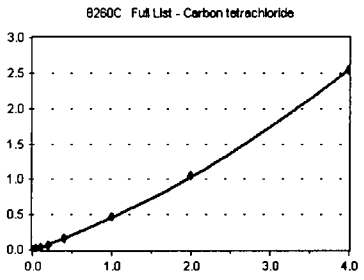
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Carbon tetrachloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

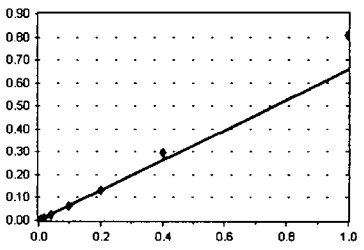


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~392~~	~~0.196~~	~~5.55~~
9E07048-CAL4	1	1343	0.256	5.55
9E07048-CAL5	2	2842	0.292	5.55
9E07048-CAL6	5	7941	0.319	5.55
9E07048-CAL7	10	17551	0.332	5.55
9E07048-CAL8	20	39228	0.397	5.54
9E07048-CAL9	50	126590	0.474	5.55
9E07048-CALA	100	296253	0.523	5.55
9E07048-CALB	200	741698	0.635	5.55

AVE RF **0.404** RF RSD **32.32** AVE RT **5.55**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**

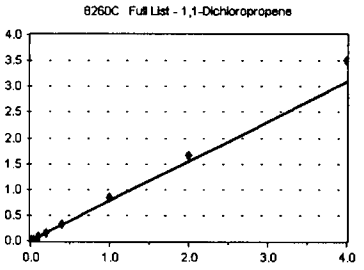


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~551~~	~~0.542~~	~~5.62~~
9E07048-CAL3	0.4	1217	0.610	5.63
9E07048-CAL4	1	2997	0.572	5.62
9E07048-CAL5	2	5724	0.589	5.62
9E07048-CAL6	5	15328	0.616	5.62
9E07048-CAL7	10	34343	0.649	5.62
9E07048-CAL8	20	73208	0.740	5.62
9E07048-CAL9	50	215695	0.807	5.62
~~9E07048-CALA~~	~~100~~	~~465951~~	~~0.823~~	~~5.62~~
~~9E07048-CALB~~	~~200~~	~~1056735~~	~~0.904~~	~~5.62~~

AVE RF **0.655** RF RSD **13.26** AVE RT **5.62**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

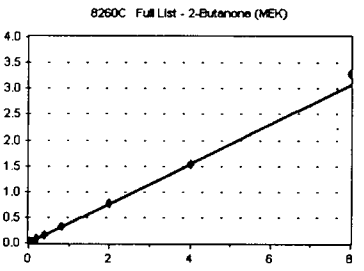


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	683	0.672	5.76
9E07048-CAL3	0.4	1416	0.709	5.75
9E07048-CAL4	1	3517	0.672	5.75
9E07048-CAL5	2	7332	0.754	5.75
9E07048-CAL6	5	19265	0.774	5.75
9E07048-CAL7	10	40206	0.760	5.75
9E07048-CAL8	20	82690	0.836	5.75
9E07048-CAL9	50	224805	0.841	5.75
9E07048-CALA	100	469859	0.830	5.74
9E07048-CALB	200	1023128	0.876	5.75

AVE RF **0.772** RF RSD **9.40** AVE RT **5.75**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.4	890	0.438	5.77
9E07048-CAL3	0.8	1499	0.375	5.76
9E07048-CAL4	2	3413	0.326	5.76
9E07048-CAL5	4	7034	0.362	5.76
9E07048-CAL6	10	19168	0.385	5.75
9E07048-CAL7	20	37307	0.353	5.76
9E07048-CAL8	40	80726	0.408	5.75
9E07048-CAL9	100	207080	0.387	5.74
9E07048-CALA	200	437402	0.386	5.74
9E07048-CALB	400	960855	0.411	5.74

AVE RF **0.383** RF RSD **8.33** AVE RT **5.75**

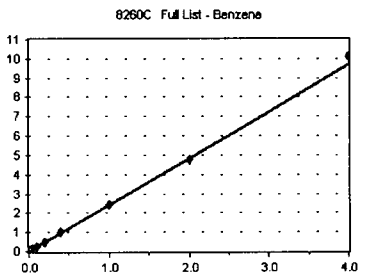
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Benzene

Curve Fit: **AVERAGE RF**

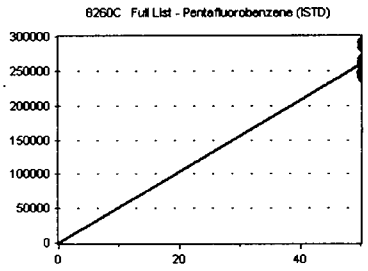


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1127	2.348	6.01
9E07048-CAL2	0.2	2458	2.419	6.01
9E07048-CAL3	0.4	4810	2.410	6.01
9E07048-CAL4	1	11954	2.283	6.01
9E07048-CAL5	2	23365	2.404	6.00
9E07048-CAL6	5	60741	2.441	6.01
9E07048-CAL7	10	124874	2.361	6.01
9E07048-CAL8	20	252305	2.551	6.00
9E07048-CAL9	50	656370	2.456	6.00
9E07048-CALA	100	1353074	2.390	6.00
9E07048-CALB	200	2947348	2.523	6.00

AVE RF **2.417** RF RSD **3.16** AVE RT **6.01**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

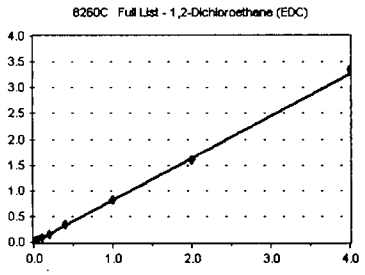


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	240040	4800.800	6.10
9E07048-CAL2	50	253997	5079.940	6.10
9E07048-CAL3	50	249504	4990.080	6.10
9E07048-CAL4	50	261850	5237.000	6.10
9E07048-CAL5	50	242998	4859.960	6.10
9E07048-CAL6	50	248863	4977.260	6.10
9E07048-CAL7	50	264477	5289.540	6.10
9E07048-CAL8	50	247283	4945.660	6.10
9E07048-CAL9	50	267251	5345.020	6.09
9E07048-CALA	50	283012	5660.240	6.10
9E07048-CALB	50	292078	5841.560	6.10

AVE RF **5184.278** RF RSD **6.39** AVE RT **6.10**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**

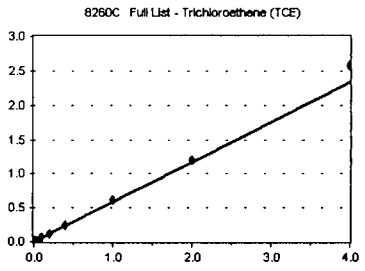


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.769	6.23
9E07048-CAL2	0.2	837	0.824	6.23
9E07048-CAL3	0.4	1552	0.778	6.23
9E07048-CAL4	1	4287	0.819	6.23
9E07048-CAL5	2	7997	0.823	6.22
9E07048-CAL6	5	21115	0.848	6.23
9E07048-CAL7	10	42029	0.795	6.23
9E07048-CAL8	20	86737	0.877	6.22
9E07048-CAL9	50	220556	0.825	6.22
9E07048-CALA	100	450418	0.796	6.22
9E07048-CALB	200	981773	0.840	6.22

AVE RF **0.818** RF RSD **3.89** AVE RT **6.22**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~205~~	~~0.427~~	~~0.00~~
9E07048-CAL2	0.2	614	0.604	6.63
9E07048-CAL3	0.4	1091	0.547	6.63
9E07048-CAL4	1	2819	0.538	6.63
9E07048-CAL5	2	5247	0.540	6.63
9E07048-CAL6	5	14302	0.575	6.63
9E07048-CAL7	10	29569	0.559	6.63
9E07048-CAL8	20	60828	0.615	6.62
9E07048-CAL9	50	163754	0.613	6.62
9E07048-CALA	100	340985	0.602	6.62
9E07048-CALB	200	754687	0.646	6.62

AVE RF **0.584** RF RSD **6.39** AVE RT **6.63**

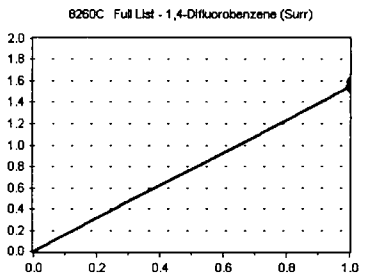
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

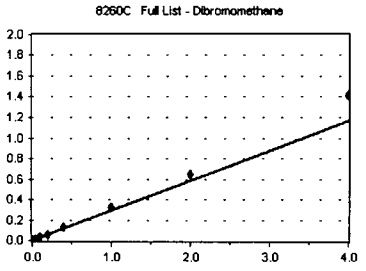


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	372792	1.553	6.66
9E07048-CAL2	50	393610	1.550	6.66
9E07048-CAL3	50	383811	1.538	6.66
9E07048-CAL4	50	402099	1.536	6.66
9E07048-CAL5	50	374305	1.540	6.66
9E07048-CAL6	50	382252	1.536	6.66
9E07048-CAL7	50	404994	1.531	6.66
9E07048-CAL8	50	383139	1.549	6.66
9E07048-CAL9	50	412030	1.542	6.66
9E07048-CALA	50	434050	1.534	6.66
9E07048-CALB	50	462700	1.584	6.66

AVE RF **1.545** RF RSD **0.96** AVE RT **6.66**

Dibromomethane

Curve Fit: **AVERAGE RF**

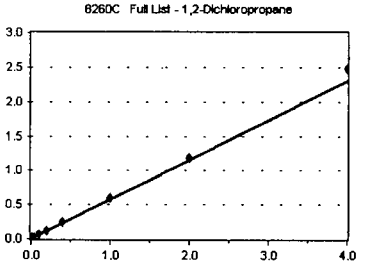


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	206	0.203	7.08
9E07048-CAL3	0.4	553	0.277	7.08
9E07048-CAL4	1	1342	0.256	7.08
9E07048-CAL5	2	2709	0.279	7.08
9E07048-CAL6	5	7109	0.286	7.08
9E07048-CAL7	10	15288	0.289	7.08
9E07048-CAL8	20	32324	0.327	7.08
9E07048-CAL9	50	86980	0.325	7.08
9E07048-CALA	100	183362	0.324	7.08
9E07048-CALB	200	413632	0.354	7.07

AVE RF **0.292** RF RSD **14.84** AVE RT **7.08**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

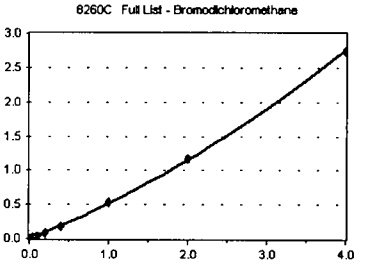


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	588	0.579	7.19
9E07048-CAL3	0.4	1034	0.518	7.19
9E07048-CAL4	1	2906	0.555	7.18
9E07048-CAL5	2	5465	0.562	7.18
9E07048-CAL6	5	14217	0.571	7.19
9E07048-CAL7	10	30050	0.568	7.19
9E07048-CAL8	20	60316	0.610	7.18
9E07048-CAL9	50	161209	0.603	7.18
9E07048-CALA	100	333077	0.588	7.18
9E07048-CALB	200	726418	0.622	7.18

AVE RF **0.578** RF RSD **5.22** AVE RT **7.18**

Bromodichloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~130~~	~~0.128~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~569~~	~~0.285~~	~~7.27~~
9E07048-CAL4	1	1570	0.300	7.26
9E07048-CAL5	2	3150	0.324	7.26
9E07048-CAL6	5	8768	0.352	7.26
9E07048-CAL7	10	19606	0.371	7.26
9E07048-CAL8	20	45494	0.460	7.26
9E07048-CAL9	50	144826	0.542	7.26
9E07048-CALA	100	330159	0.583	7.26
9E07048-CALB	200	802244	0.687	7.26

AVE RF **0.452** RF RSD **30.88** AVE RT **7.26**

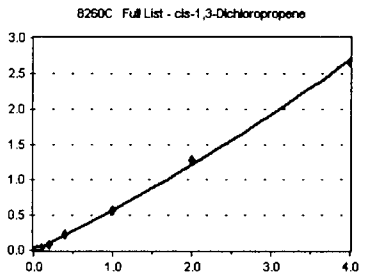
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

cis-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

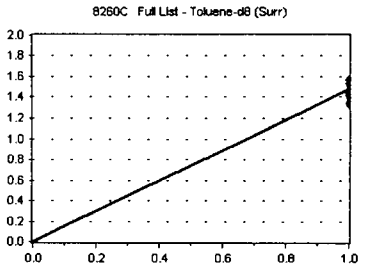


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~335~~	~~0.266~~	~~7.97~~
9E07048-CAL3	0.4	723	0.320	7.97
9E07048-CAL4	1	2124	0.330	7.97
9E07048-CAL5	2	4000	0.369	7.96
9E07048-CAL6	5	11116	0.398	7.97
9E07048-CAL7	10	26031	0.409	7.97
9E07048-CAL8	20	60464	0.551	7.97
9E07048-CAL9	50	189721	0.575	7.96
9E07048-CALA	100	428450	0.641	7.96
9E07048-CALB	200	1015167	0.664	7.96

AVE RF **0.473** RF RSD **28.49** AVE RT **7.97**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

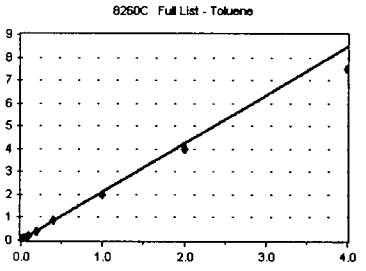


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	412832	1.570	8.17
9E07048-CAL2	50	451605	1.433	8.17
9E07048-CAL3	50	433301	1.536	8.17
9E07048-CAL4	50	463638	1.441	8.17
9E07048-CAL5	50	417114	1.539	8.17
9E07048-CAL6	50	428207	1.533	8.17
9E07048-CAL7	50	462102	1.452	8.17
9E07048-CAL8	50	420491	1.532	8.17
9E07048-CAL9	50	467669	1.418	8.17
9E07048-CALA	50	488712	1.463	8.17
9E07048-CALB	50	514201	1.344	8.17

AVE RF **1.478** RF RSD **4.64** AVE RT **8.17**

Toluene

Curve Fit: **AVERAGE RF**

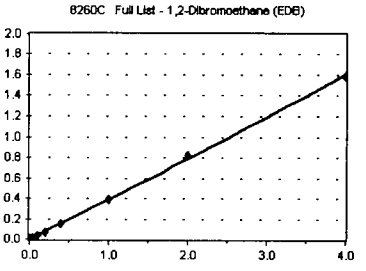


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1513	2.876	8.23
9E07048-CAL2	0.2	2847	2.259	8.23
9E07048-CAL3	0.4	4633	2.053	8.23
9E07048-CAL4	1	12595	1.958	8.23
9E07048-CAL5	2	22780	2.101	8.23
9E07048-CAL6	5	57774	2.069	8.23
9E07048-CAL7	10	124435	1.955	8.23
9E07048-CAL8	20	234051	2.131	8.23
9E07048-CAL9	50	652612	1.979	8.22
9E07048-CALA	100	1331277	1.992	8.23
9E07048-CALB	200	2874760	1.879	8.22

AVE RF **2.114** RF RSD **12.92** AVE RT **8.23**

1,2-Dibromoethane (EDB)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	186	0.148	0.00
9E07048-CAL3	0.4	457	0.202	9.32
9E07048-CAL4	1	1418	0.220	9.32
9E07048-CAL5	2	2966	0.274	9.31
9E07048-CAL6	5	8553	0.306	9.32
9E07048-CAL7	10	19791	0.311	9.31
9E07048-CAL8	20	42675	0.389	9.31
9E07048-CAL9	50	128621	0.390	9.31
9E07048-CALA	100	274641	0.411	9.31
9E07048-CALB	200	608559	0.398	9.31

AVE RF **0.305** RF RSD **30.45** AVE RT **8.38**

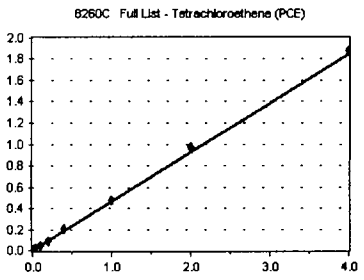
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

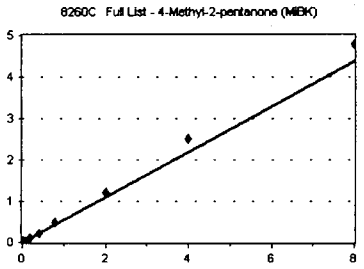


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	241	0.458	8.68
9E07048-CAL2	0.2	503	0.399	8.67
9E07048-CAL3	0.4	1054	0.467	8.68
9E07048-CAL4	1	2677	0.416	8.68
9E07048-CAL5	2	5076	0.468	8.68
9E07048-CAL6	5	13448	0.482	8.68
9E07048-CAL7	10	29011	0.456	8.68
9E07048-CAL8	20	56499	0.514	8.67
9E07048-CAL9	50	156090	0.473	8.67
9E07048-CALA	100	325857	0.488	8.67
9E07048-CALB	200	718860	0.470	8.67

AVE RF **0.463** RF RSD **6.89** AVE RT **8.68**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

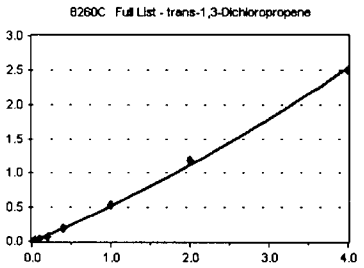


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~391~~	~~0.372~~	~~8.69~~
~~9E07048-CAL2~~	~~0.4~~	~~941~~	~~0.373~~	~~8.68~~
~~9E07048-CAL3~~	~~0.8~~	~~1734~~	~~0.384~~	~~8.68~~
9E07048-CAL4	2	5152	0.400	8.68
9E07048-CAL5	4	10467	0.483	8.68
9E07048-CAL6	10	28905	0.518	8.68
9E07048-CAL7	20	65586	0.515	8.68
9E07048-CAL8	40	137264	0.625	8.68
9E07048-CAL9	100	398605	0.604	8.67
9E07048-CALA	200	838408	0.627	8.68
9E07048-CALB	400	1832267	0.599	8.67

AVE RF **0.546** RF RSD **14.83** AVE RT **8.68**

trans-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

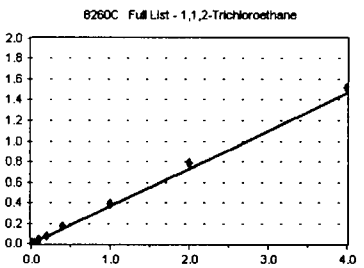


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	502	0.222	8.72
9E07048-CAL4	1	1582	0.246	8.72
9E07048-CAL5	2	3084	0.284	8.72
9E07048-CAL6	5	8937	0.320	8.72
9E07048-CAL7	10	22208	0.349	8.71
9E07048-CAL8	20	51961	0.473	8.71
9E07048-CAL9	50	174126	0.528	8.71
9E07048-CALA	100	395344	0.592	8.71
9E07048-CALB	200	955479	0.625	8.71

AVE RF **0.404** RF RSD **37.75** AVE RT **8.72**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	368	0.292	8.89
9E07048-CAL3	0.4	754	0.334	8.90
9E07048-CAL4	1	2096	0.326	8.88
9E07048-CAL5	2	4156	0.383	8.89
9E07048-CAL6	5	10585	0.379	8.89
9E07048-CAL7	10	23330	0.367	8.89
9E07048-CAL8	20	46171	0.420	8.89
9E07048-CAL9	50	128440	0.389	8.88
9E07048-CALA	100	262681	0.393	8.89
9E07048-CALB	200	582929	0.381	8.89

AVE RF **0.366** RF RSD **10.39** AVE RT **8.89**

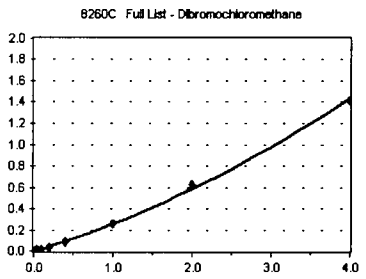
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Dibromochloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

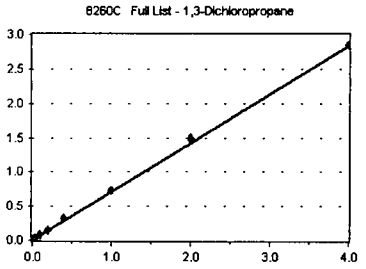


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	215	9.526	9.07
9E07048-CAL4	1	646	0.100	9.08
9E07048-CAL5	2	1529	0.141	9.08
9E07048-CAL6	5	4290	0.154	9.07
9E07048-CAL7	10	10099	0.159	9.08
9E07048-CAL8	20	23476	0.214	9.08
9E07048-CAL9	50	86639	0.263	9.07
9E07048-CALA	100	209789	0.314	9.08
9E07048-CALB	200	540275	0.353	9.08

AVE RF **0.199** RF RSD **46.55** AVE RT **9.08**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

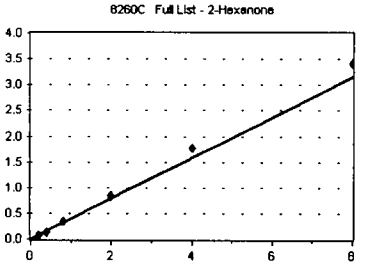


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.702	9.17
9E07048-CAL2	0.2	753	0.597	9.17
9E07048-CAL3	0.4	1532	0.679	9.18
9E07048-CAL4	1	4160	0.647	9.18
9E07048-CAL5	2	7762	0.716	9.17
9E07048-CAL6	5	20889	0.748	9.18
9E07048-CAL7	10	45205	0.710	9.18
9E07048-CAL8	20	88346	0.804	9.17
9E07048-CAL9	50	243237	0.737	9.17
9E07048-CALA	100	499607	0.748	9.17
9E07048-CALB	200	1091475	0.713	9.17

AVE RF **0.709** RF RSD **7.76** AVE RT **9.17**

2-Hexanone

Curve Fit: **AVERAGE RF**

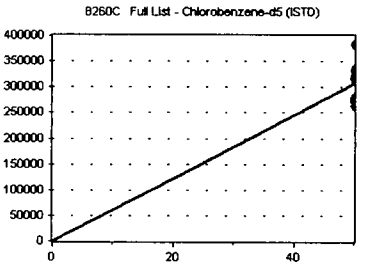


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.4~~	~~512~~	~~0.203~~	~~9.55~~
~~9E07048-CAL3~~	~~0.8~~	~~1043~~	~~0.231~~	~~9.55~~
~~9E07048-CAL4~~	~~2~~	~~3198~~	~~0.249~~	~~9.55~~
~~9E07048-CAL5~~	~~4~~	~~6383~~	~~0.294~~	~~9.55~~
9E07048-CAL6	10	17782	0.318	9.55
9E07048-CAL7	20	42844	0.337	9.55
9E07048-CAL8	40	92169	0.420	9.55
9E07048-CAL9	100	280127	0.425	9.54
9E07048-CALA	200	591216	0.442	9.55
9E07048-CALB	400	1304670	0.426	9.54

AVE RF **0.395** RF RSD **13.41** AVE RT **9.54**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	263004	5260.080	9.81
9E07048-CAL2	50	315116	6302.320	9.80
9E07048-CAL3	50	282136	5642.720	9.80
9E07048-CAL4	50	321643	6432.860	9.81
9E07048-CAL5	50	271061	5421.220	9.81
9E07048-CAL6	50	279254	5585.080	9.80
9E07048-CAL7	50	318211	6364.220	9.80
9E07048-CAL8	50	274550	5491.000	9.80
9E07048-CAL9	50	329813	6596.260	9.80
9E07048-CALA	50	334077	6681.540	9.81
9E07048-CALB	50	382482	7649.640	9.81

AVE RF **6129.722** RF RSD **11.77** AVE RT **9.80**

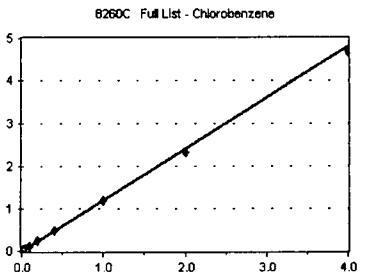
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Chlorobenzene

Curve Fit: **AVERAGE RF**

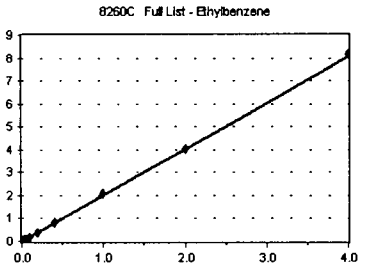


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	708	1.346	9.82
9E07048-CAL2	0.2	1621	1.286	9.82
9E07048-CAL3	0.4	2707	1.199	9.82
9E07048-CAL4	1	7684	1.194	9.82
9E07048-CAL5	2	12836	1.184	9.82
9E07048-CAL6	5	32582	1.167	9.82
9E07048-CAL7	10	74844	1.176	9.82
9E07048-CAL8	20	130501	1.188	9.82
9E07048-CAL9	50	392199	1.189	9.82
9E07048-CALA	100	775570	1.161	9.82
9E07048-CALB	200	1783488	1.166	9.82

AVE RF **1.205** RF RSD **4.79** AVE RT **9.82**

Ethylbenzene

Curve Fit: **AVERAGE RF**

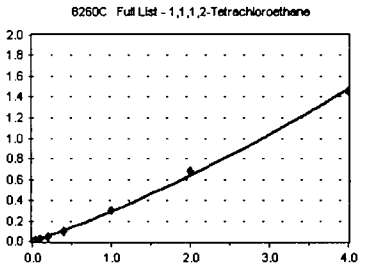


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1175	2.234	9.85
9E07048-CAL2	0.2	2644	2.098	9.85
9E07048-CAL3	0.4	4382	1.941	9.85
9E07048-CAL4	1	12168	1.892	9.85
9E07048-CAL5	2	20590	1.899	9.85
9E07048-CAL6	5	53767	1.925	9.85
9E07048-CAL7	10	123904	1.947	9.85
9E07048-CAL8	20	225958	2.058	9.85
9E07048-CAL9	50	684347	2.075	9.85
9E07048-CALA	100	1355629	2.029	9.84
9E07048-CALB	200	3128616	2.045	9.84

AVE RF **2.013** RF RSD **5.16** AVE RT **9.85**

1,1,1,2-Tetrachloroethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

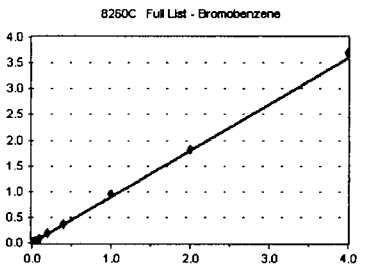


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	292	0.129	9.89
9E07048-CAL4	1	785	0.122	9.89
9E07048-CAL5	2	1701	0.157	9.89
9E07048-CAL6	5	4779	0.171	9.88
9E07048-CAL7	10	12247	0.192	9.88
9E07048-CAL8	20	27384	0.249	9.88
9E07048-CAL9	50	99762	0.302	9.88
9E07048-CALA	100	228768	0.342	9.88
9E07048-CALB	200	559200	0.366	9.88

AVE RF **0.226** RF RSD **40.98** AVE RT **9.88**

Bromobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	160	0.681	0.00
9E07048-CAL2	0.2	538	0.954	10.96
9E07048-CAL3	0.4	808	0.839	10.95
9E07048-CAL4	1	2646	0.935	10.96
9E07048-CAL5	2	4463	0.912	10.96
9E07048-CAL6	5	11371	0.903	10.95
9E07048-CAL7	10	26129	0.949	10.96
9E07048-CAL8	20	47722	0.939	10.95
9E07048-CAL9	50	145102	0.945	10.95
9E07048-CALA	100	284944	0.912	10.96
9E07048-CALB	200	686712	0.925	10.96

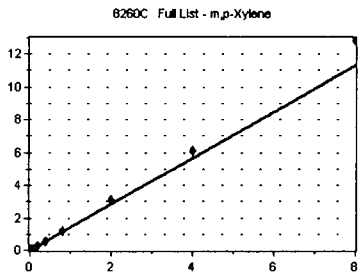
AVE RF **0.899** RF RSD **8.79** AVE RT **9.96**

Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

m,p-Xylene

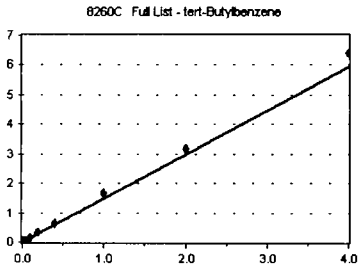


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.2	1447	1.375	9.99
9E07048-CAL2	0.4	3375	1.339	9.99
9E07048-CAL3	0.8	5409	1.198	9.99
9E07048-CAL4	2	16601	1.290	9.98
9E07048-CAL5	4	28146	1.298	9.98
9E07048-CAL6	10	76311	1.366	9.98
9E07048-CAL7	20	180873	1.421	9.98
9E07048-CAL8	40	334982	1.525	9.98
9E07048-CAL9	100	1024139	1.553	9.98
9E07048-CALA	200	2053605	1.537	9.98
9E07048-CALB	400	4916984	1.607	9.98

AVE RF **1.410** RF RSD **9.21** AVE RT **9.98**

tert-Butylbenzene

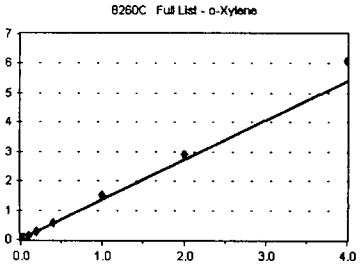


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	294	1.252	0.00
9E07048-CAL2	0.2	778	1.380	11.38
9E07048-CAL3	0.4	1226	1.273	11.38
9E07048-CAL4	1	4016	1.419	11.38
9E07048-CAL5	2	6886	1.406	11.38
9E07048-CAL6	5	18826	1.496	11.38
9E07048-CAL7	10	44486	1.616	11.38
9E07048-CAL8	20	82417	1.621	11.38
9E07048-CAL9	50	255683	1.665	11.38
9E07048-CALA	100	498695	1.596	11.38
9E07048-CALB	200	1185300	1.596	11.38

AVE RF **1.484** RF RSD **9.85** AVE RT **10.35**

o-Xylene

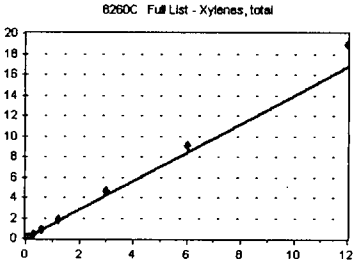


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	771	1.466	10.37
9E07048-CAL2	0.2	1661	1.318	10.36
9E07048-CAL3	0.4	2704	1.198	10.36
9E07048-CAL4	1	7663	1.191	10.37
9E07048-CAL5	2	13306	1.227	10.37
9E07048-CAL6	5	35546	1.273	10.36
9E07048-CAL7	10	85079	1.337	10.36
9E07048-CAL8	20	157388	1.433	10.36
9E07048-CAL9	50	494845	1.500	10.36
9E07048-CALA	100	977297	1.463	10.36
9E07048-CALB	200	2329915	1.523	10.36

AVE RF **1.357** RF RSD **9.19** AVE RT **10.36**

Xylenes, total



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.3	2218	1.406	10.37
9E07048-CAL2	0.6	5036	1.332	10.36
9E07048-CAL3	1.2	8113	1.198	10.36
9E07048-CAL4	3	24264	1.257	10.37
9E07048-CAL5	6	41452	1.274	10.37
9E07048-CAL6	15	111857	1.335	10.36
9E07048-CAL7	30	265952	1.393	10.36
9E07048-CAL8	60	492370	1.494	10.36
9E07048-CAL9	150	1518984	1.535	10.36
9E07048-CALA	300	3030902	1.512	10.36
9E07048-CALB	600	7246899	1.579	10.36

AVE RF **1.392** RF RSD **9.00** AVE RT **10.36**

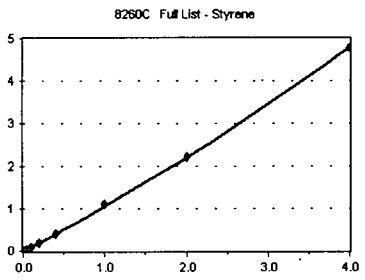
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Styrene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

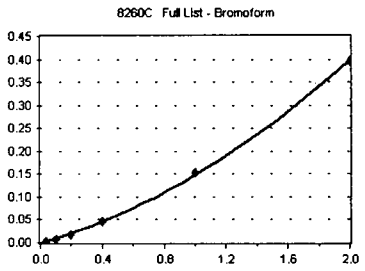


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	742	0.589	10.42
9E07048-CAL3	0.4	1408	0.624	10.42
9E07048-CAL4	1	4261	0.662	10.42
9E07048-CAL5	2	7423	0.685	10.42
9E07048-CAL6	5	22451	0.804	10.41
9E07048-CAL7	10	56305	0.885	10.41
9E07048-CAL8	20	110271	1.004	10.41
9E07048-CAL9	50	367293	1.114	10.41
9E07048-CALA	100	736185	1.102	10.41
9E07048-CALB	200	1826906	1.194	10.41

AVE RF **0.866** RF RSD **26.04** AVE RT **10.41**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

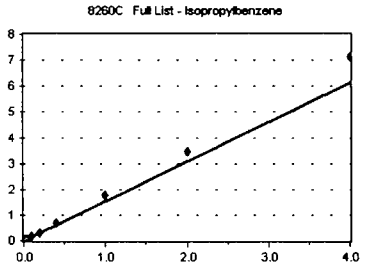


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	793	7.314	10.44
9E07048-CAL6	5	2131	7.631	10.44
9E07048-CAL7	10	5401	8.487	10.44
9E07048-CAL8	20	12454	0.113	10.44
9E07048-CAL9	50	50592	0.153	10.44
9E07048-CALA	100	132822	0.199	10.43
~~9E07048-CALB~~	~~200~~	~~365594~~	~~0.239~~	~~10.43~~

AVE RF **0.117** RF RSD **43.10** AVE RT **10.44**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

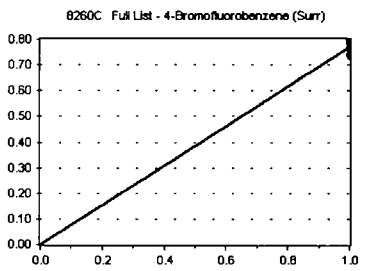


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~607~~	~~1.154~~	~~0.00~~
9E07048-CAL2	0.2	1621	1.286	10.63
9E07048-CAL3	0.4	2804	1.242	10.63
9E07048-CAL4	1	8865	1.378	10.63
9E07048-CAL5	2	14839	1.369	10.63
9E07048-CAL6	5	42773	1.532	10.63
9E07048-CAL7	10	101605	1.597	10.63
9E07048-CAL8	20	187296	1.705	10.63
9E07048-CAL9	50	585625	1.776	10.63
9E07048-CALA	100	1158047	1.733	10.63
9E07048-CALB	200	2723392	1.780	10.63

AVE RF **1.540** RF RSD **13.52** AVE RT **10.63**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	90333	0.769	10.87
9E07048-CAL2	50	110936	0.787	10.87
9E07048-CAL3	50	94062	0.781	10.87
9E07048-CAL4	50	112797	0.797	10.87
9E07048-CAL5	50	93757	0.766	10.87
9E07048-CAL6	50	96094	0.763	10.87
9E07048-CAL7	50	109811	0.798	10.87
9E07048-CAL8	50	96557	0.760	10.87
9E07048-CAL9	50	117904	0.768	10.87
9E07048-CALA	50	115967	0.742	10.87
9E07048-CALB	50	136770	0.737	10.87

AVE RF **0.770** RF RSD **2.59** AVE RT **10.87**

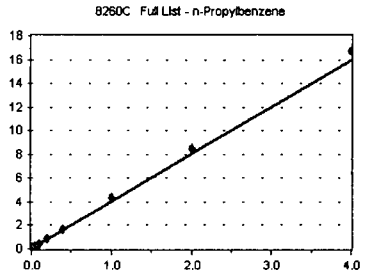
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

n-Propylbenzene

Curve Fit: **AVERAGE RF**

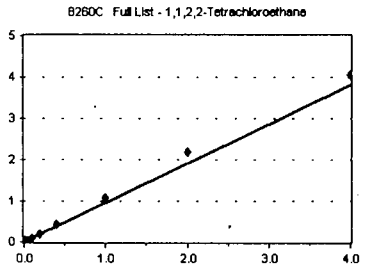


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	914	3.893	10.98
9E07048-CAL2	0.2	2125	3.768	10.98
9E07048-CAL3	0.4	3524	3.659	10.98
9E07048-CAL4	1	10761	3.802	10.97
9E07048-CAL5	2	18352	3.748	10.97
9E07048-CAL6	5	49128	3.903	10.97
9E07048-CAL7	10	115664	4.202	10.97
9E07048-CAL8	20	214448	4.219	10.97
9E07048-CAL9	50	668617	4.354	10.97
9E07048-CALA	100	1317712	4.217	10.98
9E07048-CALB	200	3112598	4.191	10.97

AVE RF **3.996** RF RSD **6.08** AVE RT **10.97**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

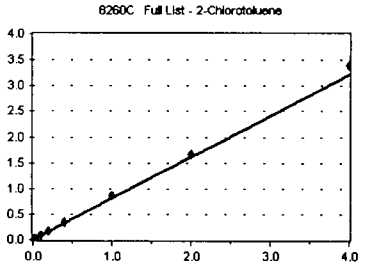


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~138~~	~~0.588~~	~~0.00~~
9E07048-CAL2	0.2	440	0.780	11.04
9E07048-CAL3	0.4	771	0.801	11.04
9E07048-CAL4	1	2364	0.835	11.04
9E07048-CAL5	2	4375	0.894	11.04
9E07048-CAL6	5	11560	0.918	11.04
9E07048-CAL7	10	27257	0.990	11.04
9E07048-CAL8	20	55658	1.095	11.04
9E07048-CAL9	50	165500	1.078	11.04
9E07048-CALA	100	342106	1.095	11.04
9E07048-CALB	200	754067	1.015	11.04

AVE RF **0.950** RF RSD **12.78** AVE RT **11.04**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**

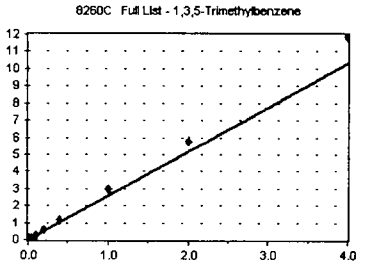


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	441	0.782	11.11
9E07048-CAL3	0.4	669	0.695	11.11
9E07048-CAL4	1	2215	0.783	11.11
9E07048-CAL5	2	3616	0.739	11.11
9E07048-CAL6	5	9901	0.787	11.11
9E07048-CAL7	10	23610	0.858	11.11
9E07048-CAL8	20	42696	0.840	11.10
9E07048-CAL9	50	133819	0.871	11.10
9E07048-CALA	100	259978	0.832	11.10
9E07048-CALB	200	630374	0.849	11.10

AVE RF **0.803** RF RSD **7.06** AVE RT **11.10**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	548	2.334	11.13
9E07048-CAL2	0.2	1238	2.195	11.13
9E07048-CAL3	0.4	2172	2.255	11.13
9E07048-CAL4	1	6404	2.263	11.13
9E07048-CAL5	2	11485	2.346	11.13
9E07048-CAL6	5	31608	2.511	11.13
9E07048-CAL7	10	77527	2.817	11.13
9E07048-CAL8	20	146436	2.881	11.13
9E07048-CAL9	50	457542	2.979	11.13
9E07048-CALA	100	898558	2.875	11.13
9E07048-CALB	200	2203355	2.967	11.13

AVE RF **2.584** RF RSD **12.34** AVE RT **11.13**

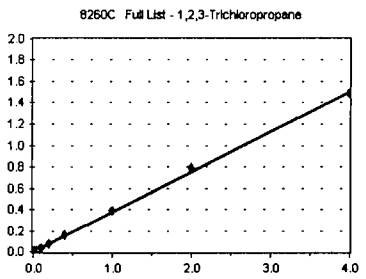
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**

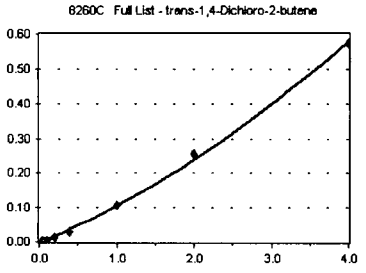


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~135~~	~~0.239~~	~~11.15~~
9E07048-CAL3	0.4	303	0.315	11.15
9E07048-CAL4	1	973	0.344	11.15
9E07048-CAL5	2	1924	0.393	11.15
9E07048-CAL6	5	4758	0.378	11.14
9E07048-CAL7	10	10739	0.390	11.15
9E07048-CAL8	20	20933	0.412	11.15
9E07048-CAL9	50	60249	0.392	11.15
9E07048-CALA	100	123481	0.395	11.15
9E07048-CALB	200	276178	0.372	11.14

AVE RF **0.377** RF RSD **7.97** AVE RT **11.15**

trans-1,4-Dichloro-2-butene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

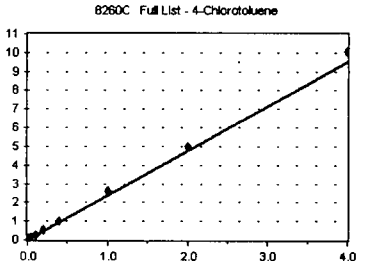


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	237	4.840	11.18
9E07048-CAL6	5	580	4.608	11.18
9E07048-CAL7	10	1656	6.016	11.18
9E07048-CAL8	20	3834	7.542	11.18
9E07048-CAL9	50	16499	0.107	11.18
9E07048-CALA	100	40002	0.128	11.18
9E07048-CALB	200	106408	0.143	11.17

AVE RF **0.087** RF RSD **45.23** AVE RT **11.18**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**

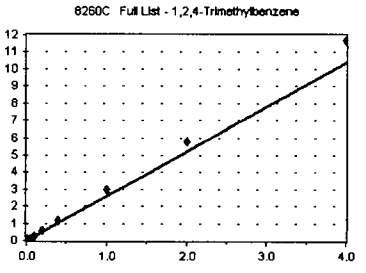


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	483	2.057	11.24
9E07048-CAL2	0.2	1253	2.222	11.24
9E07048-CAL3	0.4	2028	2.106	11.24
9E07048-CAL4	1	6529	2.307	11.24
9E07048-CAL5	2	11250	2.298	11.24
9E07048-CAL6	5	30163	2.397	11.23
9E07048-CAL7	10	71020	2.580	11.23
9E07048-CAL8	20	129493	2.547	11.23
9E07048-CAL9	50	401605	2.615	11.23
9E07048-CALA	100	778535	2.491	11.24
9E07048-CALB	200	1869203	2.517	11.24

AVE RF **2.376** RF RSD **8.11** AVE RT **11.24**

1,2,4-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	561	2.389	11.44
9E07048-CAL2	0.2	1251	2.218	11.44
9E07048-CAL3	0.4	2171	2.254	11.44
9E07048-CAL4	1	6383	2.255	11.44
9E07048-CAL5	2	11474	2.343	11.44
9E07048-CAL6	5	32438	2.577	11.43
9E07048-CAL7	10	78156	2.839	11.44
9E07048-CAL8	20	148515	2.922	11.44
9E07048-CAL9	50	457137	2.977	11.43
9E07048-CALA	100	897125	2.871	11.44
9E07048-CALB	200	2164127	2.914	11.44

AVE RF **2.596** RF RSD **11.99** AVE RT **11.44**

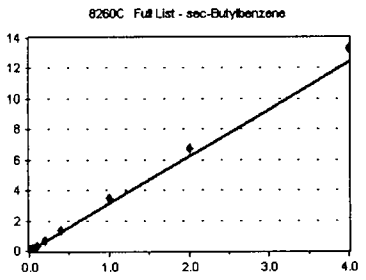
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

sec-Butylbenzene

Curve Fit: **AVERAGE RF**

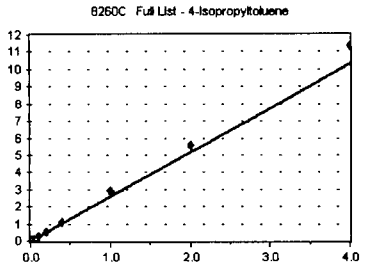


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	715	3.045	11.52
9E07048-CAL2	0.2	1494	2.649	11.52
9E07048-CAL3	0.4	2640	2.741	11.52
9E07048-CAL4	1	7874	2.782	11.52
9E07048-CAL5	2	14030	2.865	11.52
9E07048-CAL6	5	39097	3.106	11.52
9E07048-CAL7	10	92413	3.357	11.52
9E07048-CAL8	20	171858	3.381	11.52
9E07048-CAL9	50	532289	3.466	11.52
9E07048-CALA	100	1046840	3.350	11.52
9E07048-CALB	200	2466612	3.321	11.52

AVE RF **3.097** RF RSD **9.59** AVE RT **11.52**

4-Isopropyltoluene

Curve Fit: **AVERAGE RF**

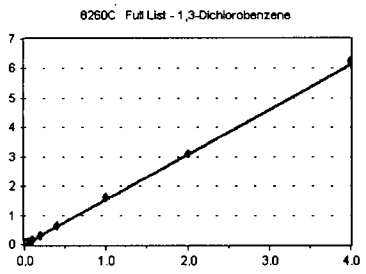


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~475~~	~~2.023~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~1097~~	~~1.945~~	~~11.63~~
~~9E07048-CAL3~~	~~0.4~~	~~1855~~	~~1.926~~	~~11.63~~
9E07048-CAL4	1	5898	2.084	11.63
9E07048-CAL5	2	10365	2.117	11.63
9E07048-CAL6	5	30161	2.396	11.63
9E07048-CAL7	10	73579	2.673	11.63
9E07048-CAL8	20	141976	2.793	11.63
9E07048-CAL9	50	446740	2.909	11.63
9E07048-CALA	100	875955	2.803	11.63
9E07048-CALB	200	2110691	2.842	11.63

AVE RF **2.577** RF RSD **12.91** AVE RT **11.63**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

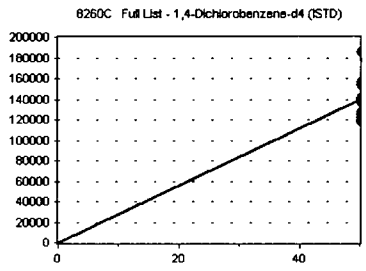


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	361	1.538	11.69
9E07048-CAL2	0.2	822	1.458	11.70
9E07048-CAL3	0.4	1391	1.444	11.70
9E07048-CAL4	1	4151	1.467	11.70
9E07048-CAL5	2	7501	1.532	11.70
9E07048-CAL6	5	19402	1.542	11.70
9E07048-CAL7	10	42681	1.551	11.70
9E07048-CAL8	20	82474	1.622	11.69
9E07048-CAL9	50	248657	1.619	11.70
9E07048-CALA	100	483440	1.547	11.69
9E07048-CALB	200	1158673	1.560	11.69

AVE RF **1.534** RF RSD **3.84** AVE RT **11.70**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	117395	2347.900	11.75
9E07048-CAL2	50	140978	2819.560	11.75
9E07048-CAL3	50	120378	2407.560	11.75
9E07048-CAL4	50	141519	2830.380	11.75
9E07048-CAL5	50	122406	2448.120	11.75
9E07048-CAL6	50	125861	2517.220	11.75
9E07048-CAL7	50	137625	2752.500	11.75
9E07048-CAL8	50	127087	2541.740	11.75
9E07048-CAL9	50	153580	3071.600	11.75
9E07048-CALA	50	156244	3124.880	11.75
9E07048-CALB	50	185657	3713.140	11.75

AVE RF **2779.509** RF RSD **14.57** AVE RT **11.75**

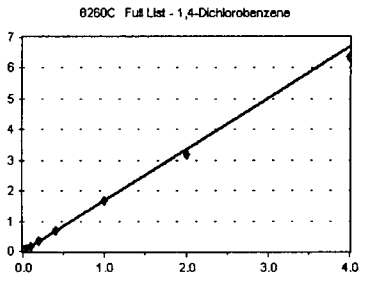
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

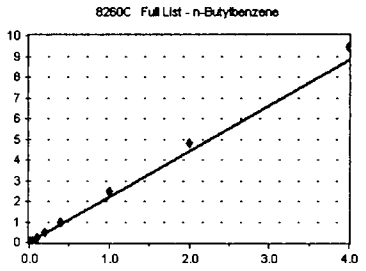


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	465	1.980	11.76
9E07048-CAL2	0.2	932	1.653	11.76
9E07048-CAL3	0.4	1636	1.699	11.76
9E07048-CAL4	1	4797	1.695	11.76
9E07048-CAL5	2	8234	1.682	11.76
9E07048-CAL6	5	20284	1.612	11.76
9E07048-CAL7	10	44850	1.629	11.76
9E07048-CAL8	20	85622	1.684	11.76
9E07048-CAL9	50	254182	1.655	11.76
9E07048-CALA	100	493681	1.580	11.76
9E07048-CALB	200	1176777	1.585	11.76

AVE RF **1.678** RF RSD **6.49** AVE RT **11.76**

n-Butylbenzene

Curve Fit: **AVERAGE RF**

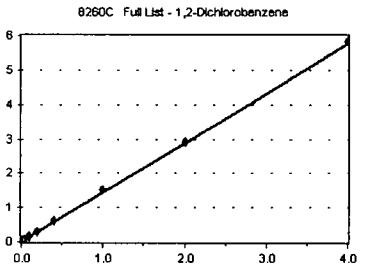


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	2.142	11.95
9E07048-CAL2	0.2	1099	1.949	11.95
9E07048-CAL3	0.4	1917	1.991	11.95
9E07048-CAL4	1	5710	2.017	11.95
9E07048-CAL5	2	9476	1.935	11.95
9E07048-CAL6	5	27019	2.147	11.95
9E07048-CAL7	10	65332	2.374	11.94
9E07048-CAL8	20	121885	2.398	11.94
9E07048-CAL9	50	379675	2.472	11.94
9E07048-CALA	100	753712	2.412	11.94
9E07048-CALB	200	1754778	2.363	11.95

AVE RF **2.200** RF RSD **9.44** AVE RT **11.95**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

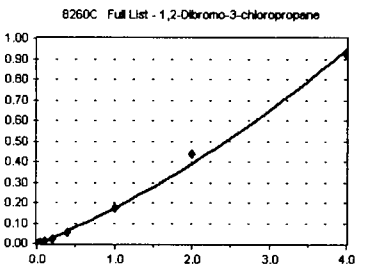


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	319	1.359	12.08
9E07048-CAL2	0.2	799	1.417	12.08
9E07048-CAL3	0.4	1327	1.378	12.08
9E07048-CAL4	1	3856	1.362	12.08
9E07048-CAL5	2	6890	1.407	12.08
9E07048-CAL6	5	18432	1.464	12.08
9E07048-CAL7	10	40089	1.456	12.08
9E07048-CAL8	20	79323	1.560	12.08
9E07048-CAL9	50	232496	1.514	12.08
9E07048-CALA	100	456101	1.460	12.08
9E07048-CALB	200	1085241	1.461	12.08

AVE RF **1.440** RF RSD **4.38** AVE RT **12.08**

1,2-Dibromo-3-chloropropane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	139	4.911	12.69
9E07048-CAL5	2	344	7.026	12.68
9E07048-CAL6	5	1033	8.207	12.68
9E07048-CAL7	10	2666	0.097	12.69
9E07048-CAL8	20	6583	0.129	12.69
9E07048-CAL9	50	26288	0.171	12.69
9E07048-CALA	100	68037	0.218	12.68
9E07048-CALB	200	171676	0.231	12.68

AVE RF **0.131** RF RSD **52.52** AVE RT **12.68**

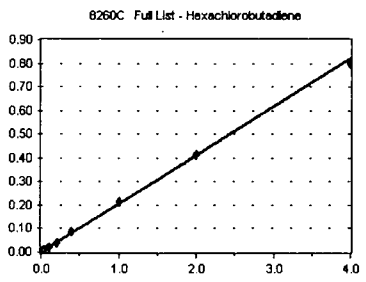
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190507S/G**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

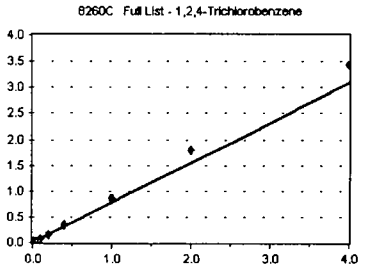


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	548	0.194	13.18
9E07048-CAL5	2	977	0.200	13.19
9E07048-CAL6	5	2590	0.206	13.19
9E07048-CAL7	10	5590	0.203	13.19
9E07048-CAL8	20	11108	0.219	13.19
9E07048-CAL9	50	33246	0.216	13.19
9E07048-CALA	100	64806	0.207	13.19
9E07048-CALB	200	148043	0.199	13.19

AVE RF **0.205** RF RSD **4.17** AVE RT **13.19**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**

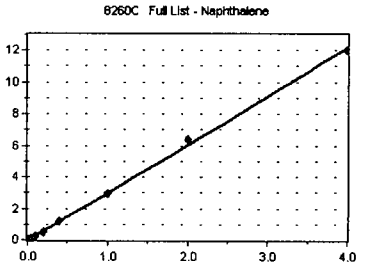


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	326	0.578	13.23
9E07048-CAL3	0.4	681	0.707	13.23
9E07048-CAL4	1	1879	0.664	13.23
9E07048-CAL5	2	3650	0.745	13.23
9E07048-CAL6	5	9487	0.754	13.23
9E07048-CAL7	10	21384	0.777	13.23
9E07048-CAL8	20	44542	0.876	13.23
9E07048-CAL9	50	133873	0.872	13.22
9E07048-CALA	100	280911	0.899	13.23
9E07048-CALB	200	638432	0.860	13.23

AVE RF **0.773** RF RSD **13.57** AVE RT **13.23**

Naphthalene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

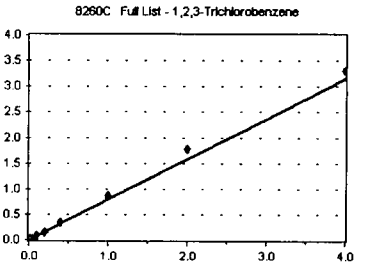


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	1578	1.639	13.50
9E07048-CAL4	1	4612	1.629	13.51
9E07048-CAL5	2	9150	1.869	13.51
9E07048-CAL6	5	26502	2.106	13.50
9E07048-CAL7	10	66084	2.401	13.50
9E07048-CAL8	20	148411	2.919	13.50
9E07048-CAL9	50	456299	2.971	13.50
9E07048-CALA	100	996167	3.188	13.50
9E07048-CALB	200	2228594	3.001	13.50

AVE RF **2.414** RF RSD **25.87** AVE RT **13.50**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~356~~	~~0.631~~	~~13.67~~
9E07048-CAL3	0.4	600	0.623	13.67
9E07048-CAL4	1	1872	0.661	13.66
9E07048-CAL5	2	3683	0.752	13.66
9E07048-CAL6	5	9947	0.790	13.66
9E07048-CAL7	10	21895	0.795	13.67
9E07048-CAL8	20	45148	0.888	13.67
9E07048-CAL9	50	132079	0.860	13.67
9E07048-CALA	100	277018	0.886	13.66
9E07048-CALB	200	614270	0.827	13.66

AVE RF **0.787** RF RSD **11.97** AVE RT **13.66**

Calibration Status Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	50	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050734.D
2	2	100	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050735.D
3	3	250	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050736.D
4	4	500	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050737.D
5	5	1000	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050738.D
6	6	2500	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050739.D
7	7	5000	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050740.D
8	8	10000	50	C:\msdchem\1\DATA\2019-05\9E07048\VF19050741.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	May 08 11:35 2019	May 08 11:26 2019	
2	2	May 08 11:35 2019	May 08 11:26 2019	
3	3	May 08 11:35 2019	May 08 11:26 2019	
4	4	May 08 11:35 2019	May 08 11:26 2019	
5	5	May 08 11:35 2019	May 08 11:26 2019	
6	6	May 08 11:35 2019	May 08 11:26 2019	
7	7	May 08 11:35 2019	May 08 11:28 2019	
8	8	May 08 11:35 2019	May 08 11:29 2019	

VF190507G.M Wed May 08 14:01:13 2019

Response Factor Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

Calibration Files
1 =VF19050734.D 2 =VF19050735.D 3 =VF19050736.D 4 =VF19050737.D 5 =VF19050738.D 6 =VF19050739.D
7 =VF19050740.D 8 =VF19050741.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	Pentafluorobenzene...	ISTD									
2)	S	1,4-Difluorobe...	3.752	3.782	3.750	3.774	3.793	3.919	3.946	4.821	3.942	9.20
3)	S	4-Bromofluorob...	2.315	2.475	2.411	2.420	2.537	2.470	2.398	2.393	2.427	2.74
4)	S	Chlorobenzene-...									0.000	-1.00
5)	H	TPHg (C5-C9)	3.421	2.579	2.252	2.227	2.362	2.295	2.106	2.475	2.465	16.78
6)	H	TPHg (C6-C10)	2.469	1.903	1.712	1.771	1.882	1.851	1.727	2.047	1.920	12.85
7)	H	CA-LUFT (C5-C12)	3.596	2.783	2.502	2.529	2.733	2.651	2.479	2.946	2.777	13.22
8)	H	NWTPH-Gx	0.861	1.005	1.178	1.362	1.574	1.576	1.581	1.895	1.379	25.00
9)		Benzene (NR)									0.000	-1.00
10)	S	Toluene-d8 (NR)									0.000	-1.00
11)	C	Toluene (NR)									0.000	-1.00
12)	S	1,4-Dichlorobe...									0.000	-1.00
13)		Naphthalene (NR)									0.000	-1.00

(#) = Out of Range

Compound List Report VOA-GCMS6

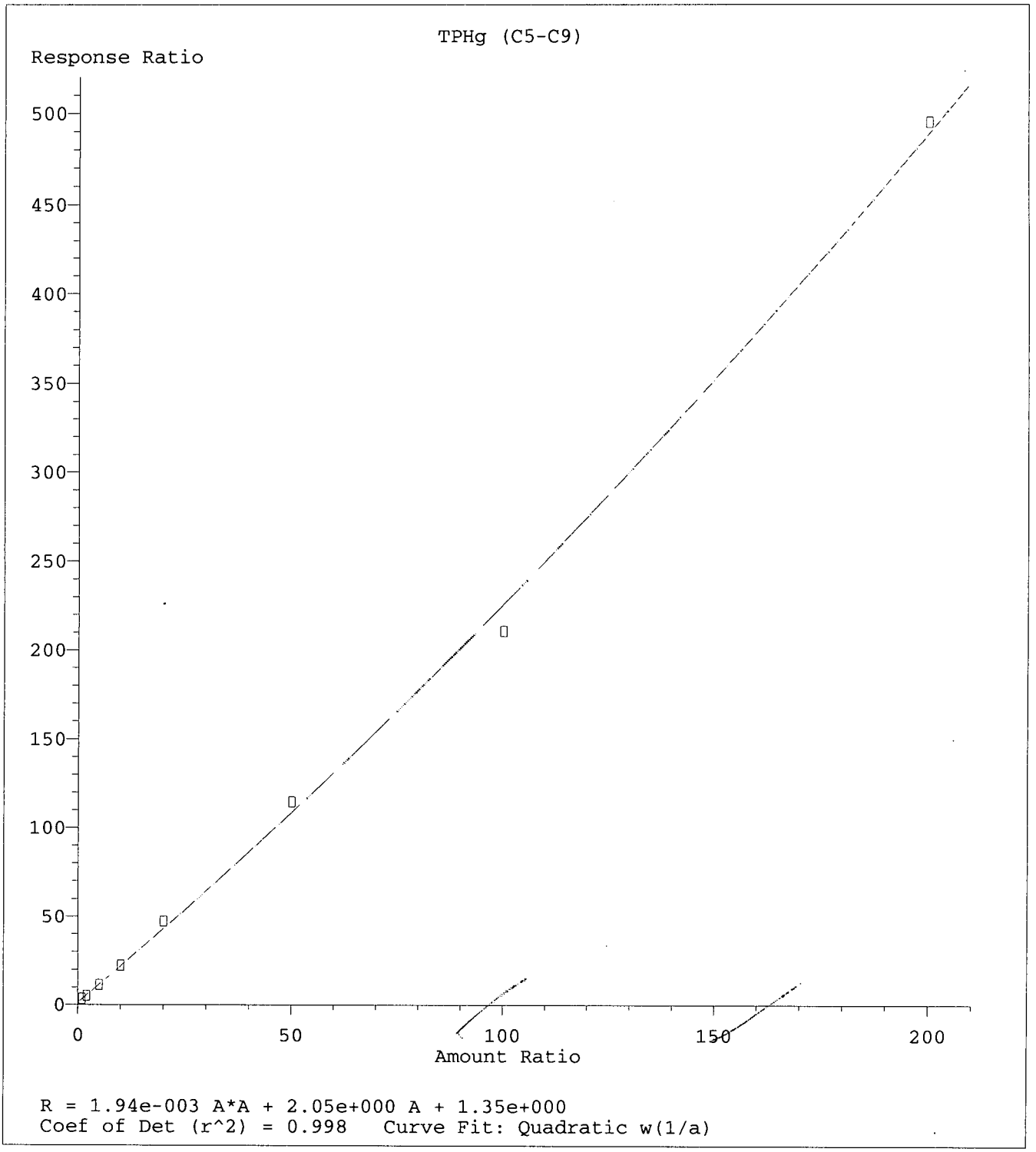
Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.096	1.000	A	2	A	A
2	S	1,4-Difluorobenzene (Sur)	TIC	6.661	1.093	A	2	A	A
3	S	4-Bromofluorobenzene (Sur)	TIC	10.871	1.783	A	2	A	A
4	S	Chlorobenzene-d5 (NR)	TIC	9.806	1.609	A	2	A	A
5	H	TPHg (C5-C9)	TIC	9.860	1.618	Q	0	A	A
6	H	TPHg (C6-C10)	TIC	9.860	1.618	Q	0	A	A
7	H	CA-LUFT (C5-C12)	TIC	9.860	1.618	Q	0	A	A
8	H	NWTPH-Gx	TIC	9.870	1.619	Q	0	A	A
9		Benzene (NR)	78	6.004	0.985	A	2	A	A
10	S	Toluene-d8 (NR)	TIC	8.170	1.340	A	2	A	A
11	C	Toluene (NR)	91	8.225	1.349	A	2	A	A
12	S	1,4-Dichlorobenzene-d4 (NR)	TIC	11.747	1.927	A	2	A	A
13		Naphthalene (NR)	128	13.499	2.215	A	2	A	A

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VF190507G.M Wed May 08 14:01:29 2019



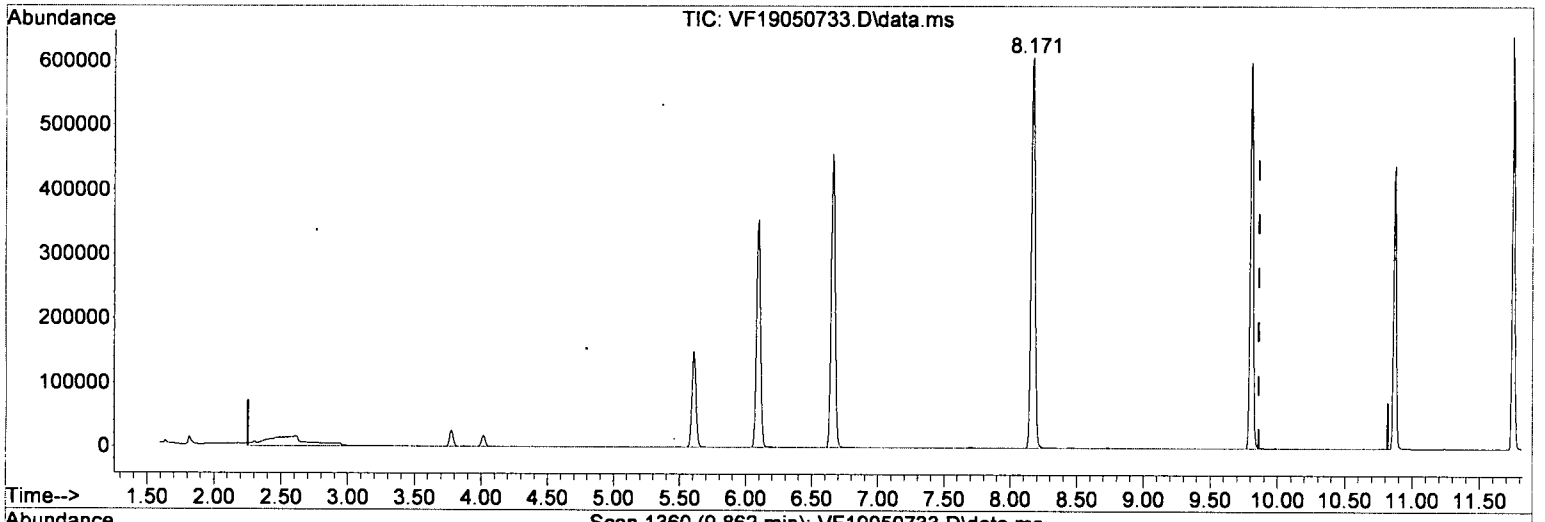
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

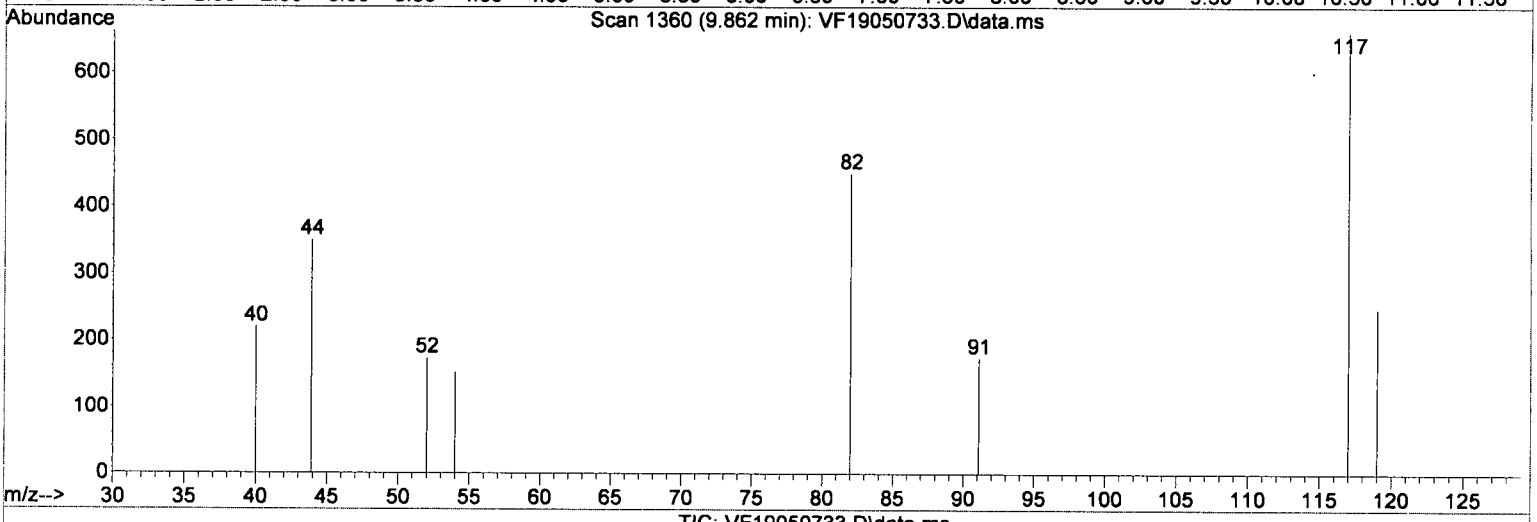
Int = 6.92

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





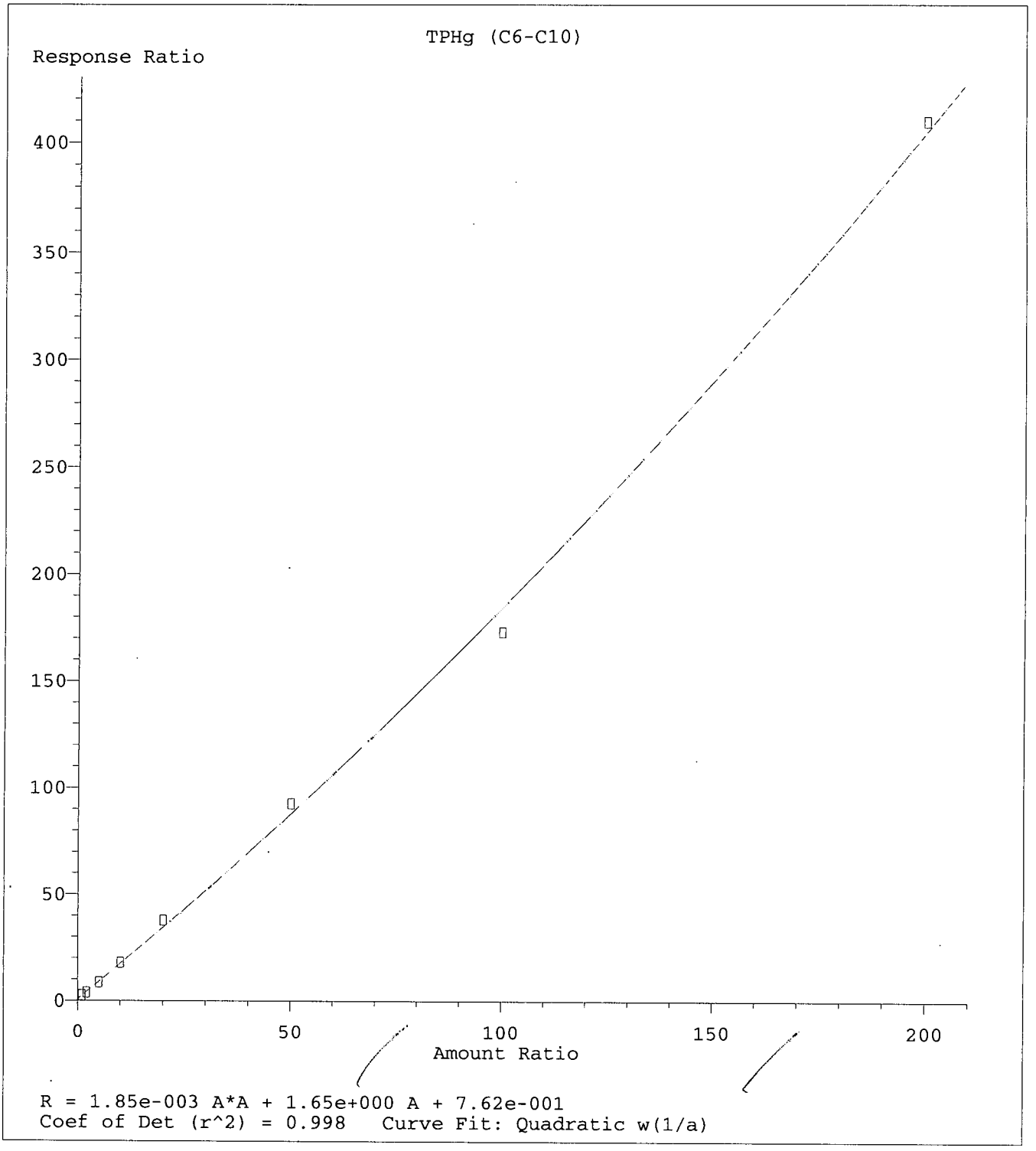
TIC: VF19050733.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 6.52 ug/L m

response 429036

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



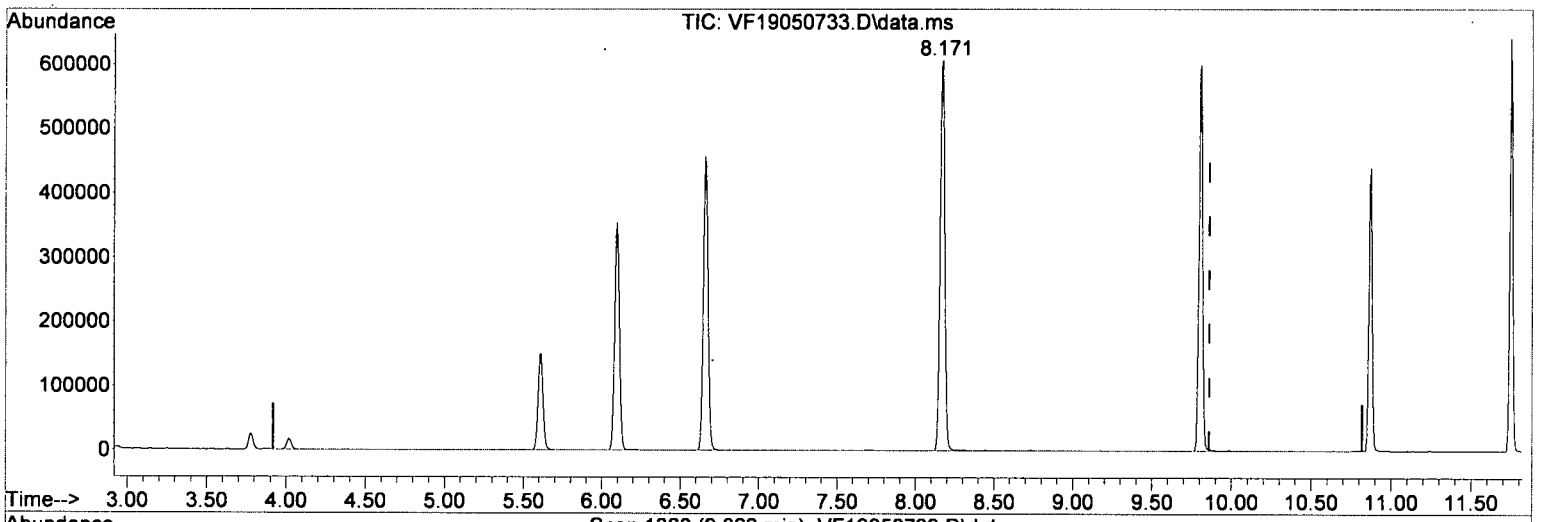
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

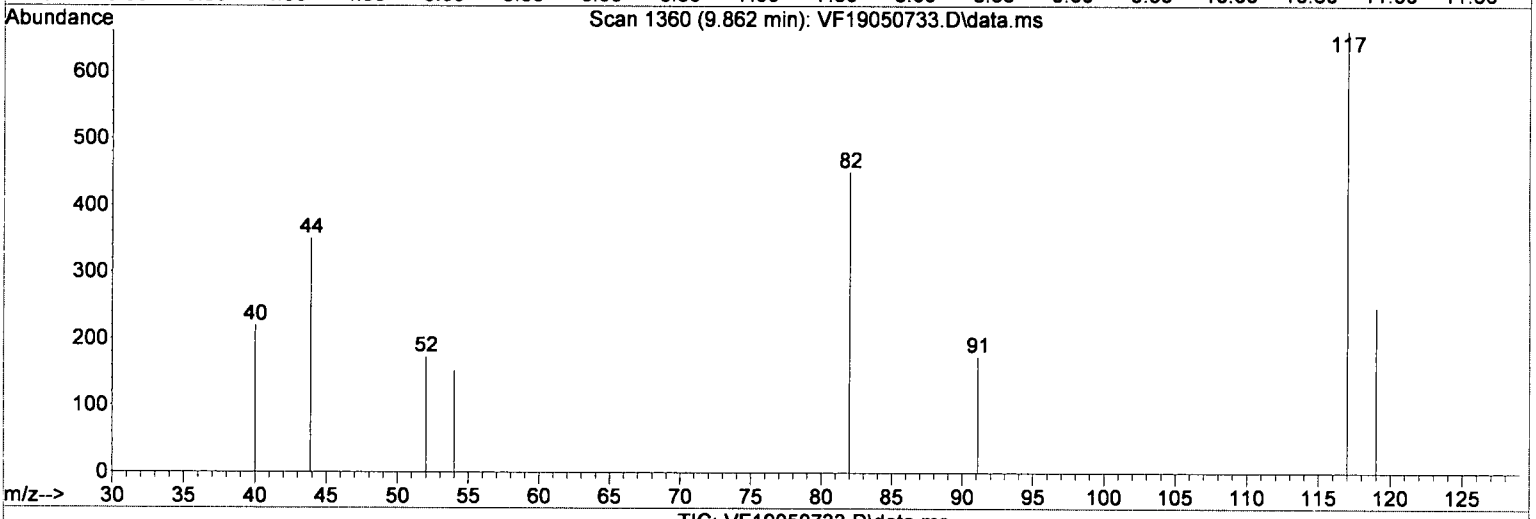
INT = 18,93

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





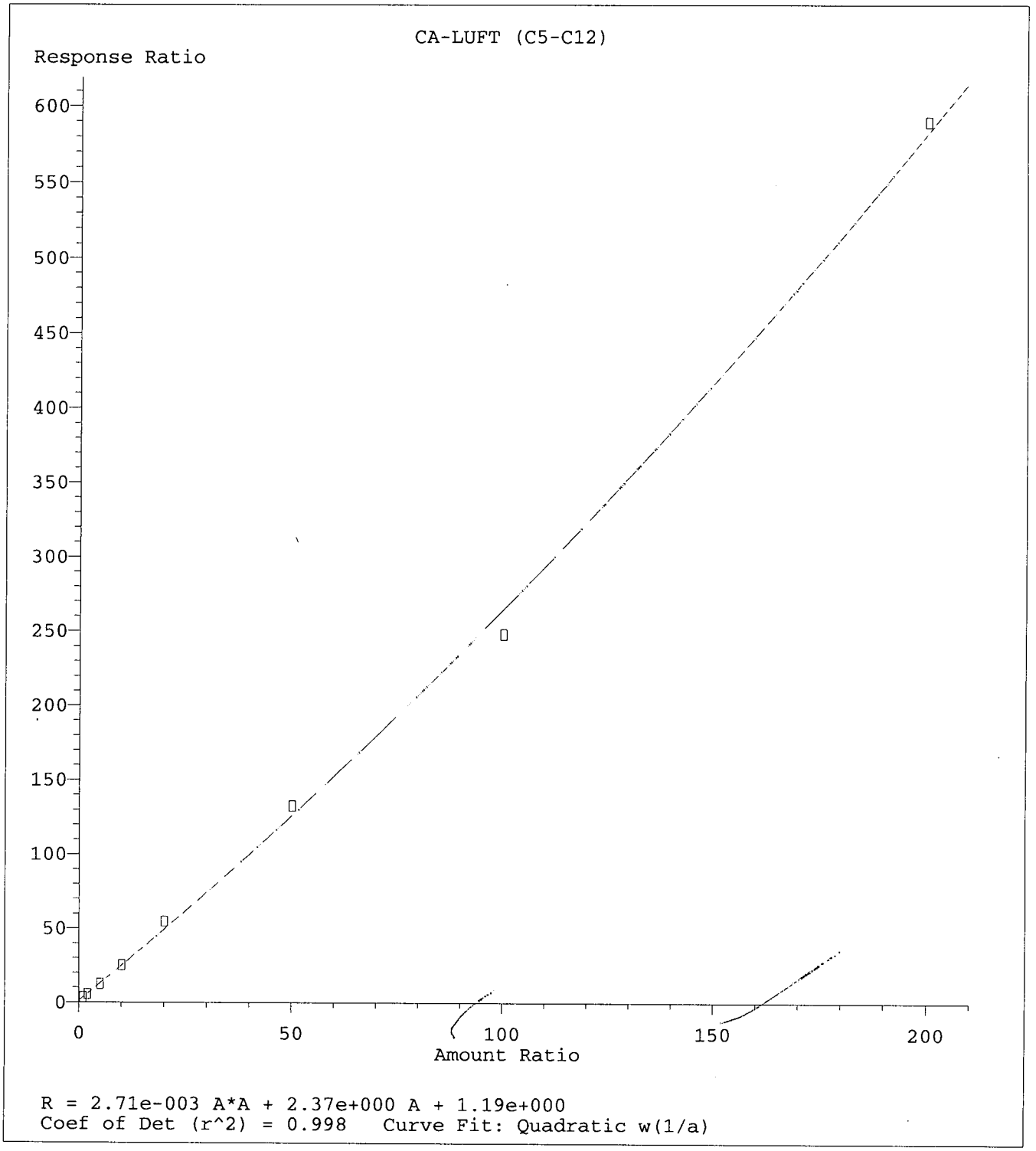
TIC: VF19050733.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 18.93 ug/L m

response 367227

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



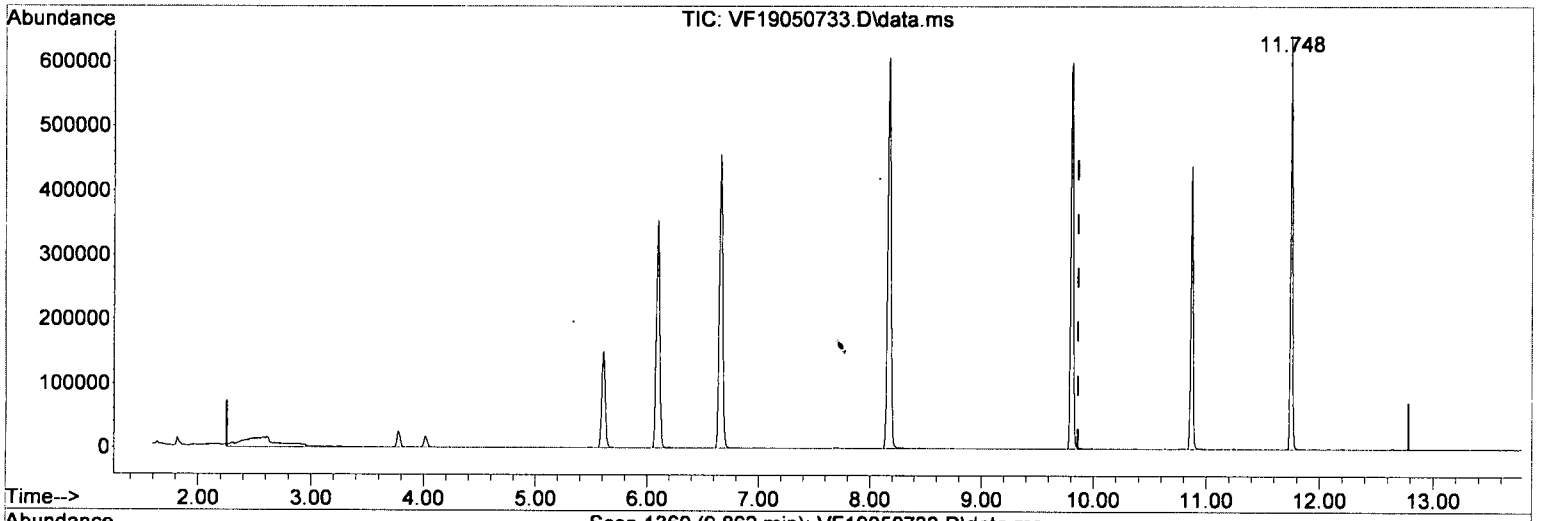
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

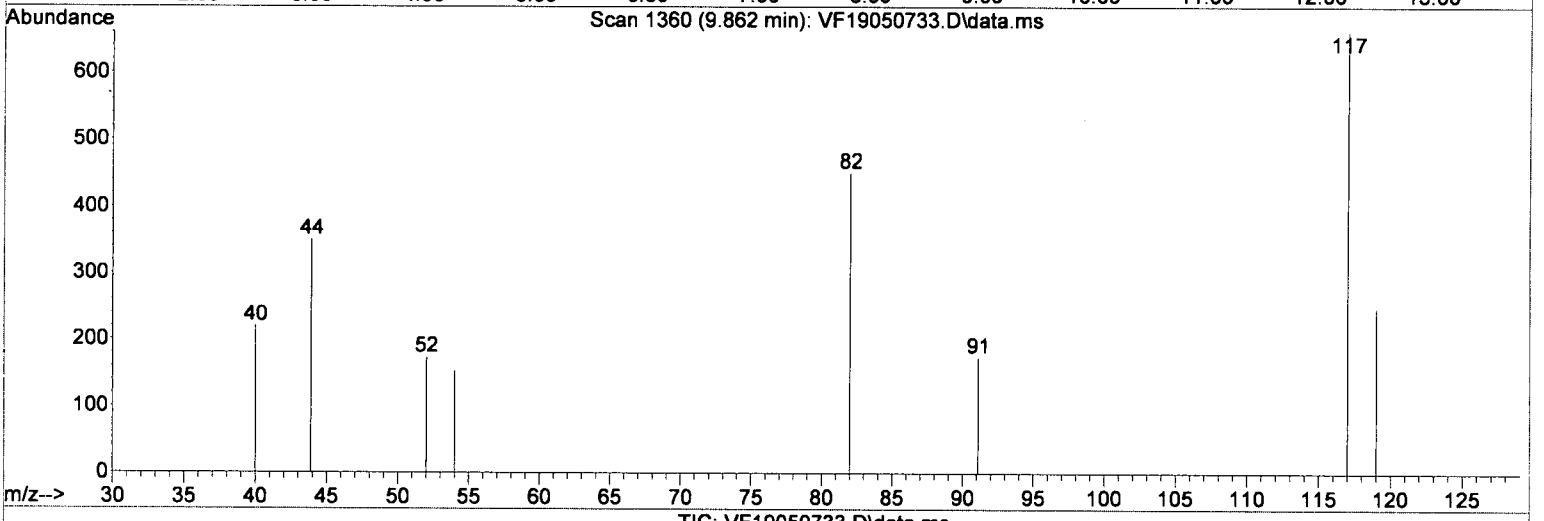
INT = 9,2

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





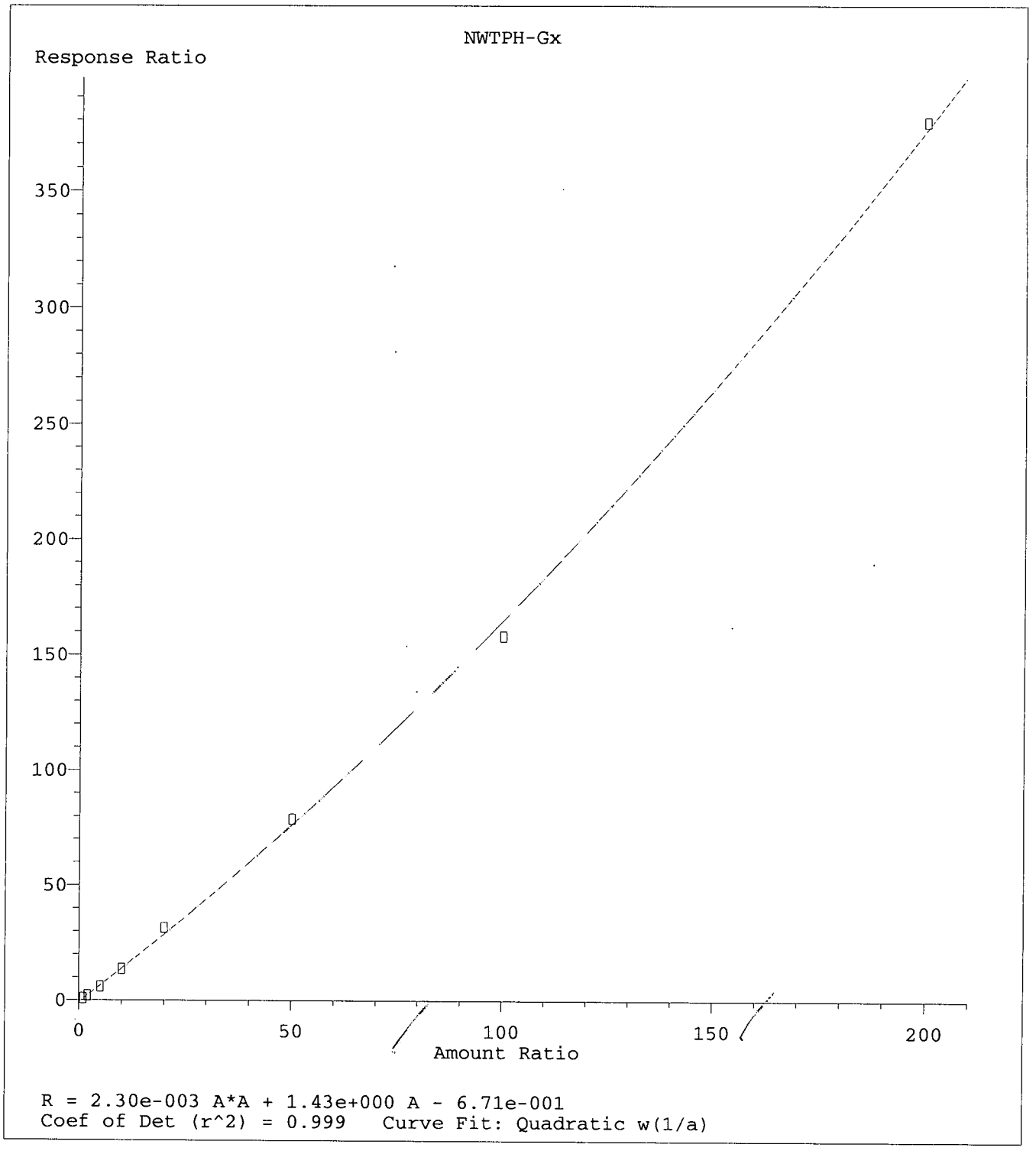
TIC: VF19050733.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.860min (0.000) 9.20 ug/L m

response 429036

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



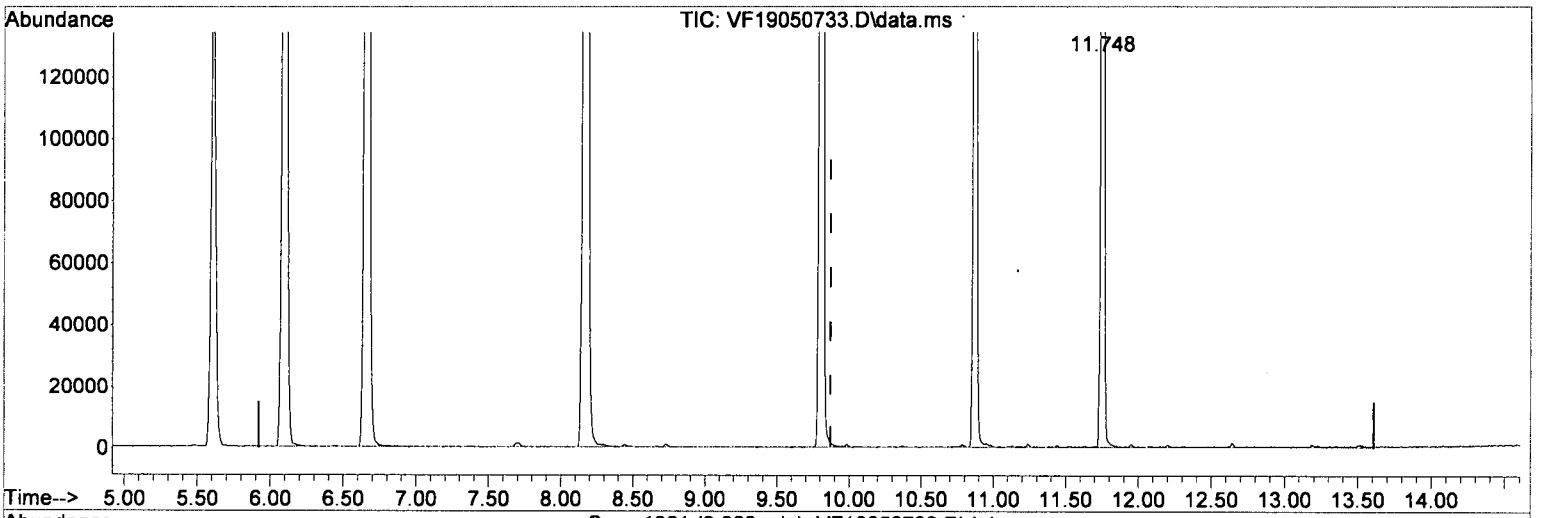
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

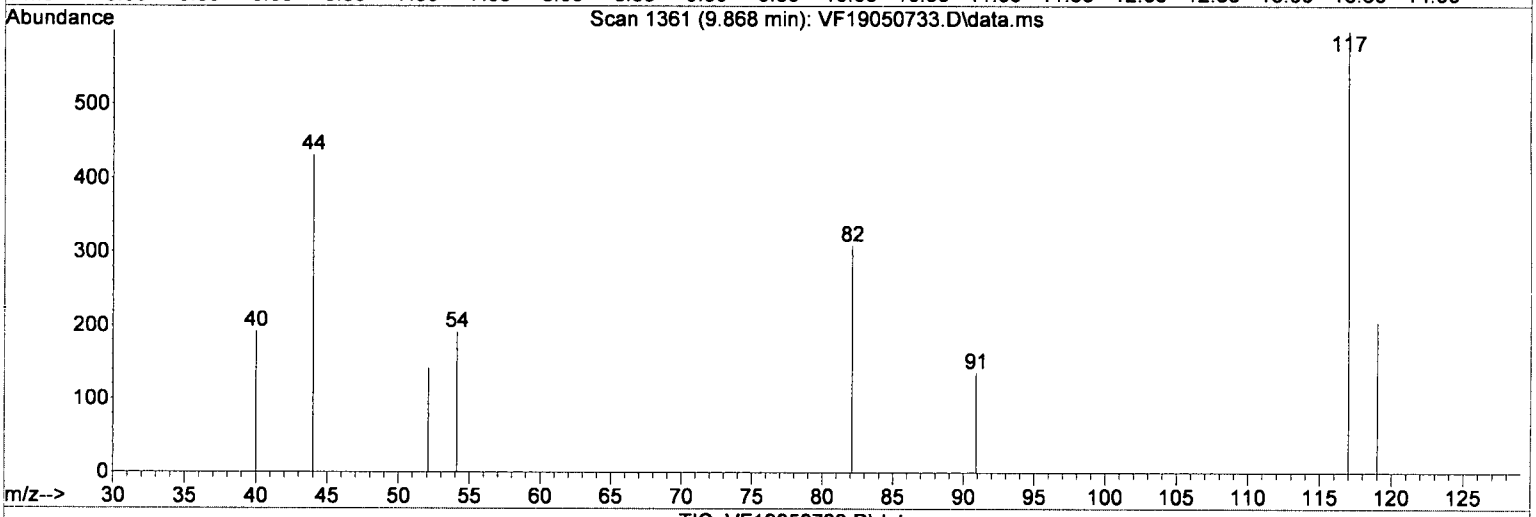
Int = 24.2

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050733.D\data.ms

(8) NWTPH-Gx (H)

9.870min (0.000) 24.20 ug/L m

response 5129

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

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9E07048

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	
9E07048-TUN2	MS Tune	Soil		A19D196	5/8/2019	3:55:00AM
9E07048-ICB2	Initial Cal Blank	Soil		A19D196	5/8/2019	4:49:00AM
9E07048-CALC	Cal Standard	Soil	A19E016	"	5/8/2019	5:16:00AM
9E07048-CALD	Cal Standard	Soil	A19E017	"	5/8/2019	5:43:00AM
9E07048-CALE	Cal Standard	Soil	A19E018	"	5/8/2019	6:11:00AM
9E07048-CALF	Cal Standard	Soil	A19E019	"	5/8/2019	6:38:00AM
9E07048-CALG	Cal Standard	Soil	A19B200	"	5/8/2019	7:05:00AM
9E07048-CALH	Cal Standard	Soil	A19B201	"	5/8/2019	7:32:00AM
9E07048-CALI	Cal Standard	Soil	A19B202	"	5/8/2019	7:59:00AM
9E07048-CALJ	Cal Standard	Soil	A19B203	"	5/8/2019	8:26:00AM
9E07048-ICV2	Initial Cal Check	Soil	A19B262	"	5/8/2019	9:47:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9E0804** Instrument: **VOA-GCMS6**

8015D-Mod Gasoline (C6-C10 Sequence: **9E07048** Matrix: **Soil**

9E07048-CALC	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALD	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E07048-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: 9E07048

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: **A9E0804** Instrument: **VOA-GCMS6**

CA LUFT GRO Sequence: **9E07048** Matrix: **Soil**

9E07048-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\2019-05\9E07048\
Data File : VF19050744.D
Acq On : 8 May 2019 9:47 am
Operator : TB
Sample : 9E07048-ICV2
Misc : 1X 500ppb GX MeOH
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/8/19

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 (IS)	50.000	50.000	0.0	103	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	46.728	6.5	101	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	46.479	7.0	96	0.00
4	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	96	0.00
5	H	TPHg (C5-C9)	500.000	533.693	-6.7	109	0.00
6	H	TPHg (C6-C10)	500.000	543.075	-8.6	110	0.00
7	H	CA-LUFT (C5-C12)	500.000	532.586	-6.5	109	0.00
8	H	NWTPH-Gx	500.000	528.073	-5.6	111	0.00
9		Benzene (NR)	-1.000	0.000	0.0	110	0.00
10	S	Toluene-d8 (NR)	-1.000	0.000	0.0	100	0.00
11	C	Toluene (NR)	-1.000	0.000	0.0	109	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	99	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	118	0.00

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

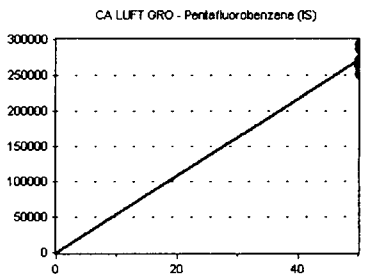
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **VF190507S/G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

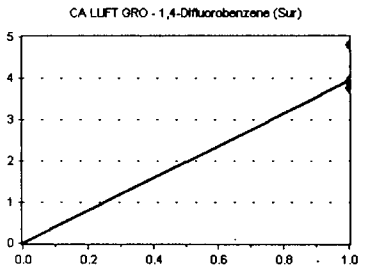


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	6.10
9E07048-CALJ	50	293025	5860.500	6.10

AVE RF **5400.078** RF RSD **5.16** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

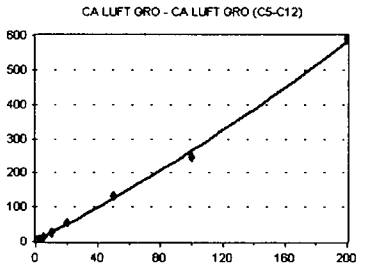


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	50	1412610	4.821	6.66

AVE RF **3.942** RF RSD **9.20** AVE RT **6.66**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

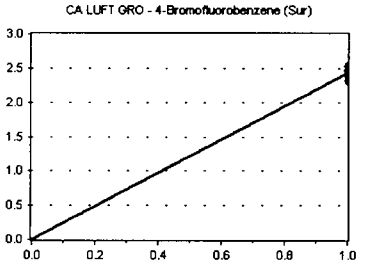


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	905552	3.596	9.86
9E07048-CALD	100	1495406	2.783	9.86
9E07048-CALE	250	3256728	2.502	9.86
9E07048-CALF	500	6691065	2.529	9.86
9E07048-CALG	1000	1.433345E+07	2.733	9.86
9E07048-CALH	2500	3.600874E+07	2.651	9.86
9E07048-CALI	5000	7.131647E+07	2.479	9.86
9E07048-CALJ	10000	1.726612E+08	2.946	9.86

AVE RF **2.777** RF RSD **13.22** AVE RT **9.86**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	583068	2.315	10.87
9E07048-CALD	50	665016	2.475	10.87
9E07048-CALE	50	627727	2.411	10.87
9E07048-CALF	50	640403	2.420	10.87
9E07048-CALG	50	665155	2.537	10.87
9E07048-CALH	50	671226	2.470	10.87
9E07048-CALI	50	689679	2.398	10.87
9E07048-CALJ	50	701119	2.393	10.87

AVE RF **2.427** RF RSD **2.74** AVE RT **10.87**

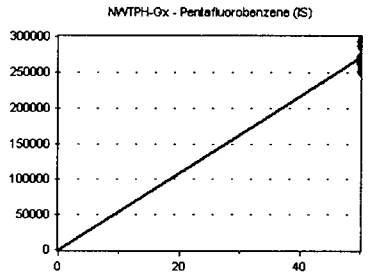
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **VF190507S/G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

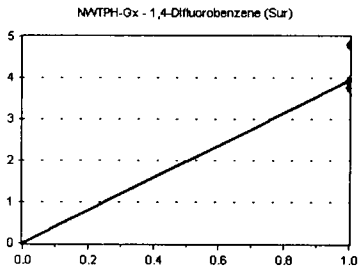


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	6.10
9E07048-CALJ	50	293025	5860.500	6.10

AVE RF **5400.078** RF RSD **5.16** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

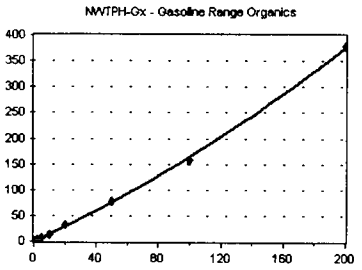


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	50	1412610	4.821	6.66

AVE RF **3.942** RF RSD **9.20** AVE RT **6.66**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

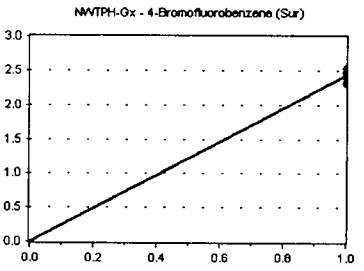


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	216743	0.861	9.87
9E07048-CALD	100	540113	1.005	9.87
9E07048-CALE	250	1533968	1.178	9.87
9E07048-CALF	500	3603975	1.362	9.87
9E07048-CALG	1000	8256018	1.574	9.87
9E07048-CALH	2500	2.140465E+07	1.576	9.87
9E07048-CALI	5000	4.546724E+07	1.581	9.87
9E07048-CALJ	10000	1.110386E+08	1.895	9.87

AVE RF **1.379** RF RSD **25.00** AVE RT **9.87**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	583068	2.315	10.87
9E07048-CALD	50	665016	2.475	10.87
9E07048-CALE	50	627727	2.411	10.87
9E07048-CALF	50	640403	2.420	10.87
9E07048-CALG	50	665155	2.537	10.87
9E07048-CALH	50	671226	2.470	10.87
9E07048-CALI	50	689679	2.398	10.87
9E07048-CALJ	50	701119	2.393	10.87

AVE RF **2.427** RF RSD **2.74** AVE RT **10.87**

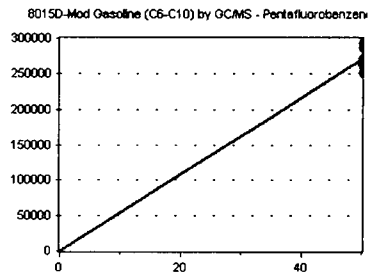
Element Calibration Review Sheet

Calibration ID: **A9E0804** Instrument: **VOA-GCMS6** Calibration Date: **05/08/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **VF190507S/G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

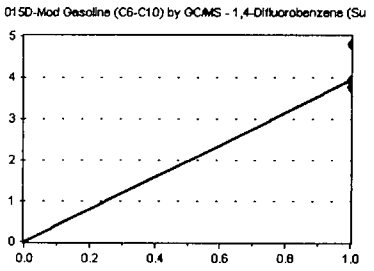


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	6.10
9E07048-CALJ	50	293025	5860.500	6.10

AVE RF **5400.078** RF RSD **5.16** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

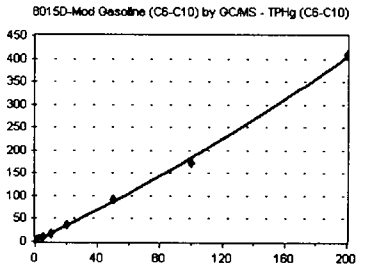


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	50	1412610	4.821	6.66

AVE RF **3.942** RF RSD **9.20** AVE RT **6.66**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

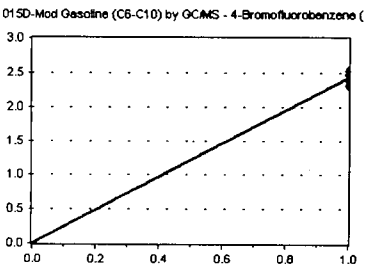


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	621653	2.469	9.86
9E07048-CALD	100	1022515	1.903	9.86
9E07048-CALE	250	2228270	1.712	9.86
9E07048-CALF	500	4686857	1.771	9.86
9E07048-CALG	1000	9868759	1.882	9.86
9E07048-CALH	2500	2.515076E+07	1.851	9.86
9E07048-CALI	5000	4.969054E+07	1.727	9.86
9E07048-CALJ	10000	1.199672E+08	2.047	9.86

AVE RF **1.920** RF RSD **12.85** AVE RT **9.86**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	583068	2.315	10.87
9E07048-CALD	50	665016	2.475	10.87
9E07048-CALE	50	627727	2.411	10.87
9E07048-CALF	50	640403	2.420	10.87
9E07048-CALG	50	665155	2.537	10.87
9E07048-CALH	50	671226	2.470	10.87
9E07048-CALI	50	689679	2.398	10.87
9E07048-CALJ	50	701119	2.393	10.87

AVE RF **2.427** RF RSD **2.74** AVE RT **10.87**

Injection Log

Directory: k:\DATA\2019-05\9E07048

Line	Vial	FileName	Multiplier	SampleName		Misc Info	Injected
1	1	Vf19050711.d	1.	9E07048-IBL1		1X 5mL DI+MeOH	7 May 2019 18:53
2	2	Vf19050712.d	1.	9E07048-TUN1		A19D196 BFB (IS/...	7 May 2019 19:21
3	3	Vf19050713.d	1.	9E07048-ICB1		1X DI+MeOH	7 May 2019 19:48
4	4	Vf19050714.d	1.	9E07048-CAL1		1X 0.1ppb VOC MeOH	7 May 2019 20:15
5	5	Vf19050715.d	1.	9E07048-CAL2		1X 0.2ppb VOC MeOH	7 May 2019 20:42
6	6	Vf19050716.d	1.	9E07048-CAL3		1X 0.4ppb VOC MeOH	7 May 2019 21:09
7	7	Vf19050717.d	1.	9E07048-CAL4		1X 1ppb VOC MeOH	7 May 2019 21:36
8	8	Vf19050718.d	1.	9E07048-CAL5		1X 2ppb VOC MeOH	7 May 2019 22:04
9	9	Vf19050719.d	1.	9E07048-CAL6		1X 5ppb VOC MeOH	7 May 2019 22:31
10	10	Vf19050720.d	1.	9E07048-CAL7		1X 10ppb VOC MeOH	7 May 2019 22:58
11	11	Vf19050721.d	1.	9E07048-CAL8		1X 20ppb VOC MeOH	7 May 2019 23:25
12	12	Vf19050722.d	1.	9E07048-CAL9		1X 50ppb VOC MeOH	7 May 2019 23:52
13	13	Vf19050723.d	1.	9E07048-IBL2		1X 5mL DI+MeOH	8 May 2019 00:19
14	14	Vf19050724.d	1.	9E07048-CALA		1X 100ppb VOC MeOH	8 May 2019 00:46
15	15	Vf19050725.d	1.	9E07048-IBL3		1X 5mL DI+MeOH	8 May 2019 01:13
16	16	Vf19050726.d	1.	9E07048-CALB		1X 200ppb VOC MeOH	8 May 2019 01:40
17	17	Vf19050727.d	1.	9E07048-IBL4		1X 5mL DI+MeOH	8 May 2019 02:07
18	18	Vf19050728.d	1.	9E07048-IBL5		1X 5mL DI+MeOH	8 May 2019 02:34
19	19	Vf19050729.d	1.	9E07048-ICV1		1X 50ppb VOC MeOH	8 May 2019 03:01
20	20	Vf19050730.d	1.	9E07048-IBL6		1X 5mL DI+MeOH	8 May 2019 03:28
21	21	Vf19050731.d	1.	9E07048-TUN2	RT	A19D196 BFB (IS/...	8 May 2019 03:55
22	22	Vf19050732.d	1.	9E07048-IBL7		1X 5mL DI+MeOH	8 May 2019 04:22
23	23	Vf19050733.d	1.	9E07048-ICB2		1X DI+MeOH	8 May 2019 04:49
24	24	Vf19050734.d	1.	9E07048-CALC		1X 50ppb GX MeOH	8 May 2019 05:16
25	25	Vf19050735.d	1.	9E07048-CALD		1X 100ppb GX MeOH	8 May 2019 05:43
26	26	Vf19050736.d	1.	9E07048-CALE		1X 250ppb GX MeOH	8 May 2019 06:11
27	27	Vf19050737.d	1.	9E07048-CALF		1X 500ppb GX MeOH	8 May 2019 06:38
28	28	Vf19050738.d	1.	9E07048-CALG		1X 1000ppb GX MeOH	8 May 2019 07:05
29	29	Vf19050739.d	1.	9E07048-CALH		1X 2500ppb GX MeOH	8 May 2019 07:32
30	30	Vf19050740.d	1.	9E07048-CALI		1X 5000ppb GX MeOH	8 May 2019 07:59
31	31	Vf19050741.d	1.	9E07048-CALJ		1X 10000ppb GX MeOH	8 May 2019 08:26
32	32	Vf19050742.d	1.	9E07048-IBL8		1X 5mL DI+MeOH	8 May 2019 08:53
33	33	Vf19050743.d	1.	9E07048-IBL9		1X 5mL DI+MeOH	8 May 2019 09:20
34	34	Vf19050744.d	1.	9E07048-ICV2		1X 500ppb GX MeOH	8 May 2019 09:47
35	35	Vf19050745.d	1.	9E07048-IBLA		1X 5mL DI+MeOH	8 May 2019 10:14

KJ 5/8/19

5/8/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050711.D
Acq On : 7 May 2019 6:53 pm
Operator : TB
Sample : 9E07048-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

NR

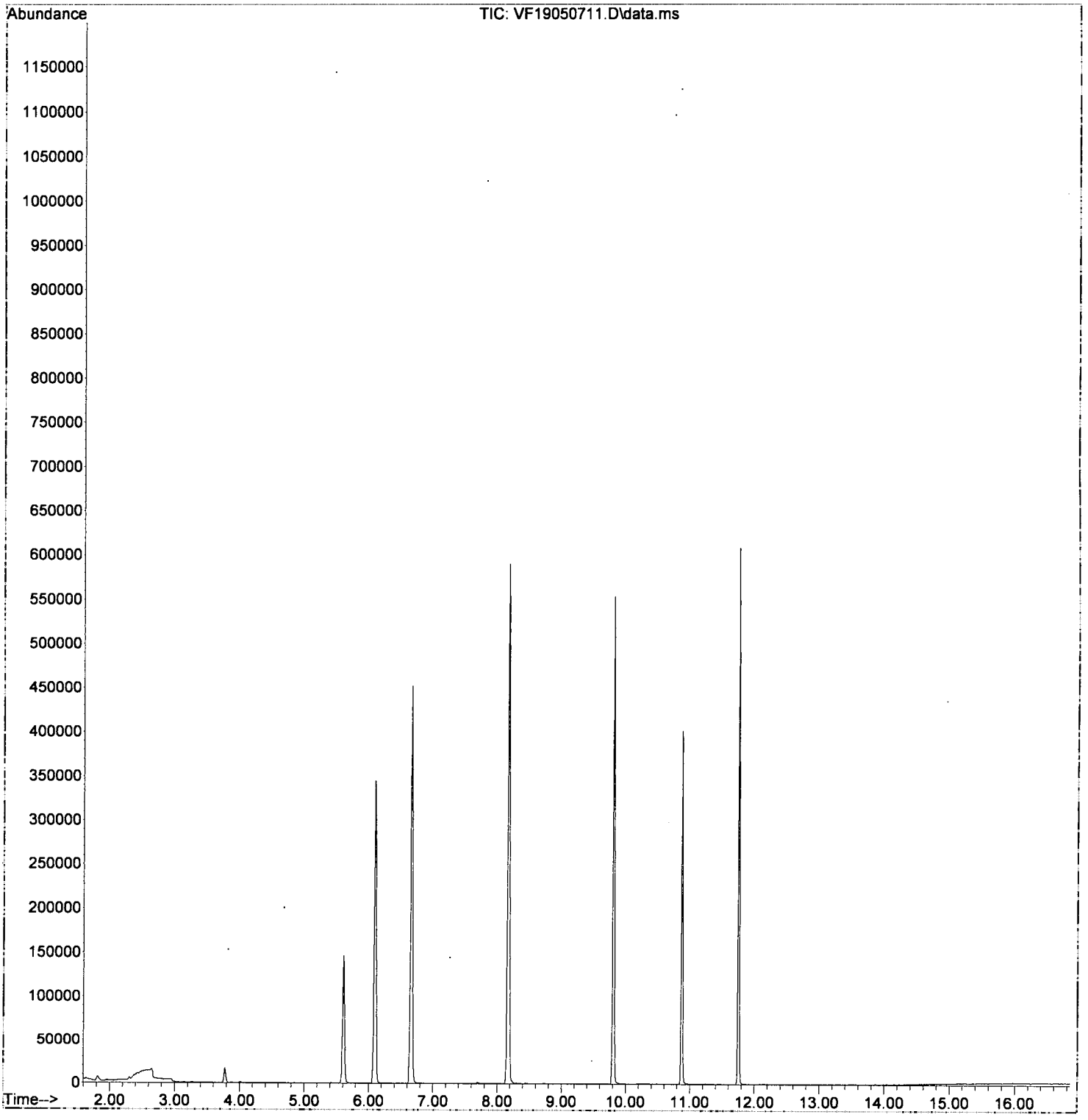
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	262943	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.802	117	288034	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	126489	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	99051	46.95	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.657	114	399530	49.18	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	446866	52.47	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.873	174	97730	50.18	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.839	50	725	0.20	ug/L		89
5) Bromomethane	2.302	96	1543	0.70	ug/L		99
9) Carbon Disulfide	3.135	76	262	0.27	ug/L		77
11) Iodomethane	3.281	142	236	1.26	ug/L	#	47
12) Methylene Chloride	3.774	84	7598	Below Cal			87
13) Acetone	3.877	43	865	0.64	ug/L		93
28) 2-Butanone (MEK)	5.775	43	277	0.14	ug/L		54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050711.D
Acq On : 7 May 2019 6:53 pm
Operator : TB
Sample : 9E07048-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



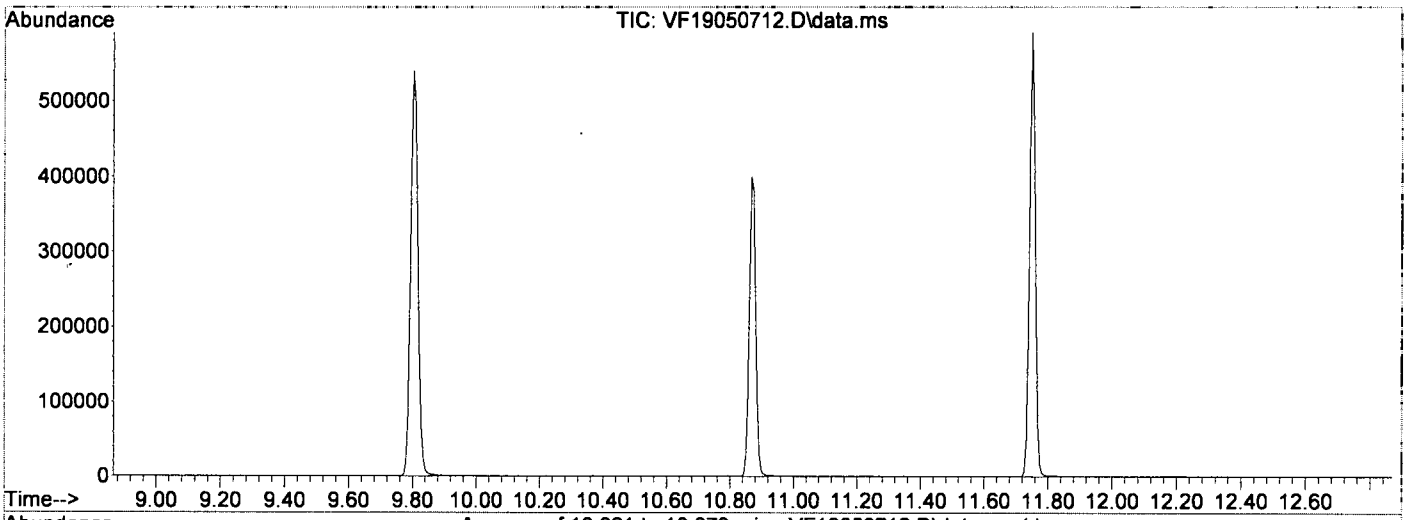
BFB

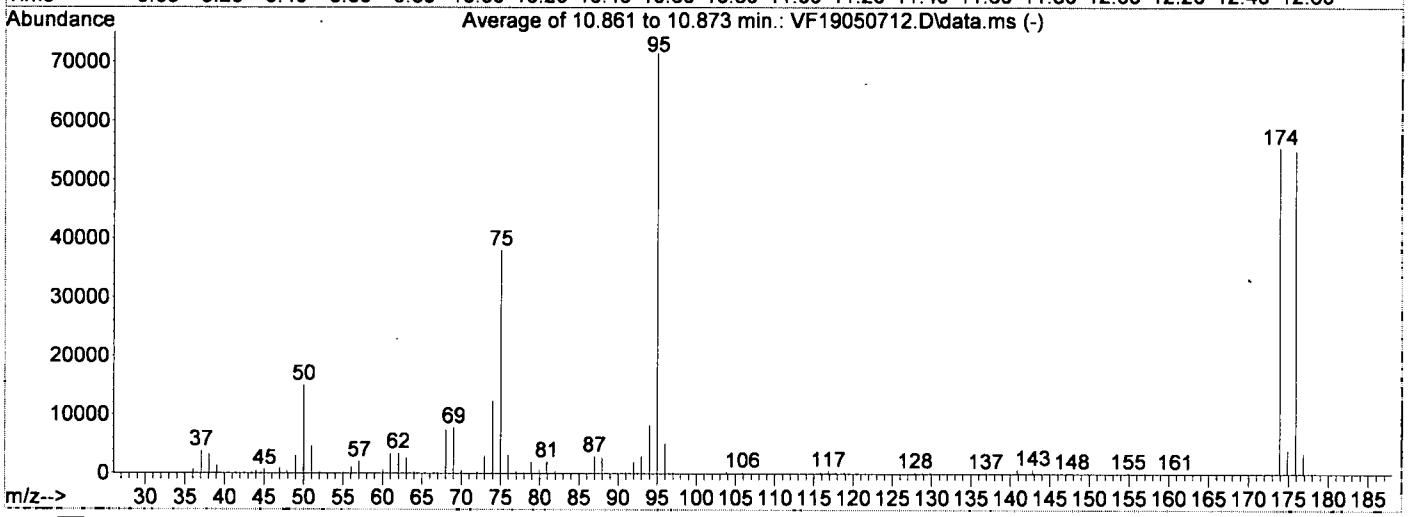
Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050712.D
Acq On : 7 May 2019 7:21 pm
Operator : TB
Sample : 9E07048-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190507S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Wed May 08 11:09:13 2019

5/8/19





AutoFind: Scans 1524, 1525, 1526; Background Corrected with Scan 1518

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	21.1	15041	PASS
75	95	30	60	53.2	37978	PASS
95	95	100	100	100.0	71448	PASS
96	95	5	9	7.3	5205	PASS
173	174	0.00	2	0.2	107	PASS
174	95	50	200	77.6	55426	PASS
175	174	5	9	7.3	4027	PASS
176	174	95	101	99.2	54970	PASS
177	176	5	9	6.4	3496	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050712.D
Acq On : 7 May 2019 7:21 pm
Operator : TB
Sample : 9E07048-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:14 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

TB 5/8/19

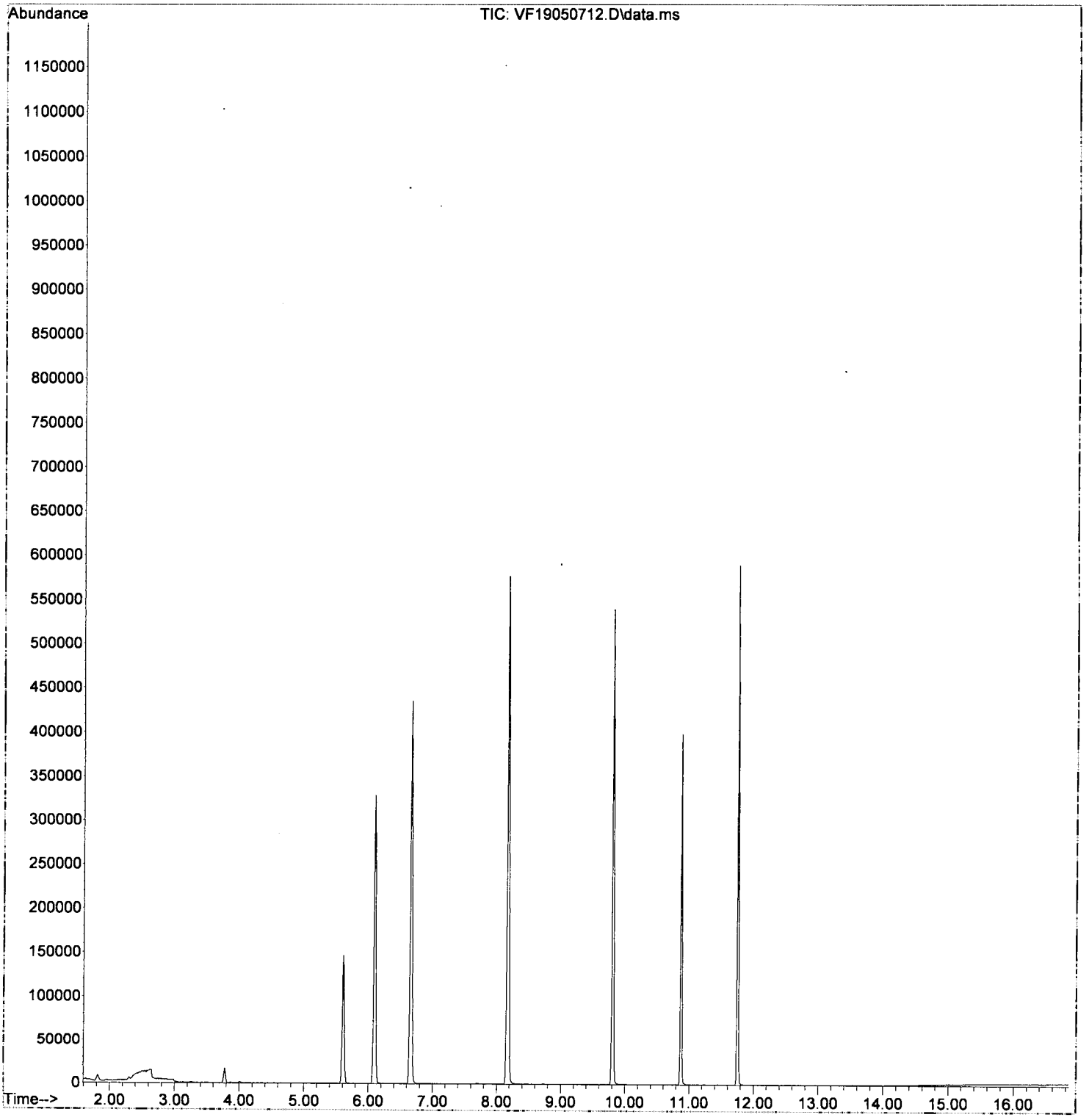
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.098	168	251113	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.803	117	284438	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	121728	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (S)	5.605	111	96673	47.98 ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.658	114	385956	49.75 ug/L	0.00
39) Toluene-d8 (S)	8.166	98	431968	51.37 ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.873	174	94724	50.54 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.839	50	630	0.18 ug/L	75
5) Bromomethane	2.302	96	1360	0.65 ug/L	88
9) Carbon Disulfide	3.135	76	100	0.24 ug/L	77
12) Methylene Chloride	3.774	84	7948	Below Cal	90
13) Acetone	3.865	43	913	0.71 ug/L #	42
28) 2-Butanone (MEK)	5.763	43	239	0.12 ug/L	54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050712.D
Acq On : 7 May 2019 7:21 pm
Operator : TB
Sample : 9E07048-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:14 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050713.D
Acq On : 7 May 2019 7:48 pm
Operator : TB
Sample : 9E07048-ICB1
Misc : 1X DI+MeOH
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:58:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:54:03 2019
Response via : Initial Calibration

5/8/19

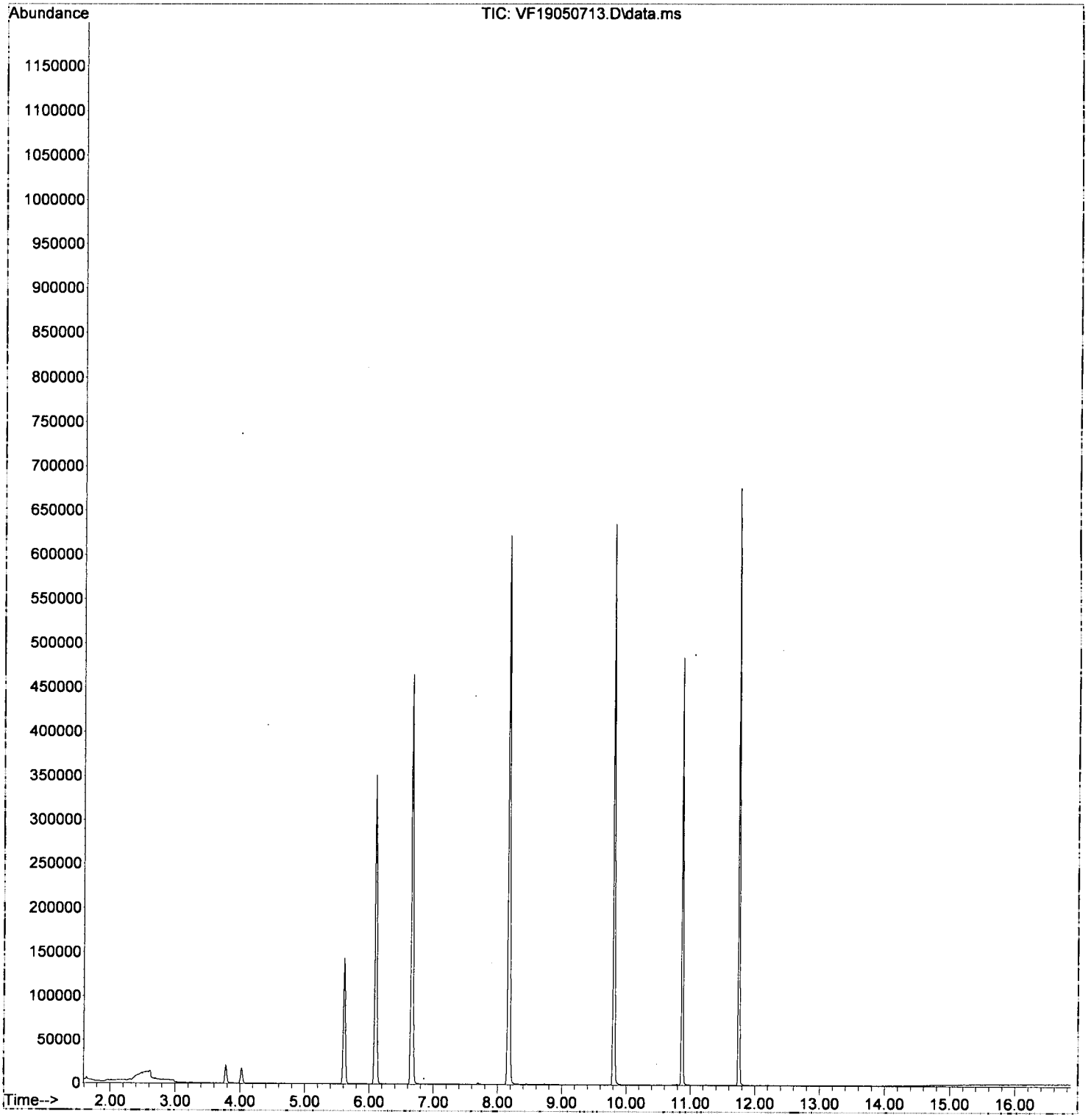
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.102	168	264636	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	322849	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.747	152	140430	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	96364	45.39	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	405814	49.63	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	463703	48.58	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	112463	52.01	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.306	96	547	0.25	ug/L		88
9) Carbon Disulfide	3.145	76	321	0.28	ug/L		77
12) Methylene Chloride	3.778	84	10211	Below Cal			92
13) Acetone	3.875	43	1043	0.77	ug/L	#	42
15) n-Hexane	4.021	86	1427	1.87	ug/L	#	85
28) 2-Butanone (MEK)	5.761	43	170	0.08	ug/L		54

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050713.D
Acq On : 7 May 2019 7:48 pm
Operator : TB
Sample : 9E07048-ICB1
Misc : 1X DI+MeOH
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:58:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:54:03 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:30 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.096	168	240040	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.807	117	263004	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	117395	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (S)	5.609	111	91510	44.95 ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.662	114	372792	50.12 ug/L	0.00
39) Toluene-d8 (S)	8.170	98	412832	51.24 ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.872	174	90333	50.64 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.637	85	227	0.10 ug/L #	50
3) Chloromethane	1.844	50	1131	0.34 ug/L	90
4) Vinyl Chloride	1.953	62	289	0.09 ug/L #	40
5) Bromomethane	2.306	96	2001	1.01 ug/L	92
6) Chloroethane	0.000		0	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) 1,1-Dichloroethene	3.127	61	464	0.11 ug/L #	56
9) Carbon Disulfide	3.146	76	705	0.14 ug/L	77
10) Freon 113	3.188	101	134	0.05 ug/L #	69
11) Iodomethane	3.285	142	211	0.22 ug/L #	47
12) Methylene Chloride	3.778	84	14820	4.29 ug/L	90
13) Acetone	3.882	43	1683	1.28 ug/L	86
14) t-1,2-Dichloroethene	3.936	61	320	0.07 ug/L #	70
15) n-Hexane	4.022	86	1835	2.65 ug/L #	77
16) Methyl-tert-butyl-ether	4.088	73	787	0.09 ug/L	60
17) 1,1-Dichloroethane	4.575	63	503	0.09 ug/L #	49
18) Acrylonitrile	0.000		0	N.D.	
19) c-1,2-Dichloroethene	5.147	61	307	0.08 ug/L #	58
20) 2,2-Dichloropropane	0.000		0	N.D.	
21) Bromochloromethane	5.336	49	192	0.08 ug/L #	54
22) Chloroform	5.427	83	424	0.09 ug/L	80
23) Carbon Tetrachloride	0.000		0	N.D.	
24) Tetrahydrofuran	0.000		0	N.D.	
25) 1,1,1-Trichloroethane	5.621	97	140	0.04 ug/L #	24
27) 1,1-Dichloropropene	5.755	75	346	0.09 ug/L #	41
28) 2-Butanone (MEK)	5.774	43	470	0.24 ug/L	54
29) Benzene	6.011	78	1127	0.09 ug/L	80
30) 1,2-Dichloroethane (EDC)	6.230	62	369	0.09 ug/L	78
31) iso-Butyl Alcohol	0.000		0	N.D.	
33) Trichloroethene (TCE)	6.625	130	205	0.07 ug/L #	70
34) Dibromomethane	0.000		0	N.D.	
35) 1,2-Dichloropropane	7.179	63	134	0.05 ug/L #	37
36) Bromodichloromethane	0.000		0	N.D.	
38) c-1,3-Dichloropropene	0.000		0	N.D.	
40) Toluene	8.231	91	1513	0.13 ug/L	86
41) Tetrachloroethene (PCE)	8.681	166	241	0.09 ug/L #	77
42) 4-Methyl-2-Pentanone (...	8.688	43	391	0.12 ug/L #	41
43) t-1,3-Dichloropropene	0.000		0	N.D.	
44) 1,1,2-Trichloroethane	0.000		0	N.D.	
45) Dibromochloromethane	0.000		0	N.D.	
46) 1,3-Dichloropropane	9.168	76	369	0.09 ug/L #	67
47) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
48) 2-Hexanone	9.557	43	209	0.09 ug/L #	31

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:30 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

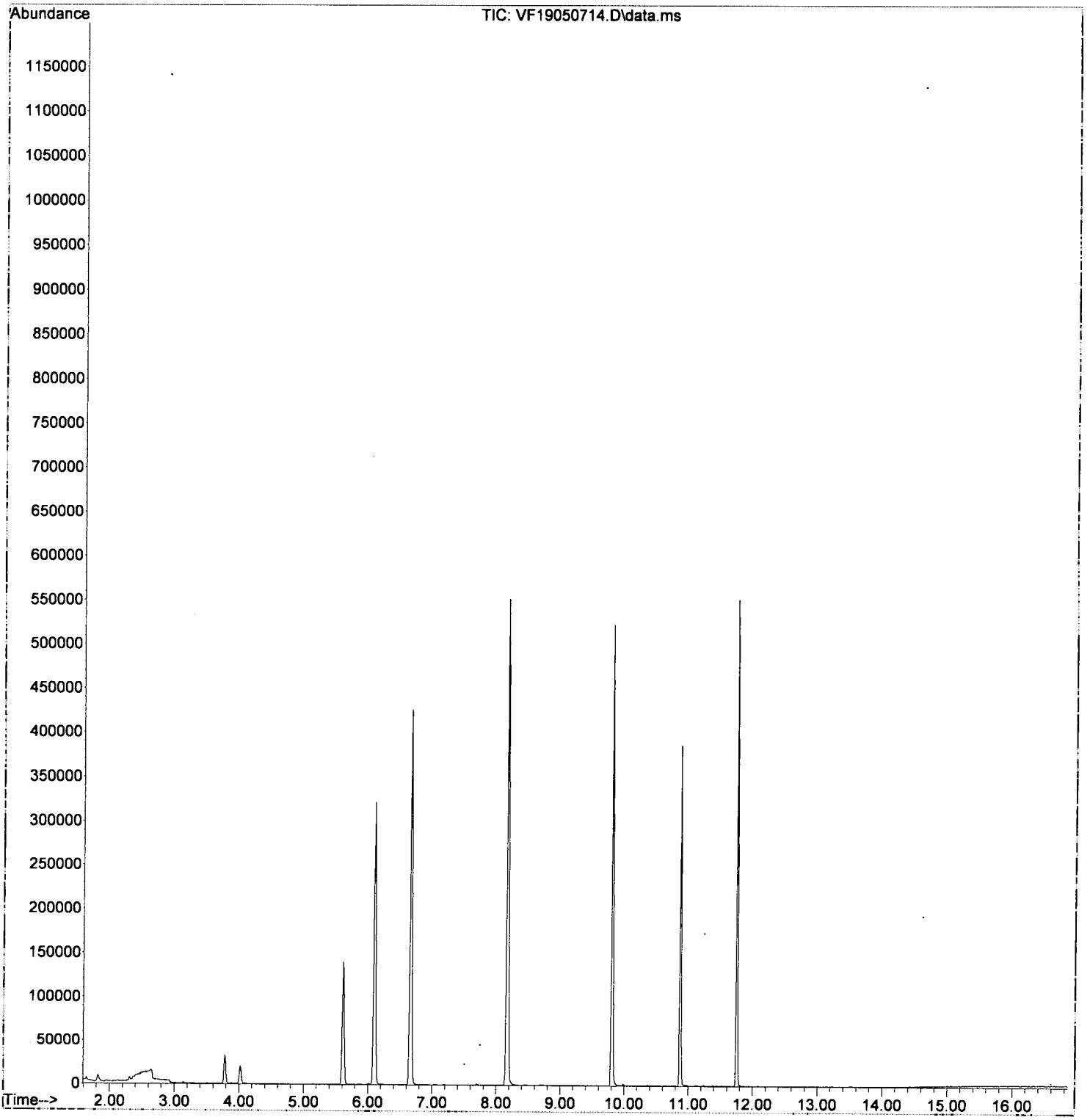
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49)	Chlorobenzene	9.819	112	708	0.11	ug/L #	1
50)	Ethylbenzene	9.849	91	1175	0.11	ug/L	92
51)	1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
52)	m,p-Xylenes (2)	9.989	91	1447	0.18	ug/L	93
53)	o-Xylene	10.367	91	771	0.10	ug/L	82
54)	Styrene	10.421	104	268	0.05	ug/L #	41
55)	Bromoform	0.000		0	N.D.		
56)	Isopropylbenzene	10.628	105	607	0.07	ug/L	78
59)	Bromobenzene	10.963	156	160	0.07	ug/L	91
60)	n-Propylbenzene	10.975	91	914	0.09	ug/L	81
61)	1,1,2,2-Tetrachloroethane	11.036	83	138	0.05	ug/L	83
62)	2-Chlorotoluene	0.000		0	N.D.		
63)	1,3,5-Trimethylbenzene	11.133	105	548	0.08	ug/L	92
64)	1,2,3-Trichloropropane	0.000		0	N.D.		
65)	t-1,4-Dichloro-2-butene	0.000		0	N.D.		
66)	4-Chlorotoluene	11.243	91	483	0.08	ug/L	81
67)	tert-Butylbenzene	11.376	91	294	0.08	ug/L #	58
68)	1,2,4-Trimethylbenzene	11.437	105	561	0.08	ug/L	90
69)	sec-Butylbenzene	11.516	105	715	0.09	ug/L	81
70)	4-Isopropyltoluene	11.626	119	475	0.07	ug/L	67
71)	1,3-Dichlorobenzene	11.693	146	361	0.09	ug/L	85
72)	1,4-Dichlorobenzene	11.760	146	465	0.12	ug/L #	1
73)	n-Butylbenzene	11.948	91	503	0.09	ug/L	88
74)	1,2-Dichlorobenzene	12.082	146	319	0.09	ug/L	73
75)	1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
76)	Hexachlorobutadiene	0.000		0	N.D.		
77)	1,2,4-Trichlorobenzene	13.226	180	160	0.08	ug/L	67
78)	Naphthalene	13.500	128	347	0.05	ug/L	78
79)	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\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:30 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:29:18 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

post 5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	240040	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	263004	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	117395	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	91510	44.95	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.662	114	372792	50.12	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	412832	51.24	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	90333	50.64	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d		
3) Chloromethane	1.844	50	1131	0.34	ug/L		90
4) Vinyl Chloride	0.000		0	N.D.	d		
5) Bromomethane	2.306	96	2001	1.01	ug/L		92
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) 1,1-Dichloroethene	3.127	61	464	0.11	ug/L	#	56
9) Carbon Disulfide	3.146	76	705	0.14	ug/L		77
10) Freon 113	0.000		0	N.D.	d		
11) Iodomethane	0.000		0	N.D.	d		
12) Methylene Chloride	3.778	84	14820	4.29	ug/L		90
13) Acetone	3.882	43	1683	1.28	ug/L		86
14) t-1,2-Dichloroethene	3.936	61	320	0.07	ug/L	#	70
15) n-Hexane	4.022	86	1835	2.65	ug/L	#	77
16) Methyl-tert-butyl-ether	4.088	73	787	0.09	ug/L		60
17) 1,1-Dichloroethane	4.575	63	503	0.09	ug/L	#	49
18) Acrylonitrile	0.000		0	N.D.			
19) c-1,2-Dichloroethene	5.147	61	307	0.08	ug/L	#	58
20) 2,2-Dichloropropane	0.000		0	N.D.			
21) Bromochloromethane	0.000		0	N.D.	d		
22) Chloroform	5.427	83	424	0.09	ug/L		80
23) Carbon Tetrachloride	0.000		0	N.D.			
24) Tetrahydrofuran	0.000		0	N.D.			
25) 1,1,1-Trichloroethane	0.000		0	N.D.	d		
27) 1,1-Dichloropropene	0.000		0	N.D.	d		
28) 2-Butanone (MEK)	0.000		0	N.D.	d		
29) Benzene	6.011	78	1127	0.09	ug/L		80
30) 1,2-Dichloroethane (EDC)	6.230	62	369	0.09	ug/L		78
31) iso-Butyl Alcohol	0.000		0	N.D.			
33) Trichloroethene (TCE)	6.625	130	205	0.07	ug/L	#	70
34) Dibromomethane	0.000		0	N.D.			
35) 1,2-Dichloropropane	0.000		0	N.D.	d		
36) Bromodichloromethane	0.000		0	N.D.			
38) c-1,3-Dichloropropene	0.000		0	N.D.			
40) Toluene	8.231	91	1513	0.13	ug/L		86
41) Tetrachloroethene (PCE)	8.681	166	241	0.09	ug/L	#	77
42) 4-Methyl-2-Pentanone (...	8.688	43	391	0.12	ug/L	#	41
43) t-1,3-Dichloropropene	0.000		0	N.D.			
44) 1,1,2-Trichloroethane	0.000		0	N.D.			
45) Dibromochloromethane	0.000		0	N.D.			
46) 1,3-Dichloropropane	9.168	76	369	0.09	ug/L	#	67
47) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
48) 2-Hexanone	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:29:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

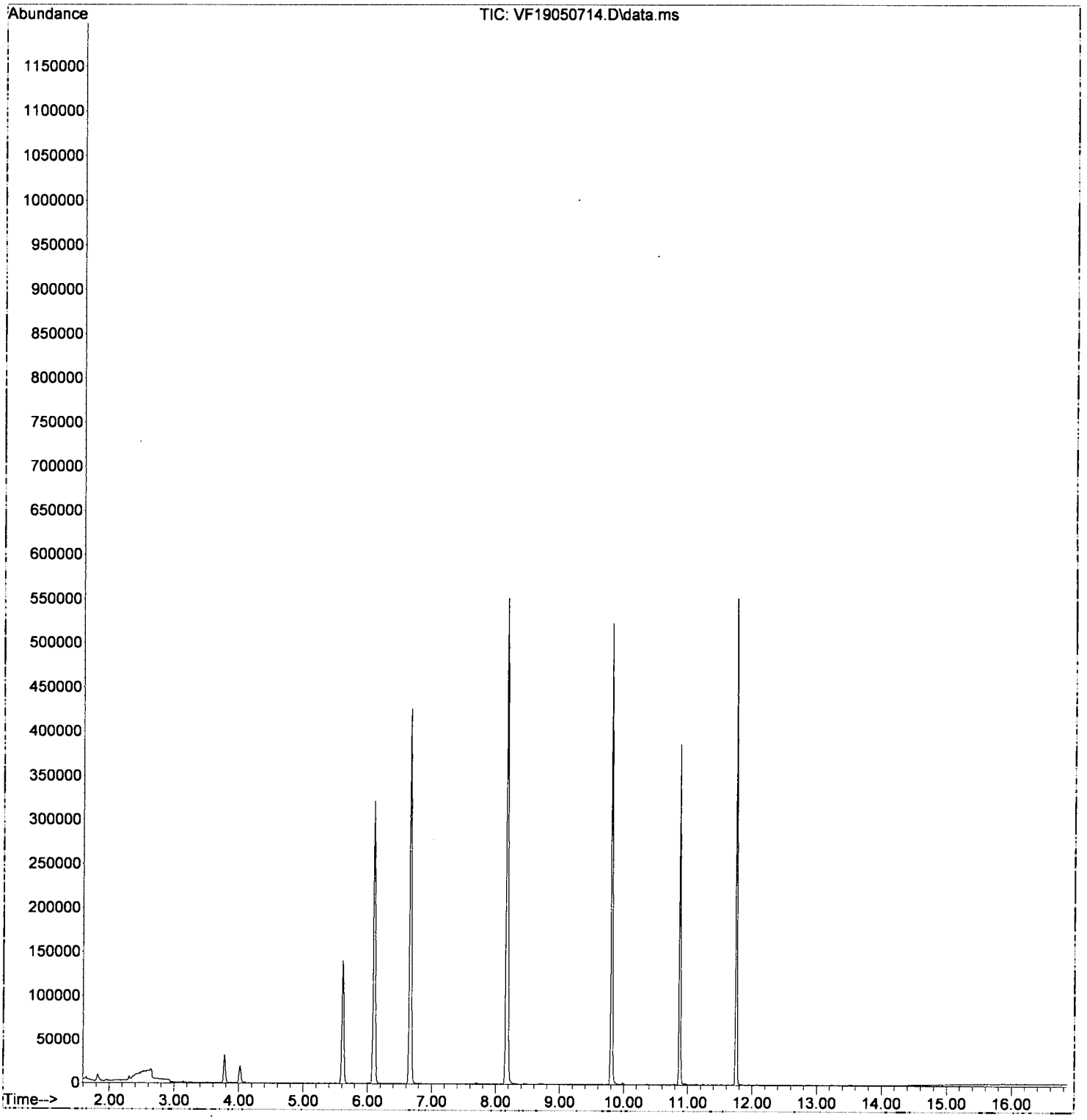
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	708	0.11	ug/L #	1
50) Ethylbenzene	9.849	91	1175	0.11	ug/L	92
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
52) m,p-Xylenes (2)	9.989	91	1447	0.18	ug/L	93
53) o-Xylene	10.367	91	771	0.10	ug/L	82
54) Styrene	0.000		0	N.D. d		
55) Bromoform	0.000		0	N.D.		
56) Isopropylbenzene	10.628	105	607	0.07	ug/L	78
59) Bromobenzene	10.963	156	160	0.07	ug/L	91
60) n-Propylbenzene	10.975	91	914	0.09	ug/L	81
61) 1,1,2,2-Tetrachloroethane	11.036	83	138	0.05	ug/L	83
62) 2-Chlorotoluene	0.000		0	N.D.		
63) 1,3,5-Trimethylbenzene	11.133	105	548	0.08	ug/L	92
64) 1,2,3-Trichloropropane	0.000		0	N.D.		
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
66) 4-Chlorotoluene	11.243	91	483	0.08	ug/L	81
67) tert-Butylbenzene	11.376	91	294	0.08	ug/L #	58
68) 1,2,4-Trimethylbenzene	11.437	105	561	0.08	ug/L	90
69) sec-Butylbenzene	11.516	105	715	0.09	ug/L	81
70) 4-Isopropyltoluene	11.626	119	475	0.07	ug/L	67
71) 1,3-Dichlorobenzene	11.693	146	361	0.09	ug/L	85
72) 1,4-Dichlorobenzene	11.760	146	465	0.12	ug/L #	1
73) n-Butylbenzene	11.948	91	503	0.09	ug/L	88
74) 1,2-Dichlorobenzene	12.082	146	319	0.09	ug/L	73
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
76) Hexachlorobutadiene	0.000		0	N.D.		
77) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
78) Naphthalene	0.000		0	N.D. d		
79) 1,2,3-Trichlorobenzene	0.000		0	N.D.		

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050714.D
Acq On : 7 May 2019 8:15 pm
Operator : TB
Sample : 9E07048-CAL1
Misc : 1X 0.1ppb VOC MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:29:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	253997	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	315116	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	140978	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	93146	43.24	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	393610	50.01	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	451605	46.79	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.867	174	110936	51.79	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.633	85	337	0.14	ug/L	#	50
3) Chloromethane	1.846	50	797	0.22	ug/L		87
4) Vinyl Chloride	1.937	62	686	0.20	ug/L		92
5) Bromomethane	2.296	96	1145	0.55	ug/L		96
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) 1,1-Dichloroethene	3.135	61	831	0.18	ug/L		76
9) Carbon Disulfide	3.147	76	1068	0.19	ug/L		77
10) Freon 113	3.184	101	458	0.16	ug/L	#	73
11) Iodomethane	0.000		0	N.D.			
12) Methylene Chloride	3.780	84	13830	3.78	ug/L		83
13) Acetone	3.871	43	1611	1.16	ug/L		90
14) t-1,2-Dichloroethene	3.938	61	852	0.19	ug/L		83
15) n-Hexane	4.023	86	1841	2.51	ug/L		95
16) Methyl-tert-butyl-ether	4.078	73	1746	0.20	ug/L		78
17) 1,1-Dichloroethane	4.583	63	1018	0.17	ug/L		85
18) Acrylonitrile	0.000		0	N.D.			
19) c-1,2-Dichloroethene	5.137	61	698	0.16	ug/L		94
20) 2,2-Dichloropropane	5.246	77	441	0.15	ug/L		73
21) Bromochloromethane	5.344	49	331	0.13	ug/L		85
22) Chloroform	5.423	83	893	0.17	ug/L		92
23) Carbon Tetrachloride	0.000		0	N.D.			
24) Tetrahydrofuran	5.599	42	254	0.17	ug/L	#	64
25) 1,1,1-Trichloroethane	5.623	97	551	0.15	ug/L		94
27) 1,1-Dichloropropene	5.757	75	683	0.16	ug/L		98
28) 2-Butanone (MEK)	5.769	43	890	0.43	ug/L		54
29) Benzene	6.013	78	2458	0.19	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.226	62	837	0.19	ug/L		89
31) iso-Butyl Alcohol	0.000		0	N.D.			
33) Trichloroethene (TCE)	6.627	130	614	0.20	ug/L		88
34) Dibromomethane	7.083	93	206	0.12	ug/L	#	57
35) 1,2-Dichloropropane	7.187	63	588	0.19	ug/L		92
36) Bromodichloromethane	7.266	83	130	0.06	ug/L	#	26
38) c-1,3-Dichloropropene	7.966	75	335	0.10	ug/L	#	60
40) Toluene	8.227	91	2847	0.21	ug/L		95
41) Tetrachloroethene (PCE)	8.671	166	503	0.16	ug/L		93
42) 4-Methyl-2-Pentanone (...	8.683	43	941	0.24	ug/L		87
43) t-1,3-Dichloropropene	8.726	75	216	0.07	ug/L		47
44) 1,1,2-Trichloroethane	8.890	97	368	0.14	ug/L		96
45) Dibromochloromethane	0.000		0	N.D.			
46) 1,3-Dichloropropane	9.170	76	753	0.15	ug/L		89
47) 1,2-Dibromoethane (EDB)	9.310	107	186	0.08	ug/L		79
48) 2-Hexanone	9.553	43	512	0.19	ug/L		67

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

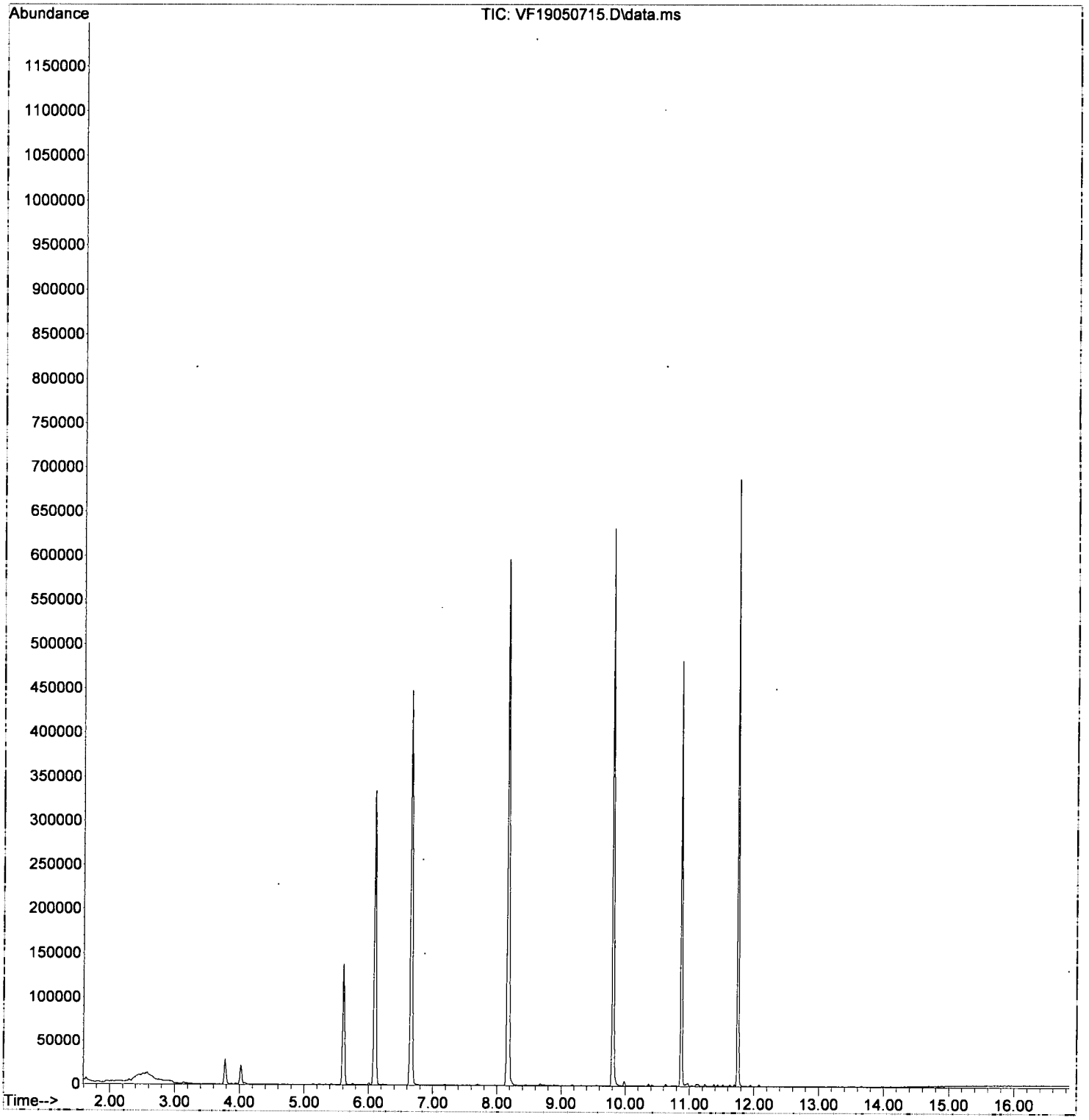
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22 ug/L #	35
50) Ethylbenzene	9.845	91	2644	0.20 ug/L	90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
52) m,p-Xylenes (2)	9.985	91	3375	0.35 ug/L	98
53) o-Xylene	10.362	91	1661	0.18 ug/L	97
54) Styrene	10.417	104	742	0.12 ug/L	77
55) Bromoform	0.000		0	N.D.	
56) Isopropylbenzene	10.630	105	1621	0.15 ug/L	96
59) Bromobenzene	10.959	156	538	0.20 ug/L	94
60) n-Propylbenzene	10.977	91	2125	0.18 ug/L	96
61) 1,1,2,2-Tetrachloroethane	11.038	83	440	0.14 ug/L	73
62) 2-Chlorotoluene	11.105	126	441	0.19 ug/L	85
63) 1,3,5-Trimethylbenzene	11.129	105	1238	0.15 ug/L	97
64) 1,2,3-Trichloropropane	11.147	110	135	0.12 ug/L	87
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
66) 4-Chlorotoluene	11.238	91	1253	0.17 ug/L	95
67) tert-Butylbenzene	11.378	91	778	0.17 ug/L #	66
68) 1,2,4-Trimethylbenzene	11.439	105	1251	0.15 ug/L	94
69) sec-Butylbenzene	11.518	105	1494	0.16 ug/L	91
70) 4-Isopropyltoluene	11.628	119	1097	0.14 ug/L	96
71) 1,3-Dichlorobenzene	11.695	146	822	0.18 ug/L	97
72) 1,4-Dichlorobenzene	11.762	146	932	0.20 ug/L #	30
73) n-Butylbenzene	11.950	91	1099	0.16 ug/L	97
74) 1,2-Dichlorobenzene	12.084	146	799	0.18 ug/L	92
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
76) Hexachlorobutadiene	0.000		0	N.D.	
77) 1,2,4-Trichlorobenzene	13.228	180	326	0.13 ug/L	84
78) Naphthalene	13.501	128	754	0.09 ug/L	78
79) 1,2,3-Trichlorobenzene	13.666	180	356	0.14 ug/L	79

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:30:57 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

post 5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	253997	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	315116	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	140978	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	93146	43.24	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	393610	50.01	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	451605	46.79	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.867	174	110936	51.79	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d		
3) Chloromethane	1.846	50	797	0.22	ug/L		87
4) Vinyl Chloride	1.937	62	686	0.20	ug/L		92
5) Bromomethane	2.296	96	1145	0.35	ug/L		96
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) 1,1-Dichloroethene	3.135	61	831	0.18	ug/L		76
9) Carbon Disulfide	0.000		0	N.D.	d		
10) Freon 113	3.184	101	458	0.16	ug/L	#	73
11) Iodomethane	0.000		0	N.D.			
12) Methylene Chloride	3.780	84	13830	3.78	ug/L		83
13) Acetone	3.871	43	1611	1.16	ug/L		90
14) t-1,2-Dichloroethene	3.938	61	852	0.19	ug/L		83
15) n-Hexane	4.023	86	1841	2.51	ug/L		95
16) Methyl-tert-butyl-ether	4.078	73	1746	0.20	ug/L		78
17) 1,1-Dichloroethane	4.583	63	1018	0.17	ug/L		85
18) Acrylonitrile	0.000		0	N.D.			
19) c-1,2-Dichloroethene	5.137	61	698	0.16	ug/L		94
20) 2,2-Dichloropropane	5.246	77	441	0.15	ug/L		73
21) Bromochloromethane	5.344	49	331	0.13	ug/L		85
22) Chloroform	5.423	83	893	0.17	ug/L		92
23) Carbon Tetrachloride	0.000		0	N.D.			
24) Tetrahydrofuran	0.000		0	N.D.	d		
25) 1,1,1-Trichloroethane	5.623	97	551	0.15	ug/L		94
27) 1,1-Dichloropropene	5.757	75	683	0.16	ug/L		98
28) 2-Butanone (MEK)	5.769	43	890	0.43	ug/L		54
29) Benzene	6.013	78	2458	0.19	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.226	62	837	0.19	ug/L		89
31) iso-Butyl Alcohol	0.000		0	N.D.			
33) Trichloroethene (TCE)	6.627	130	614	0.20	ug/L		88
34) Dibromomethane	7.083	93	206	0.12	ug/L	#	57
35) 1,2-Dichloropropane	7.187	63	588	0.19	ug/L		92
36) Bromodichloromethane	7.266	83	130	0.06	ug/L	#	26
38) c-1,3-Dichloropropene	7.966	75	335	0.10	ug/L	#	60
40) Toluene	8.227	91	2847	0.21	ug/L		95
41) Tetrachloroethene (PCE)	8.671	166	503	0.16	ug/L		93
42) 4-Methyl-2-Pentanone (...	8.683	43	941	0.24	ug/L		87
43) t-1,3-Dichloropropene	0.000		0	N.D.	d		
44) 1,1,2-Trichloroethane	8.890	97	368	0.14	ug/L		96
45) Dibromochloromethane	0.000		0	N.D.			
46) 1,3-Dichloropropane	9.170	76	753	0.15	ug/L		89
47) 1,2-Dibromoethane (EDB)	9.310	107	186	0.08	ug/L		79
48) 2-Hexanone	9.553	43	512	0.19	ug/L		67

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

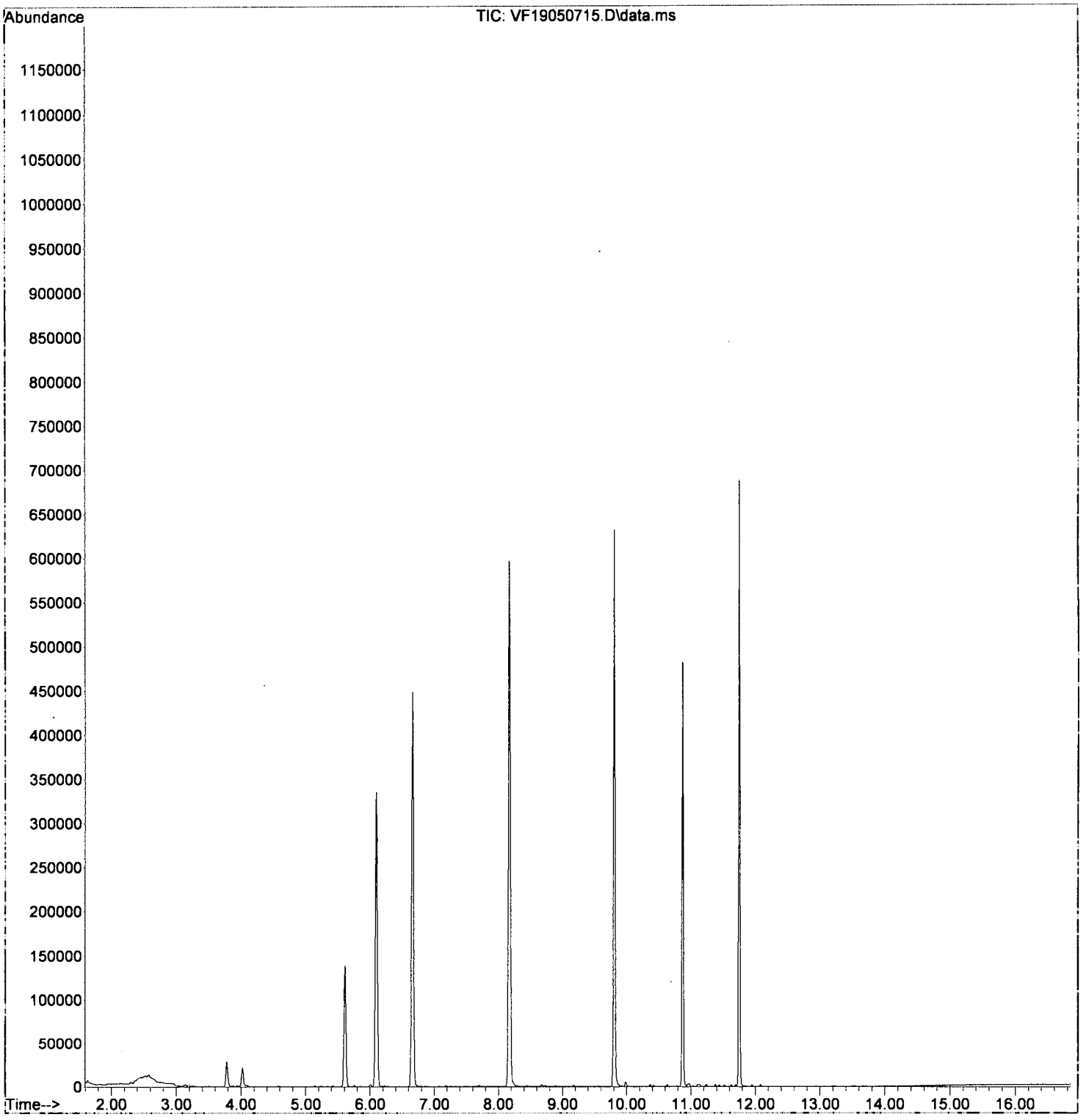
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22	ug/L	#	35
50) Ethylbenzene	9.845	91	2644	0.20	ug/L		90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
52) m,p-Xylenes (2)	9.985	91	3375	0.35	ug/L		98
53) o-Xylene	10.362	91	1661	0.18	ug/L		97
54) Styrene	10.417	104	742	0.12	ug/L		77
55) Bromoform	0.000		0	N.D.			
56) Isopropylbenzene	10.630	105	1621	0.15	ug/L		96
59) Bromobenzene	10.959	156	538	0.20	ug/L		94
60) n-Propylbenzene	10.977	91	2125	0.18	ug/L		96
61) 1,1,2,2-Tetrachloroethane	11.038	83	440	0.14	ug/L		73
62) 2-Chlorotoluene	11.105	126	441	0.19	ug/L		85
63) 1,3,5-Trimethylbenzene	11.129	105	1238	0.15	ug/L		97
64) 1,2,3-Trichloropropane	11.147	110	135	0.12	ug/L		87
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
66) 4-Chlorotoluene	11.238	91	1253	0.17	ug/L		95
67) tert-Butylbenzene	11.378	91	778	0.17	ug/L	#	66
68) 1,2,4-Trimethylbenzene	11.439	105	1251	0.15	ug/L		94
69) sec-Butylbenzene	11.518	105	1494	0.16	ug/L		91
70) 4-Isopropyltoluene	11.628	119	1097	0.14	ug/L		96
71) 1,3-Dichlorobenzene	11.695	146	822	0.18	ug/L		97
72) 1,4-Dichlorobenzene	11.762	146	932	0.20	ug/L	#	30
73) n-Butylbenzene	11.950	91	1099	0.16	ug/L		97
74) 1,2-Dichlorobenzene	12.084	146	799	0.18	ug/L		92
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
76) Hexachlorobutadiene	0.000		0	N.D.			
77) 1,2,4-Trichlorobenzene	13.228	180	326	0.13	ug/L		84
78) Naphthalene	0.000		0	N.D.	d		
79) 1,2,3-Trichlorobenzene	13.666	180	356	0.14	ug/L		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050715.D
Acq On : 7 May 2019 8:42 pm
Operator : TB
Sample : 9E07048-CAL2
Misc : 1X 0.2ppb VOC MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:35 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	249504	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	282136	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	120378	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.612	111	95325	45.05	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.664	114	383811	49.64	ug/L		0.00
39) Toluene-d8 (S)	8.173	98	433301	50.14	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.874	174	94062	51.42	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.639	85	846	0.36	ug/L		87
3) Chloromethane	1.846	50	2048	0.59	ug/L		98
4) Vinyl Chloride	1.949	62	1253	0.36	ug/L		55
5) Bromomethane	2.308	96	2402	1.17	ug/L		97
6) Chloroethane	2.430	64	256	0.54	ug/L	#	1
7) Trichlorofluoromethane	2.558	101	222	0.36	ug/L	#	25
8) 1,1-Dichloroethene	3.136	61	1699	0.37	ug/L		92
9) Carbon Disulfide	3.142	76	1949	0.36	ug/L		87
10) Freon 113	3.178	101	1041	0.38	ug/L		78
11) Iodomethane	3.294	142	258	0.26	ug/L	#	47
12) Methylene Chloride	3.781	84	14007	3.90	ug/L		86
13) Acetone	3.878	43	2158	1.58	ug/L		84
14) t-1,2-Dichloroethene	3.945	61	1577	0.35	ug/L		99
15) n-Hexane	4.024	86	2024	2.81	ug/L	#	78
16) Methyl-tert-butyl-ether	4.097	73	3114	0.35	ug/L		94
17) 1,1-Dichloroethane	4.584	63	1998	0.35	ug/L		94
18) Acrylonitrile	4.669	53	256	0.17	ug/L	#	14
19) c-1,2-Dichloroethene	5.143	61	1447	0.34	ug/L		91
20) 2,2-Dichloropropane	5.241	77	917	0.32	ug/L	#	59
21) Bromochloromethane	5.350	49	924	0.37	ug/L		90
22) Chloroform	5.423	83	1699	0.34	ug/L		85
23) Carbon Tetrachloride	5.545	117	392	0.20	ug/L		71
24) Tetrahydrofuran	5.618	42	586	0.39	ug/L	#	57
25) 1,1,1-Trichloroethane	5.630	97	1217	0.33	ug/L		88
27) 1,1-Dichloropropene	5.752	75	1416	0.34	ug/L		87
28) 2-Butanone (MEK)	5.764	43	1499	0.74	ug/L		94
29) Benzene	6.013	78	4810	0.38	ug/L		85
30) 1,2-Dichloroethane (EDC)	6.226	62	1552	0.35	ug/L		92
31) iso-Butyl Alcohol	6.305	43	507	3.98	ug/L	#	64
33) Trichloroethene (TCE)	6.628	130	1091	0.36	ug/L		79
34) Dibromomethane	7.078	93	553	0.34	ug/L	#	64
35) 1,2-Dichloropropane	7.193	63	1034	0.34	ug/L		90
36) Bromodichloromethane	7.266	83	569	0.25	ug/L		91
38) c-1,3-Dichloropropene	7.972	75	723	0.23	ug/L		74
40) Toluene	8.228	91	4633	0.39	ug/L		98
41) Tetrachloroethene (PCE)	8.678	166	1054	0.36	ug/L		87
42) 4-Methyl-2-Pentanone (...	8.684	43	1734	0.49	ug/L		96
43) t-1,3-Dichloropropene	8.720	75	502	0.19	ug/L		47
44) 1,1,2-Trichloroethane	8.897	97	754	0.32	ug/L		76
45) Dibromochloromethane	9.067	129	215	0.18	ug/L	#	15
46) 1,3-Dichloropropane	9.183	76	1532	0.34	ug/L		90
47) 1,2-Dibromoethane (EDB)	9.316	107	457	0.21	ug/L		84
48) 2-Hexanone	9.554	43	1043	0.44	ug/L		82

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:35 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

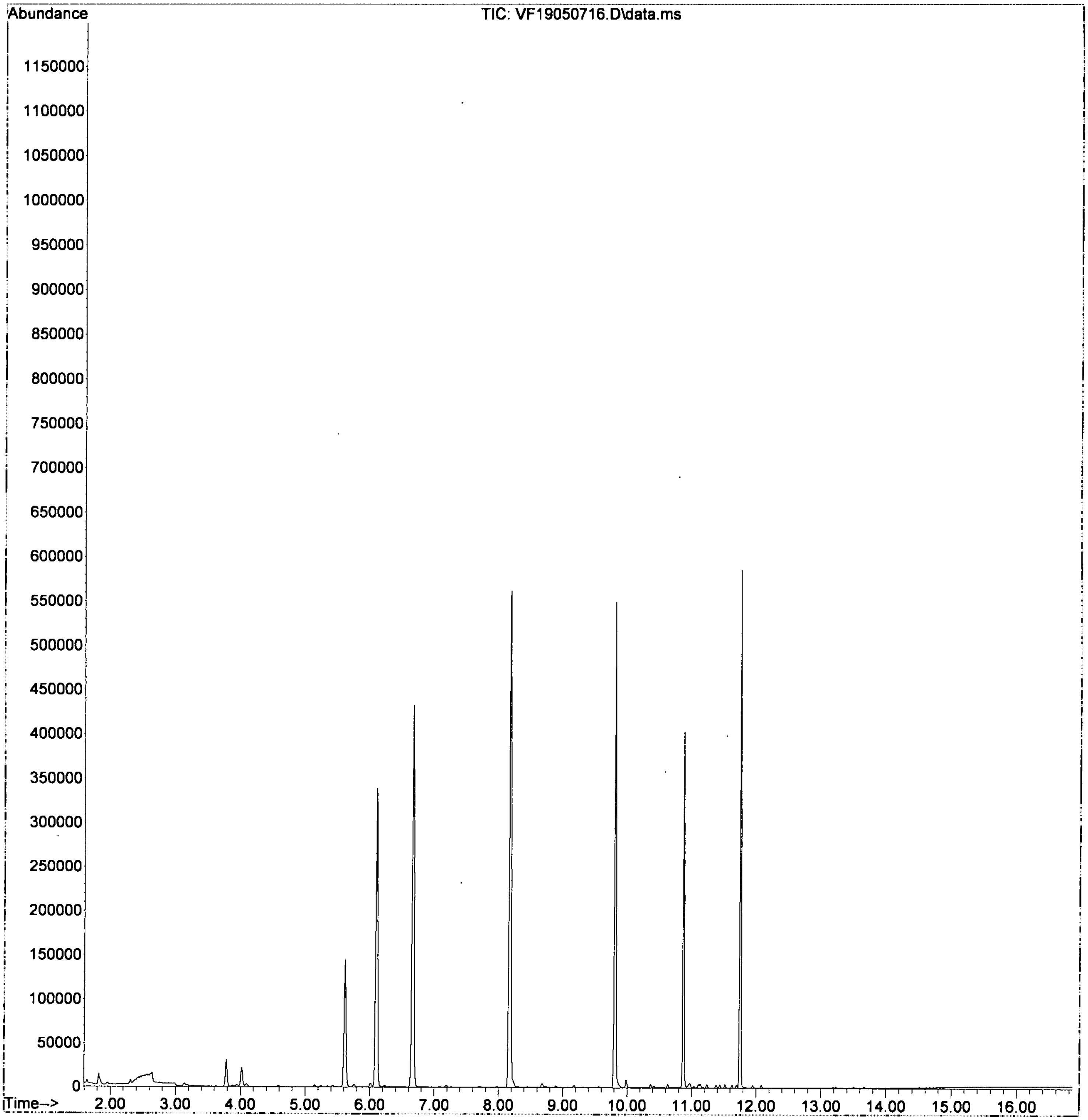
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40 ug/L #	67
50) Ethylbenzene	9.852	91	4382	0.38 ug/L	86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21 ug/L #	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63 ug/L	97
53) o-Xylene	10.363	91	2704	0.33 ug/L	96
54) Styrene	10.418	104	1408	0.25 ug/L	93
55) Bromoform	0.000		0	N.D.	
56) Isopropylbenzene	10.631	105	2804	0.29 ug/L	94
59) Bromobenzene	10.953	156	808	0.36 ug/L #	80
60) n-Propylbenzene	10.977	91	3524	0.35 ug/L	97
61) 1,1,2,2-Tetrachloroethane	11.038	83	771	0.29 ug/L	85
62) 2-Chlorotoluene	11.105	126	669	0.33 ug/L	88
63) 1,3,5-Trimethylbenzene	11.129	105	2172	0.31 ug/L	97
64) 1,2,3-Trichloropropane	11.148	110	303	0.31 ug/L	88
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
66) 4-Chlorotoluene	11.239	91	2028	0.33 ug/L	86
67) tert-Butylbenzene	11.379	91	1226	0.31 ug/L	84
68) 1,2,4-Trimethylbenzene	11.440	105	2171	0.31 ug/L	84
69) sec-Butylbenzene	11.519	105	2640	0.32 ug/L	93
70) 4-Isopropyltoluene	11.628	119	1855	0.28 ug/L	92
71) 1,3-Dichlorobenzene	11.701	146	1391	0.36 ug/L	90
72) 1,4-Dichlorobenzene	11.762	146	1636	0.40 ug/L	79
73) n-Butylbenzene	11.945	91	1917	0.33 ug/L	91
74) 1,2-Dichlorobenzene	12.078	146	1327	0.35 ug/L	91
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
76) Hexachlorobutadiene	13.186	223	127	0.24 ug/L #	80
77) 1,2,4-Trichlorobenzene	13.228	180	681	0.32 ug/L	94
78) Naphthalene	13.502	128	1578	0.22 ug/L	78
79) 1,2,3-Trichlorobenzene	13.666	180	600	0.28 ug/L	90

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:32:07 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

post 5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	249504	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	282136	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	120378	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.612	111	95325	45.05	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.664	114	383811	49.64	ug/L		0.00
39) Toluene-d8 (S)	8.173	98	433301	50.14	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.874	174	94062	51.42	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.639	85	846	0.36	ug/L		87
3) Chloromethane	1.846	50	2048	0.59	ug/L		98
4) Vinyl Chloride	1.949	62	1253	0.36	ug/L		55
5) Bromomethane	2.308	96	2402	1.17	ug/L		97
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	2.558	101	222	0.36	ug/L	#	25
8) 1,1-Dichloroethene	3.136	61	1699	0.37	ug/L		92
9) Carbon Disulfide	3.142	76	1949	0.36	ug/L		87
10) Freon 113	3.178	101	1041	0.38	ug/L		78
11) Iodomethane	0.000		0	N.D.	d		
12) Methylene Chloride	3.781	84	14007	3.90	ug/L		86
13) Acetone	3.878	43	2158	1.58	ug/L		84
14) t-1,2-Dichloroethene	3.945	61	1577	0.35	ug/L		99
15) n-Hexane	4.024	86	2024	2.81	ug/L	#	78
16) Methyl-tert-butyl-ether	4.097	73	3114	0.35	ug/L		94
17) 1,1-Dichloroethane	4.584	63	1998	0.35	ug/L		94
18) Acrylonitrile	4.669	53	256	0.17	ug/L	#	14
19) c-1,2-Dichloroethene	5.143	61	1447	0.34	ug/L		91
20) 2,2-Dichloropropane	5.241	77	917	0.32	ug/L	#	59
21) Bromochloromethane	5.350	49	924	0.37	ug/L		90
22) Chloroform	5.423	83	1699	0.34	ug/L		85
23) Carbon Tetrachloride	5.545	117	392	0.20	ug/L		71
24) Tetrahydrofuran	5.618	42	586	0.39	ug/L	#	57
25) 1,1,1-Trichloroethane	5.630	97	1217	0.33	ug/L		88
27) 1,1-Dichloropropene	5.752	75	1416	0.34	ug/L		87
28) 2-Butanone (MEK)	5.764	43	1499	0.74	ug/L		94
29) Benzene	6.013	78	4810	0.38	ug/L		85
30) 1,2-Dichloroethane (EDC)	6.226	62	1552	0.35	ug/L		92
31) iso-Butyl Alcohol	6.305	43	507	3.98	ug/L	#	64
33) Trichloroethene (TCE)	6.628	130	1091	0.36	ug/L		79
34) Dibromomethane	7.078	93	553	0.34	ug/L	#	64
35) 1,2-Dichloropropane	7.193	63	1034	0.34	ug/L		90
36) Bromodichloromethane	7.266	83	569	0.25	ug/L		91
38) c-1,3-Dichloropropene	7.972	75	723	0.23	ug/L		74
40) Toluene	8.228	91	4633	0.39	ug/L		98
41) Tetrachloroethene (PCE)	8.678	166	1054	0.36	ug/L		87
42) 4-Methyl-2-Pentanone (...	8.684	43	1734	0.49	ug/L		96
43) t-1,3-Dichloropropene	8.720	75	502	0.19	ug/L		47
44) 1,1,2-Trichloroethane	8.897	97	754	0.32	ug/L		76
45) Dibromochloromethane	9.067	129	215	0.18	ug/L	#	15
46) 1,3-Dichloropropane	9.183	76	1532	0.34	ug/L		90
47) 1,2-Dibromoethane (EDB)	9.316	107	457	0.21	ug/L		84
48) 2-Hexanone	9.554	43	1043	0.44	ug/L		82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:32:07 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

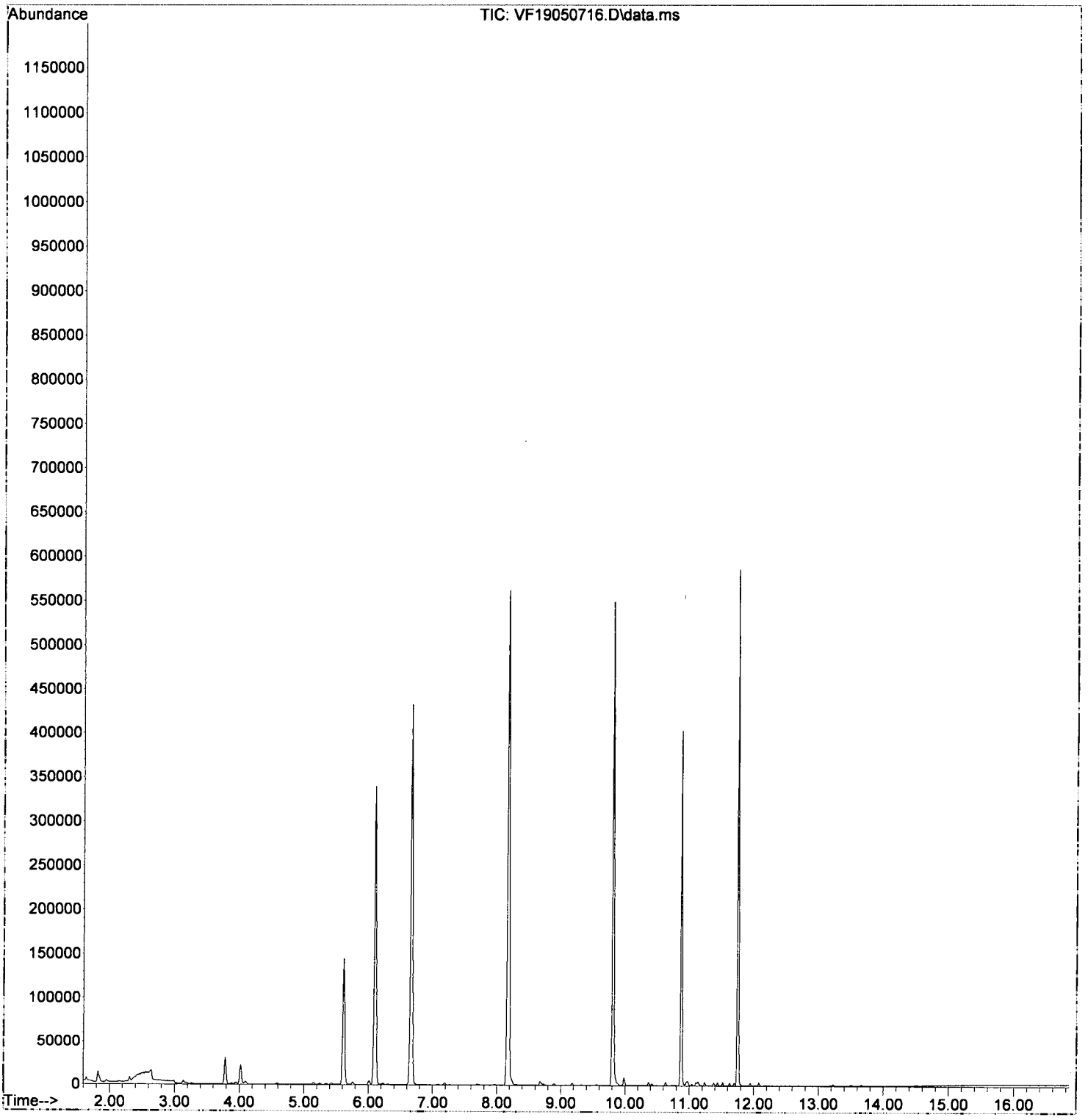
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40	ug/L	#	67
50) Ethylbenzene	9.852	91	4382	0.38	ug/L		86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21	ug/L	#	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63	ug/L		97
53) o-Xylene	10.363	91	2704	0.33	ug/L		96
54) Styrene	10.418	104	1408	0.25	ug/L		93
55) Bromoform	0.000		0	N.D.			
56) Isopropylbenzene	10.631	105	2804	0.29	ug/L		94
59) Bromobenzene	10.953	156	808	0.36	ug/L	#	80
60) n-Propylbenzene	10.977	91	3524	0.35	ug/L		97
61) 1,1,2,2-Tetrachloroethane	11.038	83	771	0.29	ug/L		85
62) 2-Chlorotoluene	11.105	126	669	0.33	ug/L		88
63) 1,3,5-Trimethylbenzene	11.129	105	2172	0.31	ug/L		97
64) 1,2,3-Trichloropropane	11.148	110	303	0.31	ug/L		88
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
66) 4-Chlorotoluene	11.239	91	2028	0.33	ug/L		86
67) tert-Butylbenzene	11.379	91	1226	0.31	ug/L		84
68) 1,2,4-Trimethylbenzene	11.440	105	2171	0.31	ug/L		84
69) sec-Butylbenzene	11.519	105	2640	0.32	ug/L		93
70) 4-Isopropyltoluene	11.628	119	1855	0.28	ug/L		92
71) 1,3-Dichlorobenzene	11.701	146	1391	0.36	ug/L		90
72) 1,4-Dichlorobenzene	11.762	146	1636	0.40	ug/L		79
73) n-Butylbenzene	11.945	91	1917	0.38	ug/L		91
74) 1,2-Dichlorobenzene	12.078	146	1327	0.35	ug/L		91
75) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
76) Hexachlorobutadiene	0.000		0	N.D.	d		
77) 1,2,4-Trichlorobenzene	13.228	180	681	0.32	ug/L		94
78) Naphthalene	13.502	128	1578	0.22	ug/L		78
79) 1,2,3-Trichlorobenzene	13.666	180	600	0.28	ug/L		90

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050716.D
Acq On : 7 May 2019 9:09 pm
Operator : TB
Sample : 9E07048-CAL3
Misc : 1X 0.4ppb VOC MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:32:07 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19 pre

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	261850	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	321643	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	141519	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	96607	43.51	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	402099	49.56	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	463638	47.06	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	112797	52.45	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	1965	0.79	ug/L		84
3) Chloromethane	1.843	50	3374	0.92	ug/L		95
4) Vinyl Chloride	1.940	62	3308	0.91	ug/L		98
5) Bromomethane	2.299	96	3078	1.43	ug/L		97
6) Chloroethane	2.433	64	476	0.96	ug/L	#	1
7) Trichlorofluoromethane	2.555	101	616	0.94	ug/L		82
8) 1,1-Dichloroethene	3.133	61	4085	0.86	ug/L		80
9) Carbon Disulfide	3.145	76	4300	0.76	ug/L		98
10) Freon 113	3.181	101	2811	0.98	ug/L		80
11) Iodomethane	3.297	142	635	0.61	ug/L	#	47
12) Methylene Chloride	3.777	84	16647	4.42	ug/L		91
13) Acetone	3.881	43	3535	2.46	ug/L		87
14) t-1,2-Dichloroethene	3.942	61	4059	0.87	ug/L		95
15) n-Hexane	4.021	86	2150	2.85	ug/L		98
16) Methyl-tert-butyl-ether	4.094	73	8040	0.87	ug/L		96
17) 1,1-Dichloroethane	4.580	63	5157	0.85	ug/L		97
18) Acrylonitrile	4.672	53	1044	0.67	ug/L		87
19) c-1,2-Dichloroethene	5.140	61	3590	0.81	ug/L		99
20) 2,2-Dichloropropane	5.237	77	2310	0.78	ug/L		79
21) Bromochloromethane	5.347	49	2190	0.83	ug/L		83
22) Chloroform	5.420	83	4496	0.85	ug/L		92
23) Carbon Tetrachloride	5.554	117	1343	0.65	ug/L		90
24) Tetrahydrofuran	5.596	42	1298	0.83	ug/L		87
25) 1,1,1-Trichloroethane	5.621	97	2997	0.77	ug/L		88
27) 1,1-Dichloropropene	5.748	75	3517	0.80	ug/L		97
28) 2-Butanone (MEK)	5.761	43	3413	1.60	ug/L		86
29) Benzene	6.010	78	11954	0.89	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.229	62	4287	0.93	ug/L		92
31) iso-Butyl Alcohol	6.302	43	1628	12.19	ug/L		87
33) Trichloroethene (TCE)	6.631	130	2819	0.88	ug/L		89
34) Dibromomethane	7.081	93	1342	0.78	ug/L		90
35) 1,2-Dichloropropane	7.184	63	2906	0.91	ug/L		89
36) Bromodichloromethane	7.263	83	1570	0.65	ug/L		94
38) c-1,3-Dichloropropene	7.969	75	2124	0.60	ug/L		82
40) Toluene	8.231	91	12595	0.92	ug/L		97
41) Tetrachloroethene (PCE)	8.681	166	2677	0.81	ug/L		90
42) 4-Methyl-2-Pentanone (...	8.681	43	5152	1.28	ug/L		92
43) t-1,3-Dichloropropene	8.723	75	1582	0.52	ug/L		95
44) 1,1,2-Trichloroethane	8.881	97	2096	0.77	ug/L		86
45) Dibromochloromethane	9.082	129	646	0.47	ug/L		95
46) 1,3-Dichloropropane	9.180	76	4160	0.80	ug/L		95
47) 1,2-Dibromoethane (EDB)	9.319	107	1418	0.57	ug/L		95
48) 2-Hexanone	9.551	43	3198	1.18	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

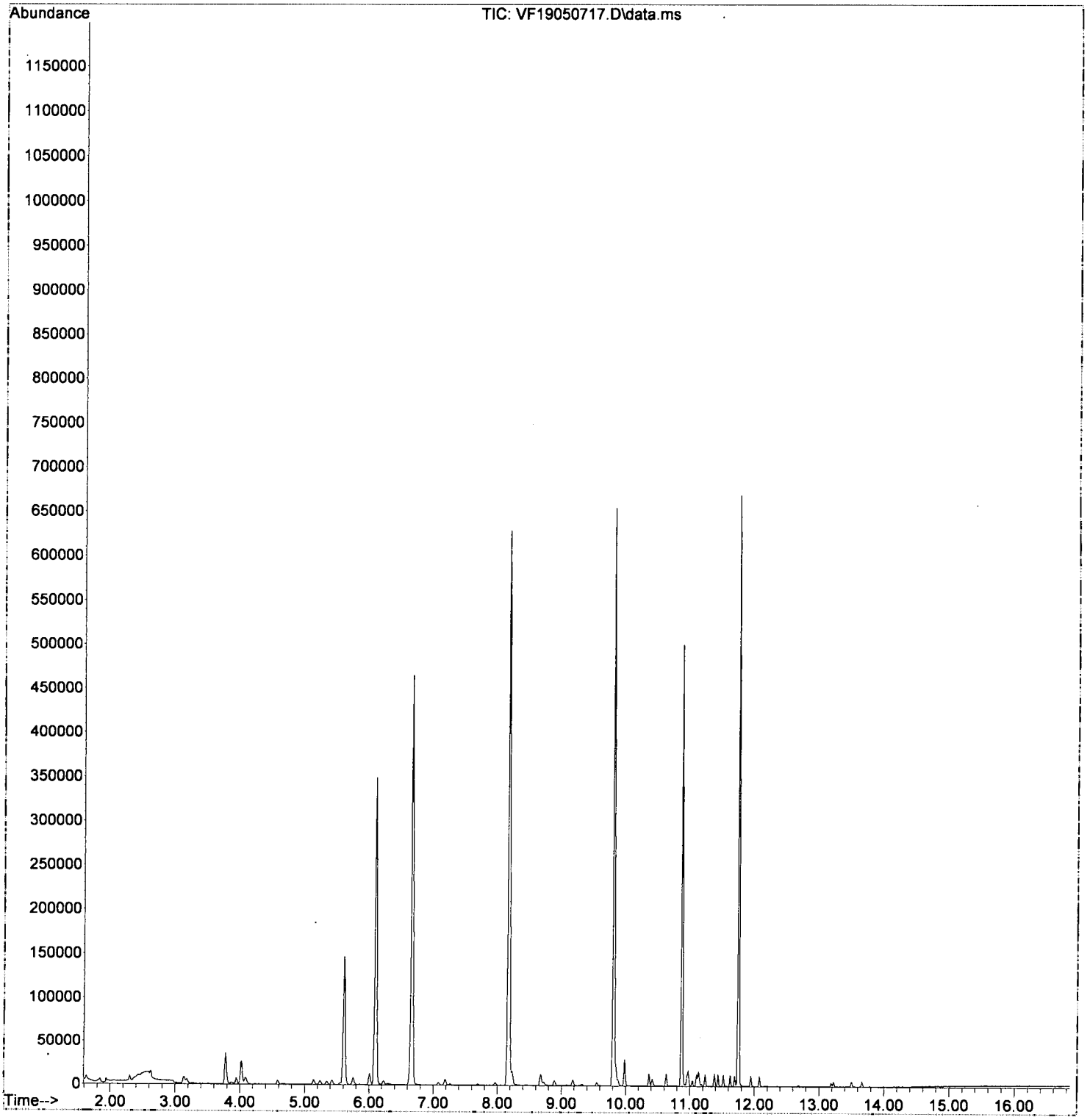
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01 ug/L	80
50) Ethylbenzene	9.849	91	12168	0.92 ug/L	95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49 ug/L	91
52) m,p-Xylenes (2)	9.983	91	16601	1.69 ug/L	91
53) o-Xylene	10.366	91	7663	0.83 ug/L	98
54) Styrene	10.415	104	4261	0.66 ug/L	87
55) Bromoform	10.439	173	299	0.41 ug/L #	36
56) Isopropylbenzene	10.634	105	8865	0.81 ug/L	94
59) Bromobenzene	10.956	156	2646	1.00 ug/L #	81
60) n-Propylbenzene	10.974	91	10761	0.90 ug/L	96
61) 1,1,2,2-Tetrachloroethane	11.041	83	2364	0.76 ug/L	87
62) 2-Chlorotoluene	11.108	126	2215	0.93 ug/L	95
63) 1,3,5-Trimethylbenzene	11.132	105	6404	0.79 ug/L	96
64) 1,2,3-Trichloropropane	11.145	110	973	0.83 ug/L #	68
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
66) 4-Chlorotoluene	11.236	91	6529	0.91 ug/L	99
67) tert-Butylbenzene	11.382	91	4016	0.88 ug/L	81
68) 1,2,4-Trimethylbenzene	11.437	105	6383	0.77 ug/L	98
69) sec-Butylbenzene	11.522	105	7874	0.82 ug/L	98
70) 4-Isopropyltoluene	11.625	119	5898	0.75 ug/L	95
71) 1,3-Dichlorobenzene	11.698	146	4151	0.90 ug/L	96
72) 1,4-Dichlorobenzene	11.759	146	4797	1.01 ug/L	82
73) n-Butylbenzene	11.948	91	5710	0.84 ug/L	94
74) 1,2-Dichlorobenzene	12.081	146	3856	0.87 ug/L	94
75) 1,2-Dibromo-3-Chloropr...	12.690	157	139	0.38 ug/L #	42
76) Hexachlorobutadiene	13.182	223	548	0.89 ug/L	89
77) 1,2,4-Trichlorobenzene	13.225	180	1879	0.76 ug/L	97
78) Naphthalene	13.505	128	4612	0.56 ug/L	99
79) 1,2,3-Trichlorobenzene	13.663	180	1872	0.74 ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

post 5/8/19

Quant Time: May 08 10:33:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	261850	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	321643	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	141519	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	96607	43.51	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	402099	49.56	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	463638	47.06	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	112797	52.45	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	1965	0.79	ug/L		84
3) Chloromethane	1.843	50	3374	0.92	ug/L		95
4) Vinyl Chloride	1.940	62	3308	0.91	ug/L		98
5) Bromomethane	2.299	96	3078	1.43	ug/L		97
6) Chloroethane	2.433	64	476	0.96	ug/L	#	1
7) Trichlorofluoromethane	2.555	101	616	0.94	ug/L		82
8) 1,1-Dichloroethene	3.133	61	4085	0.86	ug/L		80
9) Carbon Disulfide	3.145	76	4300	0.76	ug/L		98
10) Freon 113	3.181	101	2811	0.98	ug/L		80
11) Iodomethane	3.297	142	635	0.61	ug/L	#	47
12) Methylene Chloride	3.777	84	16647	4.42	ug/L		91
13) Acetone	3.881	43	3535	2.46	ug/L		87
14) t-1,2-Dichloroethene	3.942	61	4059	0.87	ug/L		95
15) n-Hexane	4.021	86	2150	2.85	ug/L		98
16) Methyl-tert-butyl-ether	4.094	73	8040	0.87	ug/L		96
17) 1,1-Dichloroethane	4.580	63	5157	0.85	ug/L		97
18) Acrylonitrile	4.672	53	1044	0.67	ug/L		87
19) c-1,2-Dichloroethene	5.140	61	3590	0.81	ug/L		99
20) 2,2-Dichloropropane	5.237	77	2310	0.78	ug/L		79
21) Bromochloromethane	5.347	49	2190	0.83	ug/L		83
22) Chloroform	5.420	83	4496	0.85	ug/L		92
23) Carbon Tetrachloride	5.554	117	1343	0.65	ug/L		90
24) Tetrahydrofuran	5.596	42	1298	0.83	ug/L		87
25) 1,1,1-Trichloroethane	5.621	97	2997	0.77	ug/L		88
27) 1,1-Dichloropropene	5.748	75	3517	0.80	ug/L		97
28) 2-Butanone (MEK)	5.761	43	3413	1.60	ug/L		86
29) Benzene	6.010	78	11954	0.89	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.229	62	4287	0.93	ug/L		92
31) iso-Butyl Alcohol	6.302	43	1628	12.19	ug/L		87
33) Trichloroethene (TCE)	6.631	130	2819	0.88	ug/L		89
34) Dibromomethane	7.081	93	1342	0.78	ug/L		90
35) 1,2-Dichloropropane	7.184	63	2906	0.91	ug/L		89
36) Bromodichloromethane	7.263	83	1570	0.65	ug/L		94
38) c-1,3-Dichloropropene	7.969	75	2124	0.60	ug/L		82
40) Toluene	8.231	91	12595	0.92	ug/L		97
41) Tetrachloroethene (PCE)	8.681	166	2677	0.81	ug/L		90
42) 4-Methyl-2-Pentanone (...	8.681	43	5152	1.28	ug/L		92
43) t-1,3-Dichloropropene	8.723	75	1582	0.52	ug/L		95
44) 1,1,2-Trichloroethane	8.881	97	2096	0.77	ug/L		86
45) Dibromochloromethane	9.082	129	646	0.47	ug/L		95
46) 1,3-Dichloropropane	9.180	76	4160	0.80	ug/L		95
47) 1,2-Dibromoethane (EDB)	9.319	107	1418	0.57	ug/L		95
48) 2-Hexanone	9.551	43	3198	1.18	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:33:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

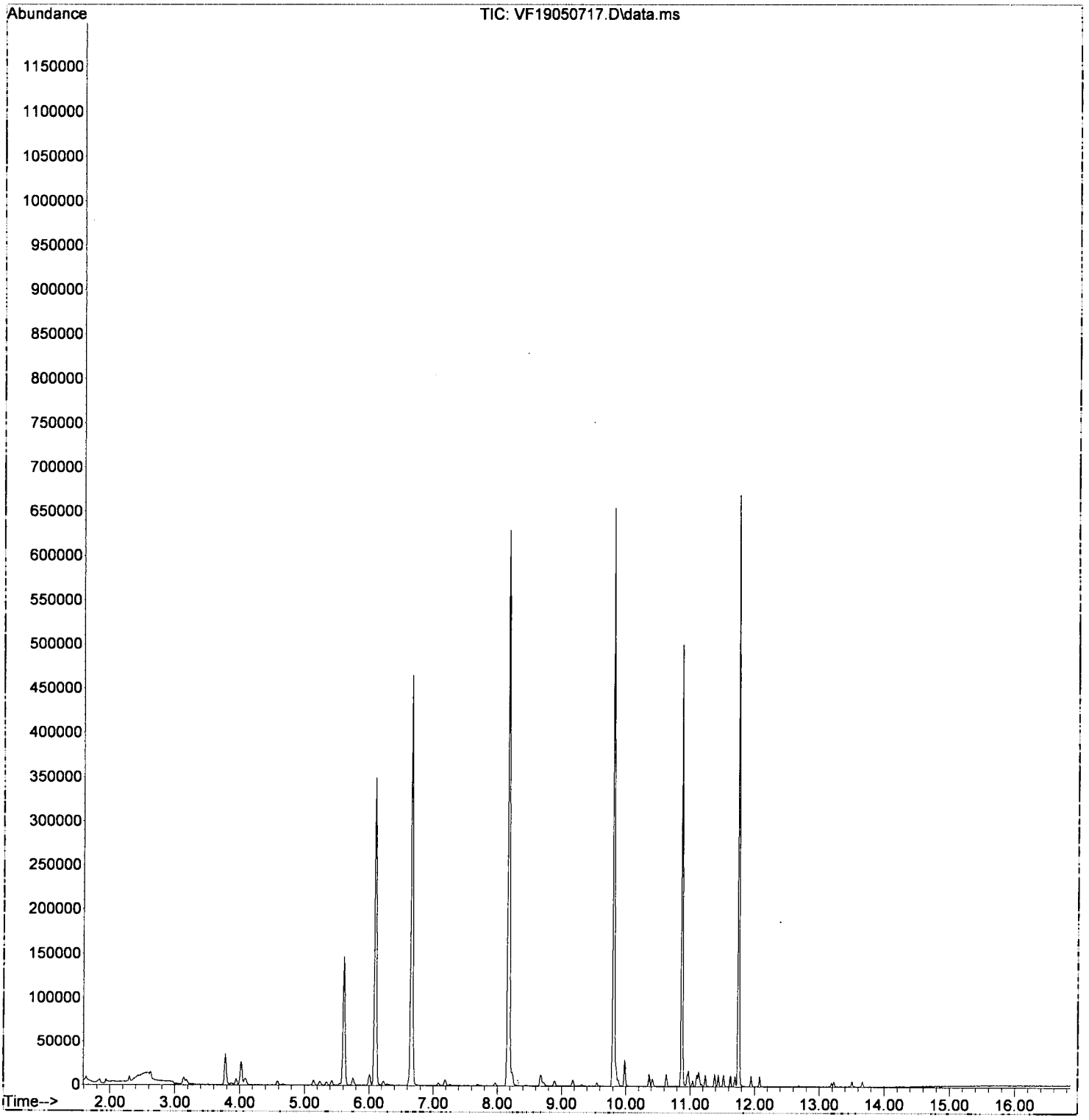
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01	ug/L	80
50) Ethylbenzene	9.849	91	12168	0.92	ug/L	95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49	ug/L	91
52) m,p-Xylenes (2)	9.983	91	16601	1.69	ug/L	91
53) o-Xylene	10.366	91	7663	0.83	ug/L	98
54) Styrene	10.415	104	4261	0.66	ug/L	87
55) Bromoform	0.000		0	N.D.	d	
56) Isopropylbenzene	10.634	105	8865	0.81	ug/L	94
59) Bromobenzene	10.956	156	2646	1.00	ug/L #	81
60) n-Propylbenzene	10.974	91	10761	0.90	ug/L	96
61) 1,1,2,2-Tetrachloroethane	11.041	83	2364	0.76	ug/L	87
62) 2-Chlorotoluene	11.108	126	2215	0.93	ug/L	95
63) 1,3,5-Trimethylbenzene	11.132	105	6404	0.79	ug/L	96
64) 1,2,3-Trichloropropane	11.145	110	973	0.83	ug/L #	68
65) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
66) 4-Chlorotoluene	11.236	91	6529	0.91	ug/L	99
67) tert-Butylbenzene	11.382	91	4016	0.88	ug/L	81
68) 1,2,4-Trimethylbenzene	11.437	105	6383	0.77	ug/L	98
69) sec-Butylbenzene	11.522	105	7874	0.82	ug/L	98
70) 4-Isopropyltoluene	11.625	119	5898	0.75	ug/L	95
71) 1,3-Dichlorobenzene	11.698	146	4151	0.90	ug/L	96
72) 1,4-Dichlorobenzene	11.759	146	4797	1.01	ug/L	82
73) n-Butylbenzene	11.948	91	5710	0.84	ug/L	94
74) 1,2-Dichlorobenzene	12.081	146	3856	0.87	ug/L	94
75) 1,2-Dibromo-3-Chloropr...	12.690	157	139	0.38	ug/L #	42
76) Hexachlorobutadiene	13.182	223	548	0.89	ug/L	89
77) 1,2,4-Trichlorobenzene	13.225	180	1879	0.76	ug/L	97
78) Naphthalene	13.505	128	4612	0.56	ug/L	99
79) 1,2,3-Trichlorobenzene	13.663	180	1872	0.74	ug/L	94

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:33:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050718.D
Acq On : 7 May 2019 10:04 pm
Operator : TB
Sample : 9E07048-CAL5
Misc : 1X 2ppb VOC MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	242998	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	271061	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	122406	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	94993	46.10	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	374305	49.71	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	417114	50.24	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	93757	50.41	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	4428	1.92	ug/L		93
3) Chloromethane	1.837	50	7222	2.13	ug/L		95
4) Vinyl Chloride	1.940	62	6417	1.91	ug/L		99
5) Bromomethane	2.305	96	5858	2.92	ug/L		94
6) Chloroethane	2.421	64	1082	2.35	ug/L	#	1
7) Trichlorofluoromethane	2.555	101	1256	2.07	ug/L		81
8) 1,1-Dichloroethene	3.127	61	8224	1.86	ug/L		78
9) Carbon Disulfide	3.139	76	8310	1.58	ug/L		96
10) Freon 113	3.175	101	5055	1.90	ug/L		83
11) Iodomethane	3.285	142	862	0.89	ug/L	#	65
12) Methylene Chloride	3.777	84	18649	5.33	ug/L		90
13) Acetone	3.875	43	6127	4.60	ug/L		90
14) t-1,2-Dichloroethene	3.936	61	7974	1.84	ug/L		90
15) n-Hexane	4.015	86	2796	3.99	ug/L		95
16) Methyl-tert-butyl-ether	4.094	73	15652	1.83	ug/L		96
17) 1,1-Dichloroethane	4.580	63	10371	1.85	ug/L		93
18) Acrylonitrile	4.660	53	2472	1.71	ug/L		98
19) c-1,2-Dichloroethene	5.134	61	7621	1.85	ug/L		82
20) 2,2-Dichloropropane	5.244	77	4599	1.66	ug/L		70
21) Bromochloromethane	5.341	49	4699	1.92	ug/L		82
22) Chloroform	5.420	83	8712	1.78	ug/L		92
23) Carbon Tetrachloride	5.548	117	2842	1.47	ug/L		100
24) Tetrahydrofuran	5.609	42	2709	1.86	ug/L		89
25) 1,1,1-Trichloroethane	5.621	97	5724	1.59	ug/L		94
27) 1,1-Dichloropropene	5.749	75	7332	1.80	ug/L		97
28) 2-Butanone (MEK)	5.755	43	7034	3.55	ug/L		95
29) Benzene	6.004	78	23365	1.88	ug/L		96
30) 1,2-Dichloroethane (EDC)	6.223	62	7997	1.88	ug/L		98
31) iso-Butyl Alcohol	6.290	43	3909	31.54	ug/L		99
33) Trichloroethene (TCE)	6.625	130	5247	1.76	ug/L		89
34) Dibromomethane	7.081	93	2709	1.71	ug/L	#	79
35) 1,2-Dichloropropane	7.184	63	5465	1.84	ug/L		95
36) Bromodichloromethane	7.257	83	3150	1.41	ug/L		89
38) c-1,3-Dichloropropene	7.963	75	4000	1.34	ug/L		85
40) Toluene	8.231	91	22780	1.97	ug/L		96
41) Tetrachloroethene (PCE)	8.675	166	5076	1.82	ug/L		90
42) 4-Methyl-2-Pentanone (...	8.681	43	10467	3.09	ug/L		91
43) t-1,3-Dichloropropene	8.723	75	3084	1.20	ug/L		85
44) 1,1,2-Trichloroethane	8.894	97	4156	1.82	ug/L		94
45) Dibromochloromethane	9.076	129	1529	1.32	ug/L		88
46) 1,3-Dichloropropane	9.174	76	7762	1.78	ug/L		82
47) 1,2-Dibromoethane (EDB)	9.313	107	2966	1.41	ug/L		83
48) 2-Hexanone	9.545	43	6383	2.81	ug/L		90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050718.D
Acq On : 7 May 2019 10:04 pm
Operator : TB
Sample : 9E07048-CAL5
Misc : 1X 2ppb VOC MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

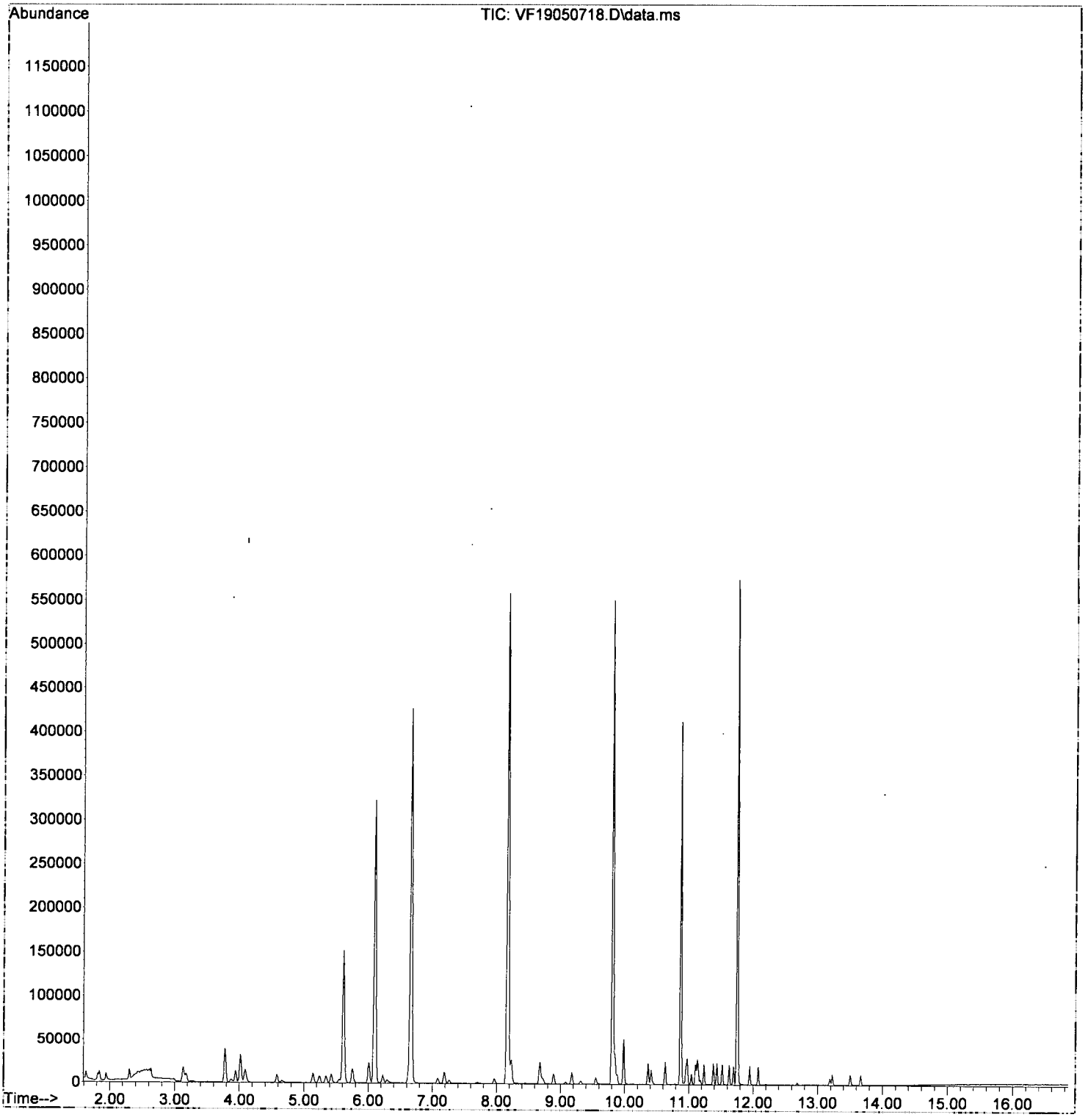
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	12836	1.99	ug/L		89
50) Ethylbenzene	9.849	91	20590	1.85	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.885	131	1701	1.26	ug/L		86
52) m,p-Xylenes (2)	9.983	91	28146	3.40	ug/L		94
53) o-Xylene	10.366	91	13306	1.71	ug/L		95
54) Styrene	10.415	104	7423	1.36	ug/L		93
55) Bromoform	10.439	173	793	1.29	ug/L		92
56) Isopropylbenzene	10.634	105	14839	1.60	ug/L		99
59) Bromobenzene	10.956	156	4463	1.94	ug/L		90
60) n-Propylbenzene	10.974	91	18352	1.78	ug/L		97
61) 1,1,2,2-Tetrachloroethane	11.041	83	4375	1.63	ug/L		97
62) 2-Chlorotoluene	11.108	126	3616	1.76	ug/L		95
63) 1,3,5-Trimethylbenzene	11.132	105	11485	1.63	ug/L		92
64) 1,2,3-Trichloropropane	11.145	110	1924	1.91	ug/L		88
65) t-1,4-Dichloro-2-butene	11.181	88	237	1.28	ug/L	#	62
66) 4-Chlorotoluene	11.236	91	11250	1.80	ug/L		97
67) tert-Butylbenzene	11.382	91	6886	1.73	ug/L		94
68) 1,2,4-Trimethylbenzene	11.437	105	11474	1.60	ug/L		92
69) sec-Butylbenzene	11.522	105	14030	1.70	ug/L		97
70) 4-Isopropyltoluene	11.625	119	10365	1.52	ug/L		93
71) 1,3-Dichlorobenzene	11.698	146	7501	1.89	ug/L		98
72) 1,4-Dichlorobenzene	11.759	146	8234	2.00	ug/L		88
73) n-Butylbenzene	11.948	91	9476	1.61	ug/L		97
74) 1,2-Dichlorobenzene	12.081	146	6890	1.80	ug/L		97
75) 1,2-Dibromo-3-Chloropr...	12.678	157	344	1.09	ug/L	#	22
76) Hexachlorobutadiene	13.189	223	977	1.83	ug/L		81
77) 1,2,4-Trichlorobenzene	13.225	180	3650	1.70	ug/L		96
78) Naphthalene	13.505	128	9150	1.28	ug/L		99
79) 1,2,3-Trichlorobenzene	13.663	180	3683	1.69	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050718.D
Acq On : 7 May 2019 10:04 pm
Operator : TB
Sample : 9E07048-CAL5
Misc : 1X 2ppb VOC MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050719.D
Acq On : 7 May 2019 10:31 pm
Operator : TB
Sample : 9E07048-CAL6
Misc : 1X 5ppb VOC MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:41 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.099	168	248863	50.00	ug/L	0.00
37) Chlorobenzene-d5 (I)	9.803	117	279254	50.00	ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	125861	50.00	ug/L	0.00
System Monitoring Compounds						
26) Dibromofluoromethane (S)	5.606	111	99623	47.20	ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.658	114	382252	49.57	ug/L	0.00
39) Toluene-d8 (S)	8.167	98	428207	50.06	ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.868	174	96094	50.24	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.633	85	11506	4.87	ug/L	97
3) Chloromethane	1.840	50	16881	4.86	ug/L	97
4) Vinyl Chloride	1.944	62	16421	4.77	ug/L	99
5) Bromomethane	2.302	96	12080	5.89	ug/L	96
6) Chloroethane	2.430	64	2287	4.85	ug/L #	1
7) Trichlorofluoromethane	2.558	101	3188	5.12	ug/L	97
8) 1,1-Dichloroethene	3.124	61	21211	4.69	ug/L	77
9) Carbon Disulfide	3.136	76	22193	4.12	ug/L	96
10) Freon 113	3.172	101	13365	4.91	ug/L	82
11) Iodomethane	3.282	142	2570	2.60	ug/L	92
12) Methylene Chloride	3.775	84	27821	7.77	ug/L	88
13) Acetone	3.872	43	14357	10.52	ug/L	94
14) t-1,2-Dichloroethene	3.939	61	21082	4.74	ug/L	96
15) n-Hexane	4.018	86	4468	6.23	ug/L #	77
16) Methyl-tert-butyl-ether	4.091	73	40294	4.61	ug/L	97
17) 1,1-Dichloroethane	4.578	63	27022	4.71	ug/L	96
18) Acrylonitrile	4.663	53	6728	4.55	ug/L	99
19) c-1,2-Dichloroethene	5.137	61	19884	4.71	ug/L	98
20) 2,2-Dichloropropane	5.241	77	11848	4.18	ug/L	74
21) Bromochloromethane	5.344	49	11857	4.72	ug/L	89
22) Chloroform	5.423	83	23401	4.66	ug/L	93
23) Carbon Tetrachloride	5.551	117	7941	4.02	ug/L	97
24) Tetrahydrofuran	5.600	42	7275	4.88	ug/L	93
25) 1,1,1-Trichloroethane	5.624	97	15328	4.16	ug/L	93
27) 1,1-Dichloropropene	5.752	75	19265	4.63	ug/L	98
28) 2-Butanone (MEK)	5.752	43	19168	9.44	ug/L	95
29) Benzene	6.007	78	60741	4.78	ug/L	97
30) 1,2-Dichloroethane (EDC)	6.226	62	21115	4.84	ug/L	97
31) iso-Butyl Alcohol	6.299	43	10550	83.12	ug/L	100
33) Trichloroethene (TCE)	6.628	130	14302	4.67	ug/L	95
34) Dibromomethane	7.078	93	7109	4.37	ug/L	86
35) 1,2-Dichloropropane	7.188	63	14217	4.68	ug/L	98
36) Bromodichloromethane	7.261	83	8768	3.83	ug/L	98
38) c-1,3-Dichloropropene	7.966	75	11116	3.61	ug/L	91
40) Toluene	8.228	91	57774	4.85	ug/L	97
41) Tetrachloroethene (PCE)	8.678	166	13448	4.68	ug/L	96
42) 4-Methyl-2-Pentanone (...	8.678	43	28905	8.28	ug/L	93
43) t-1,3-Dichloropropene	8.721	75	8937	3.38	ug/L	92
44) 1,1,2-Trichloroethane	8.891	97	10585	4.51	ug/L	85
45) Dibromochloromethane	9.073	129	4290	3.59	ug/L	92
46) 1,3-Dichloropropane	9.177	76	20889	4.65	ug/L	89
47) 1,2-Dibromoethane (EDB)	9.317	107	8553	3.94	ug/L	97
48) 2-Hexanone	9.548	43	17782	7.59	ug/L	96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050719.D
Acq On : 7 May 2019 10:31 pm
Operator : TB
Sample : 9E07048-CAL6
Misc : 1X 5ppb VOC MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:41 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

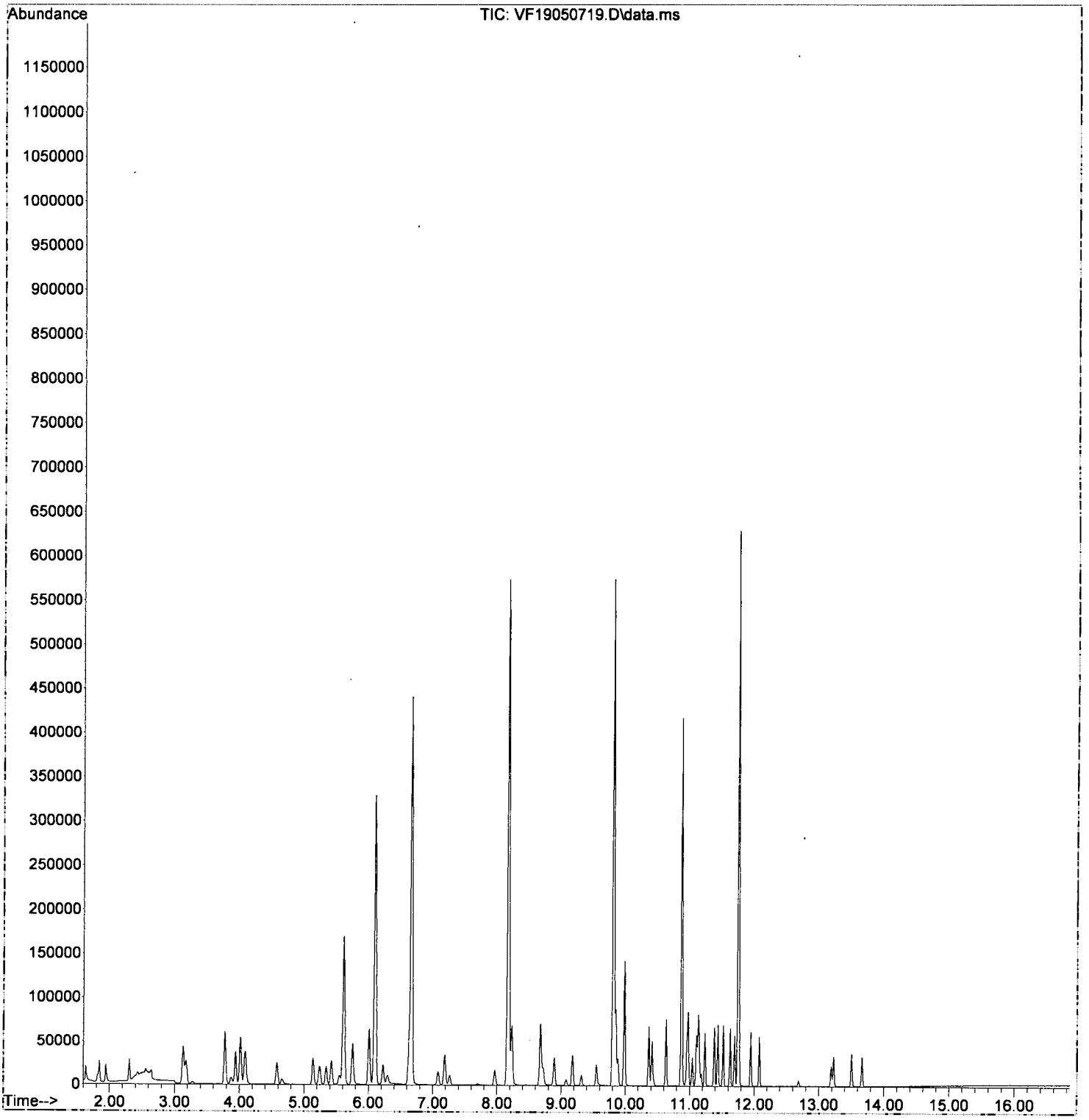
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.822	112	32582	4.91	ug/L		94
50)	Ethylbenzene	9.846	91	53767	4.68	ug/L		97
51)	1,1,1,2-Tetrachloroethane	9.882	131	4779	3.43	ug/L		94
52)	m,p-Xylenes (2)	9.980	91	76311	8.96	ug/L		96
53)	o-Xylene	10.363	91	35546	4.44	ug/L		95
54)	Styrene	10.412	104	22451	3.98	ug/L		96
55)	Bromoform	10.436	173	2131	3.36	ug/L		98
56)	Isopropylbenzene	10.631	105	42773	4.49	ug/L		97
59)	Bromobenzene	10.953	156	11371	4.81	ug/L		86
60)	n-Propylbenzene	10.971	91	49128	4.63	ug/L		96
61)	1,1,2,2-Tetrachloroethane	11.038	83	11560	4.19	ug/L		98
62)	2-Chlorotoluene	11.105	126	9901	4.68	ug/L		84
63)	1,3,5-Trimethylbenzene	11.130	105	31608	4.36	ug/L		98
64)	1,2,3-Trichloropropane	11.142	110	4758	4.59	ug/L	#	69
65)	t-1,4-Dichloro-2-butene	11.178	88	580	3.06	ug/L	#	27
66)	4-Chlorotoluene	11.233	91	30163	4.70	ug/L		96
67)	tert-Butylbenzene	11.379	91	18826	4.61	ug/L		89
68)	1,2,4-Trimethylbenzene	11.434	105	32438	4.41	ug/L		100
69)	sec-Butylbenzene	11.519	105	39097	4.59	ug/L		96
70)	4-Isopropyltoluene	11.628	119	30161	4.29	ug/L		95
71)	1,3-Dichlorobenzene	11.695	146	19402	4.75	ug/L		97
72)	1,4-Dichlorobenzene	11.762	146	20284	4.78	ug/L		97
73)	n-Butylbenzene	11.945	91	27019	4.48	ug/L		93
74)	1,2-Dichlorobenzene	12.079	146	18432	4.69	ug/L		97
75)	1,2-Dibromo-3-Chloropr...	12.681	157	1033	3.17	ug/L	#	12
76)	Hexachlorobutadiene	13.192	223	2590	4.71	ug/L		91
77)	1,2,4-Trichlorobenzene	13.228	180	9487	4.30	ug/L		98
78)	Naphthalene	13.502	128	26502	3.61	ug/L		99
79)	1,2,3-Trichlorobenzene	13.660	180	9947	4.45	ug/L		95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050719.D
Acq On : 7 May 2019 10:31 pm
Operator : TB
Sample : 9E07048-CAL6
Misc : 1X 5ppb VOC MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:41 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050720.D
Acq On : 7 May 2019 10:58 pm
Operator : TB
Sample : 9E07048-CAL7
Misc : 1X 10ppb VOC MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:43 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	264477	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	318211	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	137625	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.611	111	104380	46.54	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.664	114	404994	49.42	ug/L		0.00
39) Toluene-d8 (S)	8.172	98	462102	47.41	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.874	174	109811	52.51	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.633	85	23615	9.41	ug/L		96
3) Chloromethane	1.846	50	33122	8.97	ug/L		97
4) Vinyl Chloride	1.943	62	34298	9.37	ug/L		93
5) Bromomethane	2.308	96	23602	10.82	ug/L		100
6) Chloroethane	2.436	64	4425	8.83	ug/L	#	38
7) Trichlorofluoromethane	2.563	101	5854	8.85	ug/L		96
8) 1,1-Dichloroethene	3.135	61	43446	9.04	ug/L		79
9) Carbon Disulfide	3.148	76	47292	8.26	ug/L		99
10) Freon 113	3.184	101	27267	9.42	ug/L		85
11) Iodomethane	3.287	142	8901	8.49	ug/L		93
12) Methylene Chloride	3.780	84	42775	11.24	ug/L		90
13) Acetone	3.871	43	25591	17.64	ug/L		91
14) t-1,2-Dichloroethene	3.944	61	43282	9.16	ug/L		97
15) n-Hexane	4.024	86	7751	10.16	ug/L	#	87
16) Methyl-tert-butyl-ether	4.090	73	82410	8.86	ug/L		99
17) 1,1-Dichloroethane	4.583	63	54444	8.93	ug/L		98
18) Acrylonitrile	4.656	53	13862	8.82	ug/L		94
19) c-1,2-Dichloroethene	5.137	61	40226	8.96	ug/L		91
20) 2,2-Dichloropropane	5.240	77	25977	8.63	ug/L		71
21) Bromochloromethane	5.344	49	24444	9.16	ug/L		88
22) Chloroform	5.423	83	48731	9.14	ug/L		96
23) Carbon Tetrachloride	5.550	117	17551	8.37	ug/L		98
24) Tetrahydrofuran	5.605	42	13580	8.56	ug/L		94
25) 1,1,1-Trichloroethane	5.623	97	34343	8.77	ug/L		95
27) 1,1-Dichloropropene	5.751	75	40206	9.09	ug/L		99
28) 2-Butanone (MEK)	5.757	43	37307	17.28	ug/L		95
29) Benzene	6.007	78	124874	9.26	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.226	62	42029	9.06	ug/L		97
31) iso-Butyl Alcohol	6.293	43	23588	174.87	ug/L		96
33) Trichloroethene (TCE)	6.627	130	29569	9.09	ug/L		92
34) Dibromomethane	7.084	93	15288	8.84	ug/L		90
35) 1,2-Dichloropropane	7.187	63	30050	9.32	ug/L		98
36) Bromodichloromethane	7.260	83	19606	8.06	ug/L		99
38) c-1,3-Dichloropropene	7.966	75	26031	7.43	ug/L		85
40) Toluene	8.227	91	124435	9.17	ug/L		98
41) Tetrachloroethene (PCE)	8.677	166	29011	8.86	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.677	43	65586	16.49	ug/L		91
43) t-1,3-Dichloropropene	8.714	75	22208	7.38	ug/L		94
44) 1,1,2-Trichloroethane	8.890	97	23330	8.72	ug/L		92
45) Dibromochloromethane	9.079	129	10099	7.42	ug/L		90
46) 1,3-Dichloropropane	9.176	76	45205	8.88	ug/L		91
47) 1,2-Dibromoethane (EDB)	9.310	107	19791	8.00	ug/L		98
48) 2-Hexanone	9.547	43	42844	16.04	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050720.D
Acq On : 7 May 2019 10:58 pm
Operator : TB
Sample : 9E07048-CAL7
Misc : 1X 10ppb VOC MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:43 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

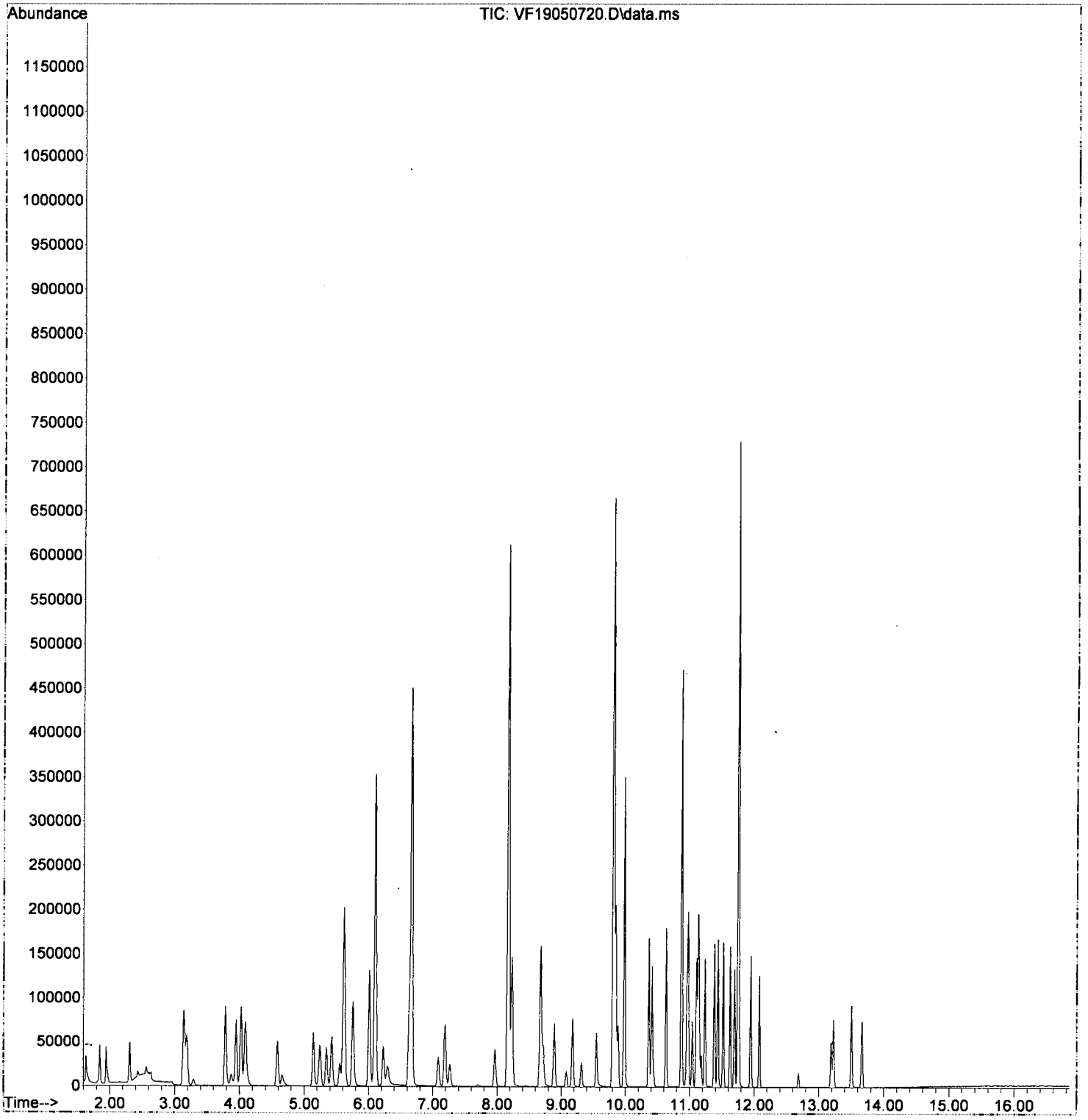
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	74844	9.90	ug/L		96
50) Ethylbenzene	9.845	91	123904	9.46	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.882	131	12247	7.72	ug/L		98
52) m,p-Xylenes (2)	9.979	91	180873	18.63	ug/L		96
53) o-Xylene	10.363	91	85079	9.33	ug/L		96
54) Styrene	10.411	104	56305	8.76	ug/L		95
55) Bromoform	10.435	173	5401	7.48	ug/L		98
56) Isopropylbenzene	10.630	105	101605	9.36	ug/L		97
59) Bromobenzene	10.959	156	26129	10.11	ug/L		95
60) n-Propylbenzene	10.971	91	115664	9.96	ug/L		97
61) 1,1,2,2-Tetrachloroethane	11.038	83	27257	9.04	ug/L		99
62) 2-Chlorotoluene	11.105	126	23610	10.21	ug/L		94
63) 1,3,5-Trimethylbenzene	11.129	105	77527	9.78	ug/L		97
64) 1,2,3-Trichloropropane	11.147	110	10739	9.47	ug/L	#	79
65) t-1,4-Dichloro-2-butene	11.178	88	1656	7.98	ug/L	#	47
66) 4-Chlorotoluene	11.232	91	71020	10.13	ug/L		97
67) tert-Butylbenzene	11.378	91	44486	9.97	ug/L		83
68) 1,2,4-Trimethylbenzene	11.439	105	78156	9.72	ug/L		100
69) sec-Butylbenzene	11.518	105	92413	9.93	ug/L		97
70) 4-Isopropyltoluene	11.628	119	73579	9.57	ug/L		98
71) 1,3-Dichlorobenzene	11.695	146	42681	9.56	ug/L		97
72) 1,4-Dichlorobenzene	11.762	146	44850	9.67	ug/L		98
73) n-Butylbenzene	11.944	91	65332	9.90	ug/L		93
74) 1,2-Dichlorobenzene	12.078	146	40089	9.33	ug/L		98
75) 1,2-Dibromo-3-Chloropr...	12.686	157	2666	7.48	ug/L	#	50
76) Hexachlorobutadiene	13.191	223	5590	9.29	ug/L		97
77) 1,2,4-Trichlorobenzene	13.228	180	21384	8.87	ug/L		98
78) Naphthalene	13.502	128	66084	8.22	ug/L		99
79) 1,2,3-Trichlorobenzene	13.666	180	21895	8.96	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050720.D
Acq On : 7 May 2019 10:58 pm
Operator : TB
Sample : 9E07048-CAL7
Misc : 1X 10ppb VOC MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:43 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050721.D
Acq On : 7 May 2019 11:25 pm
Operator : TB
Sample : 9E07048-CAL8
Misc : 1X 20ppb VOC MeOH
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.097	168	247283	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.802	117	274550	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	127087	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	104852	50.00	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.657	114	383139	50.00	ug/L		0.00
39) Toluene-d8 (S)	8.166	98	420491	50.00	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.873	174	96557	50.00	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.632	85	46922	20.00	ug/L		97
3) Chloromethane	1.839	50	69024	20.00	ug/L		97
4) Vinyl Chloride	1.942	62	68436	20.00	ug/L		96
5) Bromomethane	2.301	96	40782	20.00	ug/L		96
6) Chloroethane	2.423	64	9373	20.00	ug/L		76
7) Trichlorofluoromethane	2.557	101	12368	20.00	ug/L		96
8) 1,1-Dichloroethene	3.123	61	89848	20.00	ug/L		78
9) Carbon Disulfide	3.141	76	107117	20.00	ug/L		99
10) Freon 113	3.177	101	54116	20.00	ug/L		82
11) Iodomethane	3.281	142	19614	20.00	ug/L		97
12) Methylene Chloride	3.773	84	71195	20.00	ug/L		89
13) Acetone	3.865	43	54252	40.00	ug/L		93
14) t-1,2-Dichloroethene	3.938	61	88360	20.00	ug/L		95
15) n-Hexane	4.017	86	14259	20.00	ug/L	#	91
16) Methyl-tert-butyl-ether	4.084	73	173881	20.00	ug/L		97
17) 1,1-Dichloroethane	4.576	63	114004	20.00	ug/L		98
18) Acrylonitrile	4.649	53	29390	20.00	ug/L		100
19) c-1,2-Dichloroethene	5.136	61	83939	20.00	ug/L		92
20) 2,2-Dichloropropane	5.240	77	56267	20.00	ug/L		81
21) Bromochloromethane	5.337	49	49879	20.00	ug/L		87
22) Chloroform	5.422	83	99732	20.00	ug/L		96
23) Carbon Tetrachloride	5.544	117	39228	20.00	ug/L		96
24) Tetrahydrofuran	5.598	42	29649	20.00	ug/L		95
25) 1,1,1-Trichloroethane	5.617	97	73208	20.00	ug/L		94
27) 1,1-Dichloropropene	5.745	75	82690	20.00	ug/L		98
28) 2-Butanone (MEK)	5.751	43	80726	40.00	ug/L		97
29) Benzene	6.000	78	252305	20.00	ug/L		96
30) 1,2-Dichloroethane (EDC)	6.219	62	86737	20.00	ug/L		98
31) iso-Butyl Alcohol	6.286	43	63060	500.00	ug/L		98
33) Trichloroethene (TCE)	6.621	130	60828	20.00	ug/L		93
34) Dibromomethane	7.077	93	32324	20.00	ug/L		84
35) 1,2-Dichloropropane	7.180	63	60316	20.00	ug/L		98
36) Bromodichloromethane	7.259	83	45494	20.00	ug/L		98
38) c-1,3-Dichloropropene	7.965	75	60464	20.00	ug/L		89
40) Toluene	8.227	91	234051	20.00	ug/L		99
41) Tetrachloroethene (PCE)	8.671	166	56499	20.00	ug/L		92
42) 4-Methyl-2-Pentanone (...	8.677	43	137264	40.00	ug/L		93
43) t-1,3-Dichloropropene	8.713	75	51961	20.00	ug/L		95
44) 1,1,2-Trichloroethane	8.890	97	46171	20.00	ug/L		92
45) Dibromochloromethane	9.078	129	23476	20.00	ug/L		95
46) 1,3-Dichloropropane	9.169	76	88346	20.00	ug/L		90
47) 1,2-Dibromoethane (EDB)	9.309	107	42675	20.00	ug/L		99
48) 2-Hexanone	9.547	43	92169	40.00	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050721.D
Acq On : 7 May 2019 11:25 pm
Operator : TB
Sample : 9E07048-CAL8
Misc : 1X 20ppb VOC MeOH
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

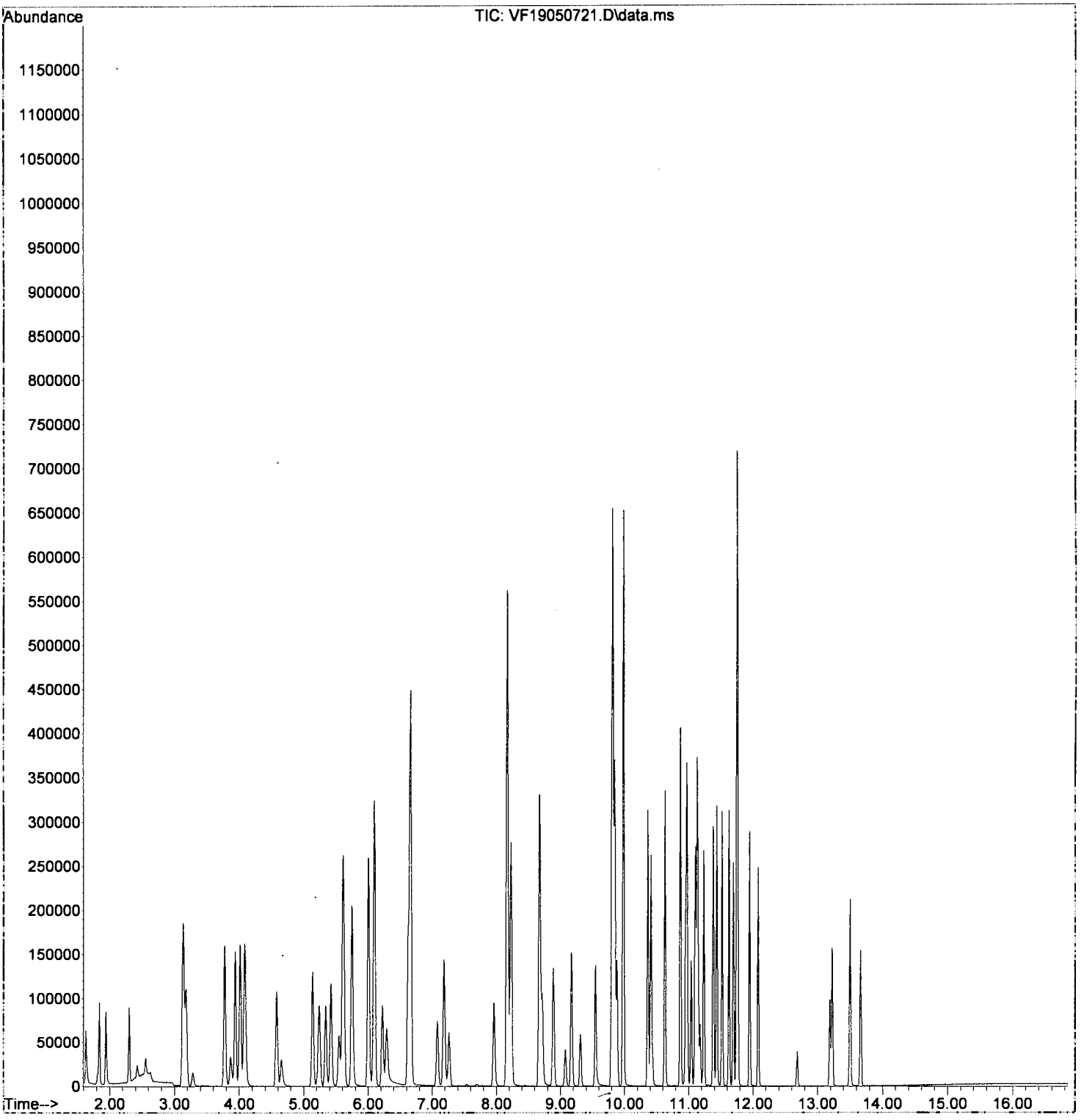
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.820	112	130501	20.00	ug/L		98
50) Ethylbenzene	9.845	91	225958	20.00	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.881	131	27384	20.00	ug/L		97
52) m,p-Xylenes (2)	9.979	91	334982	40.00	ug/L		94
53) o-Xylene	10.362	91	157388	20.00	ug/L		97
54) Styrene	10.411	104	110271	19.89	ug/L		93
55) Bromoform	10.435	173	12454	20.00	ug/L		96
56) Isopropylbenzene	10.630	105	187296	20.00	ug/L		97
59) Bromobenzene	10.952	156	47722	20.00	ug/L		86
60) n-Propylbenzene	10.970	91	214448	20.00	ug/L		96
61) 1,1,2,2-Tetrachloroethane	11.037	83	55658	20.00	ug/L		98
62) 2-Chlorotoluene	11.104	126	42696	20.00	ug/L		85
63) 1,3,5-Trimethylbenzene	11.128	105	146436	20.00	ug/L		97
64) 1,2,3-Trichloropropane	11.147	110	20933	20.00	ug/L	#	76
65) t-1,4-Dichloro-2-butene	11.177	88	3834	20.00	ug/L	#	63
66) 4-Chlorotoluene	11.232	91	129493	20.00	ug/L		95
67) tert-Butylbenzene	11.378	91	82417	20.00	ug/L		87
68) 1,2,4-Trimethylbenzene	11.439	105	148515	20.00	ug/L		100
69) sec-Butylbenzene	11.518	105	171858	20.00	ug/L		98
70) 4-Isopropyltoluene	11.627	119	141976	20.00	ug/L		97
71) 1,3-Dichlorobenzene	11.694	146	82474	20.00	ug/L		97
72) 1,4-Dichlorobenzene	11.761	146	85622	20.00	ug/L		98
73) n-Butylbenzene	11.944	91	121885	20.00	ug/L		96
74) 1,2-Dichlorobenzene	12.077	146	79323	20.00	ug/L		98
75) 1,2-Dibromo-3-Chloropr...	12.686	157	6583	20.00	ug/L	#	44
76) Hexachlorobutadiene	13.191	223	11108	20.00	ug/L		99
77) 1,2,4-Trichlorobenzene	13.227	180	44542	20.00	ug/L		99
78) Naphthalene	13.501	128	148411	20.00	ug/L		99
79) 1,2,3-Trichlorobenzene	13.665	180	45148	20.00	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050721.D
Acq On : 7 May 2019 11:25 pm
Operator : TB
Sample : 9E07048-CAL8
Misc : 1X 20ppb VOC MeOH
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050722.D
Acq On : 7 May 2019 11:52 pm
Operator : TB
Sample : 9E07048-CAL9
Misc : 1X 50ppb VOC MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:47 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	267251	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	329813	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	153580	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.605	111	111422	49.16	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	412030	49.75	ug/L		0.00
39) Toluene-d8 (S)	8.167	98	467669	46.29	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.868	174	117904	50.52	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.621	85	142427	56.17	ug/L		98
3) Chloromethane	1.834	50	191344	51.30	ug/L		98
4) Vinyl Chloride	1.931	62	198169	53.59	ug/L		96
5) Bromomethane	2.290	96	111651	50.66	ug/L		97
6) Chloroethane	2.418	64	25200	49.75	ug/L		89
7) Trichlorofluoromethane	2.545	101	32243	48.24	ug/L		98
8) 1,1-Dichloroethene	3.123	61	240834	49.60	ug/L		80
9) Carbon Disulfide	3.136	76	331432	57.26	ug/L		99
10) Freon 113	3.172	101	147538	50.45	ug/L		82
11) Iodomethane	3.282	142	85623	80.78	ug/L		91
12) Methylene Chloride	3.768	84	158529	41.21	ug/L		88
13) Acetone	3.853	43	131619	89.79	ug/L		93
14) t-1,2-Dichloroethene	3.932	61	234688	49.15	ug/L		96
15) n-Hexane	4.012	86	35578	46.17	ug/L	#	85
16) Methyl-tert-butyl-ether	4.072	73	465822	49.58	ug/L		98
17) 1,1-Dichloroethane	4.571	63	295880	48.03	ug/L		98
18) Acrylonitrile	4.644	53	77245	48.64	ug/L		97
19) c-1,2-Dichloroethene	5.131	61	219981	48.50	ug/L		92
20) 2,2-Dichloropropane	5.234	77	162582	53.47	ug/L		89
21) Bromochloromethane	5.332	49	126903	47.08	ug/L		89
22) Chloroform	5.417	83	264234	49.03	ug/L		96
23) Carbon Tetrachloride	5.545	117	126590	59.72	ug/L		96
24) Tetrahydrofuran	5.587	42	74940	46.77	ug/L		95
25) 1,1,1-Trichloroethane	5.618	97	215695	54.52	ug/L		96
27) 1,1-Dichloropropene	5.745	75	224805	50.31	ug/L		98
28) 2-Butanone (MEK)	5.739	43	207080	94.94	ug/L		97
29) Benzene	6.001	78	656370	48.14	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.220	62	220556	47.06	ug/L		98
31) iso-Butyl Alcohol	6.275	43	199734	1465.36	ug/L		96
33) Trichloroethene (TCE)	6.621	130	163754	49.82	ug/L		95
34) Dibromomethane	7.078	93	86980	49.80	ug/L		89
35) 1,2-Dichloropropane	7.181	63	161209	49.46	ug/L		98
36) Bromodichloromethane	7.260	83	144826	58.91	ug/L		97
38) c-1,3-Dichloropropene	7.960	75	189721	52.24	ug/L		89
40) Toluene	8.221	91	652612	46.42	ug/L		99
41) Tetrachloroethene (PCE)	8.671	166	156090	46.00	ug/L		92
42) 4-Methyl-2-Pentanone (...	8.671	43	398605	96.69	ug/L		95
43) t-1,3-Dichloropropene	8.714	75	174126	55.79	ug/L		95
44) 1,1,2-Trichloroethane	8.884	97	128440	46.31	ug/L		95
45) Dibromochloromethane	9.073	129	86639	61.44	ug/L		96
46) 1,3-Dichloropropane	9.170	76	243237	45.84	ug/L		91
47) 1,2-Dibromoethane (EDB)	9.310	107	128621	50.18	ug/L		99
48) 2-Hexanone	9.541	43	280127	101.20	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050722.D
Acq On : 7 May 2019 11:52 pm
Operator : TB
Sample : 9E07048-CAL9
Misc : 1X 50ppb VOC MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

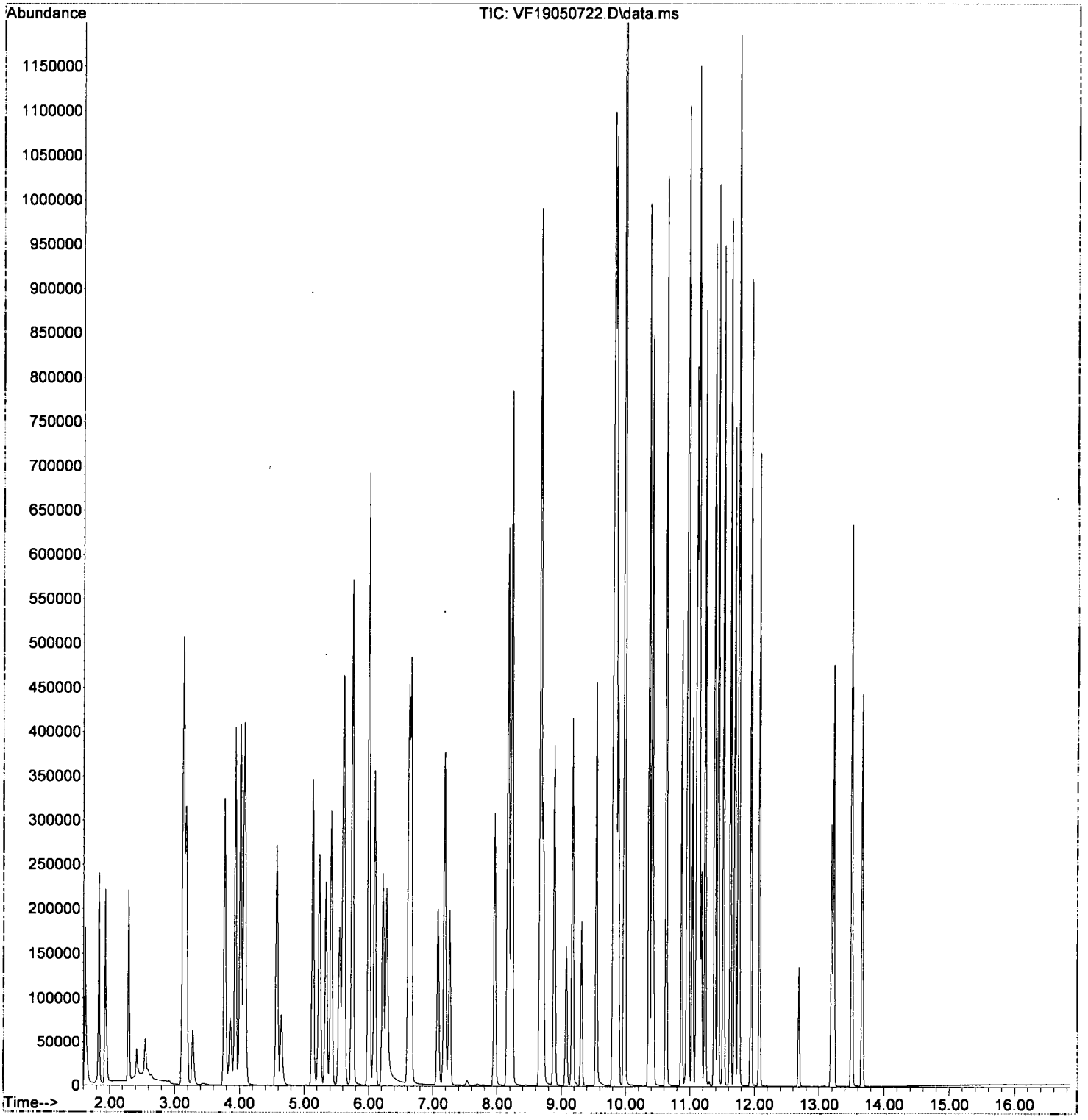
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	392199	50.04	ug/L		98
50) Ethylbenzene	9.846	91	684347	50.42	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.882	131	99762	60.65	ug/L		99
52) m,p-Xylenes (2)	9.979	91	1024139	101.80	ug/L		97
53) o-Xylene	10.363	91	494845	52.35	ug/L		97
54) Styrene	10.411	104	367293	55.14	ug/L		95
55) Bromoform	10.436	173	50592	67.63	ug/L		99
56) Isopropylbenzene	10.630	105	585625	52.06	ug/L		99
59) Bromobenzene	10.953	156	145102	50.32	ug/L		89
60) n-Propylbenzene	10.971	91	668617	51.60	ug/L		96
61) 1,1,2,2-Tetrachloroethane	11.038	83	165500	49.21	ug/L		99
62) 2-Chlorotoluene	11.099	126	133819	51.87	ug/L	#	80
63) 1,3,5-Trimethylbenzene	11.129	105	457542	51.71	ug/L		98
64) 1,2,3-Trichloropropane	11.147	110	60249	47.63	ug/L	#	81
65) t-1,4-Dichloro-2-butene	11.178	88	16499	71.22	ug/L		93
66) 4-Chlorotoluene	11.233	91	401605	51.33	ug/L		97
67) tert-Butylbenzene	11.379	91	255683	51.34	ug/L		87
68) 1,2,4-Trimethylbenzene	11.433	105	457137	50.94	ug/L		98
69) sec-Butylbenzene	11.519	105	532289	51.26	ug/L		98
70) 4-Isopropyltoluene	11.628	119	446740	52.08	ug/L		98
71) 1,3-Dichlorobenzene	11.695	146	248657	49.90	ug/L		98
72) 1,4-Dichlorobenzene	11.762	146	254182	49.13	ug/L		99
73) n-Butylbenzene	11.944	91	379675	51.55	ug/L		96
74) 1,2-Dichlorobenzene	12.078	146	232496	48.51	ug/L		99
75) 1,2-Dibromo-3-Chloropr...	12.687	157	26288	66.09	ug/L		77
76) Hexachlorobutadiene	13.191	223	33246	49.53	ug/L		98
77) 1,2,4-Trichlorobenzene	13.222	180	133873	49.74	ug/L		98
78) Naphthalene	13.502	128	456299	50.88	ug/L		99
79) 1,2,3-Trichlorobenzene	13.666	180	132079	48.42	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050722.D
Acq On : 7 May 2019 11:52 pm
Operator : TB
Sample : 9E07048-CAL9
Misc : 1X 50ppb VOC MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050723.D
Acq On : 8 May 2019 12:19 am
Operator : TB
Sample : 9E07048-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

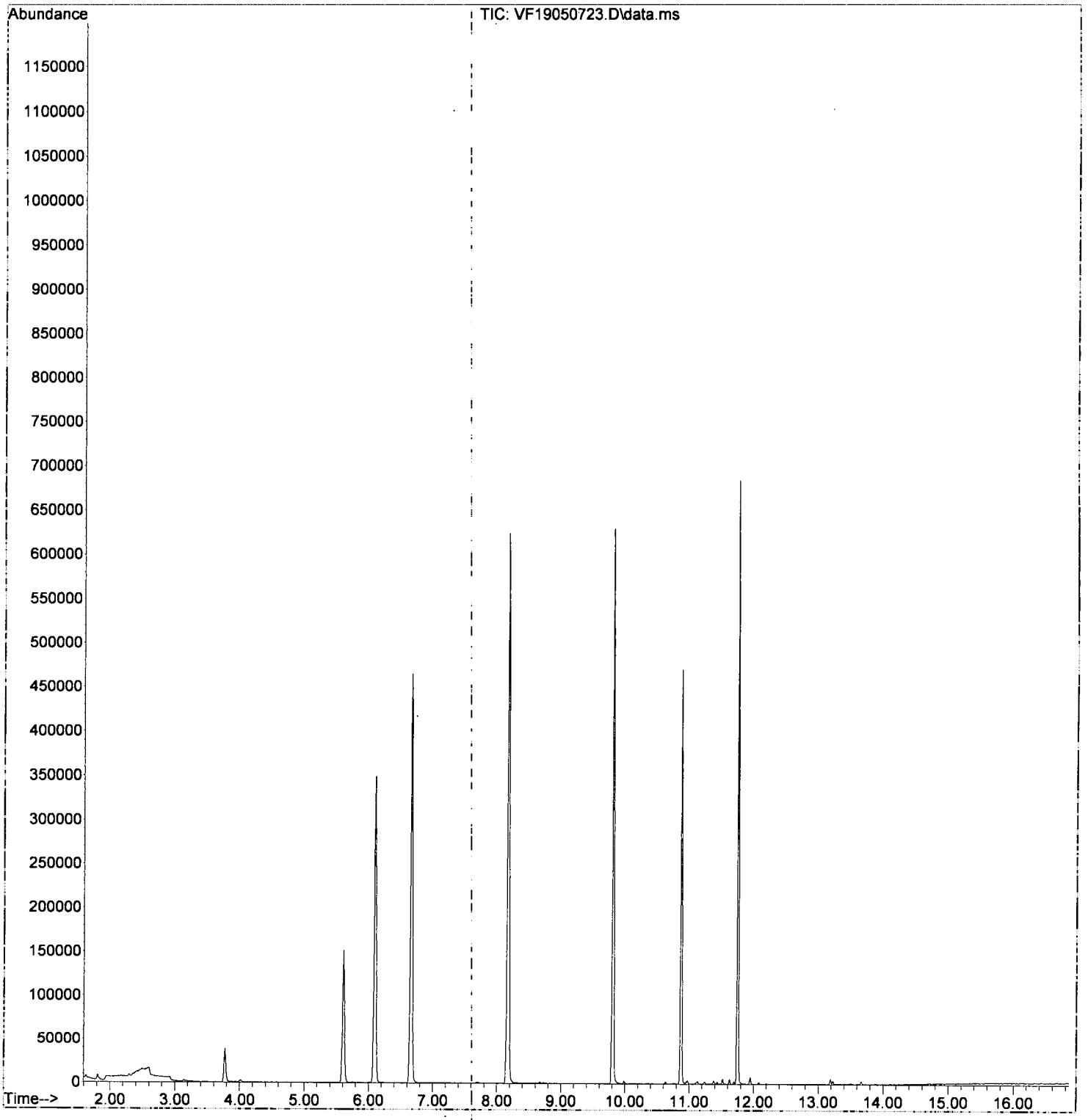
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.096	168	267959	50.00	ug/L	0.00
37) Chlorobenzene-d5 (I)	9.807	117	327429	50.00	ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	140340	50.00	ug/L	0.00
System Monitoring Compounds						
26) Dibromofluoromethane (S)	5.604	111	101432	47.18	ug/L	0.00
32) 1,4-Difluorobenzene (S)	6.656	114	412382	49.81	ug/L	0.00
39) Toluene-d8 (S)	8.165	98	473267	48.89	ug/L	0.00
58) 4-Bromofluorobenzene (S)	10.872	174	113704	52.62	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.625	85	356	0.14	ug/L	82
3) Chloromethane	1.838	50	631	0.17	ug/L	86
5) Bromomethane	2.300	96	1170	0.52	ug/L	89
9) Carbon Disulfide	3.146	76	1804	0.53	ug/L	86
10) Freon 113	3.170	101	608	0.22	ug/L #	69
11) Iodomethane	3.286	142	410	1.40	ug/L #	83
12) Methylene Chloride	3.772	84	18030	1.33	ug/L	87
13) Acetone	3.864	43	1398	1.02	ug/L	80
14) t-1,2-Dichloroethene	3.937	61	613	0.14	ug/L	98
27) 1,1-Dichloropropene	5.743	75	565	0.14	ug/L #	66
28) 2-Butanone (MEK)	5.756	43	215	0.10	ug/L	54
33) Trichloroethene (TCE)	6.620	130	345	0.11	ug/L #	79
41) Tetrachloroethene (PCE)	8.676	166	632	0.21	ug/L	92
49) Chlorobenzene	9.819	112	921	0.12	ug/L #	1
50) Ethylbenzene	9.850	91	1271	0.10	ug/L	84
52) m,p-Xylenes (2)	9.984	91	2009	0.22	ug/L	98
54) Styrene	10.416	104	346	0.24	ug/L #	41
56) Isopropylbenzene	10.629	105	1471	0.15	ug/L	96
59) Bromobenzene	10.957	156	230	0.09	ug/L #	78
60) n-Propylbenzene	10.975	91	2680	0.24	ug/L	99
62) 2-Chlorotoluene	11.109	126	287	0.13	ug/L #	74
63) 1,3,5-Trimethylbenzene	11.133	105	1491	0.21	ug/L	96
66) 4-Chlorotoluene	11.237	91	1122	0.17	ug/L	91
67) tert-Butylbenzene	11.377	91	1260	0.30	ug/L	79
68) 1,2,4-Trimethylbenzene	11.438	105	1366	0.19	ug/L	91
69) sec-Butylbenzene	11.517	105	3620	0.42	ug/L	91
70) 4-Isopropyltoluene	11.626	119	2751	0.38	ug/L	94
71) 1,3-Dichlorobenzene	11.699	146	1117	0.26	ug/L	92
72) 1,4-Dichlorobenzene	11.760	146	1279	0.27	ug/L #	75
73) n-Butylbenzene	11.949	91	3906	0.63	ug/L	94
74) 1,2-Dichlorobenzene	12.082	146	687	0.17	ug/L	92
76) Hexachlorobutadiene	13.190	223	621	1.08	ug/L	96
77) 1,2,4-Trichlorobenzene	13.226	180	1342	0.62	ug/L	86
78) Naphthalene	13.500	128	1186	0.55	ug/L	80
79) 1,2,3-Trichlorobenzene	13.664	180	1151	0.52	ug/L #	68

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050723.D
Acq On : 8 May 2019 12:19 am
Operator : TB
Sample : 9E07048-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050724.D
Acq On : 8 May 2019 12:46 am
Operator : TB
Sample : 9E07048-CALA
Misc : 1X 100ppb VOC MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	283012	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	334077	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.747	152	156244	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.603	111	121970	50.82	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.655	114	434050	49.49	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	488712	47.76	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	115967	48.84	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	284874	106.10	ug/L		97
3) Chloromethane	1.843	50	382793	96.91	ug/L		98
4) Vinyl Chloride	1.941	62	379506	96.91	ug/L		97
5) Bromomethane	2.300	96	198553	85.08	ug/L		98
6) Chloroethane	2.427	64	44440	82.85	ug/L		92
7) Trichlorofluoromethane	2.555	101	61776	87.29	ug/L		99
8) 1,1-Dichloroethene	3.127	61	484753	94.28	ug/L		81
9) Carbon Disulfide	3.139	76	729573	119.02	ug/L		99
10) Freon 113	3.176	101	298770	96.48	ug/L		84
11) Iodomethane	3.279	142	183342	163.35	ug/L		92
12) Methylene Chloride	3.772	84	303916	74.60	ug/L		89
13) Acetone	3.863	43	275471	177.46	ug/L		95
14) t-1,2-Dichloroethene	3.936	61	486614	96.24	ug/L		98
15) n-Hexane	4.015	86	73671	90.29	ug/L	#	90
16) Methyl-tert-butyl-ether	4.082	73	966419	97.13	ug/L		98
17) 1,1-Dichloroethane	4.575	63	579727	88.86	ug/L		98
18) Acrylonitrile	4.648	53	161749	96.17	ug/L		98
19) c-1,2-Dichloroethene	5.135	61	453832	94.48	ug/L		94
20) 2,2-Dichloropropane	5.238	77	344765	107.08	ug/L		91
21) Bromochloromethane	5.335	49	257506	90.22	ug/L		91
22) Chloroform	5.420	83	548790	96.16	ug/L		96
23) Carbon Tetrachloride	5.548	117	296253	131.97	ug/L		96
24) Tetrahydrofuran	5.591	42	159679	94.11	ug/L		94
25) 1,1,1-Trichloroethane	5.615	97	465951	111.22	ug/L		96
27) 1,1-Dichloropropene	5.743	75	469859	99.30	ug/L		98
28) 2-Butanone (MEK)	5.743	43	437402	189.37	ug/L		95
29) Benzene	6.004	78	1353074	93.72	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.223	62	450418	90.75	ug/L		98
31) iso-Butyl Alcohol	6.290	43	517270	3583.63	ug/L		93
33) Trichloroethene (TCE)	6.619	130	340985	97.96	ug/L		93
34) Dibromomethane	7.075	93	183362	99.13	ug/L		88
35) 1,2-Dichloropropane	7.179	63	333077	96.50	ug/L		100
36) Bromodichloromethane	7.258	83	330159	126.82	ug/L		99
38) c-1,3-Dichloropropene	7.963	75	428450	116.47	ug/L		91
40) Toluene	8.225	91	1331277	93.49	ug/L		99
41) Tetrachloroethene (PCE)	8.669	166	325857	94.80	ug/L		91
42) 4-Methyl-2-Pentanone (...	8.675	43	838408	200.79	ug/L		96
43) t-1,3-Dichloropropene	8.712	75	395344	125.06	ug/L		95
44) 1,1,2-Trichloroethane	8.888	97	262681	93.51	ug/L		94
45) Dibromochloromethane	9.077	129	209789	146.88	ug/L		96
46) 1,3-Dichloropropane	9.174	76	499607	92.95	ug/L		93
47) 1,2-Dibromoethane (EDB)	9.308	107	274641	105.78	ug/L		98
48) 2-Hexanone	9.545	43	591216	210.86	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050724.D
Acq On : 8 May 2019 12:46 am
Operator : TB
Sample : 9E07048-CALA
Misc : 1X 100ppb VOC MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

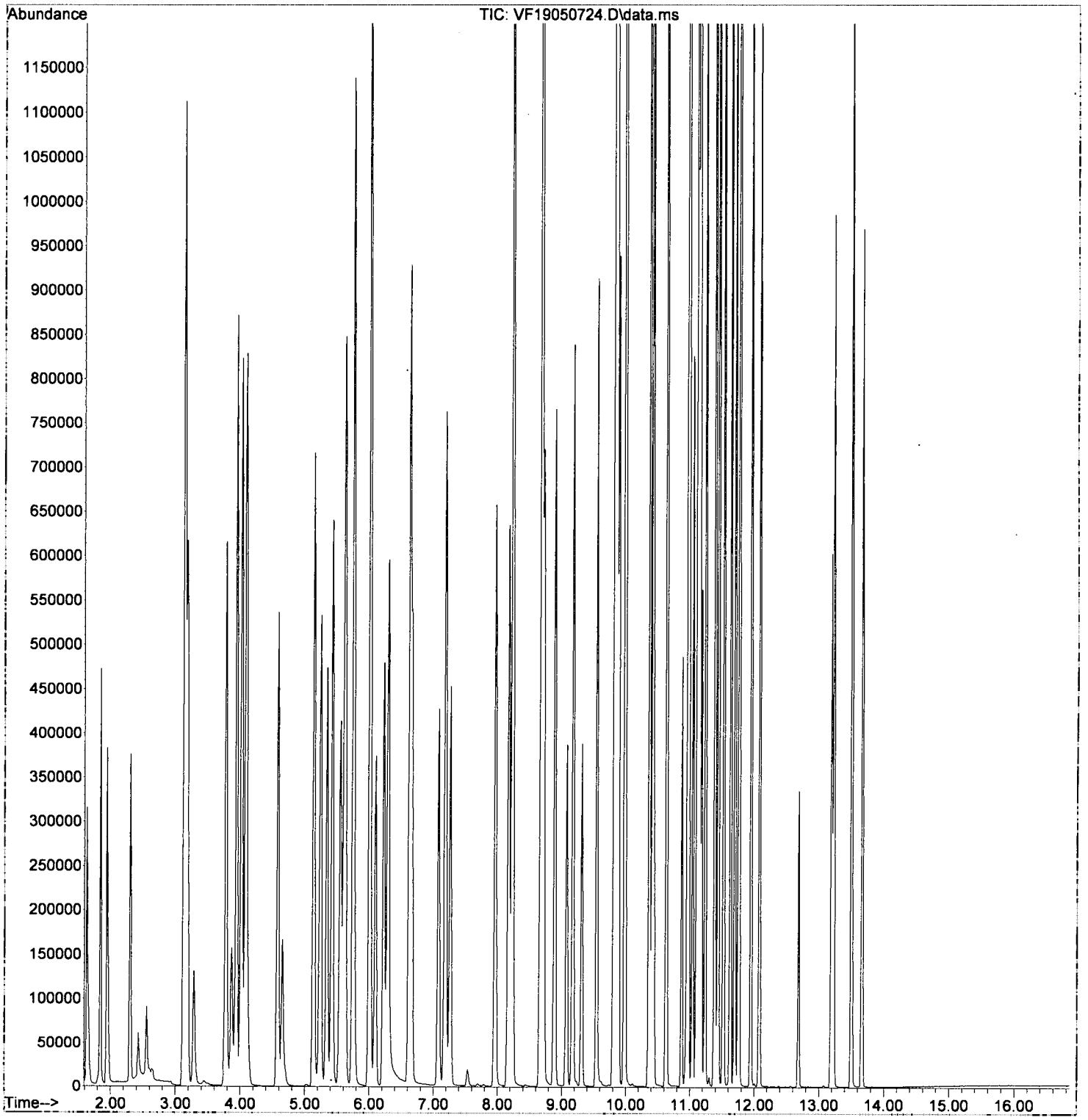
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	775570	97.68	ug/L	98
50) Ethylbenzene	9.843	91	1355629	98.61	ug/L	97
51) 1,1,1,2-Tetrachloroethane	9.880	131	228768	137.31	ug/L	98
52) m,p-Xylenes (2)	9.977	91	2053605	201.53	ug/L	97
53) o-Xylene	10.360	91	977297	102.06	ug/L	97
54) Styrene	10.409	104	736185	109.11	ug/L	94
55) Bromoform	10.433	173	132822	175.29	ug/L	98
56) Isopropylbenzene	10.628	105	1158047	101.63	ug/L	98
59) Bromobenzene	10.956	156	284944	97.13	ug/L	94
60) n-Propylbenzene	10.975	91	1317712	99.96	ug/L	98
61) 1,1,2,2-Tetrachloroethane	11.036	83	342106	99.99	ug/L	97
62) 2-Chlorotoluene	11.102	126	259978	99.06	ug/L	86
63) 1,3,5-Trimethylbenzene	11.127	105	898558	99.82	ug/L	97
64) 1,2,3-Trichloropropane	11.145	110	123481	95.96	ug/L	82
65) t-1,4-Dichloro-2-butene	11.175	88	40002	169.73	ug/L	97
66) 4-Chlorotoluene	11.236	91	778535	97.80	ug/L	99
67) tert-Butylbenzene	11.382	91	498695	98.43	ug/L	92
68) 1,2,4-Trimethylbenzene	11.437	105	897125	98.27	ug/L	99
69) sec-Butylbenzene	11.516	105	1046840	99.09	ug/L	97
70) 4-Isopropyltoluene	11.626	119	875955	100.37	ug/L	97
71) 1,3-Dichlorobenzene	11.693	146	483440	95.36	ug/L	97
72) 1,4-Dichlorobenzene	11.759	146	493681	93.80	ug/L	98
73) n-Butylbenzene	11.942	91	753712	100.60	ug/L	95
74) 1,2-Dichlorobenzene	12.076	146	456101	93.54	ug/L	98
75) 1,2-Dibromo-3-Chloropr...	12.684	157	68037	168.13	ug/L	81
76) Hexachlorobutadiene	13.189	223	64806	94.91	ug/L	99
77) 1,2,4-Trichlorobenzene	13.226	180	280911	102.60	ug/L	98
78) Naphthalene	13.499	128	996167	109.19	ug/L	99
79) 1,2,3-Trichlorobenzene	13.664	180	277018	99.82	ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050724.D
Acq On : 8 May 2019 12:46 am
Operator : TB
Sample : 9E07048-CALA
Misc : 1X 100ppb VOC MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050725.D
Acq On : 8 May 2019 1:13 am
Operator : TB
Sample : 9E07048-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	267819	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	300406	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	129798	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.606	111	103935	48.37	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	407507	49.25	ug/L		0.00
39) Toluene-d8 (S)	8.167	98	457064	51.46	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.868	174	103098	51.59	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.627	85	841	0.34	ug/L		95
3) Chloromethane	1.840	50	1886	0.52	ug/L		95
4) Vinyl Chloride	1.937	62	505	0.14	ug/L		72
5) Bromomethane	2.296	96	3276	1.47	ug/L		95
8) 1,1-Dichloroethene	3.124	61	596	0.13	ug/L		72
9) Carbon Disulfide	3.136	76	3483	0.81	ug/L		95
10) Freon 113	3.166	101	1261	0.45	ug/L	#	61
11) Iodomethane	3.282	142	1041	1.92	ug/L	#	86
12) Methylene Chloride	3.768	84	8317	Below Cal			96
13) Acetone	3.866	43	1199	0.87	ug/L		92
14) t-1,2-Dichloroethene	3.939	61	1053	0.24	ug/L		93
15) n-Hexane	4.012	86	287	0.37	ug/L		93
19) c-1,2-Dichloroethene	5.143	61	537	0.13	ug/L	#	67
22) Chloroform	5.423	83	664	0.13	ug/L		78
27) 1,1-Dichloropropene	5.752	75	946	0.23	ug/L		87
28) 2-Butanone (MEK)	5.764	43	528	0.26	ug/L		54
29) Benzene	6.013	78	1091	0.08	ug/L		80
33) Trichloroethene (TCE)	6.622	130	639	0.20	ug/L	#	73
40) Toluene	8.222	91	2295	0.18	ug/L		81
41) Tetrachloroethene (PCE)	8.672	166	986	0.35	ug/L	#	59
49) Chlorobenzene	9.815	112	1330	0.18	ug/L	#	1
50) Ethylbenzene	9.852	91	2251	0.19	ug/L		95
52) m,p-Xylenes (2)	9.986	91	3417	0.40	ug/L		95
53) o-Xylene	10.363	91	1103	0.14	ug/L		93
54) Styrene	10.412	104	460	0.26	ug/L		77
56) Isopropylbenzene	10.631	105	2232	0.24	ug/L		93
59) Bromobenzene	10.959	156	407	0.17	ug/L		89
60) n-Propylbenzene	10.977	91	4531	0.44	ug/L		99
62) 2-Chlorotoluene	11.099	126	549	0.26	ug/L		94
63) 1,3,5-Trimethylbenzene	11.129	105	2507	0.37	ug/L		94
66) 4-Chlorotoluene	11.239	91	2205	0.36	ug/L		96
67) tert-Butylbenzene	11.379	91	2213	0.57	ug/L	#	72
68) 1,2,4-Trimethylbenzene	11.440	105	2296	0.34	ug/L		92
69) sec-Butylbenzene	11.519	105	6114	0.76	ug/L		96
70) 4-Isopropyltoluene	11.628	119	4723	0.71	ug/L		94
71) 1,3-Dichlorobenzene	11.695	146	1746	0.44	ug/L		89
72) 1,4-Dichlorobenzene	11.762	146	2056	0.47	ug/L		83
73) n-Butylbenzene	11.945	91	6696	1.17	ug/L		97
74) 1,2-Dichlorobenzene	12.078	146	1157	0.31	ug/L		88
76) Hexachlorobutadiene	13.192	223	1162	2.18	ug/L		90
77) 1,2,4-Trichlorobenzene	13.228	180	2579	1.28	ug/L		96
78) Naphthalene	13.502	128	2246	0.69	ug/L		97
79) 1,2,3-Trichlorobenzene	13.660	180	2292	1.12	ug/L		82

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050725.D
Acq On : 8 May 2019 1:13 am
Operator : TB
Sample : 9E07048-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

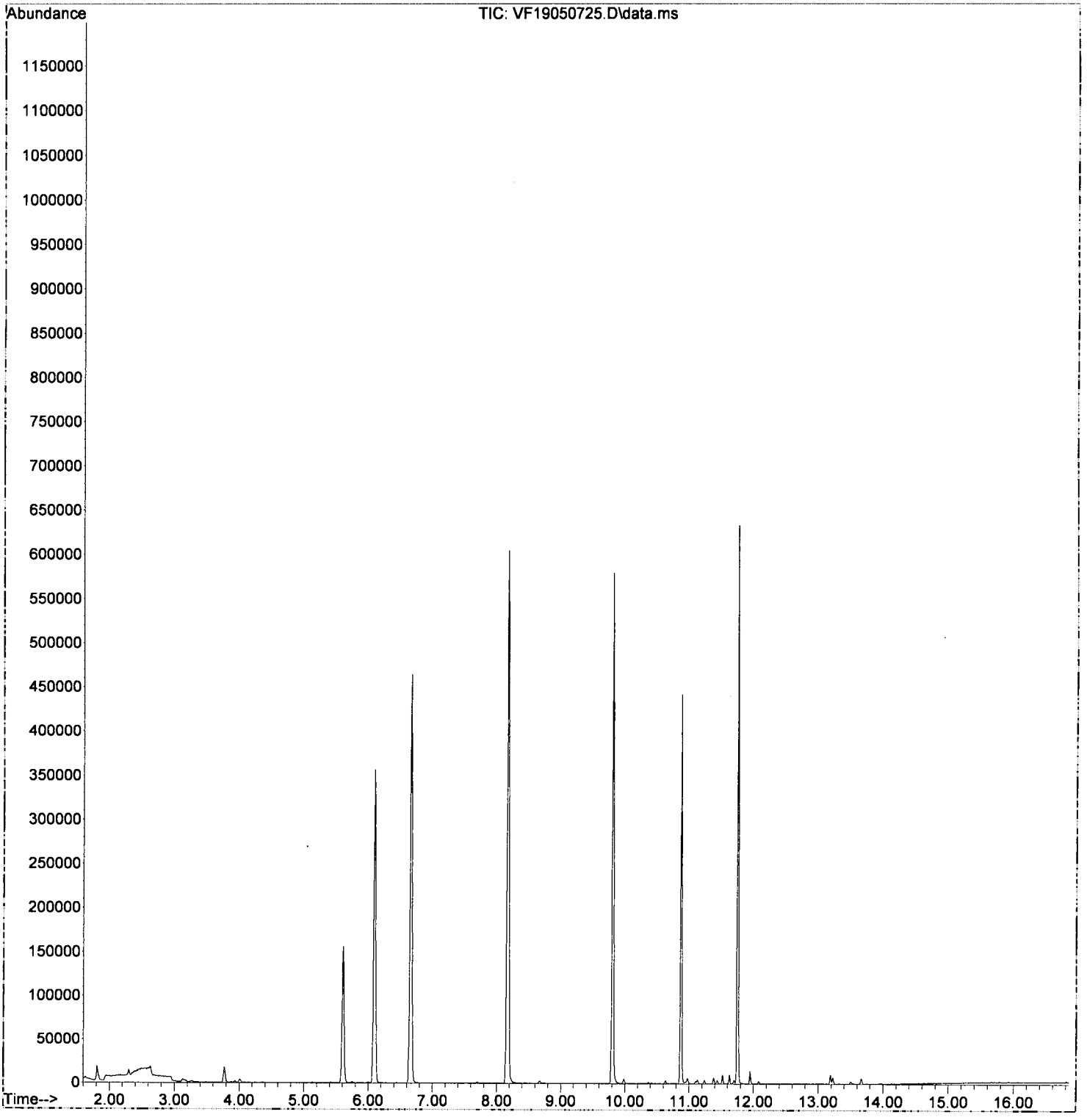
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050725.D
Acq On : 8 May 2019 1:13 am
Operator : TB
Sample : 9E07048-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050726.D
Acq On : 8 May 2019 1:40 am
Operator : TB
Sample : 9E07048-CALB
Misc : 1X 200ppb VOC MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:51 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	292078	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	382482	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.752	152	185657	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.602	111	133184	53.77	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.660	114	462700	51.12	ug/L		0.00
39) Toluene-d8 (S)	8.169	98	514201	43.89	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.870	174	136770	48.48	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.629	85	615567	222.14	ug/L		98
3) Chloromethane	1.842	50	771027	189.15	ug/L		97
4) Vinyl Chloride	1.934	62	840125	207.87	ug/L		96
5) Bromomethane	2.299	96	450898	187.21	ug/L		96
6) Chloroethane	2.426	64	99955	180.57	ug/L		96
7) Trichlorofluoromethane	2.554	101	134796	184.55	ug/L		97
8) 1,1-Dichloroethene	3.126	61	1060537	199.87	ug/L		81
9) Carbon Disulfide	3.144	76	1674733	264.74	ug/L		99
10) Freon 113	3.181	101	654791	204.88	ug/L		84
11) Iodomethane	3.284	142	519037	448.08	ug/L		91
12) Methylene Chloride	3.771	84	635093	151.05	ug/L		89
13) Acetone	3.856	43	571223	356.57	ug/L		96
14) t-1,2-Dichloroethene	3.935	61	1047640	200.76	ug/L		97
15) n-Hexane	4.014	86	154767	183.79	ug/L	#	92
16) Methyl-tert-butyl-ether	4.075	73	2232152	217.37	ug/L		97
17) 1,1-Dichloroethane	4.580	63	1166202	173.21	ug/L		97
18) Acrylonitrile	4.647	53	345965	199.32	ug/L		98
19) c-1,2-Dichloroethene	5.134	61	947367	191.11	ug/L		94
20) 2,2-Dichloropropane	5.237	77	789087	237.46	ug/L		96
21) Bromochloromethane	5.334	49	554716	188.31	ug/L		90
22) Chloroform	5.419	83	1199142	203.59	ug/L		97
23) Carbon Tetrachloride	5.547	117	741698	320.15	ug/L		96
24) Tetrahydrofuran	5.590	42	344689	196.85	ug/L		94
25) 1,1,1-Trichloroethane	5.620	97	1056735	244.42	ug/L		97
27) 1,1-Dichloropropene	5.748	75	1023128	209.51	ug/L		99
28) 2-Butanone (MEK)	5.742	43	960855	403.09	ug/L		97
29) Benzene	6.003	78	2947348	197.80	ug/L		97
30) 1,2-Dichloroethane (EDC)	6.222	62	981773	191.66	ug/L		98
31) iso-Butyl Alcohol	6.277	43	1148494	7709.75	ug/L		93
33) Trichloroethene (TCE)	6.624	130	754687	210.08	ug/L		95
34) Dibromomethane	7.074	93	413632	216.68	ug/L		87
35) 1,2-Dichloropropane	7.184	63	726418	203.93	ug/L		99
36) Bromodichloromethane	7.257	83	802244	298.59	ug/L		99
38) c-1,3-Dichloropropene	7.962	75	1015167	241.04	ug/L		92
40) Toluene	8.224	91	2874760	176.33	ug/L		100
41) Tetrachloroethene (PCE)	8.674	166	718860	182.66	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.674	43	1832267	383.27	ug/L		98
43) t-1,3-Dichloropropene	8.711	75	955479	263.99	ug/L		96
44) 1,1,2-Trichloroethane	8.887	97	582929	181.25	ug/L		94
45) Dibromochloromethane	9.076	129	540275	330.39	ug/L		96
46) 1,3-Dichloropropane	9.173	76	1091475	177.36	ug/L		94
47) 1,2-Dibromoethane (EDB)	9.307	107	608559	204.72	ug/L		99
48) 2-Hexanone	9.538	43	1304670	406.43	ug/L		96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050726.D
Acq On : 8 May 2019 1:40 am
Operator : TB
Sample : 9E07048-CALB
Misc : 1X 200ppb VOC MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:51 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration

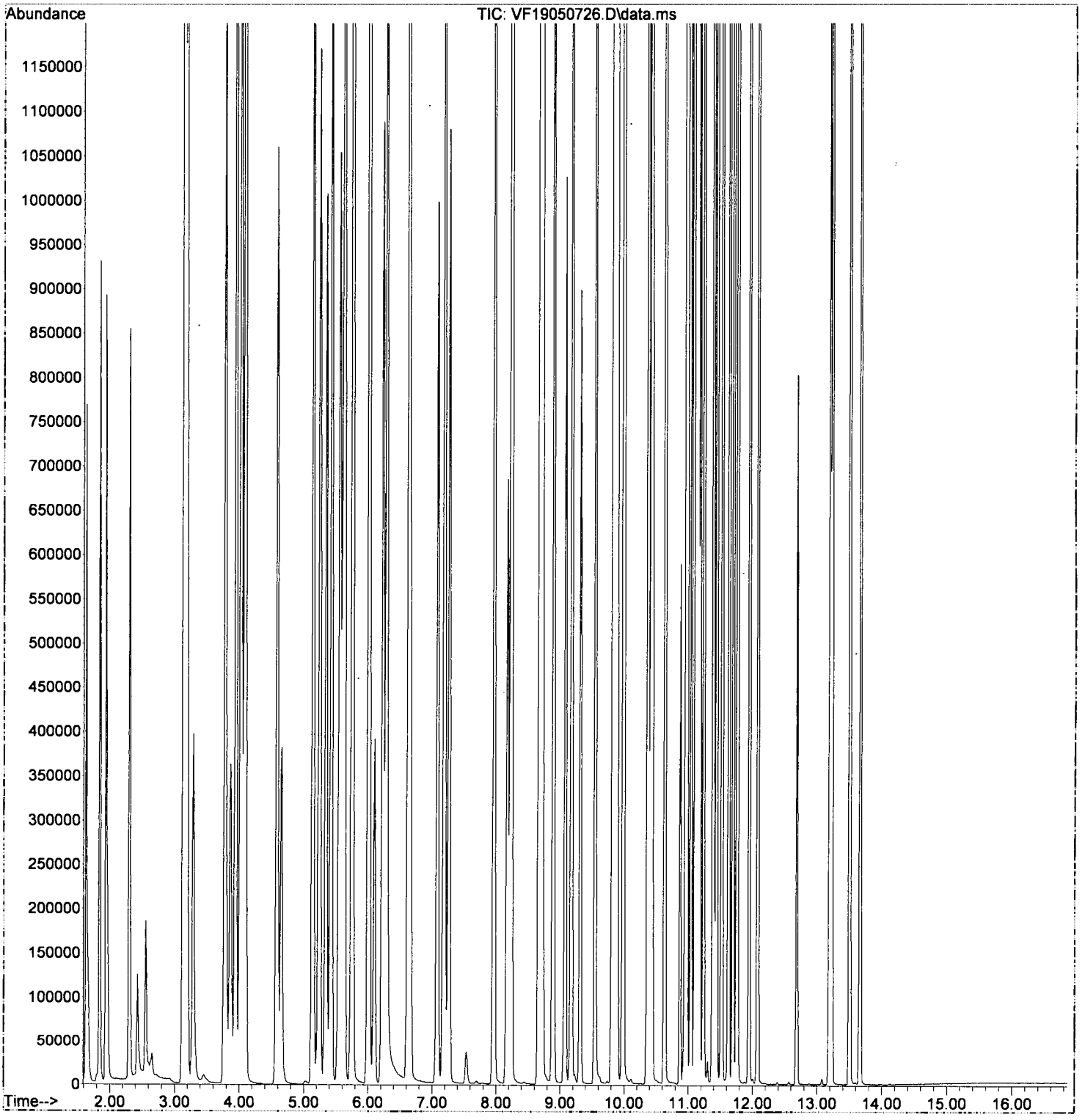
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.818	112	1783488	196.20	ug/L		96
50)	Ethylbenzene	9.842	91	3128616	198.78	ug/L		98
51)	1,1,1,2-Tetrachloroethane	9.879	131	559200	293.16	ug/L		99
52)	m,p-Xylenes (2)	9.982	91	4916984	421.45	ug/L		100
53)	o-Xylene	10.359	91	2329915	212.52	ug/L		97
54)	Styrene	10.408	104	1826906	236.51	ug/L		94
55)	Bromoform	10.432	173	365594	421.44	ug/L		98
56)	Isopropylbenzene	10.627	105	2723392	208.75	ug/L		99
59)	Bromobenzene	10.955	156	686712	197.00	ug/L		92
60)	n-Propylbenzene	10.974	91	3112598	198.71	ug/L		99
61)	1,1,2,2-Tetrachloroethane	11.041	83	754067	185.48	ug/L		99
62)	2-Chlorotoluene	11.101	126	630374	202.13	ug/L		87
63)	1,3,5-Trimethylbenzene	11.132	105	2203355	205.99	ug/L		98
64)	1,2,3-Trichloropropane	11.144	110	276178	180.62	ug/L	#	80
65)	t-1,4-Dichloro-2-butene	11.174	88	106408	379.96	ug/L	#	89
66)	4-Chlorotoluene	11.235	91	1869203	197.62	ug/L		99
67)	tert-Butylbenzene	11.381	91	1185300	196.89	ug/L		93
68)	1,2,4-Trimethylbenzene	11.436	105	2164127	199.50	ug/L		99
69)	sec-Butylbenzene	11.515	105	2466612	196.49	ug/L		98
70)	4-Isopropyltoluene	11.625	119	2110691	203.53	ug/L		97
71)	1,3-Dichlorobenzene	11.692	146	1158673	192.34	ug/L		97
72)	1,4-Dichlorobenzene	11.758	146	1176777	188.16	ug/L		98
73)	n-Butylbenzene	11.947	91	1754778	197.10	ug/L		98
74)	1,2-Dichlorobenzene	12.075	146	1085241	187.30	ug/L		99
75)	1,2-Dibromo-3-Chloropr...	12.683	157	171676	357.03	ug/L		86
76)	Hexachlorobutadiene	13.188	223	148043	182.46	ug/L		98
77)	1,2,4-Trichlorobenzene	13.225	180	638432	196.23	ug/L		99
78)	Naphthalene	13.498	128	2228594	205.58	ug/L		99
79)	1,2,3-Trichlorobenzene	13.663	180	614270	186.27	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050726.D
Acq On : 8 May 2019 1:40 am
Operator : TB
Sample : 9E07048-CALB
Misc : 1X 200ppb VOC MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 10:24:51 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 10:23:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050727.D
Acq On : 8 May 2019 2:07 am
Operator : TB
Sample : 9E07048-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.090	168	283178	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	334560	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	142077	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.603	111	108613	47.81	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.656	114	429244	49.06	ug/L		0.00
39) Toluene-d8 (S)	8.165	98	491193	49.66	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	115248	52.68	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.625	85	1945	0.74	ug/L		91
3) Chloromethane	1.832	50	1775	0.46	ug/L		89
4) Vinyl Chloride	1.935	62	946	0.25	ug/L		91
5) Bromomethane	2.294	96	2439	1.03	ug/L		92
7) Trichlorofluoromethane	2.543	101	179	0.27	ug/L		86
8) 1,1-Dichloroethene	3.115	61	1322	0.27	ug/L		73
9) Carbon Disulfide	3.133	76	7486	1.42	ug/L		97
10) Freon 113	3.170	101	2435	0.82	ug/L		86
11) Iodomethane	3.279	142	783	1.67	ug/L	#	71
12) Methylene Chloride	3.772	84	17968	0.98	ug/L		95
13) Acetone	3.870	43	1608	1.11	ug/L	#	42
14) t-1,2-Dichloroethene	3.937	61	2185	0.47	ug/L		93
15) n-Hexane	4.010	86	564	0.69	ug/L	#	70
19) c-1,2-Dichloroethene	5.129	61	818	0.19	ug/L		92
21) Bromochloromethane	5.330	49	303	0.12	ug/L	#	15
22) Chloroform	5.421	83	603	0.11	ug/L		74
23) Carbon Tetrachloride	5.543	117	295	0.71	ug/L		77
24) Tetrahydrofuran	5.597	42	229	0.14	ug/L	#	37
25) 1,1,1-Trichloroethane	5.622	97	399	0.11	ug/L		78
27) 1,1-Dichloropropene	5.743	75	2134	0.49	ug/L		94
28) 2-Butanone (MEK)	5.755	43	762	0.35	ug/L		70
29) Benzene	6.005	78	2241	0.16	ug/L		90
30) 1,2-Dichloroethane (EDC)	6.218	62	597	0.13	ug/L		75
33) Trichloroethene (TCE)	6.631	130	1252	0.38	ug/L	#	83
34) Dibromomethane	7.082	93	307	0.19	ug/L	#	76
38) c-1,3-Dichloropropene	7.964	75	355	0.48	ug/L	#	27
40) Toluene	8.231	91	3293	0.23	ug/L		89
41) Tetrachloroethene (PCE)	8.676	166	2391	0.77	ug/L		97
43) t-1,3-Dichloropropene	8.736	75	360	0.59	ug/L		47
46) 1,3-Dichloropropane	9.174	76	460	0.10	ug/L	#	51
47) 1,2-Dibromoethane (EDB)	9.314	107	158	0.29	ug/L		99
49) Chlorobenzene	9.819	112	2838	0.35	ug/L	#	67
50) Ethylbenzene	9.850	91	4704	0.35	ug/L		96
52) m,p-Xylenes (2)	9.983	91	7426	0.79	ug/L		97
53) o-Xylene	10.367	91	2422	0.27	ug/L		86
54) Styrene	10.409	104	1330	0.38	ug/L		99
56) Isopropylbenzene	10.628	105	5234	0.51	ug/L		95
59) Bromobenzene	10.963	156	887	0.35	ug/L		85
60) n-Propylbenzene	10.975	91	10278	0.91	ug/L		95
62) 2-Chlorotoluene	11.103	126	1184	0.52	ug/L	#	61
63) 1,3,5-Trimethylbenzene	11.127	105	5906	0.80	ug/L		97
66) 4-Chlorotoluene	11.237	91	4684	0.69	ug/L		92
67) tert-Butylbenzene	11.377	91	4968	1.18	ug/L	#	70

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050727.D
Acq On : 8 May 2019 2:07 am
Operator : TB
Sample : 9E07048-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

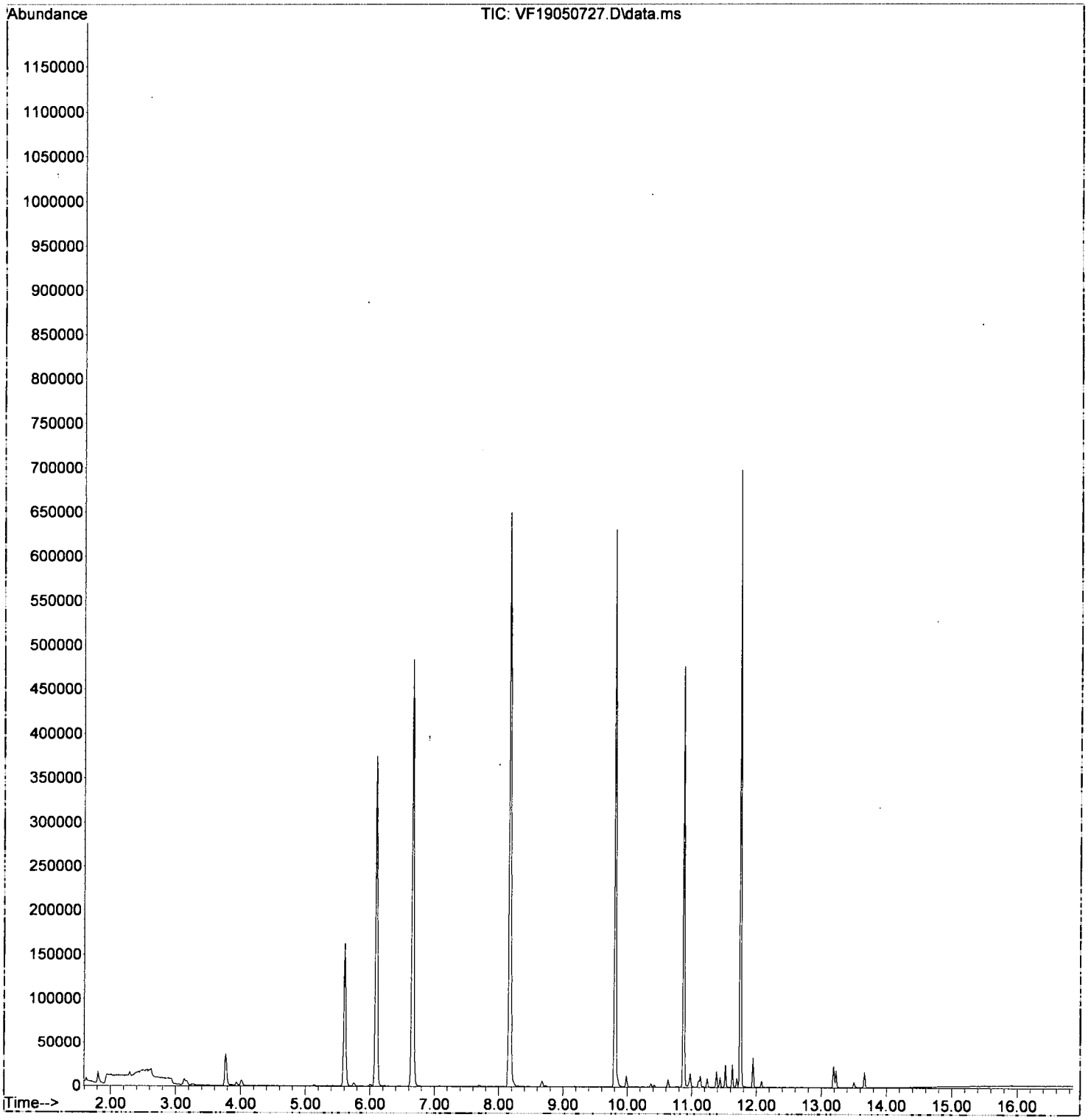
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1,2,4-Trimethylbenzene	11.437	105	5397	0.73	ug/L	96
69) sec-Butylbenzene	11.517	105	14769	1.68	ug/L	96
70) 4-Isopropyltoluene	11.626	119	11627	1.59	ug/L	95
71) 1,3-Dichlorobenzene	11.693	146	3751	0.86	ug/L	93
72) 1,4-Dichlorobenzene	11.760	146	4398	0.92	ug/L	91
73) n-Butylbenzene	11.942	91	15197	2.43	ug/L	97
74) 1,2-Dichlorobenzene	12.076	146	2583	0.63	ug/L	90
76) Hexachlorobutadiene	13.189	223	2652	4.54	ug/L	95
77) 1,2,4-Trichlorobenzene	13.226	180	5439	2.48	ug/L	95
78) Naphthalene	13.500	128	4569	0.94	ug/L	98
79) 1,2,3-Trichlorobenzene	13.664	180	5094	2.28	ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050727.D
Acq On : 8 May 2019 2:07 am
Operator : TB
Sample : 9E07048-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050728.D
Acq On : 8 May 2019 2:34 am
Operator : TB
Sample : 9E07048-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

NR

Quant Time: May 08 11:41:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

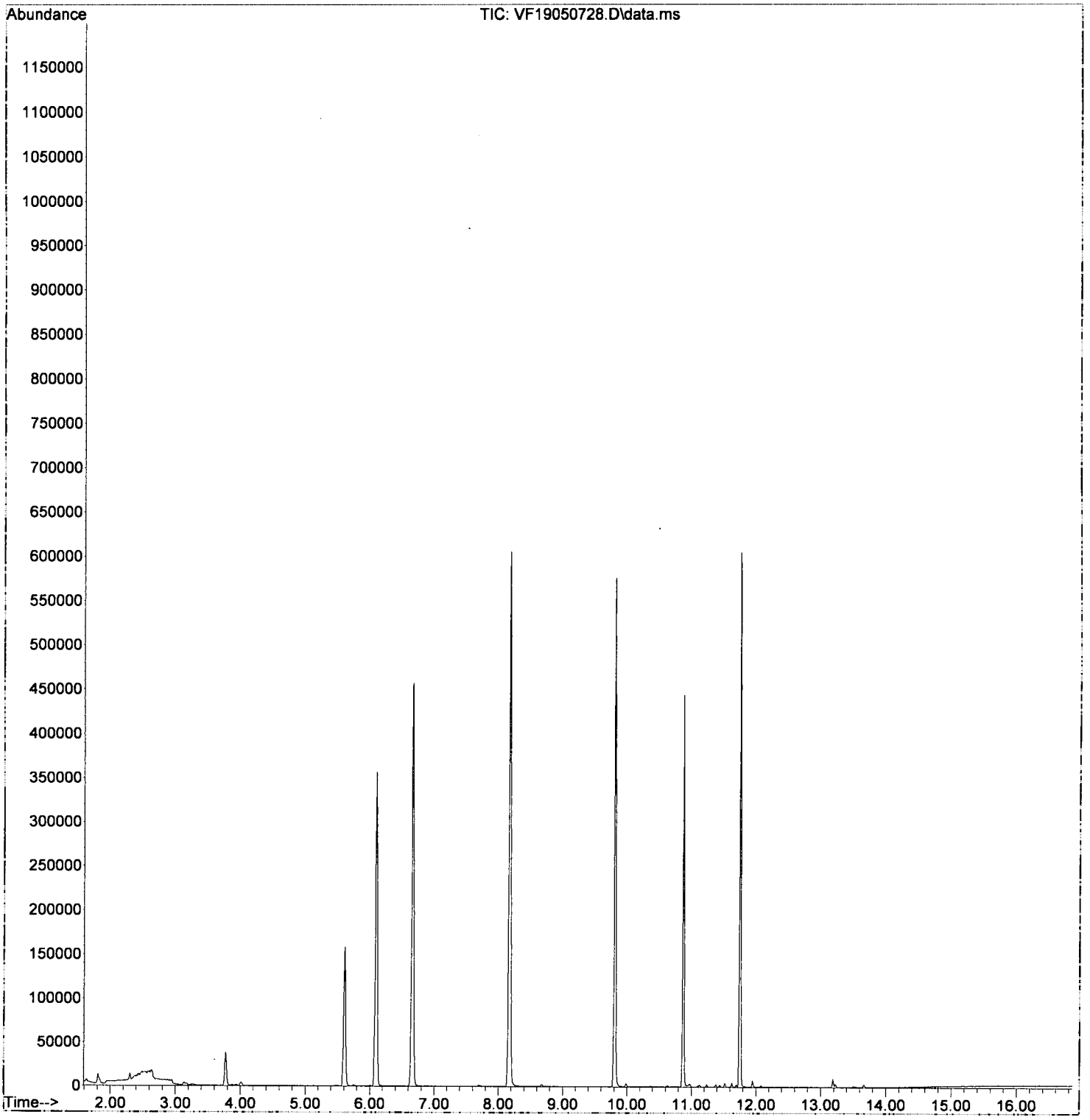
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	267878	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	295788	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	131412	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.608	111	106516	49.56	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	410042	49.54	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	458463	52.42	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	101675	50.25	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.630	85	723	0.29	ug/L		88
3) Chloromethane	1.837	50	2108	0.58	ug/L		93
5) Bromomethane	2.305	96	3673	1.65	ug/L		95
8) 1,1-Dichloroethene	3.126	61	550	0.12	ug/L		82
9) Carbon Disulfide	3.132	76	2990	0.73	ug/L		92
10) Freon 113	3.169	101	1153	0.41	ug/L	#	73
11) Iodomethane	3.278	142	737	1.67	ug/L	#	80
12) Methylene Chloride	3.771	84	17465	1.14	ug/L		87
13) Acetone	3.869	43	1671	1.22	ug/L		90
14) t-1,2-Dichloroethene	3.935	61	780	0.18	ug/L		95
15) n-Hexane	4.015	86	315	0.41	ug/L	#	89
27) 1,1-Dichloropropene	5.742	75	859	0.21	ug/L		81
28) 2-Butanone (MEK)	5.754	43	238	0.12	ug/L		54
33) Trichloroethene (TCE)	6.624	130	412	0.13	ug/L		87
40) Toluene	8.230	91	1316	0.11	ug/L		87
41) Tetrachloroethene (PCE)	8.674	166	829	0.30	ug/L		82
49) Chlorobenzene	9.818	112	1014	0.14	ug/L	#	15
50) Ethylbenzene	9.849	91	1458	0.12	ug/L		90
52) m,p-Xylenes (2)	9.982	91	2303	0.28	ug/L		97
53) o-Xylene	10.366	91	795	0.10	ug/L		84
54) Styrene	10.414	104	374	0.25	ug/L		83
56) Isopropylbenzene	10.633	105	1371	0.15	ug/L		91
59) Bromobenzene	10.956	156	244	0.10	ug/L	#	63
60) n-Propylbenzene	10.974	91	2568	0.24	ug/L		98
62) 2-Chlorotoluene	11.108	126	241	0.11	ug/L	#	79
63) 1,3,5-Trimethylbenzene	11.132	105	1233	0.18	ug/L		100
66) 4-Chlorotoluene	11.242	91	1302	0.21	ug/L		84
67) tert-Butylbenzene	11.382	91	869	0.22	ug/L		89
68) 1,2,4-Trimethylbenzene	11.442	105	1294	0.19	ug/L		92
69) sec-Butylbenzene	11.522	105	2821	0.35	ug/L		98
70) 4-Isopropyltoluene	11.625	119	2447	0.36	ug/L		92
71) 1,3-Dichlorobenzene	11.698	146	1165	0.29	ug/L		81
72) 1,4-Dichlorobenzene	11.759	146	1431	0.32	ug/L	#	55
73) n-Butylbenzene	11.947	91	3591	0.62	ug/L		99
74) 1,2-Dichlorobenzene	12.081	146	610	0.16	ug/L		93
76) Hexachlorobutadiene	13.188	223	1049	1.94	ug/L		93
77) 1,2,4-Trichlorobenzene	13.231	180	1374	0.68	ug/L		94
78) Naphthalene	13.505	128	1033	0.54	ug/L		78
79) 1,2,3-Trichlorobenzene	13.669	180	1019	0.49	ug/L		84

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050728.D
Acq On : 8 May 2019 2:34 am
Operator : TB
Sample : 9E07048-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	262163	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	288159	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	135304	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	113942	54.17	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.661	114	403276	49.79	ug/L		0.00
39) Toluene-d8 (S)	8.170	98	440104	51.66	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.871	174	103653	49.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.636	85	59315	24.24	ug/L		97
3) Chloromethane	1.843	50	87194	24.45	ug/L		97
4) Vinyl Chloride	1.946	62	81114	23.00	ug/L		96
5) Bromomethane	2.305	96	44030	20.17	ug/L		97
6) Chloroethane	2.427	64	11583	24.18	ug/L		78
7) Trichlorofluoromethane	2.555	101	13859	22.29	ug/L		97
8) 1,1-Dichloroethene	3.127	61	94606	20.87	ug/L		77
9) Carbon Disulfide	3.145	76	105199	18.01	ug/L		98
10) Freon 113	3.175	101	58878	21.31	ug/L		82
11) Iodomethane	3.291	142	14908	12.96	ug/L		91
12) Methylene Chloride	3.778	84	75271	21.64	ug/L		88
13) Acetone	3.869	43	56244	41.83	ug/L		95
14) t-1,2-Dichloroethene	3.942	61	92558	21.38	ug/L		99
15) n-Hexane	4.015	86	15032	19.86	ug/L	#	85
16) Methyl-tert-butyl-ether	4.088	73	182160	20.82	ug/L		99
17) 1,1-Dichloroethane	4.581	63	118241	21.57	ug/L		98
18) Acrylonitrile	4.654	53	30892	21.88	ug/L		95
19) c-1,2-Dichloroethene	5.134	61	86855	21.78	ug/L		92
20) 2,2-Dichloropropane	5.244	77	58246	21.20	ug/L		87
21) Bromochloromethane	5.341	49	51635	21.70	ug/L		91
22) Chloroform	5.420	83	103118	21.16	ug/L		97
23) Carbon Tetrachloride	5.548	117	48737	22.27	ug/L		96
24) Tetrahydrofuran	5.597	42	29827	20.26	ug/L		96
25) 1,1,1-Trichloroethane	5.621	97	83146	24.22	ug/L		96
27) 1,1-Dichloropropene	5.749	75	87420	21.58	ug/L		98
28) 2-Butanone (MEK)	5.749	43	84619	42.12	ug/L		96
29) Benzene	6.004	78	258337	20.39	ug/L		98
30) 1,2-Dichloroethane (EDC)	6.223	62	89933	20.98	ug/L		99
31) iso-Butyl Alcohol	6.284	43	73266	504.30	ug/L		97
33) Trichloroethene (TCE)	6.625	130	62492	20.41	ug/L		94
34) Dibromomethane	7.075	93	33172	21.67	ug/L		86
35) 1,2-Dichloropropane	7.184	63	62422	20.61	ug/L		99
36) Bromodichloromethane	7.263	83	49951	20.01	ug/L		98
38) c-1,3-Dichloropropene	7.963	75	63748	20.14	ug/L		89
40) Toluene	8.225	91	234591	19.26	ug/L		99
41) Tetrachloroethene (PCE)	8.675	166	57363	21.51	ug/L		95
42) 4-Methyl-2-Pentanone (...	8.675	43	140033	44.47	ug/L		93
43) t-1,3-Dichloropropene	8.717	75	57159	20.28	ug/L		94
44) 1,1,2-Trichloroethane	8.888	97	47579	22.53	ug/L		95
45) Dibromochloromethane	9.076	129	27231	20.10	ug/L		97
46) 1,3-Dichloropropane	9.174	76	91385	22.36	ug/L		91
47) 1,2-Dibromoethane (EDB)	9.314	107	47230	21.40	ug/L		99
48) 2-Hexanone	9.545	43	97181	42.72	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration

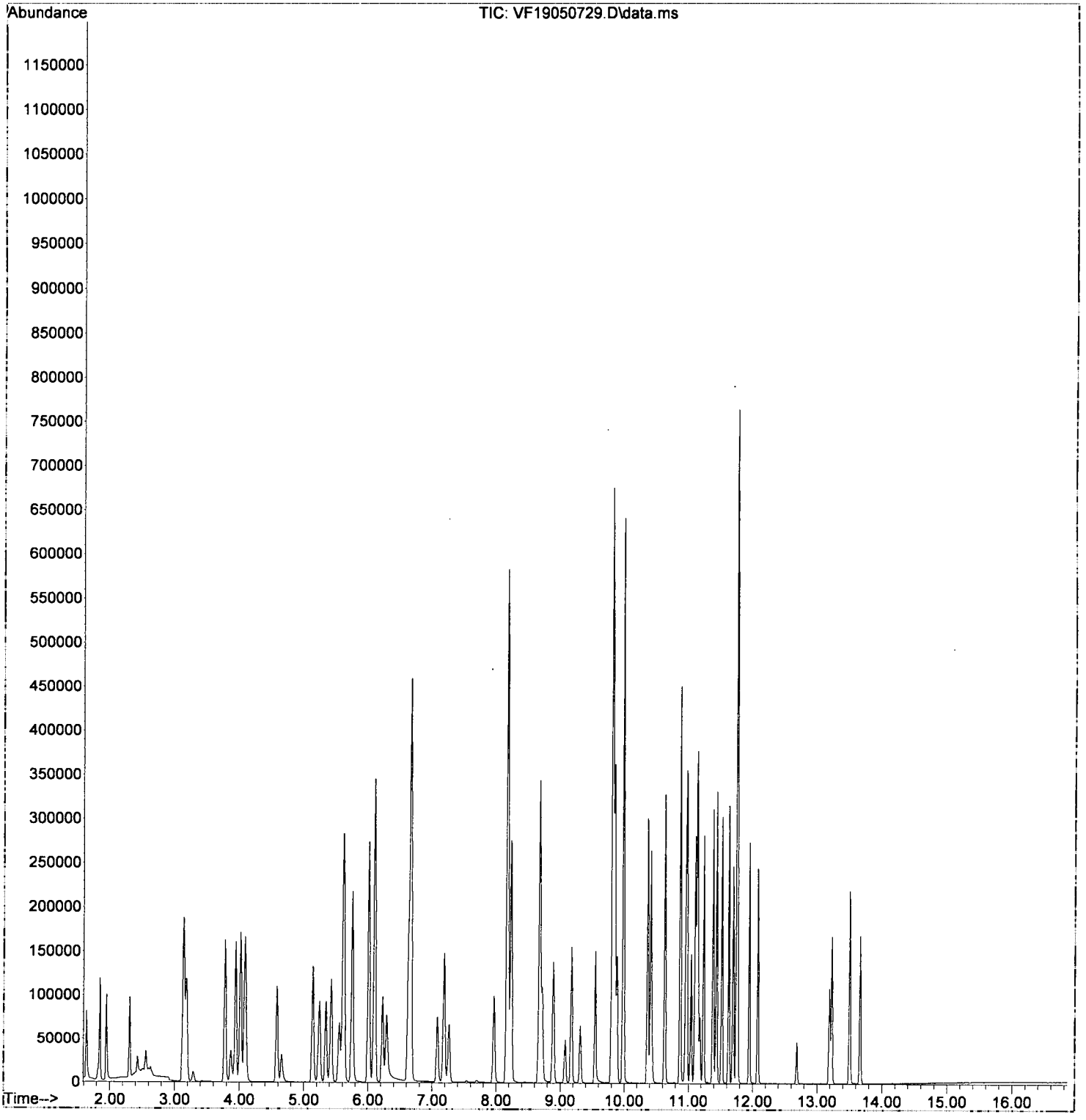
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.818	112	129383	18.63	ug/L	95
50) Ethylbenzene	9.849	91	229244	19.76	ug/L	97
51) 1,1,1,2-Tetrachloroethane	9.879	131	31999	20.27	ug/L	99
52) m,p-Xylenes (2)	9.983	91	335654	41.31	ug/L	97
53) o-Xylene	10.360	91	160147	20.48	ug/L	94
54) Styrene	10.409	104	112165	19.21	ug/L	91
55) Bromoform	10.439	173	14365	21.50	ug/L	95
56) Isopropylbenzene	10.628	105	191014	21.53	ug/L	97
59) Bromobenzene	10.956	156	48811	20.05	ug/L	90
60) n-Propylbenzene	10.974	91	217147	20.08	ug/L	97
61) 1,1,2,2-Tetrachloroethane	11.041	83	58914	22.91	ug/L	99
62) 2-Chlorotoluene	11.102	126	44168	20.32	ug/L #	83
63) 1,3,5-Trimethylbenzene	11.126	105	147687	21.12	ug/L	97
64) 1,2,3-Trichloropropane	11.145	110	21340	20.93	ug/L #	74
65) t-1,4-Dichloro-2-butene	11.175	88	4327	17.63	ug/L #	72
66) 4-Chlorotoluene	11.236	91	135416	21.06	ug/L	97
67) tert-Butylbenzene	11.382	91	84335	21.01	ug/L	92
68) 1,2,4-Trimethylbenzene	11.437	105	148293	21.11	ug/L	98
69) sec-Butylbenzene	11.522	105	177076	21.13	ug/L	97
70) 4-Isopropyltoluene	11.625	119	145034	20.80	ug/L	96
71) 1,3-Dichlorobenzene	11.692	146	84684	20.39	ug/L	97
72) 1,4-Dichlorobenzene	11.759	146	88242	19.44	ug/L	97
73) n-Butylbenzene	11.948	91	124999	21.00	ug/L	97
74) 1,2-Dichlorobenzene	12.082	146	82320	21.13	ug/L	99
75) 1,2-Dibromo-3-Chloropr...	12.684	157	8264	19.59	ug/L #	48
76) Hexachlorobutadiene	13.189	223	11787	21.20	ug/L	95
77) 1,2,4-Trichlorobenzene	13.225	180	46492	22.22	ug/L	99
78) Naphthalene	13.499	128	156730	19.72	ug/L	99
79) 1,2,3-Trichlorobenzene	13.663	180	47589	22.34	ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050729.D
Acq On : 8 May 2019 3:01 am
Operator : TB
Sample : 9E07048-ICV1
Misc : 1X 50ppb VOC MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 13:55:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 13:32:58 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050730.D
Acq On : 8 May 2019 3:28 am
Operator : TB
Sample : 9E07048-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:28 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration

NR

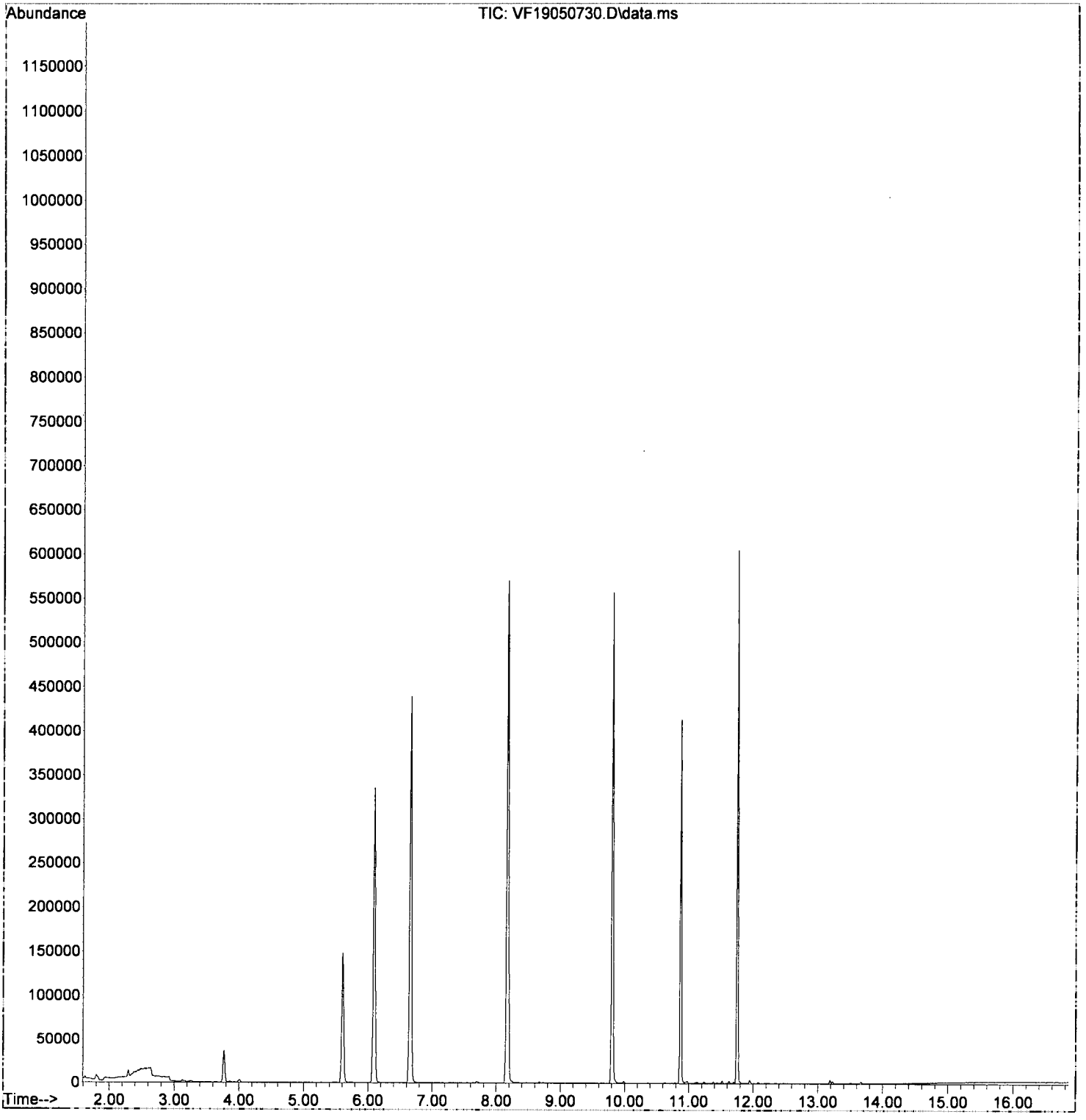
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	252291	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	281229	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	123851	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.606	111	98914	48.87	ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.658	114	388439	49.83	ug/L		0.00
39) Toluene-d8 (S)	8.167	98	430453	51.77	ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.868	174	95472	50.06	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.621	85	416	0.18	ug/L	#	50
3) Chloromethane	1.828	50	1703	0.50	ug/L		88
5) Bromomethane	2.296	96	3753	1.79	ug/L		96
9) Carbon Disulfide	3.130	76	1833	0.55	ug/L		94
10) Freon 113	3.166	101	648	0.24	ug/L	#	60
11) Iodomethane	3.276	142	782	1.75	ug/L	#	81
12) Methylene Chloride	3.768	84	16971	1.33	ug/L		89
13) Acetone	3.866	43	1481	1.14	ug/L		78
14) t-1,2-Dichloroethene	3.927	61	494	0.12	ug/L		84
15) n-Hexane	4.006	86	127	0.17	ug/L	#	77
27) 1,1-Dichloropropene	5.739	75	414	0.11	ug/L	#	56
28) 2-Butanone (MEK)	5.764	43	184	0.10	ug/L		54
41) Tetrachloroethene (PCE)	8.672	166	560	0.22	ug/L		97
49) Chlorobenzene	9.815	112	732	0.11	ug/L	#	1
50) Ethylbenzene	9.852	91	979	0.09	ug/L		89
52) m,p-Xylenes (2)	9.986	91	1479	0.19	ug/L		89
54) Styrene	10.424	104	105	0.21	ug/L	#	41
56) Isopropylbenzene	10.637	105	894	0.10	ug/L		90
59) Bromobenzene	10.959	156	211	0.09	ug/L		87
60) n-Propylbenzene	10.971	91	1841	0.19	ug/L		90
62) 2-Chlorotoluene	11.111	126	218	0.11	ug/L	#	45
63) 1,3,5-Trimethylbenzene	11.135	105	975	0.15	ug/L		88
66) 4-Chlorotoluene	11.239	91	923	0.16	ug/L		87
67) tert-Butylbenzene	11.379	91	687	0.19	ug/L		90
68) 1,2,4-Trimethylbenzene	11.440	105	848	0.13	ug/L		95
69) sec-Butylbenzene	11.519	105	1994	0.26	ug/L		95
70) 4-Isopropyltoluene	11.628	119	1636	0.26	ug/L		98
71) 1,3-Dichlorobenzene	11.695	146	822	0.22	ug/L		89
72) 1,4-Dichlorobenzene	11.762	146	995	0.24	ug/L	#	57
73) n-Butylbenzene	11.945	91	2355	0.43	ug/L		89
74) 1,2-Dichlorobenzene	12.078	146	553	0.16	ug/L	#	72
76) Hexachlorobutadiene	13.186	223	502	0.99	ug/L		93
77) 1,2,4-Trichlorobenzene	13.228	180	979	0.51	ug/L		96
78) Naphthalene	13.508	128	907	0.53	ug/L		78
79) 1,2,3-Trichlorobenzene	13.666	180	769	0.39	ug/L		93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050730.D
Acq On : 8 May 2019 3:28 am
Operator : TB
Sample : 9E07048-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:41:28 2019
Quant Method : C:\msdchem\1\METHODS\VF190507S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Wed May 08 11:09:13 2019
Response via : Initial Calibration



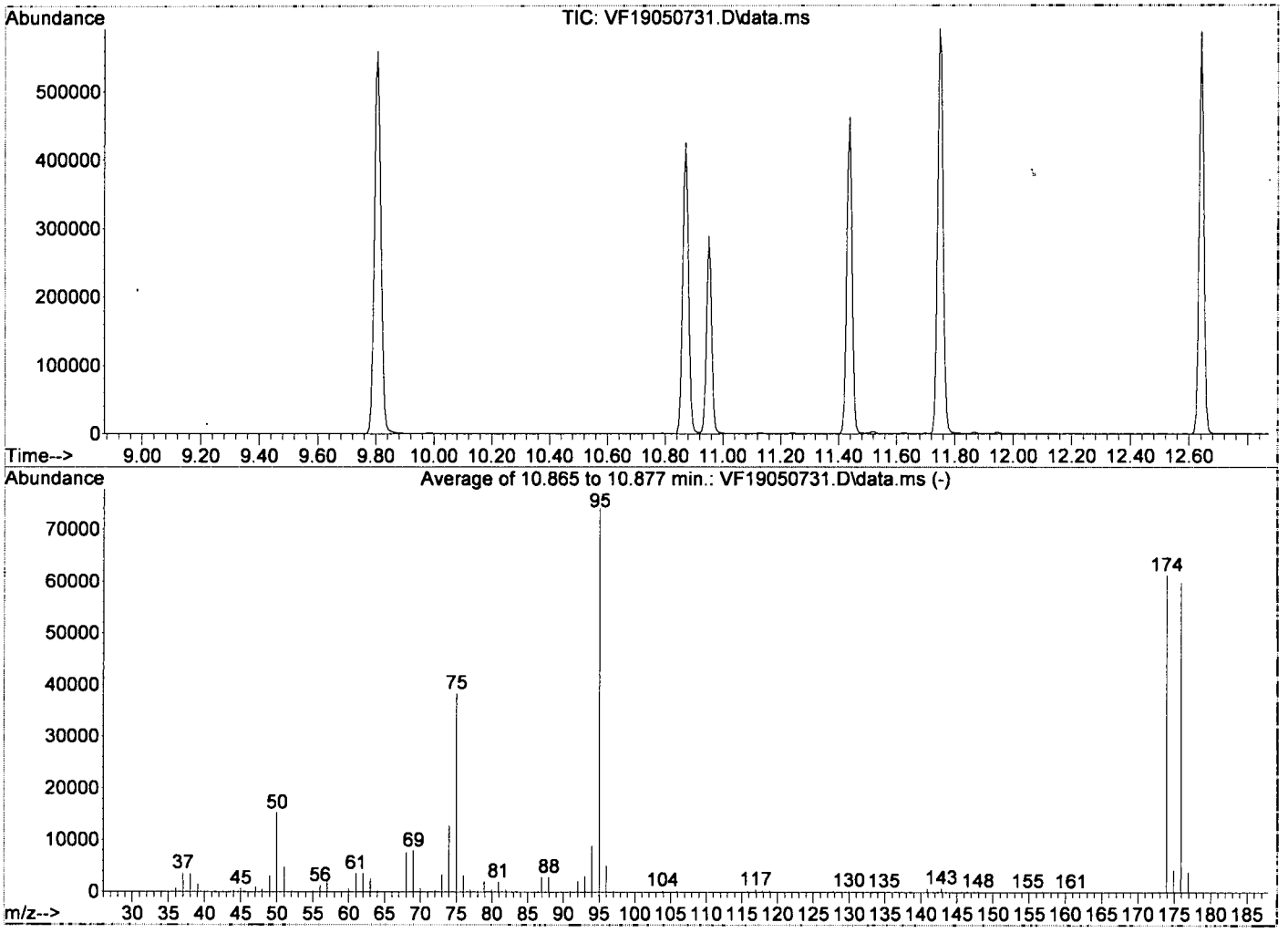
BFB

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019

5/8/19



AutoFind: Scans 1525, 1526, 1527; Background Corrected with Scan 1518

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	20.7	15284	PASS
75	95	30	60	51.9	38373	PASS
95	95	100	100	100.0	73986	PASS
96	95	5	9	6.9	5106	PASS
173	174	0.00	2	0.3	211	PASS
174	95	50	100	82.8	61272	PASS
175	174	5	9	6.9	4253	PASS
176	174	95	101	97.6	59824	PASS
177	176	5	9	6.6	3953	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/8/19

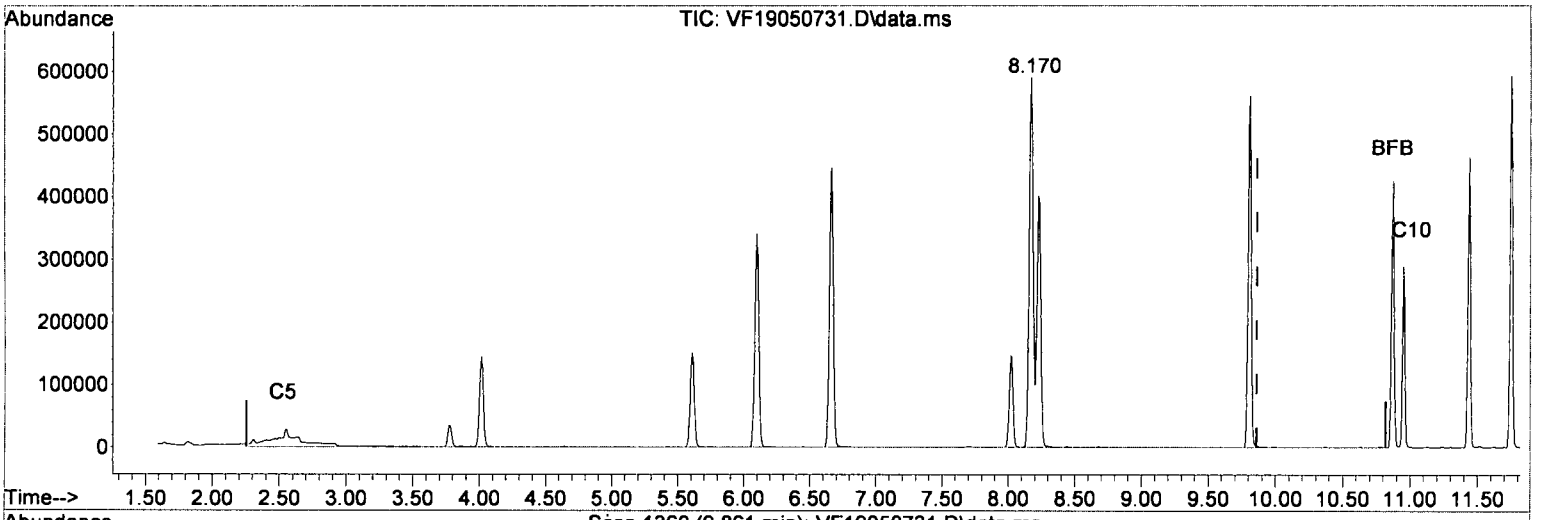
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	256053	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	927362	45.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	573331	46.12	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	876906	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1226539	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	781620	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	1843880m	142.13	ug/L	
6) TPHg (C6-C10)	9.860	TIC	1719873m	179.63	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	3432981m	256.69	ug/L	
8) NWTPH-Gx	9.870	TIC	3320447m	471.20	ug/L	

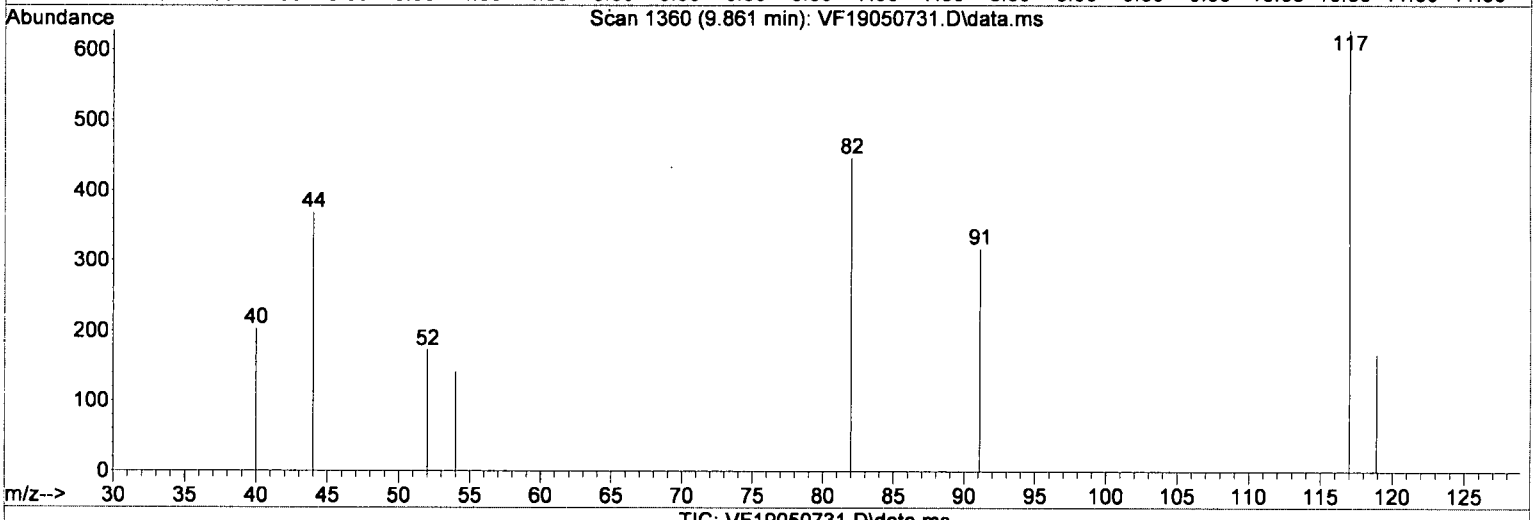
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050731.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 142.13 ug/L m

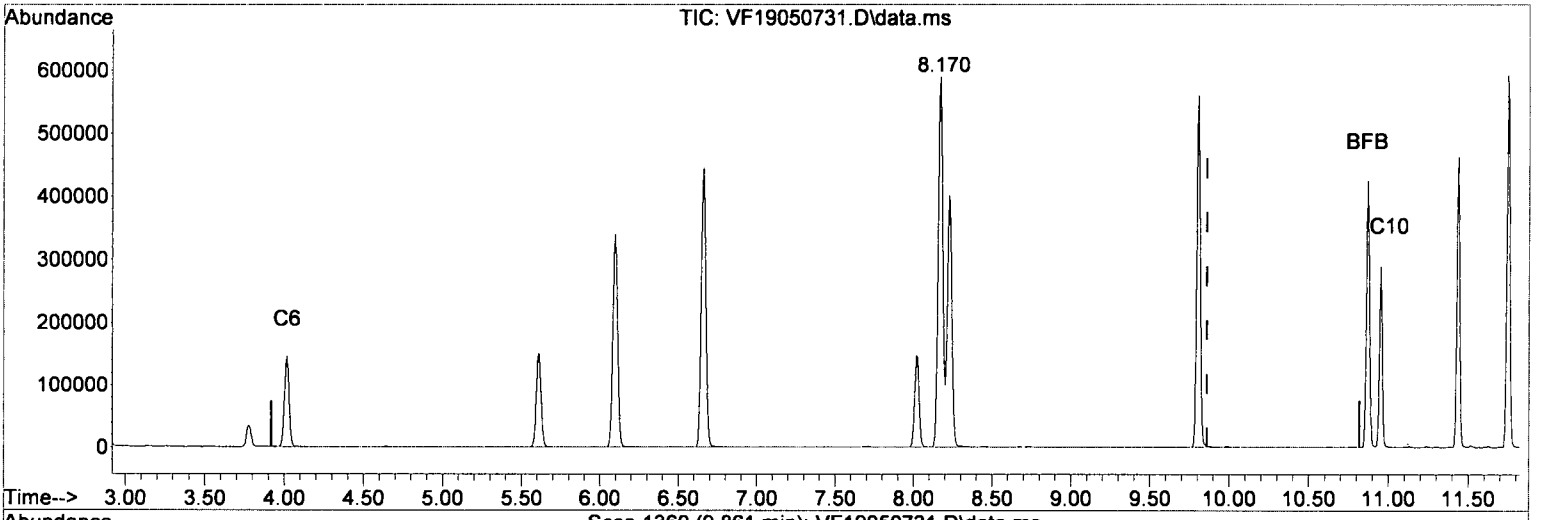
response 1843880

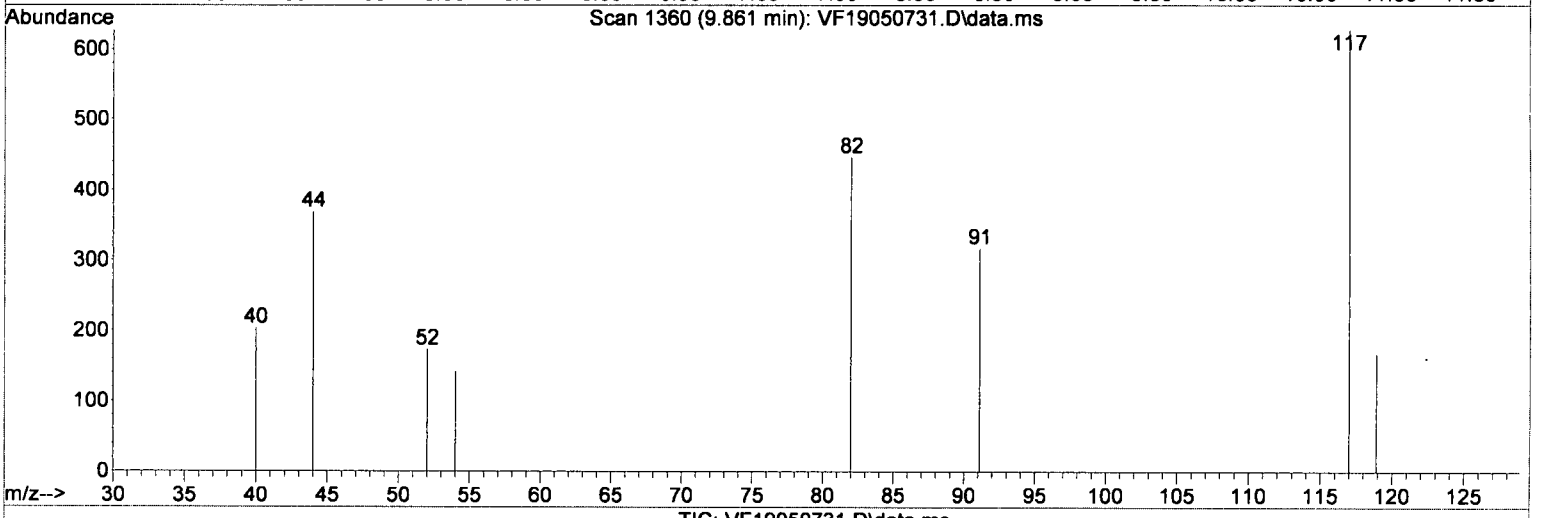
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.43#
0.00	0.00	1.05#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050731.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 179.63 ug/L m

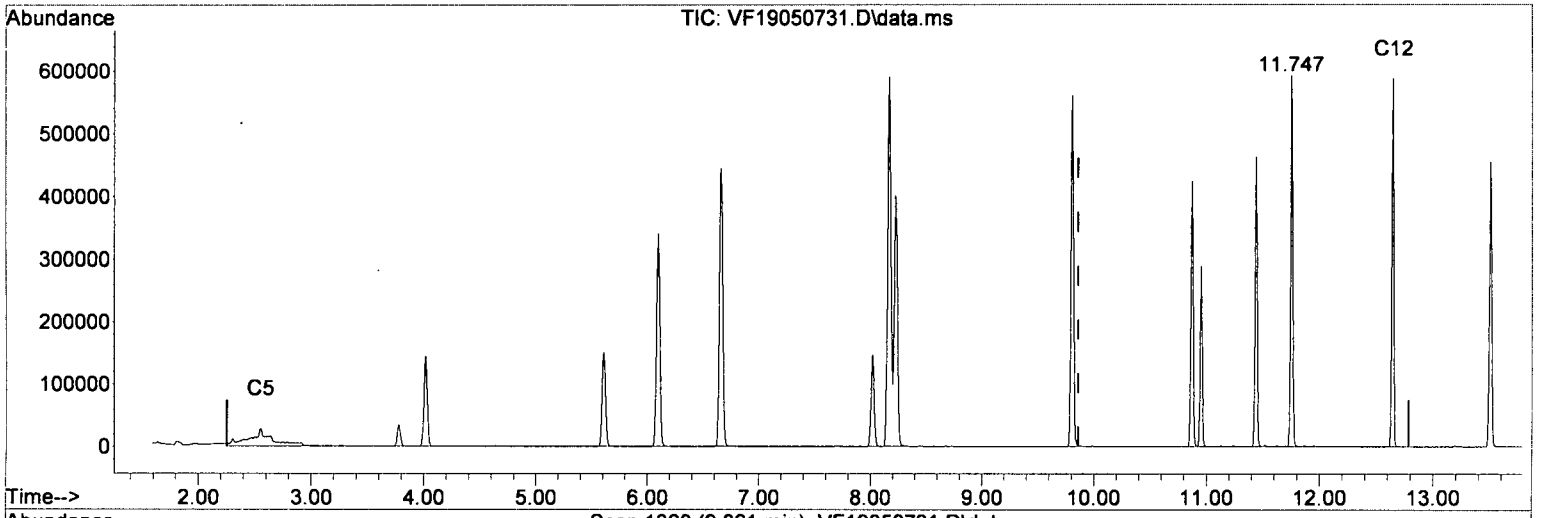
response 1719873

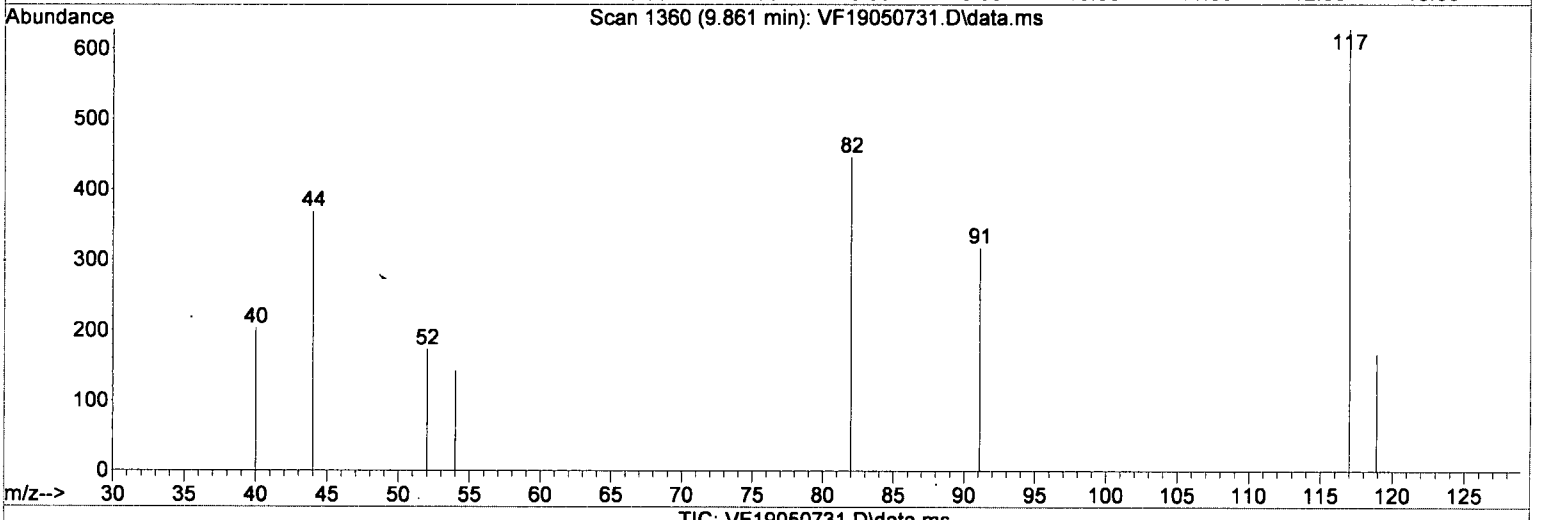
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.54#
0.00	0.00	1.13#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration





TIC: VF19050731.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.860min (0.000) 256.69 ug/L m

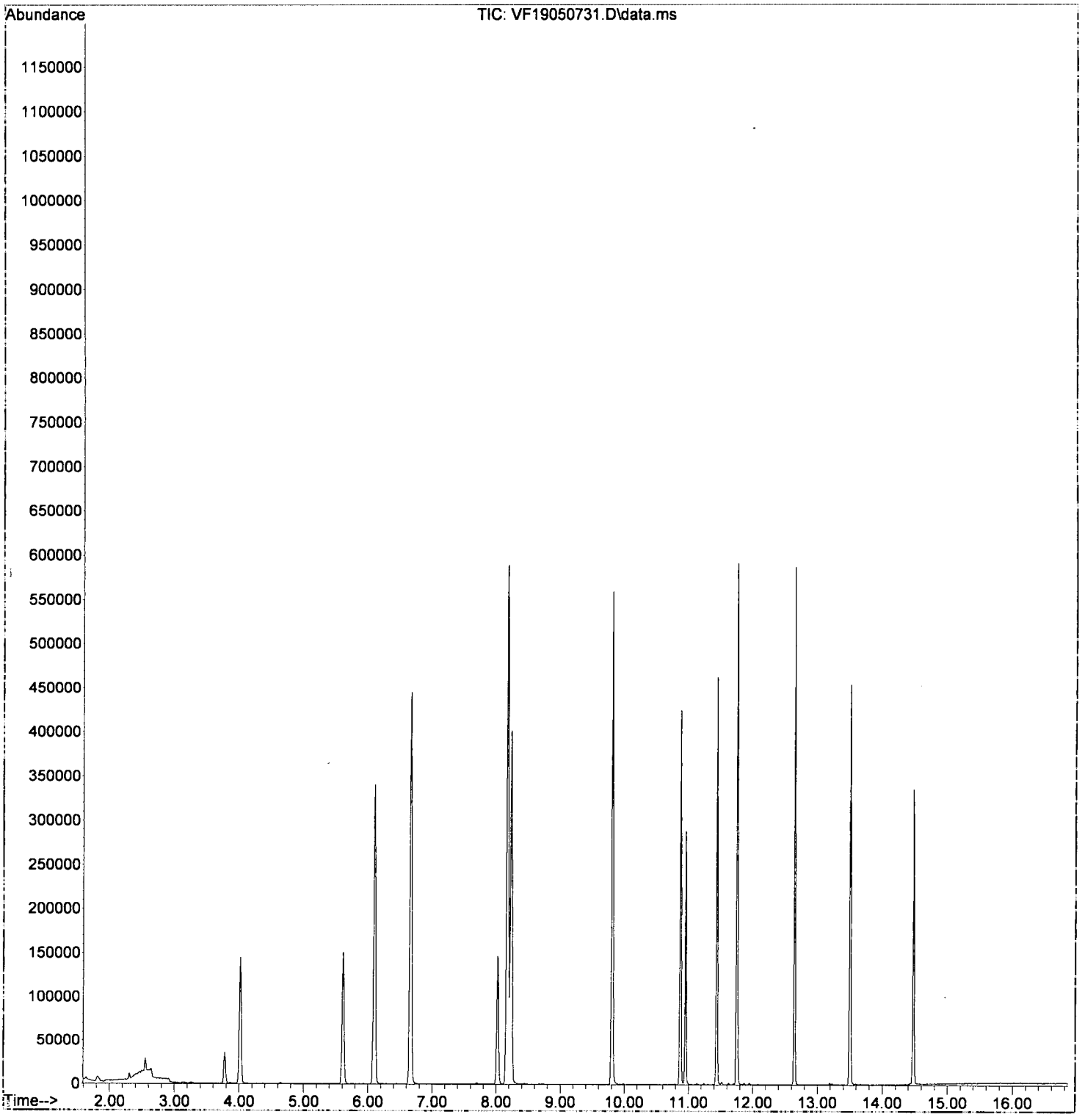
response 3432981

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.77#
0.00	0.00	0.56#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050731.D
Acq On : 8 May 2019 3:55 am
Operator : TB
Sample : 9E07048-TUN2 RT
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050732.D
Acq On : 8 May 2019 4:22 am
Operator : TB
Sample : 9E07048-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

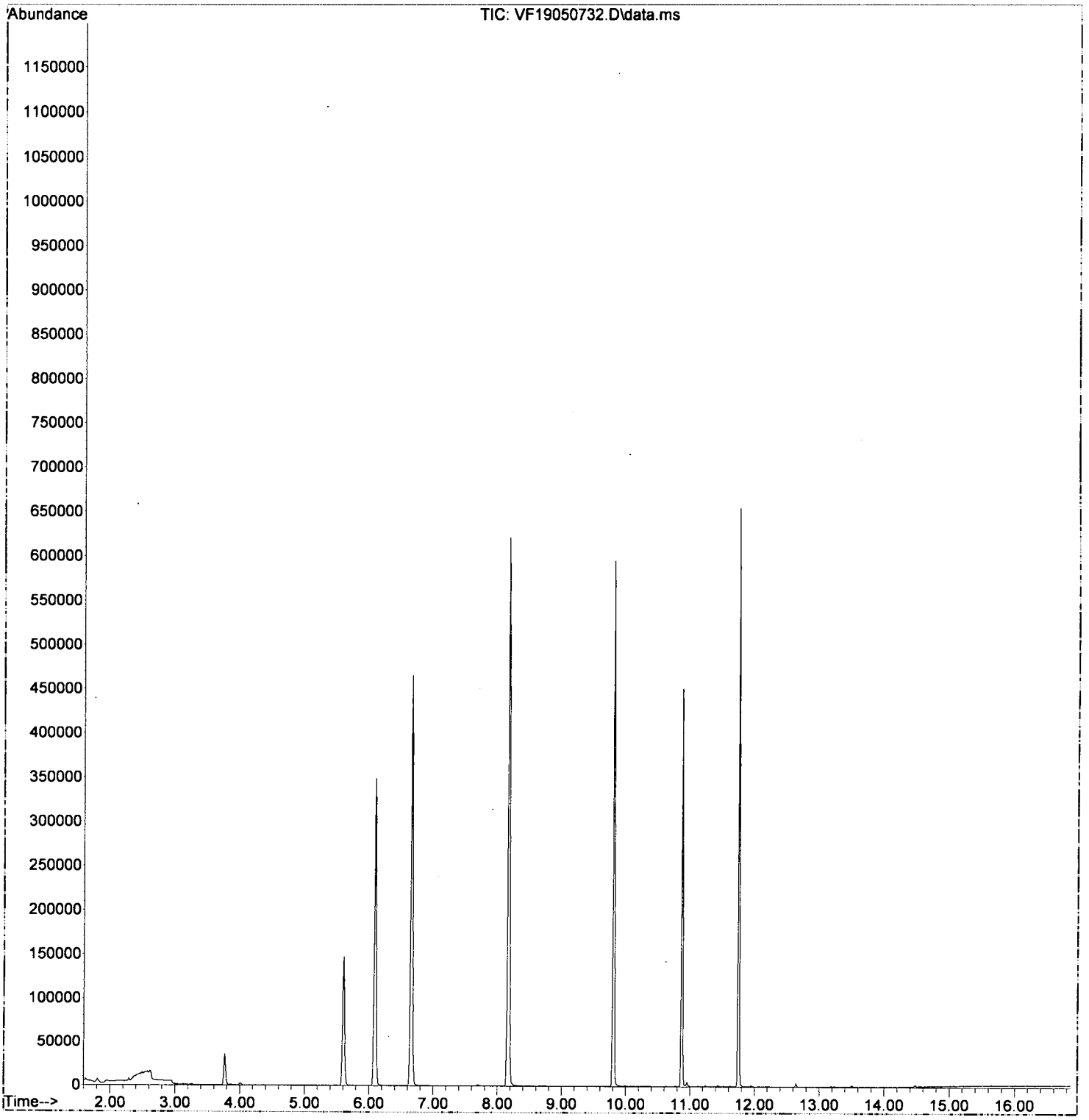
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	264063	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	949029	45.58	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	629967	49.14	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	966700	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.165	TIC	1246851	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	815701	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	435202m	7.19	ug/L	
6) TPHg (C6-C10)	9.860	TIC	326742m	14.39	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	449496m	10.92	ug/L	
8) NWTPH-Gx	9.870	TIC	14888m	25.50	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050732.D
Acq On : 8 May 2019 4:22 am
Operator : TB
Sample : 9E07048-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:11 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

5/8/19

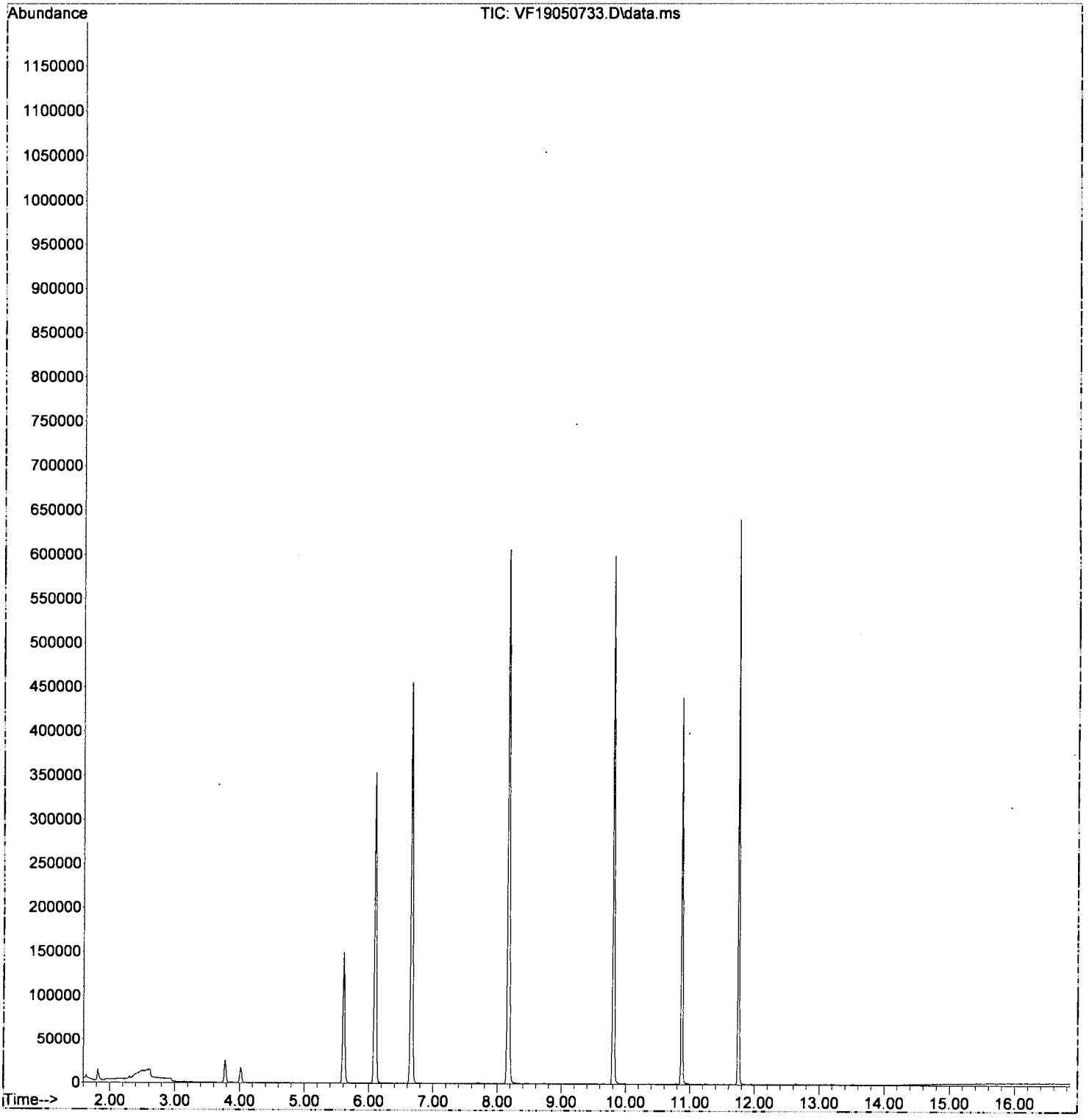
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264736	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	955227	45.76	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	619863	48.23	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	959349	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.171	TIC	1248121	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	805712	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	429036m	6.52	ug/L	<MDL
6) TPHg (C6-C10)	9.860	TIC	367227m	18.93	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	429036m	9.20	ug/L	
8) NWTPH-Gx	9.870	TIC	5129m	24.20	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050733.D
Acq On : 8 May 2019 4:49 am
Operator : TB
Sample : 9E07048-ICB2
Misc : 1X DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:13 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050734.D
Acq On : 8 May 2019 5:16 am
Operator : TB
Sample : 9E07048-CALC
Misc : 1X 50ppb GX MeOH
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:22 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

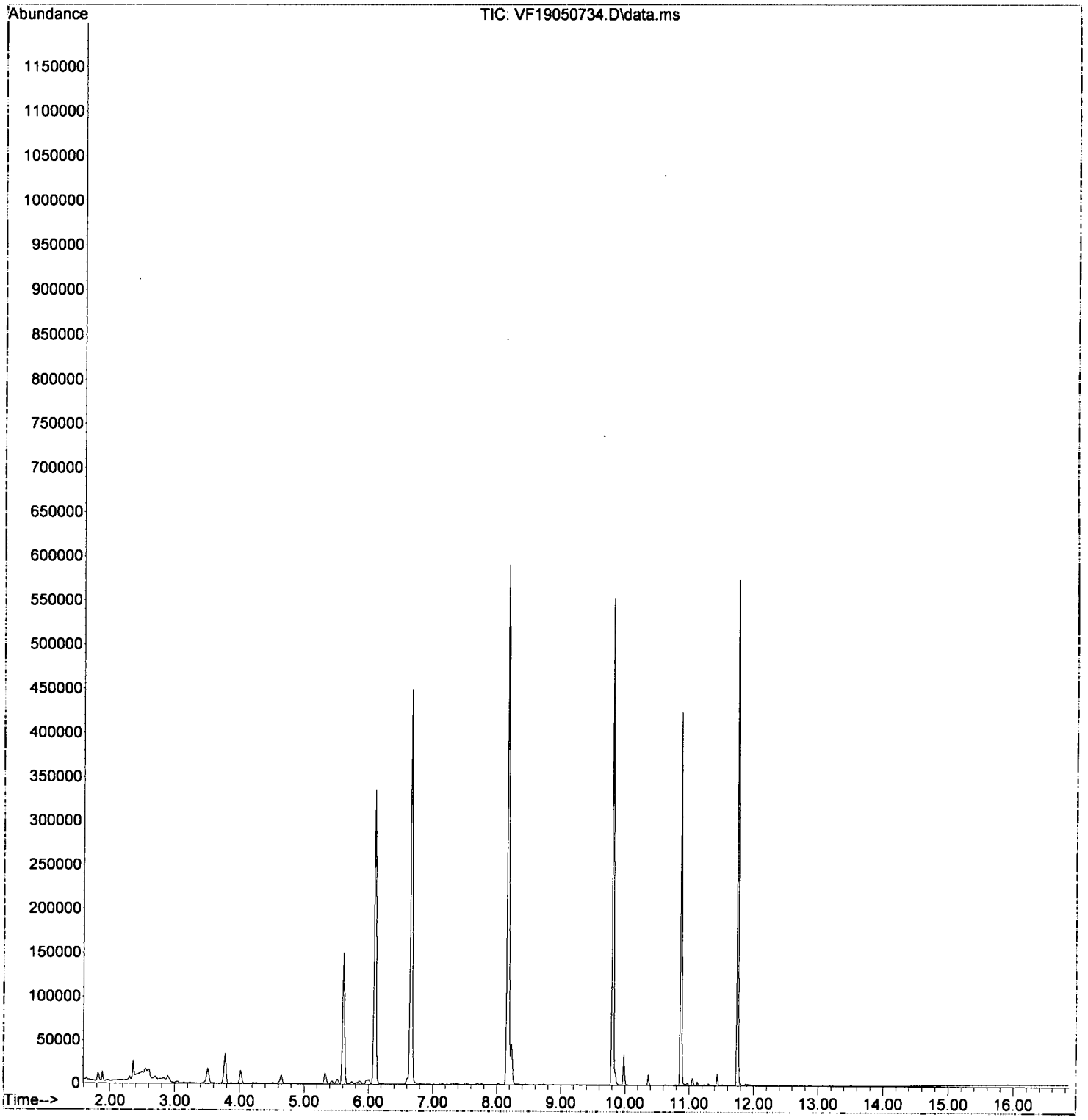
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	251815	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	944857	49.85	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	583068	47.82	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	910722	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1202713	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	768593	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	861461m	76.48	ug/L	
6) TPHg (C6-C10)	9.860	TIC	621653m	69.33	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	905552m	70.83	ug/L	
8) NWTPH-Gx	9.870	TIC	216743m	31.39	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050734.D
Acq On : 8 May 2019 5:16 am
Operator : TB
Sample : 9E07048-CALC
Misc : 1X 50ppb GX MeOH
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050735.D
Acq On : 8 May 2019 5:43 am
Operator : TB
Sample : 9E07048-CALD
Misc : 1X 100ppb GX MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:25 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

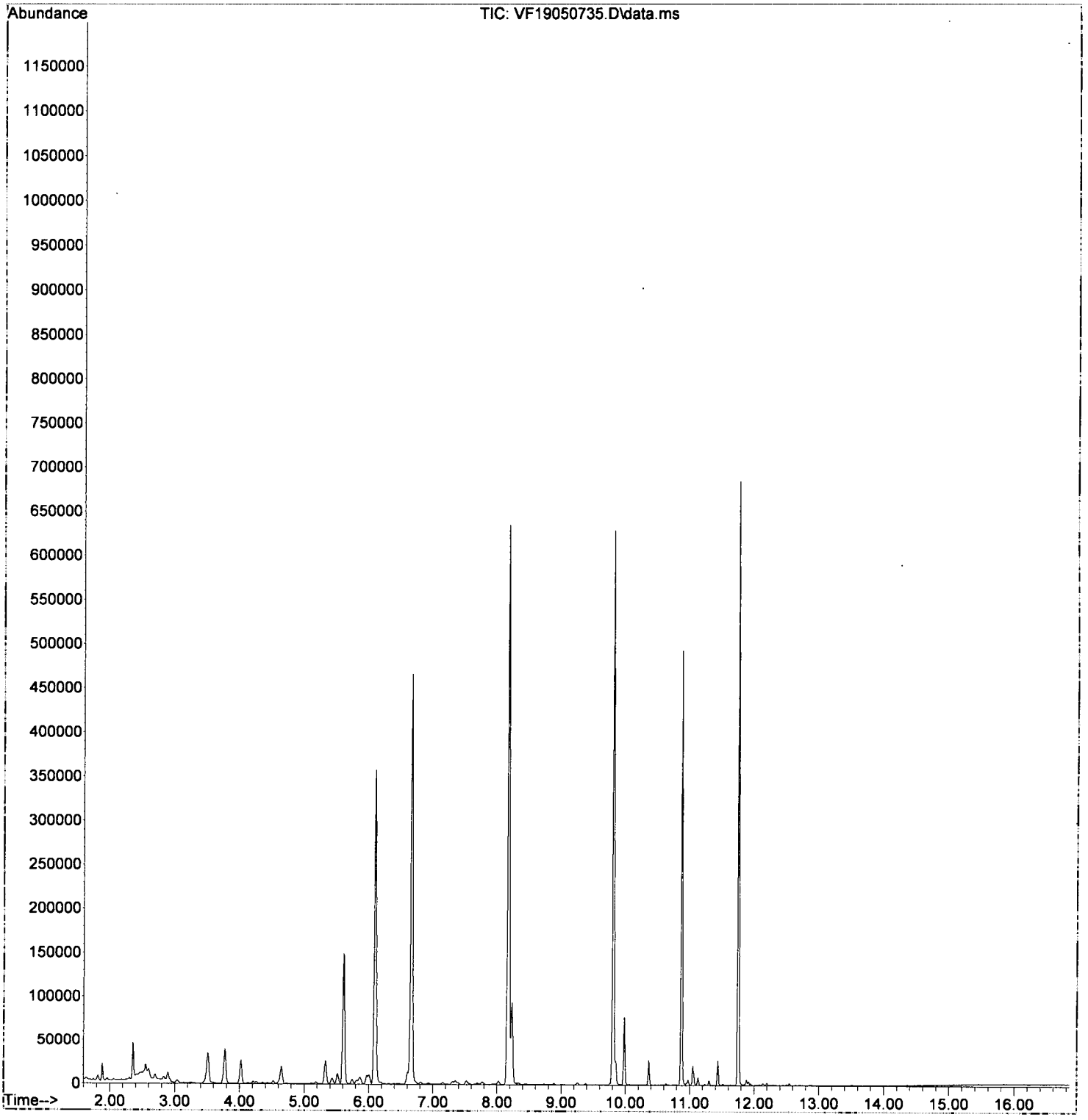
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	268659	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1016126	50.25	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	665016	51.12	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1040846	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.167	TIC	1310310	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.750	TIC	853569	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	1385857m	115.32	ug/L	
6) TPHg (C6-C10)	9.860	TIC	1022515m	106.88	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	1495406m	109.63	ug/L	
8) NWTPH-Gx	9.870	TIC	540113m	73.32	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050735.D
Acq On : 8 May 2019 5:43 am
Operator : TB
Sample : 9E07048-CALD
Misc : 1X 100ppb GX MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:25 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050736.D
Acq On : 8 May 2019 6:11 am
Operator : TB
Sample : 9E07048-CALE
Misc : 1X 250ppb GX MeOH
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:27 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190507G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

TB 5/8/19

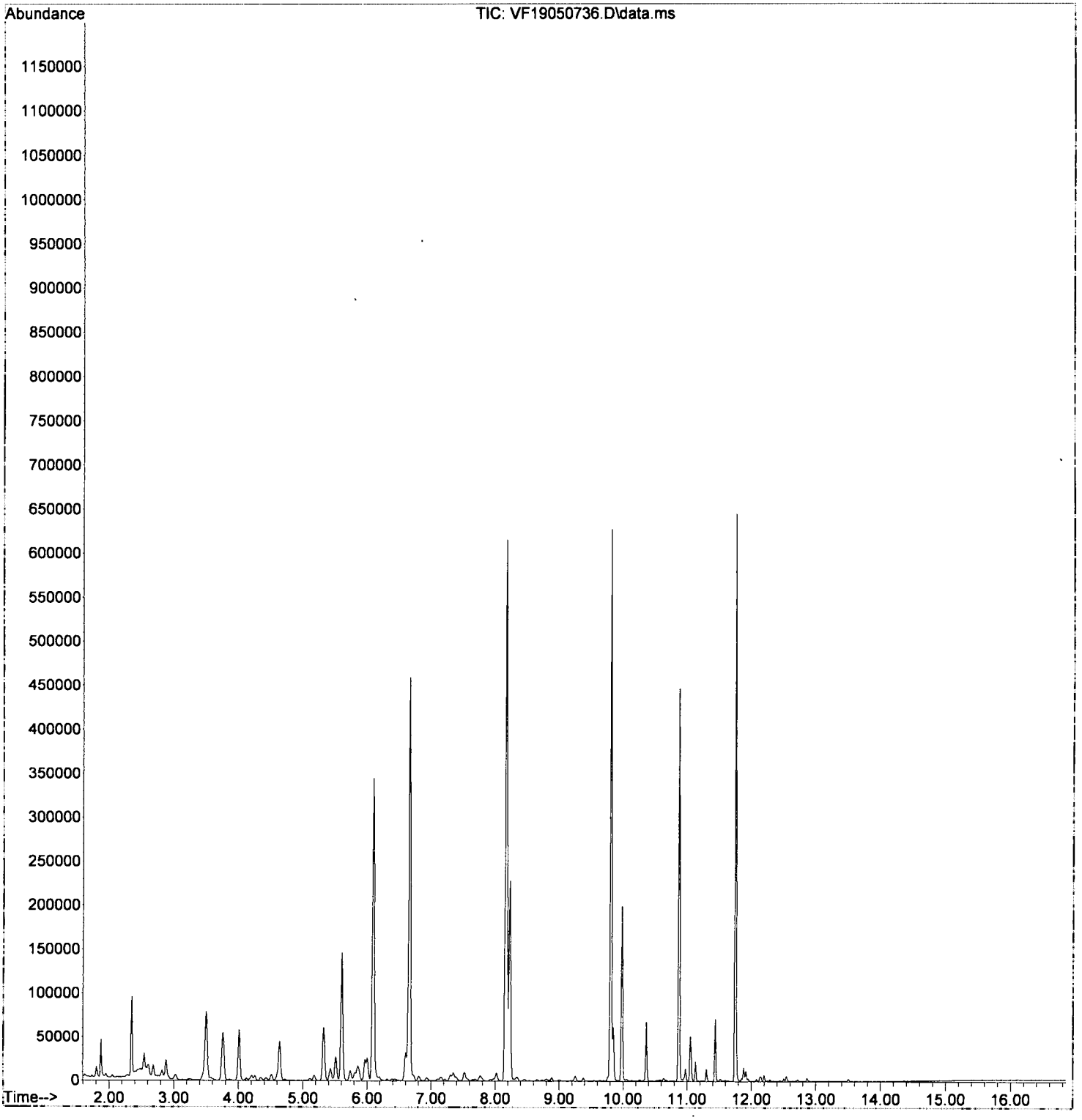
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.092	168	260344	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	976363	49.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	627727	49.80	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	970860	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.166	TIC	1270597	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	827127	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	2931259m	251.71	ug/L	
6) TPHg (C6-C10)	9.860	TIC	2228270m	240.36	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	3256728m	246.37	ug/L	
8) NWTPH-Gx	9.870	TIC	1533968m	214.89	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050736.D
Acq On : 8 May 2019 6:11 am
Operator : TB
Sample : 9E07048-CALE
Misc : 1X 250ppb GX MeOH
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:27 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050737.D
Acq On : 8 May 2019 6:38 am
Operator : TB
Sample : 9E07048-CALF
Misc : 1X 500ppb GX MeOH
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:29 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

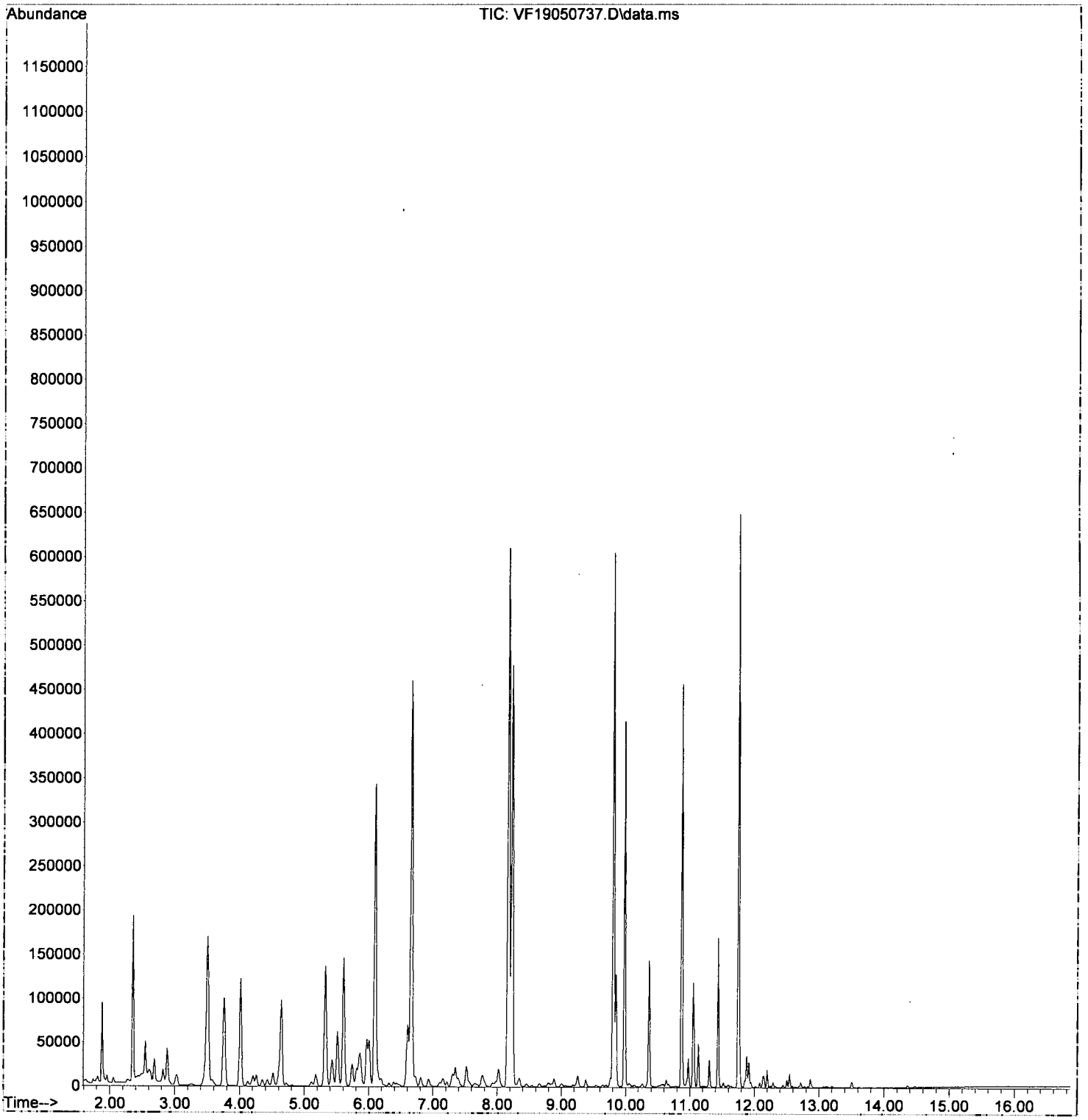
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264609	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	998574	50.14	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640403	49.98	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	999941	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1306294	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	871732	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	5892671m	497.85	ug/L	
6) TPHg (C6-C10)	9.860	TIC	4686857m	497.42	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	6691065m	498.02	ug/L	
8) NWTPH-Gx	9.870	TIC	3603975m	496.73	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050737.D
Acq On : 8 May 2019 6:38 am
Operator : TB
Sample : 9E07048-CALF
Misc : 1X 500ppb GX MeOH
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:29 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050738.D
Acq On : 8 May 2019 7:05 am
Operator : TB
Sample : 9E07048-CALG
Misc : 1X 1000ppb GX MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

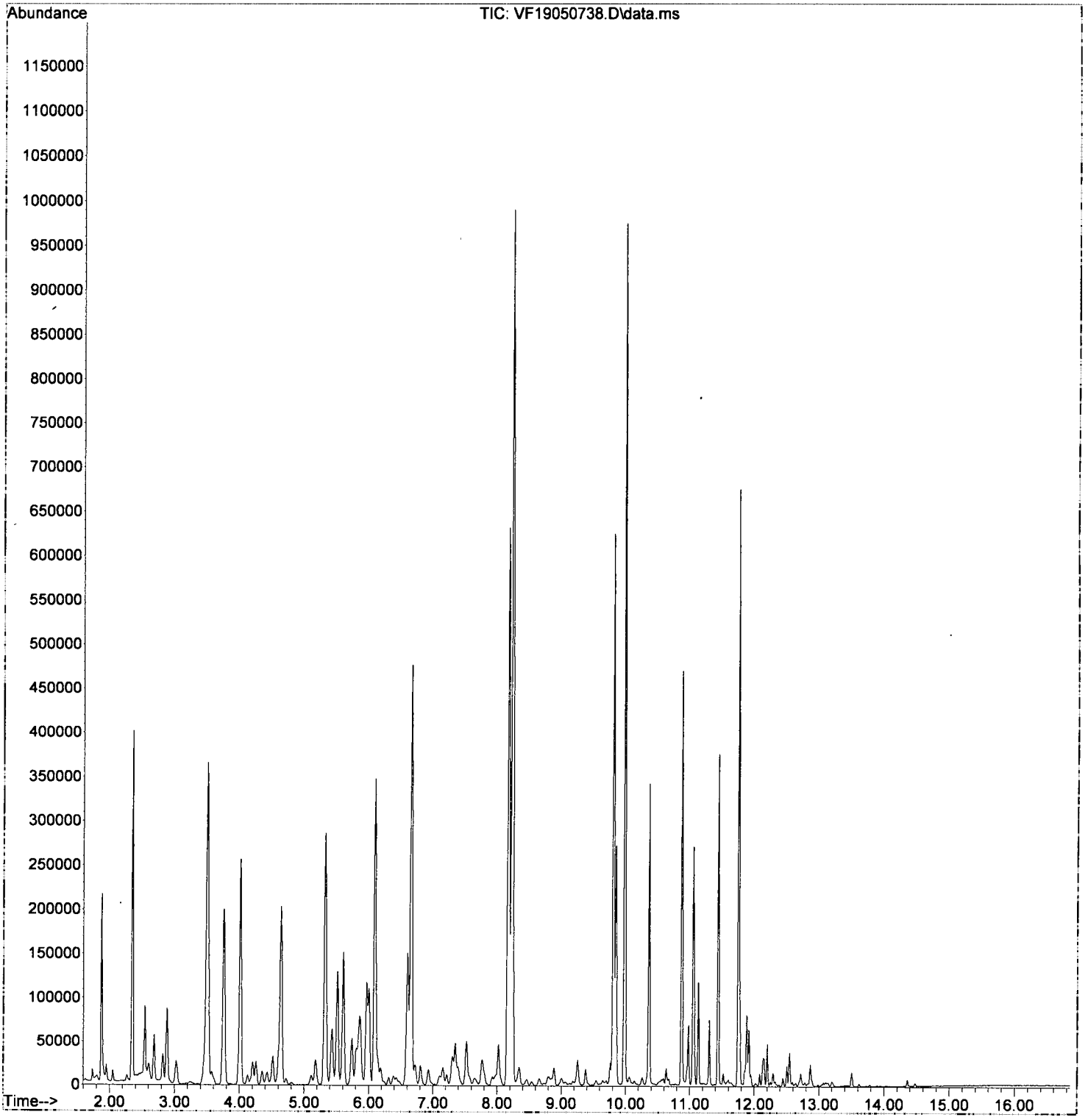
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	262223	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	994511	50.39	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	665155	52.39	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	994303	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.165	TIC	1316271	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	947602	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	12387853m	1056.13	ug/L	
6) TPHg (C6-C10)	9.860	TIC	9868759m	1056.91	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	14333454m	1076.56	ug/L	
8) NWTPH-Gx	9.870	TIC	8256018m	1148.27	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050738.D
Acq On : 8 May 2019 7:05 am
Operator : TB
Sample : 9E07048-CALG
Misc : 1X 1000ppb GX MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050739.D
Acq On : 8 May 2019 7:32 am
Operator : TB
Sample : 9E07048-CALH
Misc : 1X 2500ppb GX MeOH
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

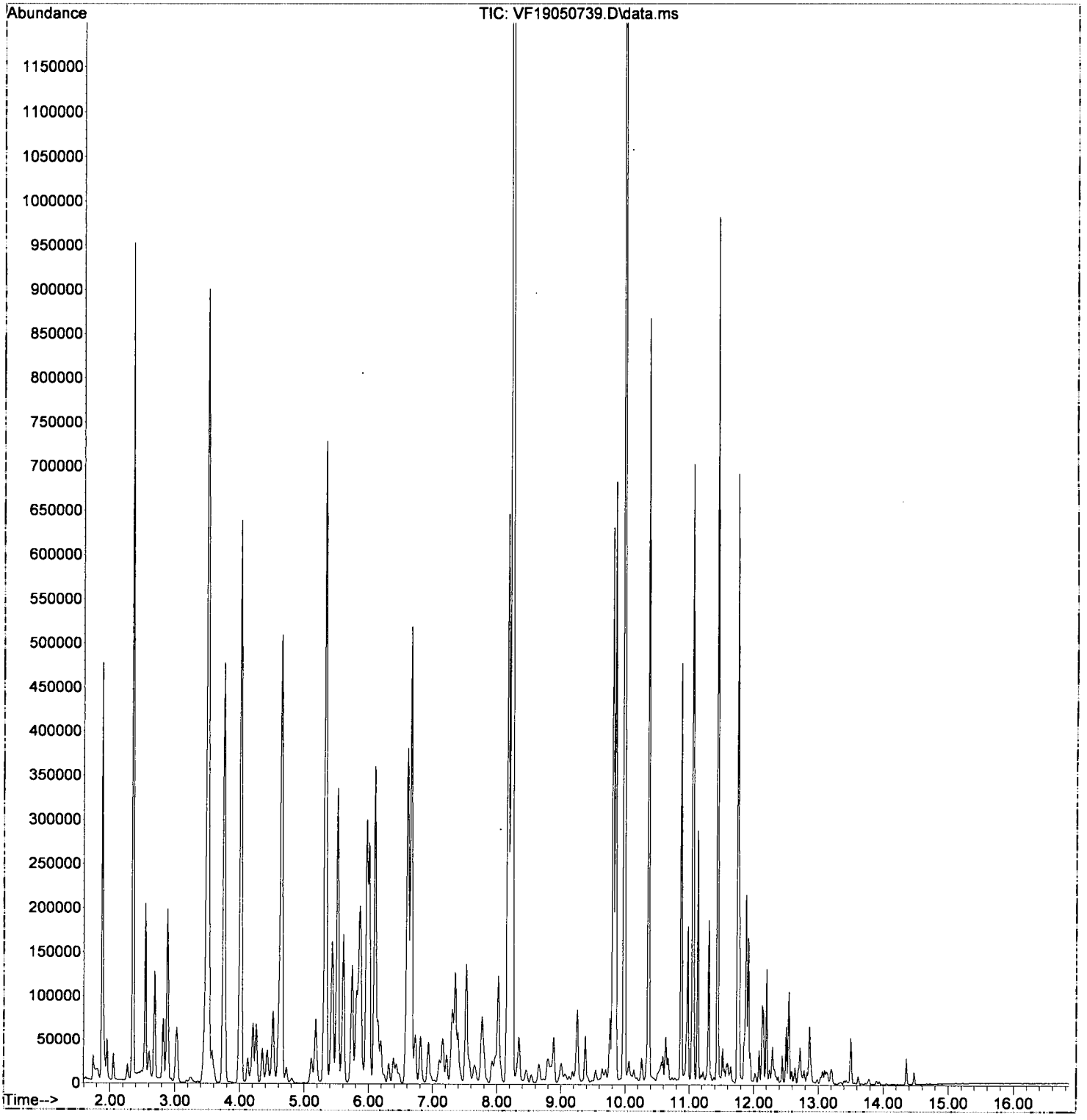
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	271709	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	1064809	52.07	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	671226	51.02	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	1029963	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1322775	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1141336	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	31174102m	2564.97	ug/L	
6) TPHg (C6-C10)	9.860	TIC	25150758m	2599.53	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	36008736m	2610.13	ug/L	
8) NWTPH-Gx	9.870	TIC	21404654m	2873.09	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050739.D
Acq On : 8 May 2019 7:32 am
Operator : TB
Sample : 9E07048-CALH
Misc : 1X 2500ppb GX MeOH
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:28:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	287647	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1135195	52.43	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	689679	49.52	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	1132386	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1419979	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1091643m	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	60591403m	4709.17	ug/L	
6) TPHg (C6-C10)	9.860	TIC	49690540m	4851.33	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	71316473m	4883.02	ug/L	
8) NWTPH-Gx	9.870	TIC	45467241m	5764.80	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

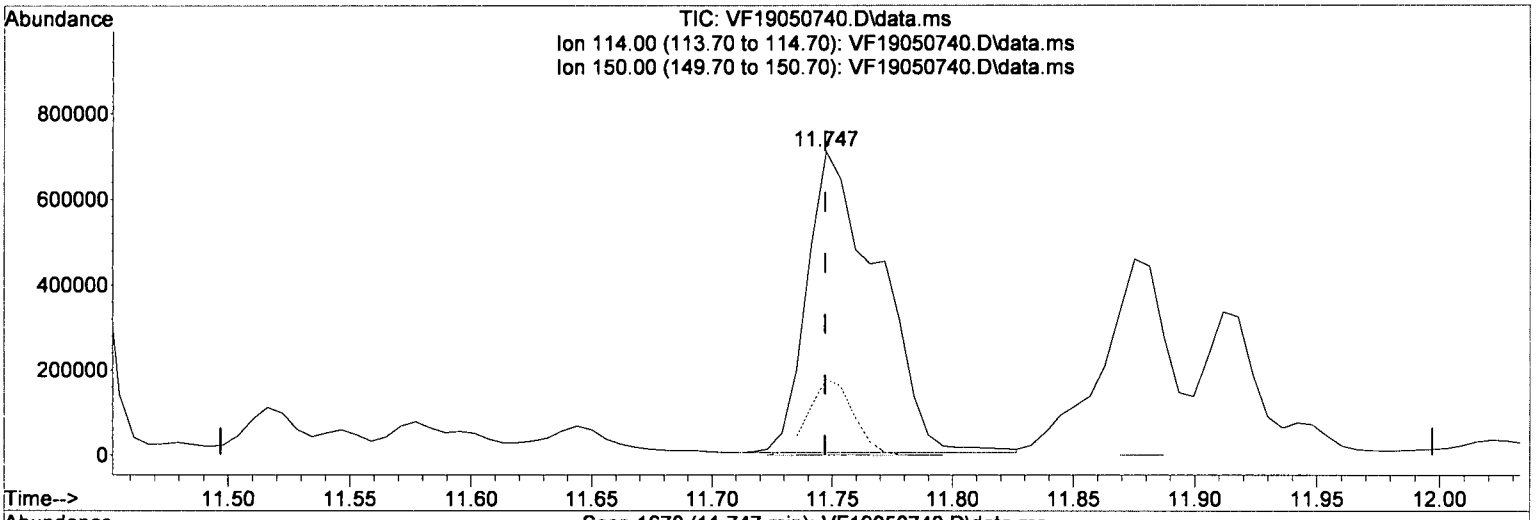
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	287647	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1135195	52.43	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	689679	49.52	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	1132386	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1419979	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	1459749	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	60591403m	4709.17	ug/L	
6) TPHg (C6-C10)	9.860	TIC	49690540m	4851.33	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	70948367m	4857.81	ug/L	
8) NWTPH-Gx	9.870	TIC	45099135m	5718.13	ug/L	

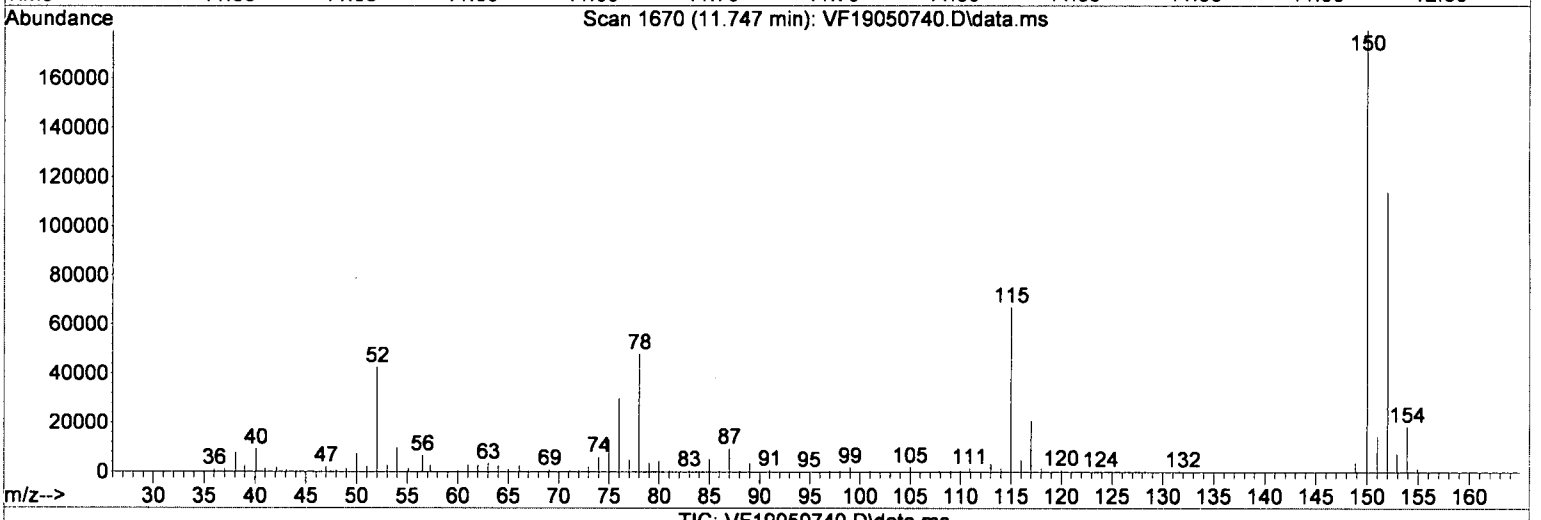
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050740.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.747min (+0.000) 0.00 ug/L

response 1459749

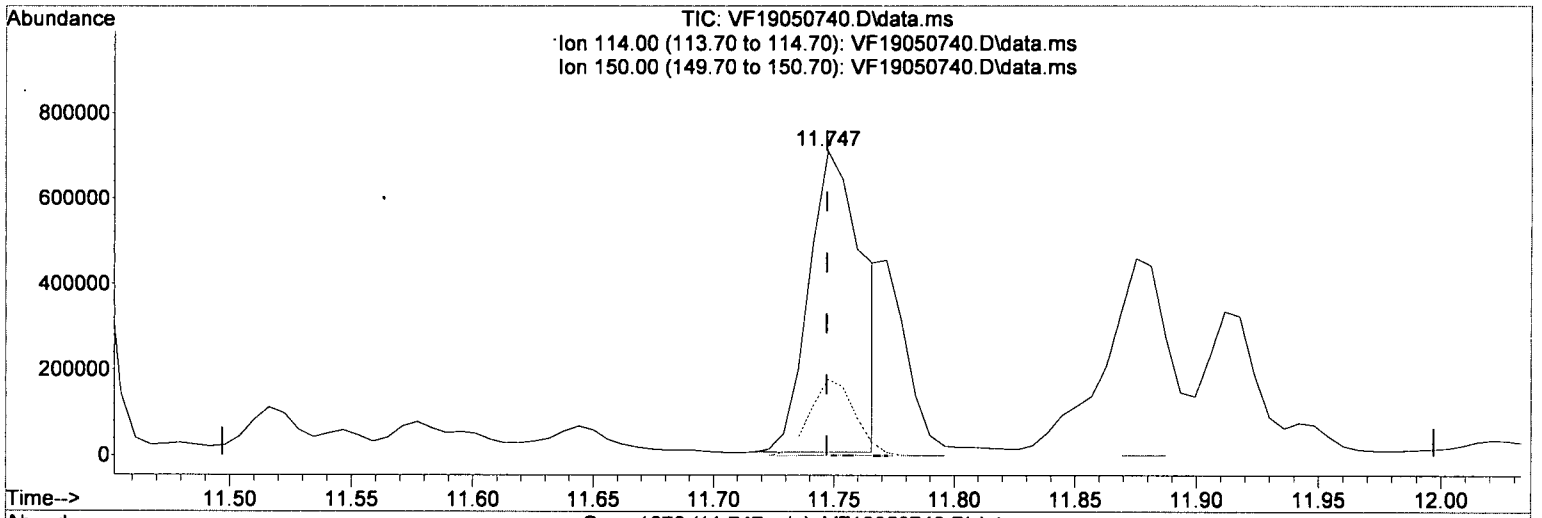
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	16.09
0.00	0.00	0.00

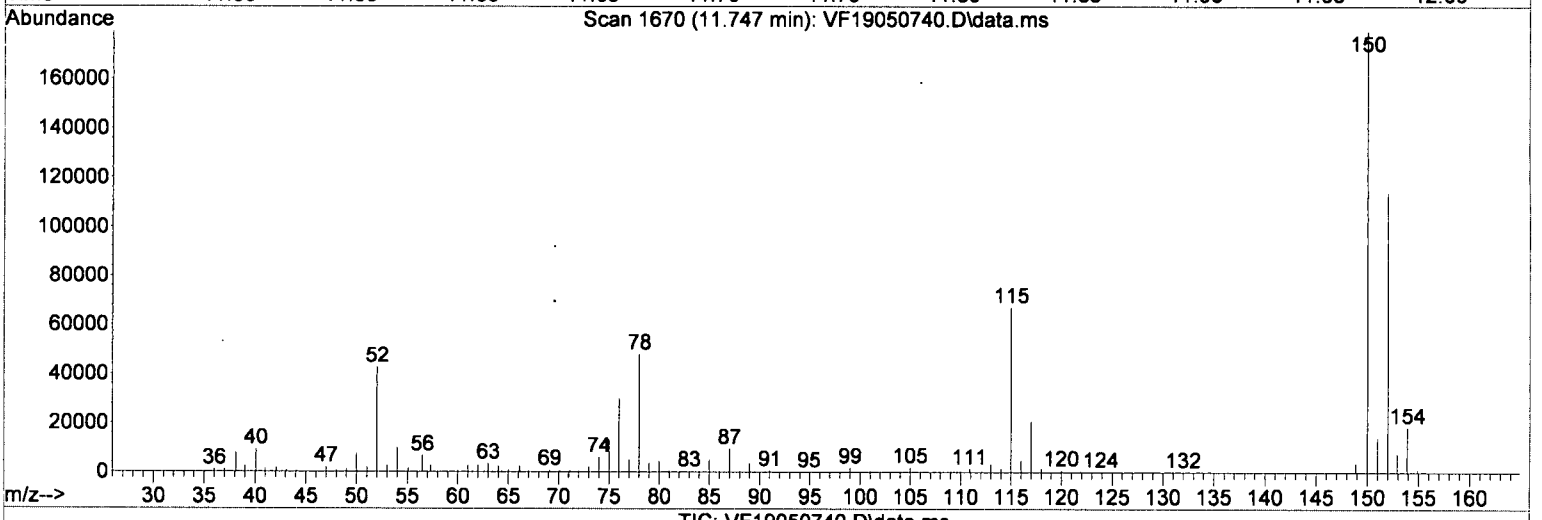
MT

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050740.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.747min (+0.000) 0.00 ug/L m

response 1091643

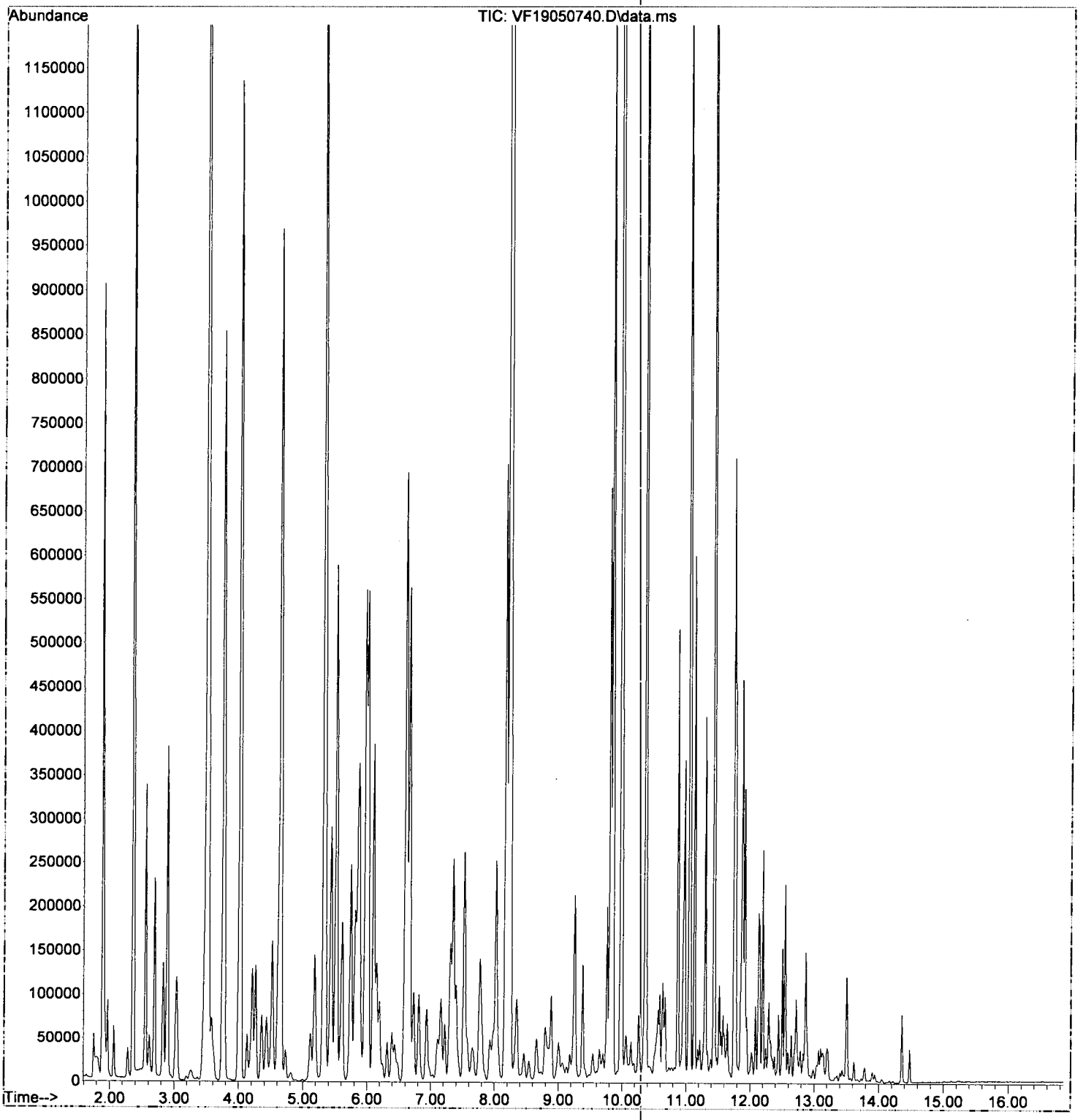
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.64
150.00	24.00	0.47
0.00	0.00	0.00

5/8/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050740.D
Acq On : 8 May 2019 7:59 am
Operator : TB
Sample : 9E07048-CALI
Misc : 1X 5000ppb GX MeOH
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK J 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:29:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	293025	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1412610	64.05	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	701119	49.42	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1179576	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.167	TIC	1494328	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.750	TIC	946889m	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	145061489m	11067.27	ug/L	
6) TPHg (C6-C10)	9.860	TIC	119967223m	11497.54	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	172661182m	11605.09	ug/L	
8) NWTPH-Gx	9.870	TIC	111038614m	13820.21	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK J 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration

5/8/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	293025	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1412610	64.05	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	701119	49.42	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	1179576	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.167	TIC	1494328	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.768	TIC	2214101	0.00	ug/L	0.02
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	145061489m	11067.27	ug/L	
6) TPHg (C6-C10)	9.860	TIC	119967223m	11497.54	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	171393970m	11519.91	ug/L	
8) NWTPH-Gx	9.870	TIC	109771402m	13662.49	ug/L	

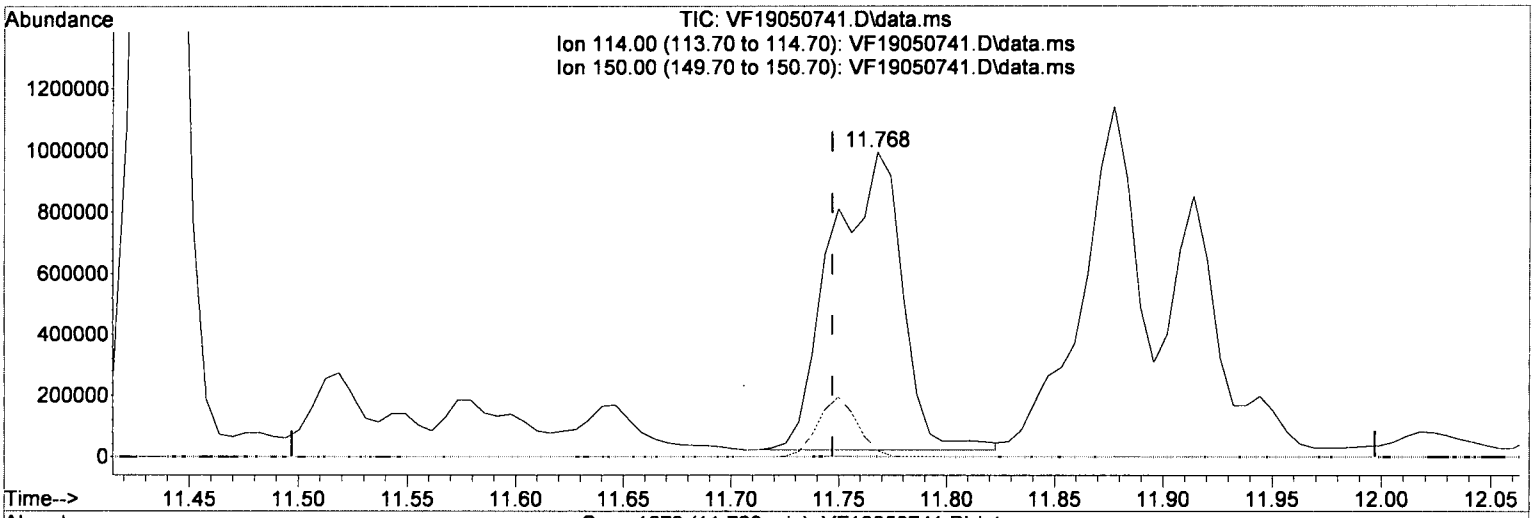
NF

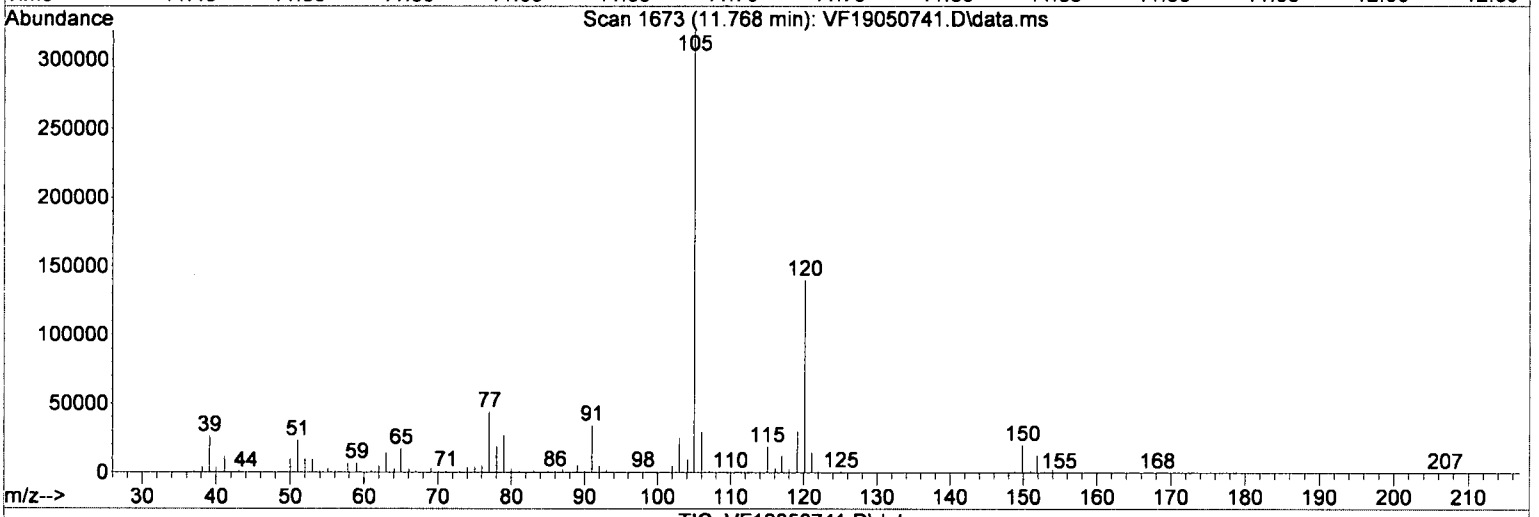
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK J TB 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050741.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.768min (+0.021) 0.00 ug/L

response 2214101

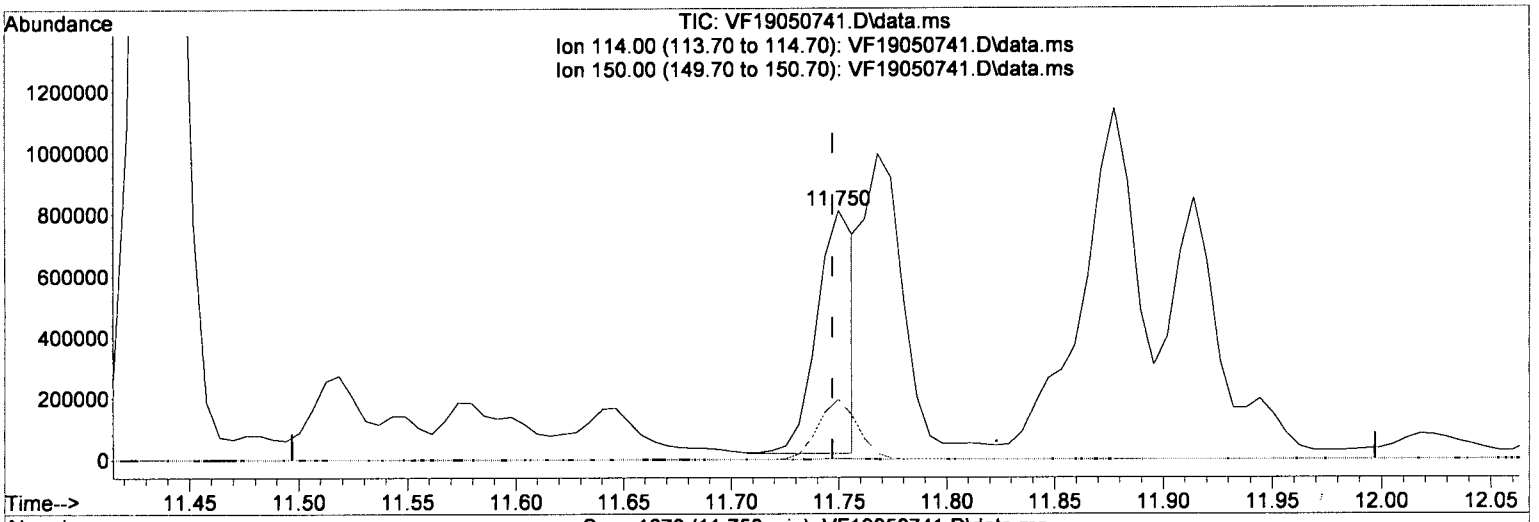
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	11.23
0.00	0.00	0.00

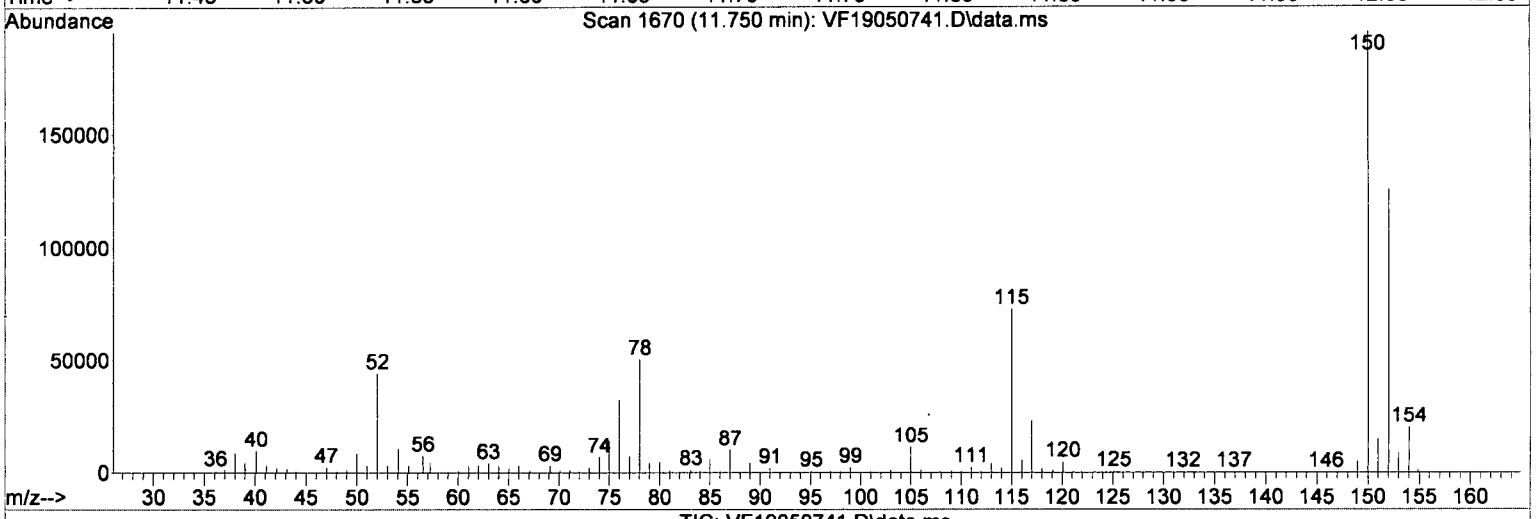
MI

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK ~~J~~ TB 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration





TIC: VF19050741.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.750min (+0.003) 0.00 ug/L m

response 946889

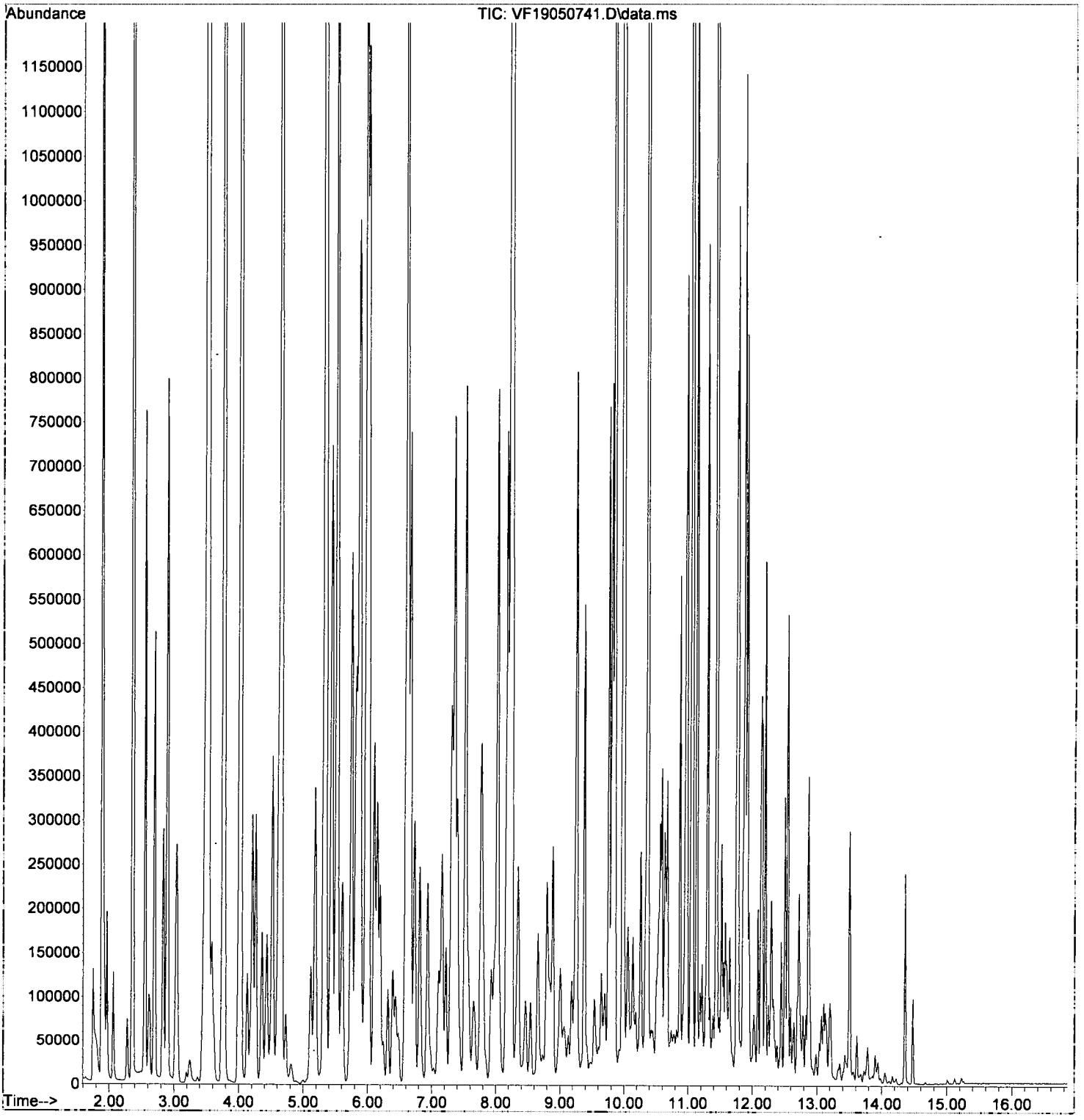
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	26.25
0.00	0.00	0.00

TB 5/8/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050741.D
Acq On : 8 May 2019 8:26 am
Operator : TB
Sample : 9E07048-CALK ~~J~~ RK 5/8/19
Misc : 1X 10000ppb GX MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:26:37 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:17:02 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050742.D
Acq On : 8 May 2019 8:53 am
Operator : TB
Sample : 9E07048-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:15 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

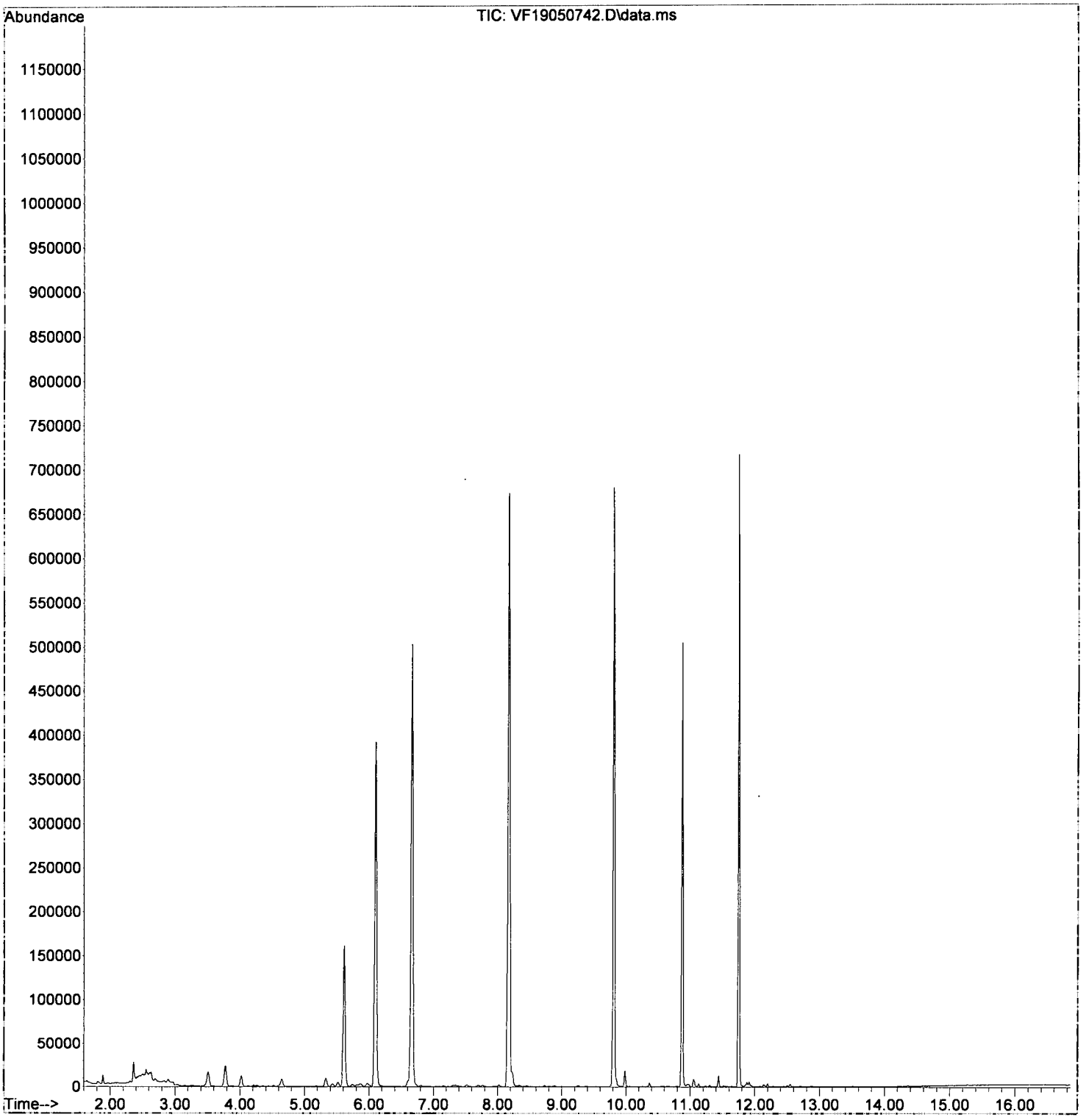
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	300299	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	1091415	46.10	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	718071	49.25	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	1100182	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.172	TIC	1429075	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	908097	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	718266m	25.30	ug/L	
6) TPHg (C6-C10)	9.860	TIC	531285m	30.49	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	783628m	30.07	ug/L	
8) NWTPH-Gx	9.870	TIC	130677m	38.75	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050742.D
Acq On : 8 May 2019 8:53 am
Operator : TB
Sample : 9E07048-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:15 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050743.D
Acq On : 8 May 2019 9:20 am
Operator : TB
Sample : 9E07048-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

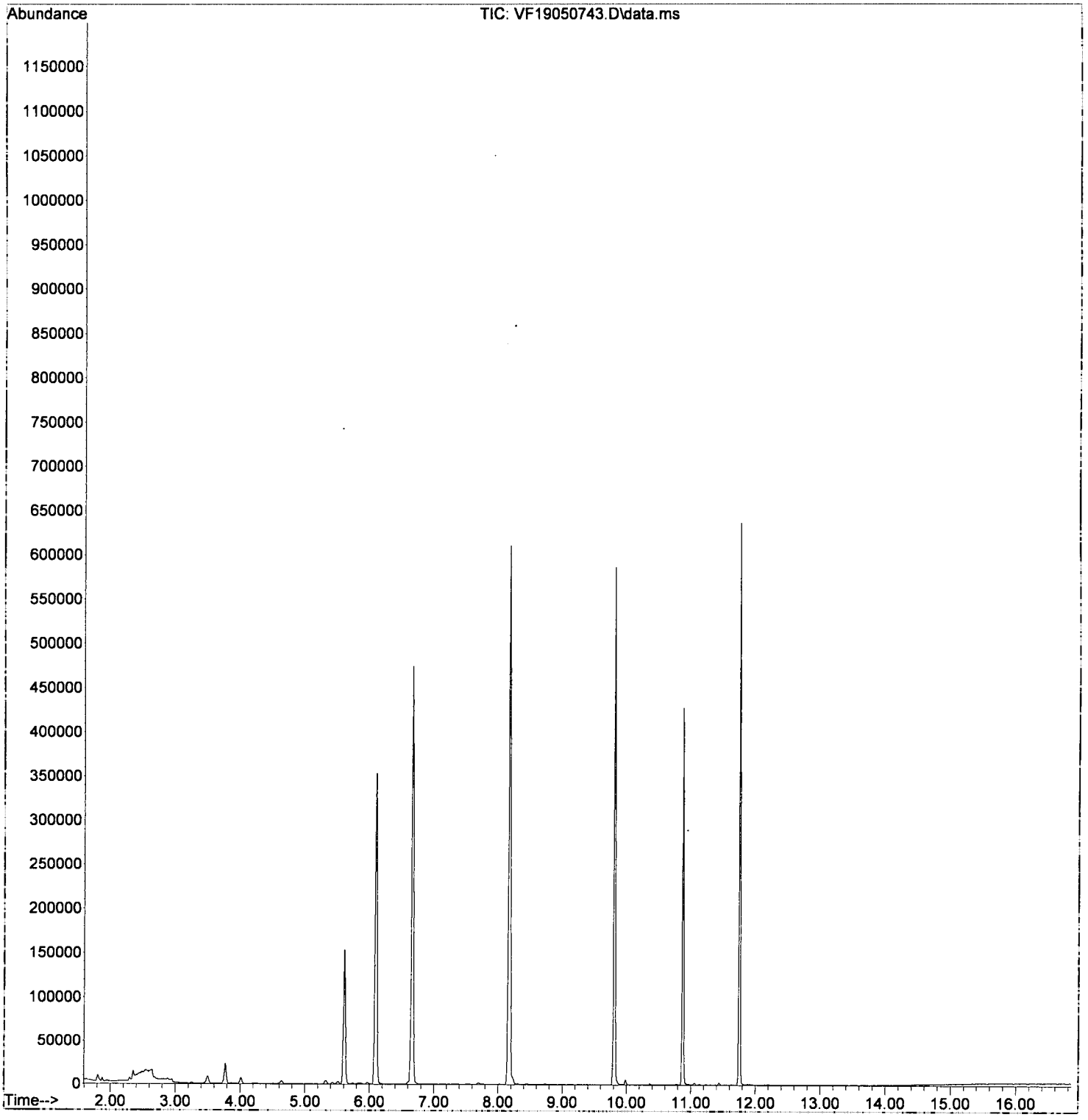
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	273596	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	987251	45.77	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	608879	45.84	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	925145	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.166	TIC	1264759	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	797642	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	502008m	11.74	ug/L	
6) TPHg (C6-C10)	9.860	TIC	398133m	20.99	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	502008m	13.72	ug/L	
8) NWTPH-Gx	9.870	TIC	19964m	26.08	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050743.D
Acq On : 8 May 2019 9:20 am
Operator : TB
Sample : 9E07048-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050744.D
Acq On : 8 May 2019 9:47 am
Operator : TB
Sample : 9E07048-ICV2
Misc : 1X 500ppb GX MeOH
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

TB 5/8/19

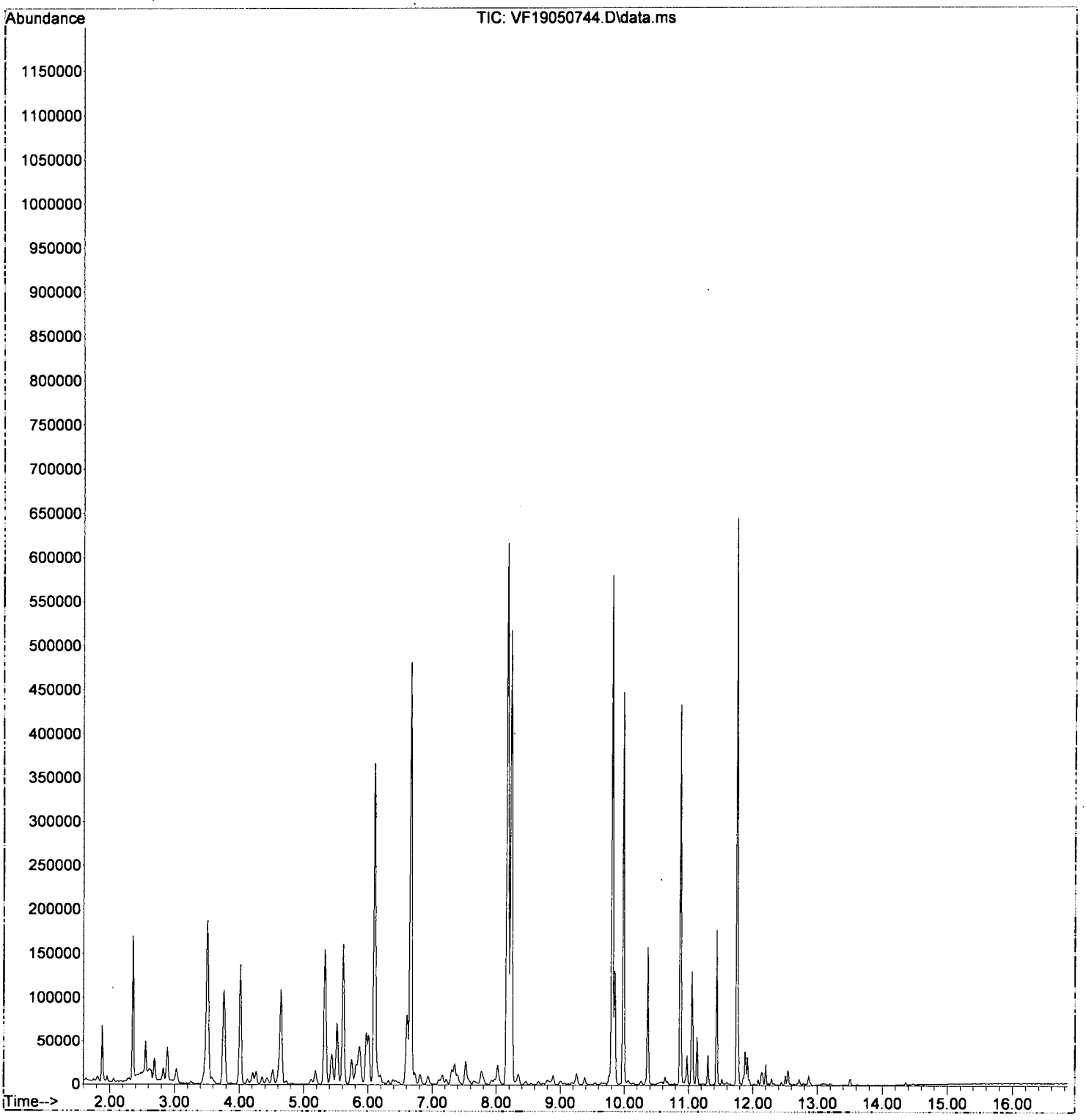
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.097	168	273841	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.663	TIC	1008883	46.73 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.873	TIC	617926	46.48 ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.808	TIC	960704	0.00 ug/L	0.00
10) Toluene-d8 (NR)	8.172	TIC	1300790	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	861687	0.00 ug/L	0.00
Target Compounds					Qvalue
5) TPHg (C5-C9)	9.860	TIC	6428232m	533.69 ug/L	
6) TPHg (C6-C10)	9.860	TIC	5178782m	543.08 ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	7312430m	532.59 ug/L	
8) NWTPH-Gx	9.870	TIC	4009491m	528.07 ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050744.D
Acq On : 8 May 2019 9:47 am
Operator : TB
Sample : 9E07048-ICV2
Misc : 1X 500ppb GX MeOH
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050745.D
Acq On : 8 May 2019 10:14 am
Operator : TB
Sample : 9E07048-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration

NR

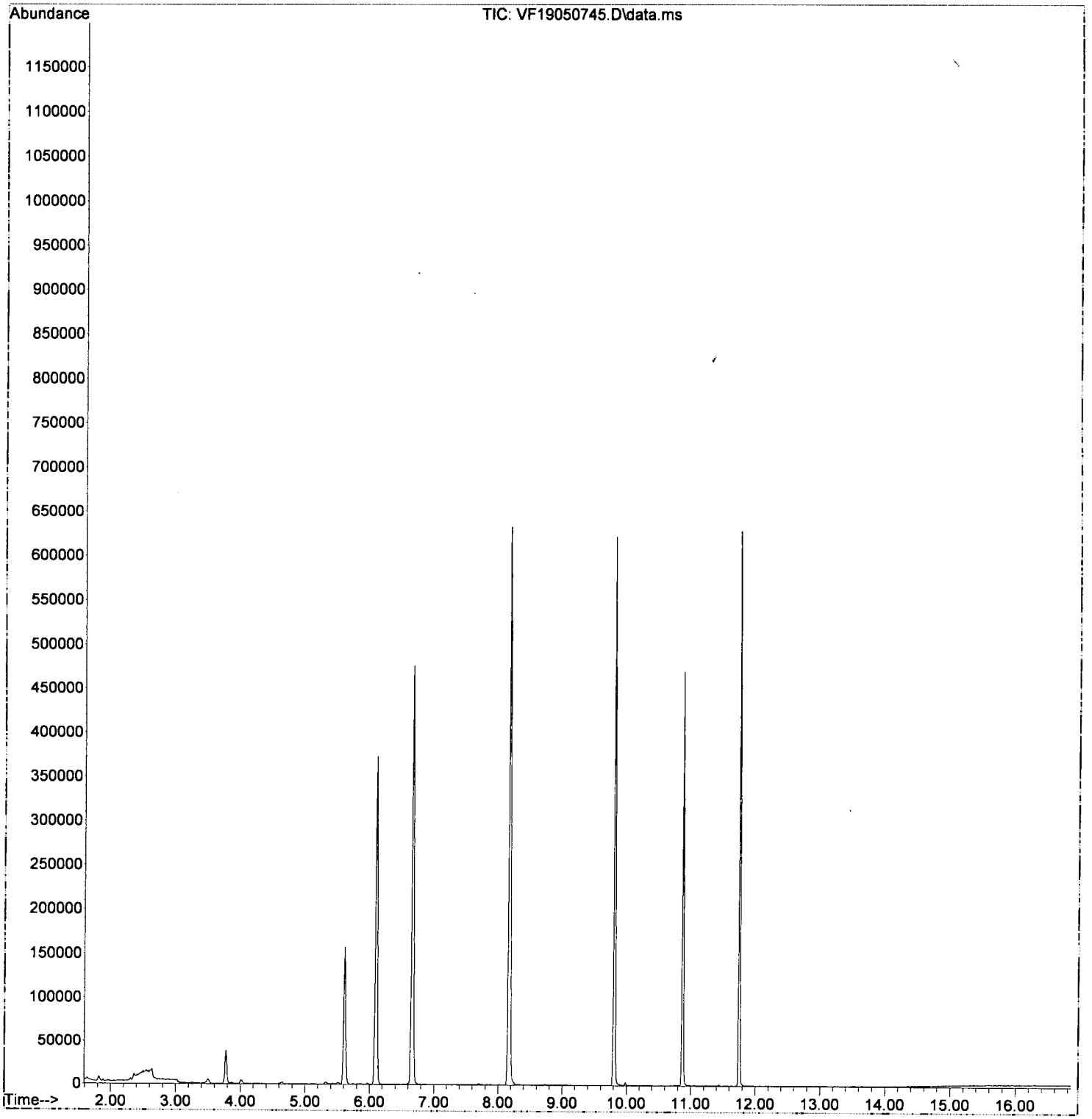
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	277007	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	1000763	45.82	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640294	47.61	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.806	TIC	981084	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.170	TIC	1297377	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	828252	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	465462m	7.97	ug/L	
6) TPHg (C6-C10)	9.860	TIC	349743m	15.16	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	465878m	10.49	ug/L	
8) NWTPH-Gx	9.870	TIC	-9851m	22.28	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050745.D
Acq On : 8 May 2019 10:14 am
Operator : TB
Sample : 9E07048-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 08 11:37:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190507G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Wed May 08 11:36:04 2019
Response via : Initial Calibration



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

Semivolatile Organic Compunds By EPA 8270D

Benchsheet & Analysis Sequence Data

Batch 9051172

Sequence 9E23010 (A9E0677-01)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051172 (Solid) JUN 14 2019

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9051172-BLK1		QC	05/22/19 16:25	15	2				100					
	9051172-BS1		QC	05/22/19 16:25	15	2	A19D326		100	100					
	A9E0677-01	A	8270D LL Full List	05/22/19 16:25	0.51	2				100	2708-190520-006	Strong Odor			
	9051172-DUP1		QC	05/22/19 16:25	0.5	2		A9E0677-01		100					
	9051172-MS1		QC	05/22/19 16:25	0.52	2	A19D326	A9E0677-01	100	100					

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19D260	10/15/19	Sodium Sulfate Lot # Q098001

Analyte Spike(s)

Std ID	Exp. Date	Description
A19D326	10/21/19	8270D PAH+/Phenols (JSCS) Spike @ 80 PPM

Surrogate(s)

Std ID	Exp. Date	Description
A19E036	10/30/19	PAH Soil and Water Surr. (50ppm)

Method 3546 digestion time and temperture achieved.
Initial:

Witness:_____

Prepared By: Date

AMS 5/23/19
Reviewed By: Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051172 (Solid)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
9	9051172-BLK1		QC	05/22/19 16:25	~~15~~ 15	2 ✓				100					
10	9051172-BS1		QC	05/22/19 16:25	15	2 ✓	A19D326		100	100					
11	A9E0677-01	A	8270D LL Full List	05/22/19 16:25	~~15~~ 0.51	2 ✓				100	2708-190520-006	Strong Odor Tar			
12	9051172-DUP1		QC	05/22/19 16:25	~~15~~ 0.50	2 ✓		A9E0677-01		100					
13	9051172-MS1		QC	05/22/19 16:25	~~15~~ 0.52	2 ✓	A19D326	A9E0677-01	100	100					

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19D260	10/15/19	Sodium Sulfate Lot # Q098001

Analyte Spike(s) aw

Std ID	Exp. Date	Description
A19D326	10/21/19	8270D PAH+/Phenols (JSCS) Spike @ 80 PPM

Surrogate(s) aw

Std ID	Exp. Date	Description
A19E036	10/30/19	PAH Soil and Water Surr. (50ppm)

Method 3546 digestion time and temperture achieved.
Initial: aw

Witness: CAS 5/22/19

aw 5.22.19
Prepared By: Date

VRA 05/22/19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9E23010**	Instrument:	**SV-GCMS10**
Date:	**05/23/19 08:22**	Calibration:	**A9D1505** (+A9D1606 Homologs)

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E23010-TUN1	Water	QC	QC			A19B027	A19E139
2	9E23010-CCV1	Water	QC	QC			A19B027	A19C237
3	9E23010-IBL1	Water	QC	QC			A19B027	
4	9E23010-TUN2	Water	QC	QC			A19B027	A19E139
5	9E23010-CCV2	Water	QC	QC			A19B027	A19C237
6	9E23010-CCV3	Water	QC	QC			A19B027	A19E064
7	9E23010-CCB1	Water	QC	QC			A19B027	
8	9051172-BLK1	Solid	QC	QC		9051172	A19B027	
9	9051172-BS1	Solid	QC	QC		9051172	A19B027	
10	A9E0677-01	Solid	8270D LL Full List	Hahn and Associates	05/23/19	9051172	A19B027	
11	9051172-DUP1	Solid	QC	QC		9051172	A19B027	
12	A9E0546-01	Water	8270D PAH Homologs (Low Level)		05/30/19	9051153	A19B027	
13	"	Water	8270D LL Full List		05/30/19	9051153	A19B027	
14	A9E0587-01	Water	8270D PAH Homologs (Low Level)		05/31/19	9051153	A19B027	
15	"	Water	8270D LL Full List		05/31/19	9051153	A19B027	
16	A9E0647-01	Water	8270D PAH Homologs (Low Level)		06/03/19	9051153	A19B027	
17	"	Water	8270D LL Full List		06/03/19	9051153	A19B027	
18	A9E0650-01	Water	8270D PAH Homologs (Low Level)		06/03/19	9051153	A19B027	
19	"	Water	8270D LL Full List		06/03/19	9051153	A19B027	
20	A9E0647-01RE1	Water	8270D PAH Homologs (Low Level)		06/03/19	9051153	A19B027	
21	"	Water	8270D LL Full List		06/03/19	9051153	A19B027	
22	A9E0587-01RE1	Water	8270D LL Full List		05/31/19	9051153	A19B027	
23	9E23010-IBL2	Water	QC	QC			A19B027	

AMS 5/26/19

Data Entered By: DH 5/24/19

Data Reviewed By: GH 5/28/19

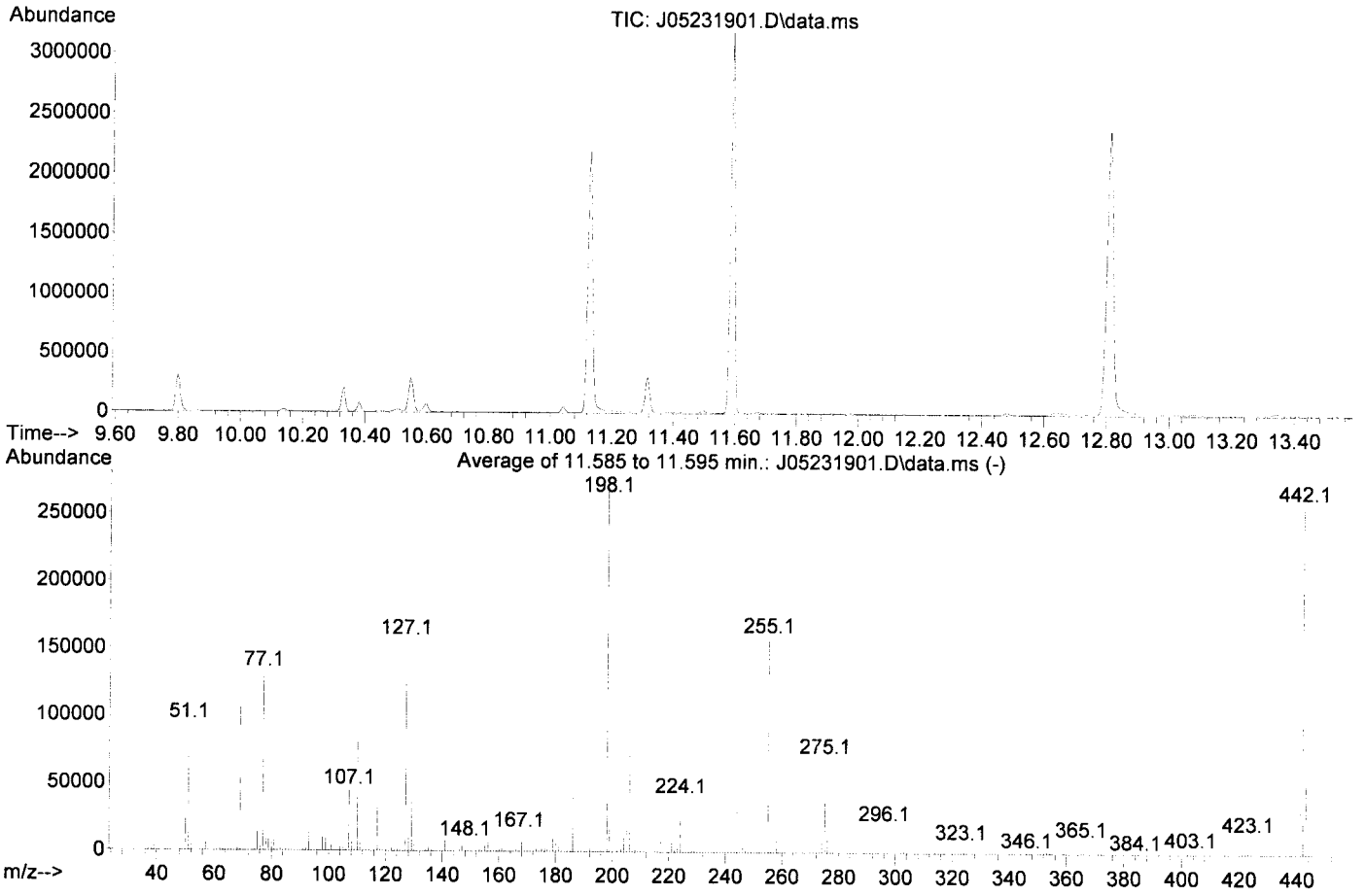
Comments: DMS 5/24/19

Data Path : T:\data\2019-05\9E23010\
Data File : J05231901.D
Acq On : 23 May 2019 8:29 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Q-14 AMS 5/23/19

Integration File: rteint.p

Method : T:\methods\DFTPP-8270.M
Title : 8270 DFTPP Tune Method
Last Update : Tue Apr 16 11:00:01 2019



AutoFind: Scans 1514, 1515, 1516; Background Corrected with Scan 1509

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	35.1	93971	PASS
68	69	0.00	2	1.5	1582	PASS
69	198	0.00	100	39.6	105917	PASS
70	69	0.00	2	0.6	604	PASS
127	198	10	80	58.7	156973	PASS
197	198	0.00	2	0.4	971	PASS
198	198	100	100	100.0	267371	PASS
199	198	5	9	6.8	18201	PASS
275	198	10	60	26.3	70251	PASS
365	198	1	100	3.7	9810	PASS
441	442	0.01	24	14.8	38400	PASS
442	198	50	200	97.0	259435	PASS
443	442	15	24	19.5	50480	PASS

Data Path : T:\data\2019-05\9E23010\
Data File : J05231901.D
Acq On : 23 May 2019 8:29 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:40:49 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10

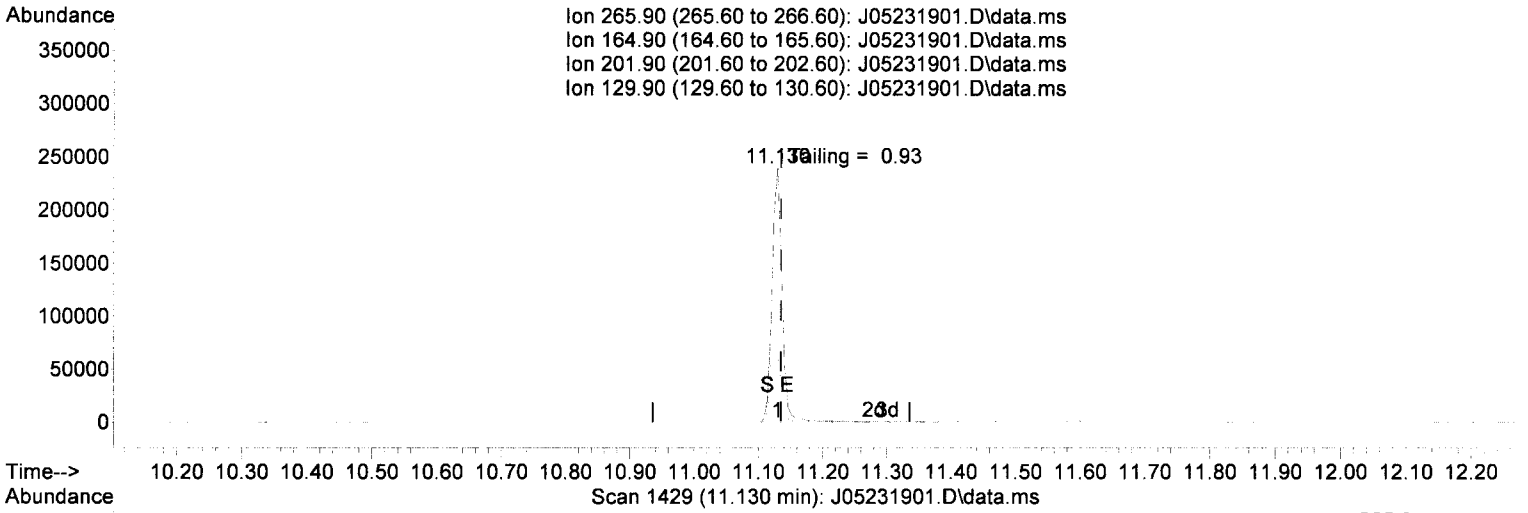
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.749	150	46182	2.00	ug/mL	0.00
2) Naphthalene-d8	8.022	136	135083	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.798	162	65461	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.317	188	110977	2.00	ug/mL	0.00
11) Chrysene-d12	15.099	240	88753	2.00	ug/mL	0.00
12) Perylene-d12	17.072	264	78118	2.00	ug/mL	0.00
13) Dibenz(a,h)anthracene-...	18.367	292	69764	2.00	ug/mL	0.00
Target Compounds						Qvalue
4) Pentachlorophenol	11.130	266	259872	42.04	ug/mL	99
6) DFTPP	11.595	442	301268	33.63	ug/mL	79
7) Benzidine	12.809	184	1340493	33.95	ug/mL	97
8) 4,4-DDE	13.077	TIC	17746	No Calib		
9) 4,4-DDD	13.622	TIC	21166	No Calib		
10) 4,4-DDT	14.211	TIC	4354240	38.26	ug/mL	99

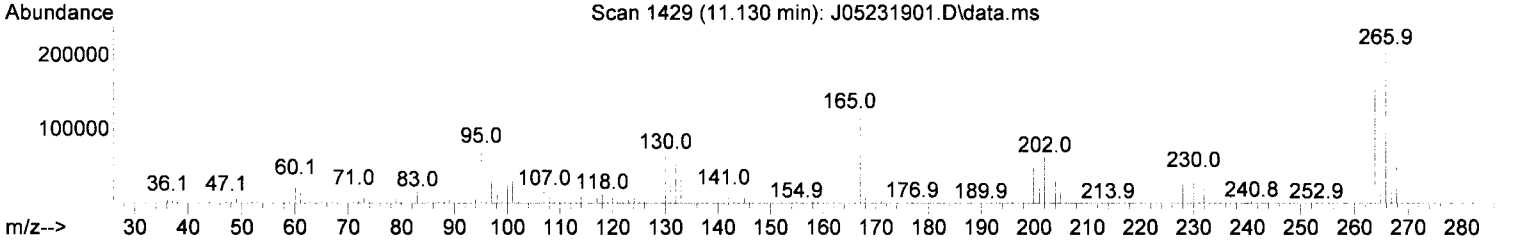
(#) = qualifier out of range (m) = manual integration (+) = signals summed

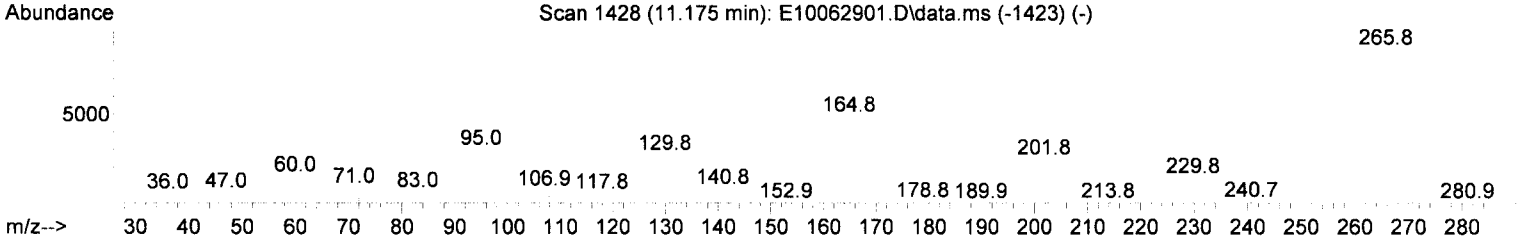
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231901.D
Acq On : 23 May 2019 8:29 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:40:49 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J05231901.D\data.ms

(4) Pentachlorophenol

11.130min (-0.005) 42.04 ug/mL

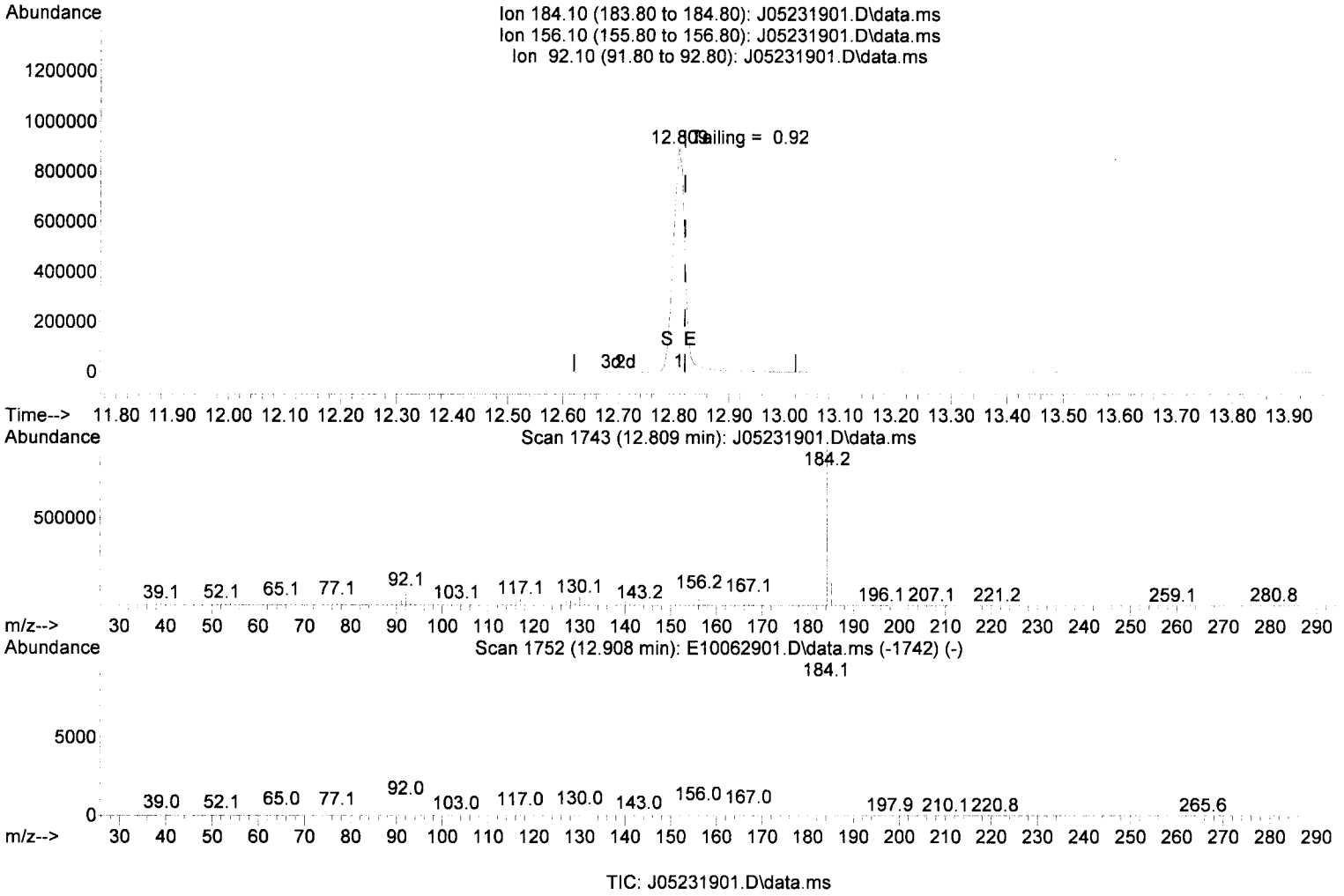
response 259872

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	50.30
201.90	25.80	25.95
129.90	27.30	27.79

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231901.D
Acq On : 23 May 2019 8:29 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:40:49 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231901.D\data.ms

(7) Benzidine

12.809min (-0.011) 33.95 ug/mL

response 1340493

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.92
92.10	8.20	9.68
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

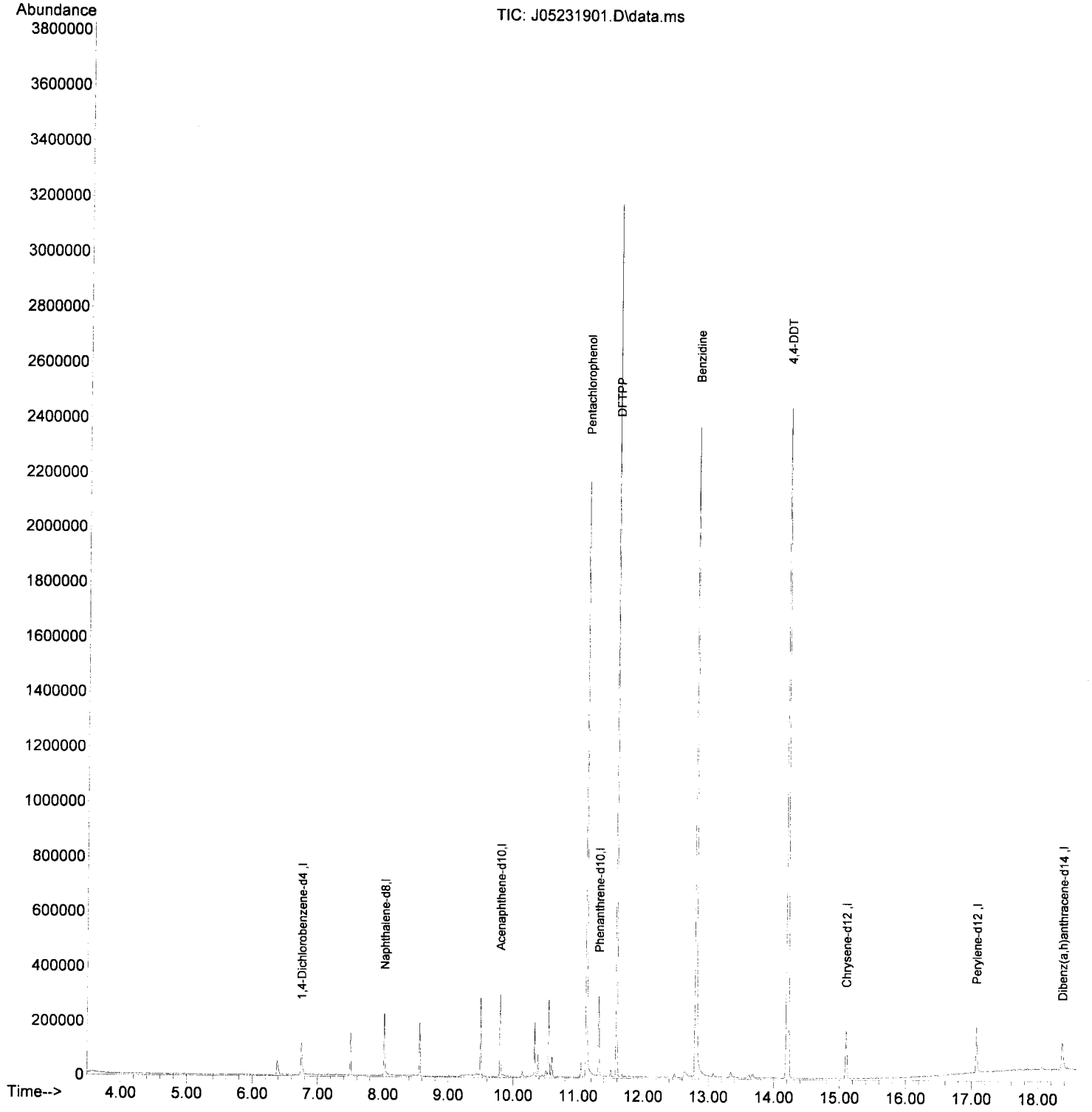
From:
9E23010-TUN1
SV-GCMS10

First Column Area Counts		Percent Breakdown	
DDE	17746		
DDD	21166		
DDT	4354240	**0.89**	**PASS**

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231901.D
Acq On : 23 May 2019 8:29 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:40:49 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E23010\
Data File : J05231902.D
Acq On : 23 May 2019 8:58 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Q-14
AMS
5/23/19

Quant Time: May 23 14:41:53 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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	81	0.00
2	TG	N-Nitrosodimethylamine	1000.000	1006.499	-0.6	80	-0.04
3	TG	Pyridine	1000.000	984.121	1.6	75	-0.03
4	S	2-Fluorophenol (Surr)	1000.000	1102.782	-10.3	85	-0.01
5	S	Phenol-d6(Surr)	1000.000	1091.230	-9.1	84	0.00
6	T	Phenol	1000.000	1067.296	-6.7	91	0.00
7	T	Aniline	1000.000	555.879	44.4#	41	0.00
8	T	Bis(2-chloroethyl) ether	1000.000	1232.812	-23.3#	99	0.00
9	T	2-Chlorophenol	1000.000	1104.856	-10.5	82	0.00
10	T	1,3-Dichlorobenzene	1000.000	1037.268	-3.7	82	0.00
11	T	1,4-Dichlorobenzene	1000.000	1020.015	-2.0	82	0.00
12	T	Benzyl alcohol	1000.000	1093.421	-9.3	86	0.00
13	T	1,2-Dichlorobenzene	1000.000	1048.094	-4.8	82	0.00
14	T	2-Methylphenol	1000.000	1202.580	-20.3#	86	0.00
15	T	2,2'-Oxybis(1-Chloropropane	1000.000	1019.669	-2.0	79	0.00
16	T	N-Nitrosodi-n-propylamine	1000.000	1070.878	-7.1	79	0.00
17	T	3+4-Methylphenol	1000.000	1091.432	-9.1	83	0.00
18	T	Hexachloroethane	1000.000	1079.500	-8.0	87	0.00
19	S	Nitrobenzene-d5 (Surr)	1000.000	1121.540	-12.2	92	0.00
20	T	Nitrobenzene	1000.000	1174.046	-17.4	88	0.00
21	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	80	0.00
22	T	Isophorone	1000.000	1052.923	-5.3	81	0.00
23	T	2-Nitrophenol	1000.000	1242.317	-24.2#	98	0.00
24	T	2,4-Dimethylphenol	1000.000	981.738	1.8	77	0.00
25	T	Bis(2-chloroethoxy) methane	1000.000	1123.656	-12.4	82	0.00
26	T	Benzoic acid	2000.000	2149.635	-7.5	101	0.00
27	T	2,4-Dichlorophenol	1000.000	1101.064	-10.1	89	0.00
28	T	1,2,4-Trichlorobenzene	1000.000	1068.083	-6.8	82	0.00
29	T	Naphthalene	1000.000	1039.079	-3.9	79	0.00
30	T	4-Chloroaniline	1000.000	782.290	21.8#	59	0.00
31	T	Hexachlorobutadiene	1000.000	1045.122	-4.5	83	0.00
32	T	4-Chloro-3-methylphenol	1000.000	1076.050	-7.6	87	0.00
33	T	2-Methylnaphthalene	1000.000	1070.777	-7.1	79	0.00
34	T	1-Methylnaphthalene	1000.000	1047.088	-4.7	79	0.00
35	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	81	0.00
36	T	Hexachlorocyclopentadiene	1000.000	1250.329	-25.0#	97	0.00
37	T	2,4,6-Trichlorophenol	1000.000	1084.619	-8.5	92	0.00
38	T	2,4,5-Trichlorophenol	1000.000	1160.162	-16.0	89	0.00
39	T	1,1'-Biphenyl	1000.000	1086.228	-8.6	80	0.00
40	S	2-Fluorobiphenyl (Surr)	1000.000	1098.000	-9.8	81	0.00
41	T	2-Chloronaphthalene	1000.000	1111.099	-11.1	82	0.00
42	T	2-Nitroaniline	1000.000	1151.051	-15.1	96	0.00
43	T	2,6-Dimethylnaphthalene	1000.000	1055.185	-5.5	78	0.00
44	T	1,4-Dinitrobenzene	1000.000	1376.124	-37.6#	128	0.00
45	T	Dimethyl phthalate	1000.000	1061.866	-6.2	83	0.00
46	T	1,3-Dinitrobenzene	1000.000	1235.501	-23.6#	105	0.00
47	T	2,6-Dinitrotoluene	1000.000	1153.067	-15.3	91	0.00
48	T	1,2-Dinitrobenzene	1000.000	1147.621	-14.8	92	0.00

Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E23010\
Data File : J05231902.D
Acq On : 23 May 2019 8:58 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:41:53 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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)
49	T	Acenaphthylene	1000.000	1073.624	-7.4	81	0.00
50	T	3-Nitroaniline	1000.000	957.729	4.2	71	0.00
51	T	Acenaphthene	1000.000	1038.705	-3.9	81	0.00
52	T	2,4-Dinitrophenol	1000.000	1717.297	-71.7#	189	0.00
53	T	4-Nitrophenol	1000.000	982.416	1.8	81	0.00
54	T	2,4-Dinitrotoluene	1000.000	1181.897	-18.2	98	0.00
55	T	Dibenzofuran	1000.000	1052.319	-5.2	82	0.00
56	T	2,3,5,6-Tetrachlorophenol	1000.000	1110.129	-11.0	88	0.00
57	T	2,3,4,6-Tetrachlorophenol	1000.000	1053.828	-5.4	83	0.00
58	T	Diethyl phthalate	1000.000	1114.089	-11.4	85	0.00
59	T	2,3,5-Trimethylnaphthalene	1000.000	1061.439	-6.1	82	0.00
60	T	Fluorene	1000.000	1058.382	-5.8	82	0.00
61	T	4-Chlorophenyl phenyl ether	1000.000	1049.671	-5.0	82	0.00
62	T	4-Nitroaniline	1000.000	1020.502	-2.1	77	0.00
63	T	4,6-Dinitro-2-methylphenol	1000.000	1534.020	-53.4#	147	0.00
64	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	80	0.00
65	T	N-Nitrosodiphenylamine	1000.000	1100.200	-10.0	81	0.00
66	T	Azobenzene (1,2-DPH)	1000.000	1122.527	-12.3	82	0.00
67	S	2,4,6-Tribromophenol (Surr)	1000.000	1062.047	-6.2	86	0.00
68	T	4-Bromophenyl phenyl ether	1000.000	1060.681	-6.1	80	0.00
69	T	Hexachlorobenzene	1000.000	987.990	1.2	78	0.00
70	T	Pentachlorophenol (PCP)	1000.000	902.716	9.7	74	0.00
71	T	Phenanthrene	1000.000	1045.542	-4.6	80	0.00
72	T	Anthracene	1000.000	1078.148	-7.8	81	0.00
73	T	Carbazole	1000.000	1029.834	-3.0	76	0.00
74	T	Di-n-butyl phthalate	1000.000	1163.431	-16.3	85	0.00
75	T	Fluoranthene	1000.000	1073.229	-7.3	79	0.00
76	T	Benzidine	2000.000	1037.222	48.1#	37	0.00
77	T	Pyrene	1000.000	1040.297	-4.0	77	0.00
78	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	74	0.00
79	S	Terphenyl-d14 (Surr)	1000.000	1119.643	-12.0	79	0.00
80	T	Butyl benzyl phthalate	1000.000	1226.138	-22.6#	89	0.00
81	T	Bis(2-ethylhexyl) adipate	1000.000	1156.601	-15.7	86	0.00
82	T	3,3-Dichlorobenzidine	2000.000	2698.309	-34.9#	82	0.00
83	T	Benz(a)anthracene	1000.000	1053.612	-5.4	76	0.00
84	T	Chrysene	1000.000	1058.898	-5.9	77	0.00
85	T	Bis(2-ethylhexyl) phthalate	1000.000	1184.760	-18.5	85	0.00
86	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	71	0.00
87	T	Di-n-octyl phthalate	1000.000	1277.211	-27.7#	93	0.00
88	T	Benzo(b)fluoranthene	1000.000	1112.679	-11.3	77	0.00
89	T	Benzo(k)fluoranthene	1000.000	1095.993	-9.6	76	0.00
90	T	Benzo(b+k)fluoranthene	2000.000	2214.546	-10.7	76	0.06
91	T	Benzo(e)pyrene	1000.000	1147.985	-14.8	75	0.00
92	T	Benzo(a)pyrene	1000.000	1128.122	-12.8	77	0.00
93	T	Perylene	1000.000	1213.884	-21.4#	84	0.00
94	I	Dibenz(a,h)Anthrcene-d14 (I	2000.000	2000.000	0.0	74	0.00

Data Path : T:\data\2019-05\9E23010\
Data File : J05231902.D
Acq On : 23 May 2019 8:58 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:41:53 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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)
95	T	Indeno(1,2,3-cd)pyrene	1000.000	951.570	4.8	73	0.00
96	T	Dibenz(a,h)anthracene	1000.000	1067.056	-6.7	77	0.00
97	T	Benzo(g,h,i)perylene	1000.000	1008.467	-0.8	69	0.00

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231902.D
Acq On : 23 May 2019 8:58 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:41:53 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.803	152	167983	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.076	136	697641	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.857	162	331446	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.376	188	560213	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.345	240	450779	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.864	264	392496	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.255	292	379622	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	120426	1102.78	ng/ml	-0.01
5) Phenol-d6(Surr)	6.450	99	153284	1091.23	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.348	82	140992	1121.54	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.162	172	256773	1098.00	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	29244	1062.05	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.232	244	237579	1119.64	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.123	74	83311m	1006.50	ng/ml	
3) Pyridine	4.155	79	132912m	984.12	ng/ml	
6) Phenol	6.461	94	167636	1067.30	ng/ml	99
7) Aniline	6.482	93	91806	555.88	ng/ml	84
8) Bis(2-chloroethyl) ether	6.530	93	175341	1232.81	ng/ml	94
9) 2-Chlorophenol	6.605	128	126175	1104.86	ng/ml	97
10) 1,3-Dichlorobenzene	6.749	146	133286	1037.27	ng/ml	98
11) 1,4-Dichlorobenzene	6.819	146	130759	1020.02	ng/ml	99
12) Benzyl alcohol	6.937	108	74178	1093.42	ng/ml	97
13) 1,2-Dichlorobenzene	6.974	146	130766	1048.09	ng/ml	99
14) 2-Methylphenol	7.049	107	106378	1202.58	ng/ml	95
15) 2,2'-Oxybis(1-Chloropr...	7.065	45	164114	1019.67	ng/ml	90
16) N-Nitrosodi-n-propylamine	7.193	70	99674	1070.88	ng/ml	99
17) 3+4-Methylphenol	7.199	107	128894	1091.43	ng/ml	96
18) Hexachloroethane	7.311	201	37297	1079.50	ng/ml	97
20) Nitrobenzene	7.370	77	140294	1174.05	ng/ml	96
22) Isophorone	7.600	82	273583	1052.92	ng/ml	97
23) 2-Nitrophenol	7.691	139	68692	1242.32	ng/ml	93
24) 2,4-Dimethylphenol	7.723	122	105039	981.74	ng/ml	94
25) Bis(2-chloroethoxy) me...	7.808	93	156591	1123.66	ng/ml	99
26) Benzoic acid	7.814	105	97075	2149.64	ng/ml	99
27) 2,4-Dichlorophenol	7.937	162	95014	1101.06	ng/ml	99
28) 1,2,4-Trichlorobenzene	8.017	180	105836	1068.08	ng/ml	97
29) Naphthalene	8.097	128	375229	1039.08	ng/ml	100
30) 4-Chloroaniline	8.151	127	90118	782.29	ng/ml	97
31) Hexachlorobutadiene	8.220	225	56267	1045.12	ng/ml	98
32) 4-Chloro-3-methylphenol	8.627	107	110162	1076.05	ng/ml	98
33) 2-Methylnaphthalene	8.793	142	253564	1070.78	ng/ml	98
34) 1-Methylnaphthalene	8.894	142	240510	1047.09	ng/ml	97
36) Hexachlorocyclopentadiene	8.958	237	57732	1250.33	ng/ml	99
37) 2,4,6-Trichlorophenol	9.081	196	64237	1084.62	ng/ml	94
38) 2,4,5-Trichlorophenol	9.119	198	61496	1160.16	ng/ml	98
39) 1,1'-Biphenyl	9.263	154	291848	1086.23	ng/ml	99
41) 2-Chloronaphthalene	9.290	162	211115	1111.10	ng/ml	96
42) 2-Nitroaniline	9.386	138	71635	1151.05	ng/ml	97
43) 2,6-Dimethylnaphthalene	9.424	156	207864	1055.18	ng/ml	96

Data Path : T:\data\2019-05\9E23010\
Data File : J05231902.D
Acq On : 23 May 2019 8:58 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

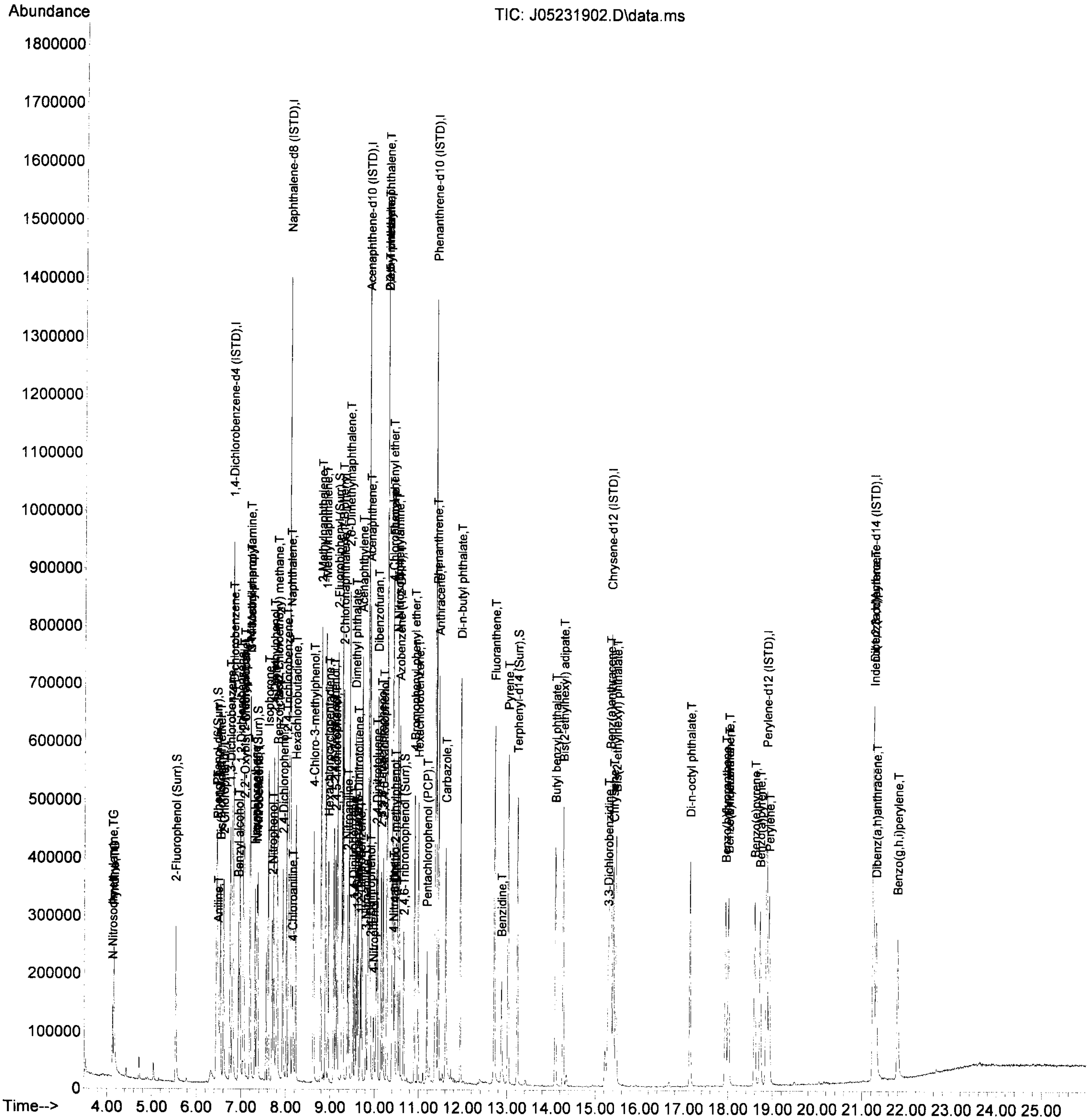
Quant Time: May 23 14:41:53 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.515	168	31515	1376.12	ng/ml	96
45) Dimethyl phthalate	9.563	163	244804	1061.87	ng/ml	99
46) 1,3-Dinitrobenzene	9.600	168	35612	1235.50	ng/ml	99
47) 2,6-Dinitrotoluene	9.627	165	56272	1153.07	ng/ml	93
48) 1,2-Dinitrobenzene	9.686	168	25492	1147.62	ng/ml	99
49) Acenaphthylene	9.713	152	355959	1073.62	ng/ml	98
50) 3-Nitroaniline	9.803	138	43397	957.73	ng/ml	96
51) Acenaphthene	9.889	153	221484	1038.71	ng/ml	98
52) 2,4-Dinitrophenol	9.905	184	17977	1717.30	ng/ml	97
53) 4-Nitrophenol	9.980	139	31129	982.42	ng/ml	87
54) 2,4-Dinitrotoluene	10.039	165	70880	1181.90	ng/ml	98
55) Dibenzofuran	10.066	168	293150	1052.32	ng/ml	95
56) 2,3,5,6-Tetrachlorophenol	10.146	232	46720	1110.13	ng/ml	96
57) 2,3,4,6-Tetrachlorophenol	10.194	232	47906	1053.83	ng/ml	94
58) Diethyl phthalate	10.274	149	245309	1114.09	ng/ml	98
59) 2,3,5-Trimethylnaphtha...	10.274	170	186940	1061.44	ng/ml	93
60) Fluorene	10.413	166	230885	1058.38	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.403	204	104786	1049.67	ng/ml	99
62) 4-Nitroaniline	10.429	138	42542	1020.50	ng/ml	89
63) 4,6-Dinitro-2-methylph...	10.456	198	26928	1534.02	ng/ml	99
65) N-Nitrosodiphenylamine	10.520	169	189761	1100.20	ng/ml	100
66) Azobenzene (1,2-DPH)	10.563	77	262043	1122.53	ng/ml	96
68) 4-Bromophenyl phenyl e...	10.900	248	58489	1060.68	ng/ml	92
69) Hexachlorobenzene	10.986	284	66428	987.99	ng/ml	96
70) Pentachlorophenol (PCP)	11.183	266	27013	902.72	ng/ml	98
71) Phenanthrene	11.397	178	317829	1045.54	ng/ml	100
72) Anthracene	11.451	178	319192	1078.15	ng/ml	98
73) Carbazole	11.611	167	258024	1029.83	ng/ml	98
74) Di-n-butyl phthalate	11.943	149	398545	1163.43	ng/ml	99
75) Fluoranthene	12.713	202	325348	1073.23	ng/ml	98
76) Benzidine	12.874	184	110961	1037.22	ng/ml	96
77) Pyrene	13.023	202	324995	1040.30	ng/ml	99
80) Butyl benzyl phthalate	14.093	149	162780	1226.14	ng/ml	98
81) Bis(2-ethylhexyl) adipate	14.270	129	148564	1156.60	ng/ml	97
82) 3,3-Dichlorobenzidine	15.291	252	102320	2698.31	ng/ml	100
83) Benz(a)anthracene	15.323	228	259166	1053.61	ng/ml	99
84) Chrysene	15.409	228	252730	1058.90	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.468	149	224338	1184.76	ng/ml	98
87) Di-n-octyl phthalate	17.142	149	351586	1277.21	ng/ml	97
88) Benzo(b)fluoranthene	17.944	252	252349	1112.68	ng/ml	96
89) Benzo(k)fluoranthene	18.008	252	251769	1095.99	ng/ml	95
90) Benzo(b+k)fluoranthene	18.008	252	514127	2214.55	ng/ml	95
91) Benzo(e)pyrene	18.602	252	247074	1147.98	ng/ml	99
92) Benzo(a)pyrene	18.720	252	233760	1128.12	ng/ml	98
93) Perylene	18.923	252	241850	1213.88	ng/ml	100
95) Indeno(1,2,3-cd)pyrene	21.260	276	202084	951.57	ng/ml	99
96) Dibenz(a,h)anthracene	21.319	278	202709	1067.06	ng/ml	93
97) Benzo(g,h,i)perylene	21.801	276	207002	1008.47	ng/ml	95

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231902.D
Acq On : 23 May 2019 8:58 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:41:53 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

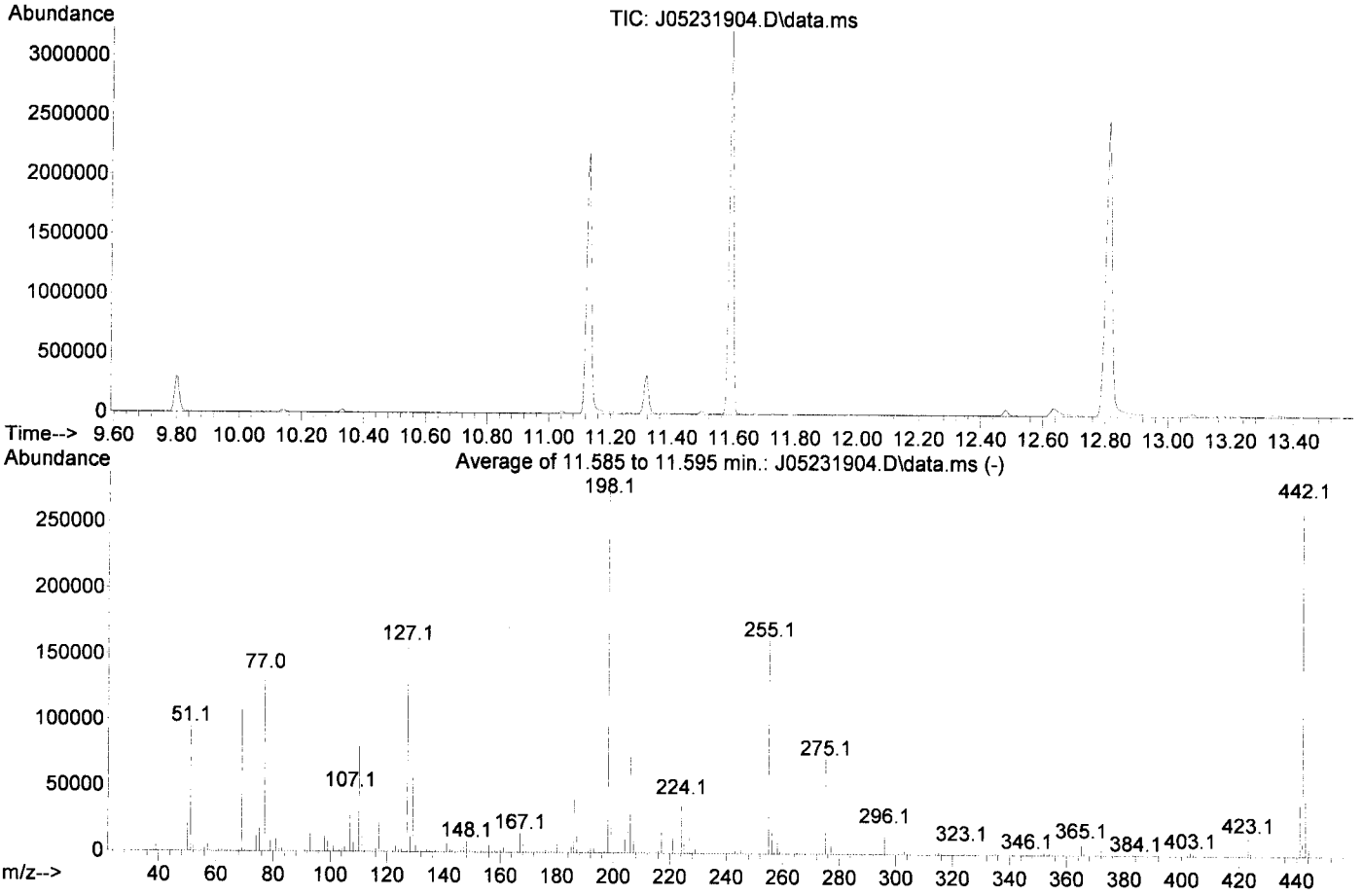


Data Path : T:\data\2019-05\9E23010\
Data File : J05231904.D
Acq On : 23 May 2019 10:25 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN2
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

AMS 5/23/19

Integration File: rteint.p

Method : T:\methods\DFTPP-8270.M
Title : 8270 DFTPP Tune Method
Last Update : Tue Apr 16 11:00:01 2019



AutoFind: Scans 1514, 1515, 1516; Background Corrected with Scan 1509

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	34.6	94643	PASS
68	69	0.00	2	1.5	1598	PASS
69	198	0.00	100	39.1	106995	PASS
70	69	0.00	2	0.6	636	PASS
127	198	10	80	57.5	157195	PASS
197	198	0.00	2	0.4	1209	PASS
198	198	100	100	100.0	273344	PASS
199	198	5	9	7.1	19374	PASS
275	198	10	60	26.2	71659	PASS
365	198	1	100	3.7	10001	PASS
441	442	0.01	24	15.0	40328	PASS
442	198	50	200	98.2	268331	PASS
443	442	15	24	19.3	51843	PASS

✓

No Name Entered Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231904.D
Acq On : 23 May 2019 10:25 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN2
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:42:29 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10

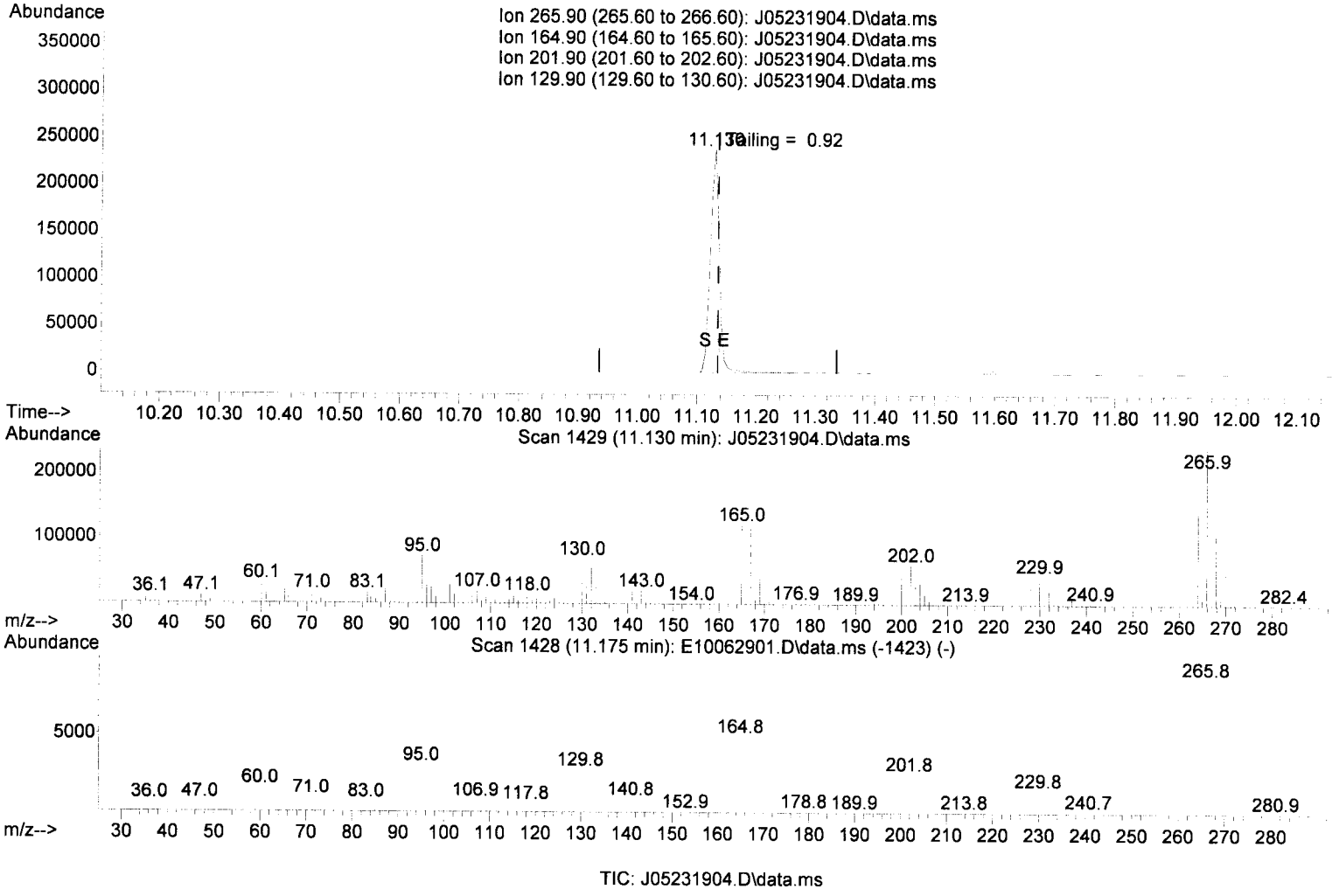
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.755	150	46208	2.00	ug/mL	0.00
2) Naphthalene-d8	8.023	136	139598	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.798	162	70812	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.317	188	120630	2.00	ug/mL	0.00
11) Chrysene-d12	15.099	240	93383	2.00	ug/mL	0.00
12) Perylene-d12	17.072	264	81533	2.00	ug/mL	0.00
13) Dibenz(a,h)anthracene-...	18.361	292	75439	2.00	ug/mL	-0.01
Target Compounds						Qvalue
4) Pentachlorophenol	11.130	266	248895	37.22	ug/mL	99
6) DFTPP	11.590	442	308432	31.67	ug/mL	90
7) Benzidine	12.810	184	1350692	31.48	ug/mL	96
8) 4,4-DDE	13.077	TIC	24397	No Calib		
9) 4,4-DDD	13.623	TIC	11201	No Calib		
10) 4,4-DDT	14.211	TIC	4908169	39.68	ug/mL	99

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

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231904.D
Acq On : 23 May 2019 10:25 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN2
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:42:29 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231904.D\data.ms

(4) Pentachlorophenol

11.130min (-0.005) 37.22 ug/mL

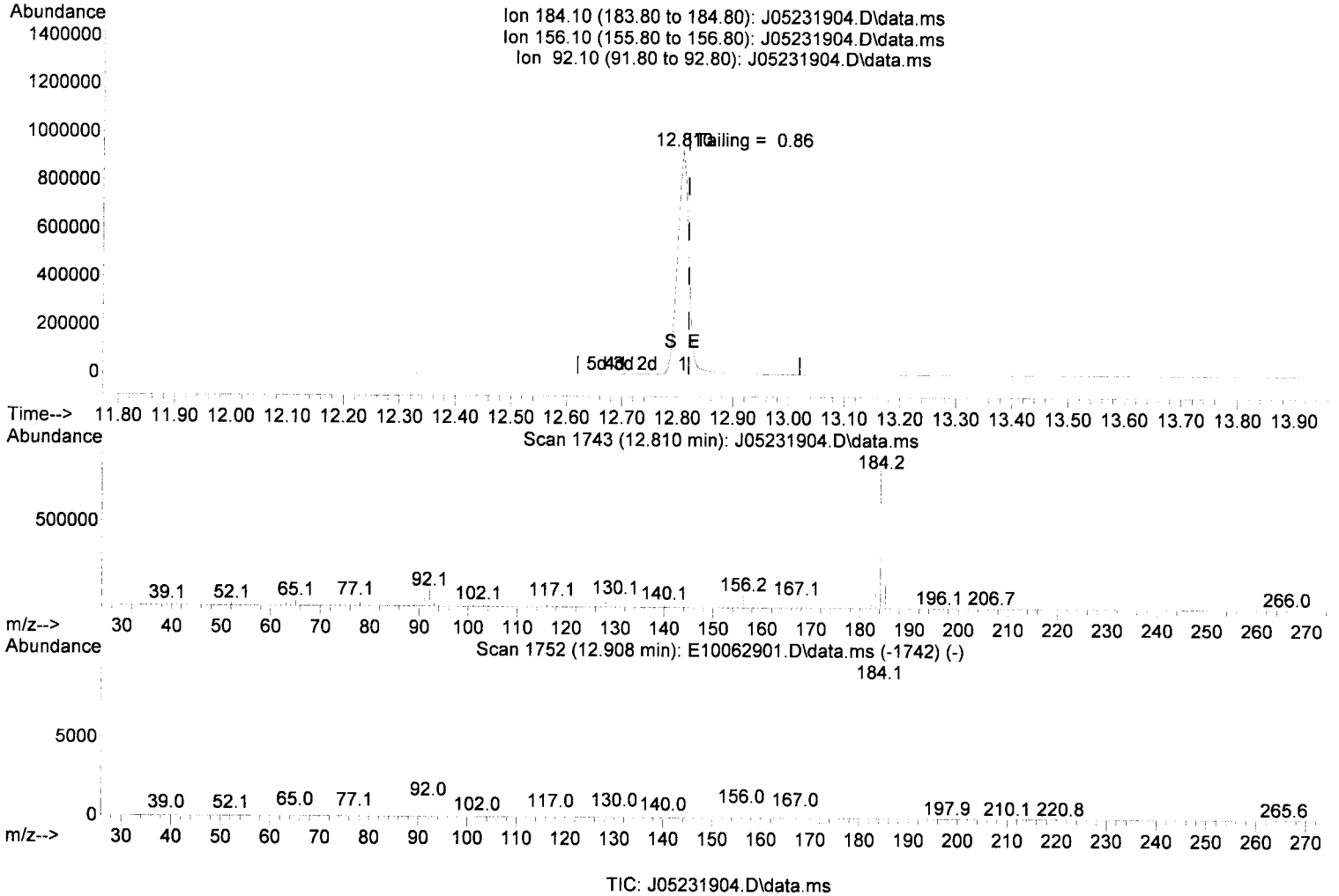
response 248895

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	50.94
201.90	25.80	25.14
129.90	27.30	28.41

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231904.D
Acq On : 23 May 2019 10:25 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN2
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:42:29 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231904.D\data.ms

(7) Benzidine

12.810min (-0.011) 31.48 ug/mL

response 1350692

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.93
92.10	8.20	10.24
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

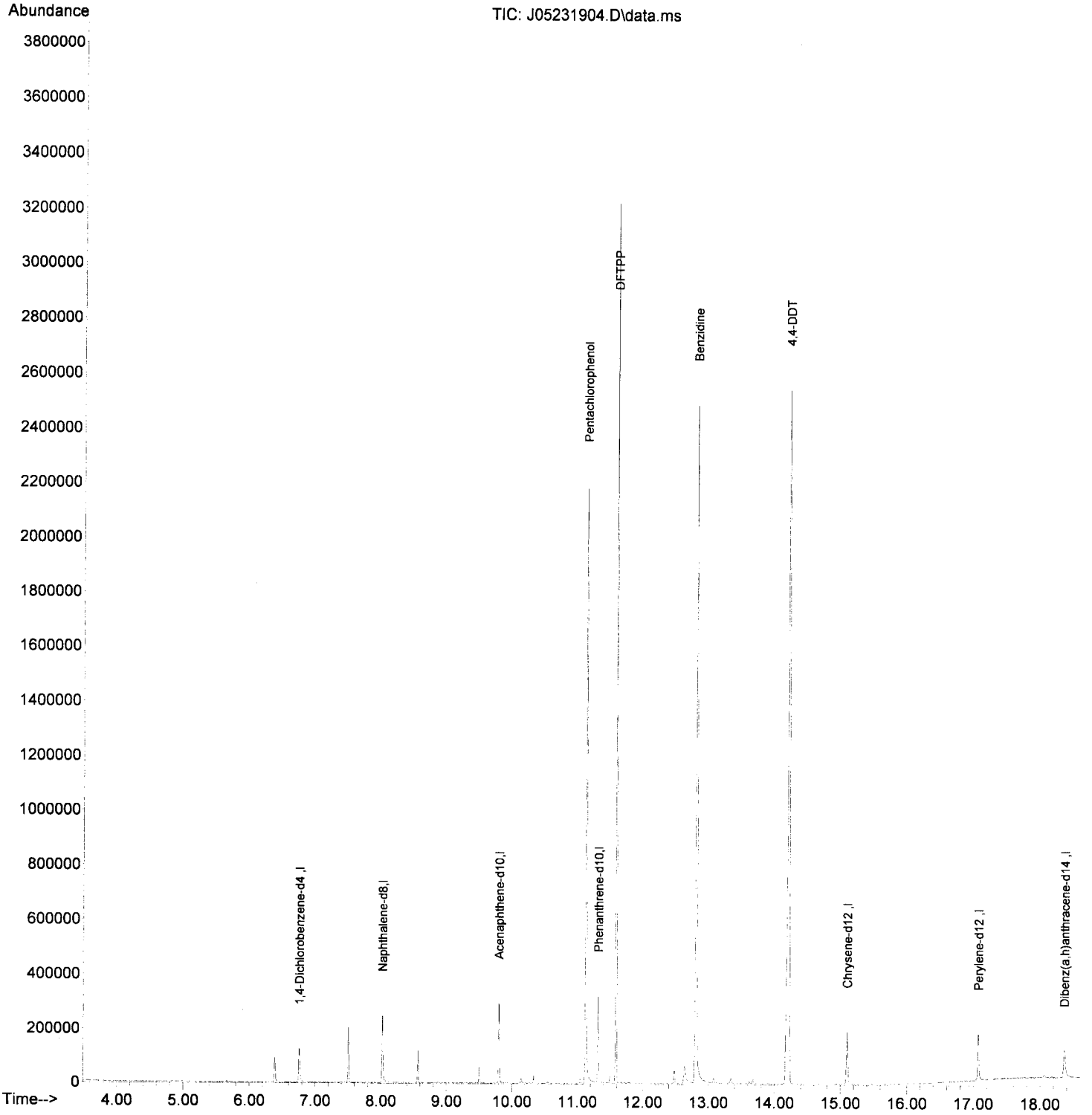
From:
9E23010-TUN2
SV-GCMS10

First Column Area Counts		Percent Breakdown	
DDE	24397		
DDD	11201		
DDT	4908169	**0.72**	**PASS**

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231904.D
Acq On : 23 May 2019 10:25 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-TUN2
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 23 14:42:29 2019
Quant Method : T:\methods\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Tue Apr 16 11:00:01 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E23010\
Data File : J05231905.D
Acq On : 23 May 2019 10:54 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV2
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

AMS 5/23/19

Quant Time: May 23 14:43:21 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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	81	0.00
2	TG	N-Nitrosodimethylamine	1000.000	1023.600	-2.4	81	-0.04
3	TG	Pyridine	1000.000	1011.727	-1.2	77	-0.04
4	S	2-Fluorophenol (Surr)	1000.000	1067.188	-6.7	83	0.00
5	S	Phenol-d6(Surr)	1000.000	1136.663	-13.7	87	0.00
6	T	Phenol	1000.000	1103.934	-10.4	95	0.00
7	T	Aniline	1000.000	647.822	35.2#	48	0.00
8	T	Bis(2-chloroethyl) ether	1000.000	1239.808	-24.0#	100	0.00
9	T	2-Chlorophenol	1000.000	1138.930	-13.9	84	0.00
10	T	1,3-Dichlorobenzene	1000.000	1029.956	-3.0	82	0.00
11	T	1,4-Dichlorobenzene	1000.000	1019.526	-2.0	82	0.00
12	T	Benzyl alcohol	1000.000	1185.178	-18.5	94	0.00
13	T	1,2-Dichlorobenzene	1000.000	1052.922	-5.3	83	0.00
14	T	2-Methylphenol	1000.000	1241.366	-24.1#	89	0.00
15	T	2,2'-Oxybis(1-Chloropropane	1000.000	1075.252	-7.5	83	0.00
16	T	N-Nitrosodi-n-propylamine	1000.000	1122.941	-12.3	83	0.00
17	T	3+4-Methylphenol	1000.000	1170.254	-17.0	91	0.00
18	T	Hexachloroethane	1000.000	1131.097	-13.1	91	0.00
19	S	Nitrobenzene-d5 (Surr)	1000.000	1169.207	-16.9	96	0.00
20	T	Nitrobenzene	1000.000	1213.015	-21.3#	91	0.00
21	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	85	0.00
22	T	Isophorone	1000.000	1042.445	-4.2	85	0.00
23	T	2-Nitrophenol	1000.000	1225.602	-22.6#	102	0.00
24	T	2,4-Dimethylphenol	1000.000	985.748	1.4	81	0.00
25	T	Bis(2-chloroethoxy) methane	1000.000	1075.006	-7.5	83	0.00
26	T	Benzoic acid	2000.000	2067.815	-3.4	100	0.00
27	T	2,4-Dichlorophenol	1000.000	1085.971	-8.6	93	0.00
28	T	1,2,4-Trichlorobenzene	1000.000	1056.366	-5.6	86	0.00
29	T	Naphthalene	1000.000	1041.690	-4.2	84	0.00
30	T	4-Chloroaniline	1000.000	826.308	17.4	67	0.00
31	T	Hexachlorobutadiene	1000.000	1018.736	-1.9	86	0.00
32	T	4-Chloro-3-methylphenol	1000.000	1100.648	-10.1	95	0.00
33	T	2-Methylnaphthalene	1000.000	1074.870	-7.5	84	0.00
34	T	1-Methylnaphthalene	1000.000	1028.909	-2.9	82	0.00
35	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	84	0.00
36	T	Hexachlorocyclopentadiene	1000.000	1250.360	-25.0#	101	0.00
37	T	2,4,6-Trichlorophenol	1000.000	1087.769	-8.8	96	0.00
38	T	2,4,5-Trichlorophenol	1000.000	1180.074	-18.0	94	0.00
39	T	1,1'-Biphenyl	1000.000	1102.554	-10.3	84	0.00
40	S	2-Fluorobiphenyl (Surr)	1000.000	1099.951	-10.0	84	0.00
41	T	2-Chloronaphthalene	1000.000	1130.303	-13.0	87	0.00
42	T	2-Nitroaniline	1000.000	1154.600	-15.5	100	0.00
43	T	2,6-Dimethylnaphthalene	1000.000	1063.366	-6.3	82	0.00
44	T	1,4-Dinitrobenzene	1000.000	1369.527	-37.0#	133	0.00
45	T	Dimethyl phthalate	1000.000	1053.528	-5.4	86	0.00
46	T	1,3-Dinitrobenzene	1000.000	1219.537	-22.0#	108	0.00
47	T	2,6-Dinitrotoluene	1000.000	1114.544	-11.5	92	0.00
48	T	1,2-Dinitrobenzene	1000.000	1097.138	-9.7	92	0.00

Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E23010\
Data File : J05231905.D
Acq On : 23 May 2019 10:54 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV2
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:43:21 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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)
49	T	Acenaphthylene	1000.000	1073.162	-7.3	85	0.00
50	T	3-Nitroaniline	1000.000	982.993	1.7	76	0.00
51	T	Acenaphthene	1000.000	1045.520	-4.6	85	0.00
52	T	2,4-Dinitrophenol	1000.000	1698.894	-69.9#	194	0.00
53	T	4-Nitrophenol	1000.000	959.608	4.0	82	0.00
54	T	2,4-Dinitrotoluene	1000.000	1145.926	-14.6	99	0.00
55	T	Dibenzofuran	1000.000	1044.308	-4.4	85	0.00
56	T	2,3,5,6-Tetrachlorophenol	1000.000	1094.633	-9.5	90	0.00
57	T	2,3,4,6-Tetrachlorophenol	1000.000	1066.025	-6.6	87	0.00
58	T	Diethyl phthalate	1000.000	1077.162	-7.7	85	0.00
59	T	2,3,5-Trimethylnaphthalene	1000.000	1078.053	-7.8	87	0.00
60	T	Fluorene	1000.000	1034.406	-3.4	83	0.00
61	T	4-Chlorophenyl phenyl ether	1000.000	1020.231	-2.0	83	0.00
62	T	4-Nitroaniline	1000.000	978.648	2.1	77	0.00
63	T	4,6-Dinitro-2-methylphenol	1000.000	1591.364	-59.1#	160	0.00
64	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	83	0.00
65	T	N-Nitrosodiphenylamine	1000.000	1095.034	-9.5	84	0.00
66	T	Azobenzene (1,2-DPH)	1000.000	1094.045	-9.4	83	0.00
67	S	2,4,6-Tribromophenol (Surr)	1000.000	1041.138	-4.1	87	0.00
68	T	4-Bromophenyl phenyl ether	1000.000	1044.124	-4.4	81	0.00
69	T	Hexachlorobenzene	1000.000	979.290	2.1	80	0.00
70	T	Pentachlorophenol (PCP)	1000.000	895.977	10.4	76	0.00
71	T	Phenanthrene	1000.000	1041.397	-4.1	83	0.00
72	T	Anthracene	1000.000	1071.585	-7.2	83	0.00
73	T	Carbazole	1000.000	1022.849	-2.3	78	0.00
74	T	Di-n-butyl phthalate	1000.000	1112.580	-11.3	85	0.00
75	T	Fluoranthene	1000.000	1066.911	-6.7	81	0.00
76	T	Benzidine	2000.000	955.310	52.2#	35	0.00
77	T	Pyrene	1000.000	1053.315	-5.3	81	0.00
78	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	77	0.00
79	S	Terphenyl-d14 (Surr)	1000.000	1105.038	-10.5	81	0.00
80	T	Butyl benzyl phthalate	1000.000	1148.764	-14.9	87	0.00
81	T	Bis(2-ethylhexyl) adipate	1000.000	1565.753	-56.6#	122	0.00
82	T	3,3-Dichlorobenzidine	2000.000	2591.612	-29.6#	82	0.00
83	T	Benz(a)anthracene	1000.000	1053.878	-5.4	80	0.00
84	T	Chrysene	1000.000	1062.638	-6.3	80	0.00
85	T	Bis(2-ethylhexyl) phthalate	1000.000	1106.346	-10.6	83	0.00
86	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	76	0.00
87	T	Di-n-octyl phthalate	1000.000	1174.809	-17.5	91	0.00
88	T	Benzo(b)fluoranthene	1000.000	1091.012	-9.1	81	0.00
89	T	Benzo(k)fluoranthene	1000.000	1074.005	-7.4	79	0.00
90	T	Benzo(b+k)fluoranthene	2000.000	2166.438	-8.3	80	0.06
91	T	Benzo(e)pyrene	1000.000	1130.426	-13.0	79	0.00
92	T	Benzo(a)pyrene	1000.000	1104.025	-10.4	80	0.00
93	T	Perylene	1000.000	1182.299	-18.2	87	0.00
94	I	Dibenz(a,h)Anthrcene-d14 (I	2000.000	2000.000	0.0	78	0.00

Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E23010\
Data File : J05231905.D
Acq On : 23 May 2019 10:54 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV2
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:43:21 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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)
95	T	Indeno(1,2,3-cd)pyrene	1000.000	978.538	2.1	78	0.00
96	T	Dibenz(a,h)anthracene	1000.000	1061.434	-6.1	81	0.00
97	T	Benzo(g,h,i)perylene	1000.000	1021.559	-2.2	73	0.00

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231905.D
Acq On : 23 May 2019 10:54 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV2
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

AMS 5/23/19

Quant Time: May 23 14:43:21 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.803	152	167980	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.076	136	738657	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.857	162	345296	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.376	188	579994	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.345	240	471294	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.864	264	420349	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.255	292	397590	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.541	112	116537	1067.19	ng/ml	0.00
5) Phenol-d6(Surr)	6.445	99	159663	1136.66	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.348	82	147107	1169.21	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.162	172	267978	1099.95	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.659	330	29666	1041.14	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.232	244	245151	1105.04	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.118	74	84725	1023.60	ng/ml	97
3) Pyridine	4.145	79	136638	1011.73	ng/ml	96
6) Phenol	6.461	94	173516	1103.93	ng/ml	98
7) Aniline	6.482	93	106989	647.82	ng/ml	84
8) Bis(2-chloroethyl) ether	6.535	93	176333	1239.81	ng/ml	95
9) 2-Chlorophenol	6.605	128	130064	1138.93	ng/ml	95
10) 1,3-Dichlorobenzene	6.749	146	132344	1029.96	ng/ml	100
11) 1,4-Dichlorobenzene	6.819	146	130694	1019.53	ng/ml	99
12) Benzyl alcohol	6.937	108	80910	1185.18	ng/ml	96
13) 1,2-Dichlorobenzene	6.974	146	131366	1052.92	ng/ml	97
14) 2-Methylphenol	7.049	107	109807	1241.37	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.065	45	173057	1075.25	ng/ml	90
16) N-Nitrosodi-n-propylamine	7.193	70	104518	1122.94	ng/ml	99
17) 3+4-Methylphenol	7.199	107	139874	1170.25	ng/ml	98
18) Hexachloroethane	7.311	201	39079	1131.10	ng/ml	97
20) Nitrobenzene	7.370	77	144948	1213.01	ng/ml	99
22) Isophorone	7.605	82	286785	1042.44	ng/ml	99
23) 2-Nitrophenol	7.691	139	71685	1225.60	ng/ml	89
24) 2,4-Dimethylphenol	7.723	122	111675	985.75	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.808	93	158619	1075.01	ng/ml	98
26) Benzoic acid	7.814	105	96562	2067.81	ng/ml	96
27) 2,4-Dichlorophenol	7.937	162	99171	1085.97	ng/ml	98
28) 1,2,4-Trichlorobenzene	8.017	180	110829	1056.37	ng/ml	98
29) Naphthalene	8.097	128	398288	1041.69	ng/ml	99
30) 4-Chloroaniline	8.151	127	101140	826.31	ng/ml	97
31) Hexachlorobutadiene	8.220	225	58071	1018.74	ng/ml	93
32) 4-Chloro-3-methylphenol	8.627	107	119469	1100.65	ng/ml	95
33) 2-Methylnaphthalene	8.793	142	269498	1074.87	ng/ml	98
34) 1-Methylnaphthalene	8.894	142	250229	1028.91	ng/ml	96
36) Hexachlorocyclopentadiene	8.958	237	60146	1250.36	ng/ml	100
37) 2,4,6-Trichlorophenol	9.081	196	67122	1087.77	ng/ml	97
38) 2,4,5-Trichlorophenol	9.119	198	65205	1180.07	ng/ml	99
39) 1,1'-Biphenyl	9.263	154	308613	1102.55	ng/ml	99
41) 2-Chloronaphthalene	9.290	162	223738	1130.30	ng/ml	96
42) 2-Nitroaniline	9.386	138	74877	1154.60	ng/ml	99
43) 2,6-Dimethylnaphthalene	9.424	156	218229	1063.37	ng/ml	99

Data Path : T:\data\2019-05\9E23010\
Data File : J05231905.D
Acq On : 23 May 2019 10:54 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV2
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

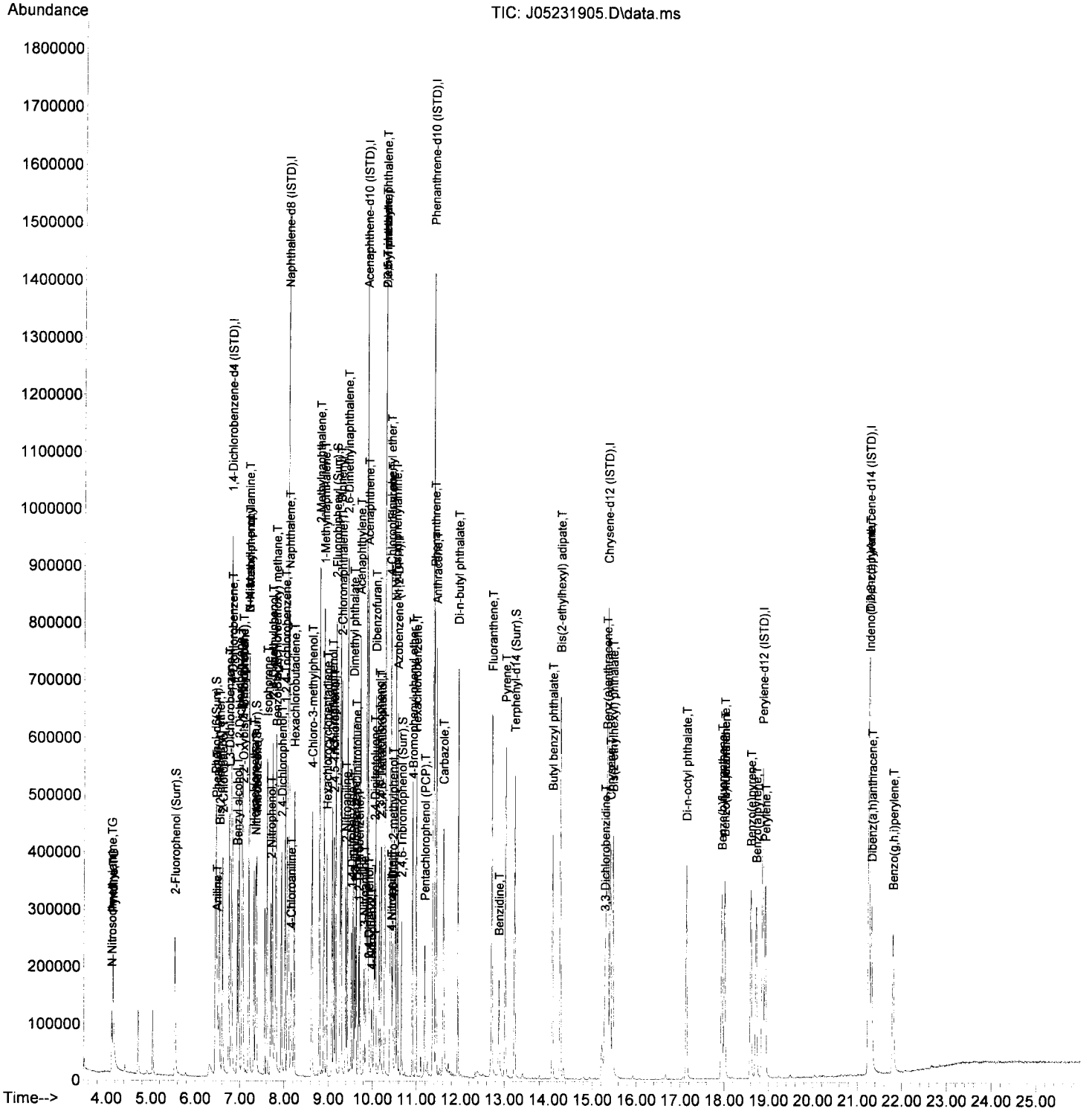
Quant Time: May 23 14:43:21 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.515	168	32649	1369.53	ng/ml	98
45) Dimethyl phthalate	9.563	163	253031	1053.53	ng/ml	99
46) 1,3-Dinitrobenzene	9.595	168	36578	1219.54	ng/ml	94
47) 2,6-Dinitrotoluene	9.627	165	56613	1114.54	ng/ml	95
48) 1,2-Dinitrobenzene	9.686	168	25389	1097.14	ng/ml	93
49) Acenaphthylene	9.713	152	370674	1073.16	ng/ml	99
50) 3-Nitroaniline	9.809	138	46403	982.99	ng/ml	98
51) Acenaphthene	9.889	153	232253	1045.52	ng/ml	97
52) 2,4-Dinitrophenol	9.910	184	18451	1698.89	ng/ml	99
53) 4-Nitrophenol	9.980	139	31581	959.61	ng/ml	95
54) 2,4-Dinitrotoluene	10.039	165	71455	1145.93	ng/ml	93
55) Dibenzofuran	10.066	168	303075	1044.31	ng/ml	96
56) 2,3,5,6-Tetrachlorophenol	10.146	232	47959	1094.63	ng/ml	99
57) 2,3,4,6-Tetrachlorophenol	10.194	232	50499	1066.02	ng/ml	95
58) Diethyl phthalate	10.274	149	247089	1077.16	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.274	170	197800	1078.05	ng/ml	98
60) Fluorene	10.413	166	235084	1034.41	ng/ml	98
61) 4-Chlorophenyl phenyl ...	10.403	204	106103	1020.23	ng/ml	93
62) 4-Nitroaniline	10.429	138	42502	978.65	ng/ml	87
63) 4,6-Dinitro-2-methylph...	10.456	198	29348	1591.36	ng/ml	92
65) N-Nitrosodiphenylamine	10.520	169	195539	1095.03	ng/ml	98
66) Azobenzene (1,2-DPH)	10.563	77	264412	1094.04	ng/ml	95
68) 4-Bromophenyl phenyl e...	10.905	248	59609	1044.12	ng/ml	99
69) Hexachlorobenzene	10.986	284	68168	979.29	ng/ml	96
70) Pentachlorophenol (PCP)	11.183	266	27748	895.98	ng/ml	96
71) Phenanthrene	11.397	178	327747	1041.40	ng/ml	99
72) Anthracene	11.446	178	328451	1071.58	ng/ml	100
73) Carbazole	11.606	167	265323	1022.85	ng/ml	99
74) Di-n-butyl phthalate	11.938	149	394583	1112.58	ng/ml	99
75) Fluoranthene	12.713	202	334853	1066.91	ng/ml	97
76) Benzidine	12.874	184	104948	955.31	ng/ml	95
77) Pyrene	13.023	202	340681	1053.31	ng/ml	99
80) Butyl benzyl phthalate	14.093	149	158847	1148.76	ng/ml	97
81) Bis(2-ethylhexyl) adipate	14.270	129	210272	1565.75	ng/ml	99
82) 3,3-Dichlorobenzidine	15.286	252	103365	2591.61	ng/ml	98
83) Benz(a)anthracene	15.323	228	271029	1053.88	ng/ml	99
84) Chrysene	15.404	228	265165	1062.64	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.462	149	219024	1106.35	ng/ml	98
87) Di-n-octyl phthalate	17.136	149	344004	1174.81	ng/ml	97
88) Benzo(b)fluoranthene	17.939	252	264888	1091.01	ng/ml	96
89) Benzo(k)fluoranthene	18.003	252	264284	1074.01	ng/ml	95
90) Benzo(b+k)fluoranthene	18.003	252	538588	2166.44	ng/ml	95
91) Benzo(e)pyrene	18.597	252	260560	1130.43	ng/ml	97
92) Benzo(a)pyrene	18.720	252	244936	1104.03	ng/ml	97
93) Perylene	18.923	252	252273	1182.30	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.260	276	217647	978.54	ng/ml	93
96) Dibenz(a,h)anthracene	21.319	278	211185	1061.43	ng/ml	97
97) Benzo(g,h,i)perylene	21.800	276	219614	1021.56	ng/ml	95

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231905.D
Acq On : 23 May 2019 10:54 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV2
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:43:21 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E23010\
Data File : J05231906.D
Acq On : 23 May 2019 11:31 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV3
Misc : 1x, A19E064@1000
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

AMS 5/23/19

Quant Time: May 23 14:43:44 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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	88	0.00
2	S	Nitrobenzene-d5 (Surr)	1000.000	1252.610	-25.3#	102	0.00
3	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	91	0.00
4	T	Decalin	1000.000	1052.170	-5.2	89	0.00
5	T	C-1 Decalin	1000.000	0.000	100.0#	0	-7.78#
6	T	C-2 Decalin	1000.000	0.000	100.0#	0	-8.28#
7	T	C-3 Decalin	1000.000	0.000	100.0#	0	-8.98#
8	T	C-4 Decalin	1000.000	0.000	100.0#	0	-9.55#
9	T	Naphthalene	1000.000	1055.296	-5.5	89	0.00
10	T	2-Methylnaphthalene	1000.000	1100.843	-10.1	90	0.00
11	T	C-1 Naphthalenes	1000.000	1025.132	-2.5	84	0.04
12	T	1-Methylnaphthalene	1000.000	1060.164	-6.0	87	0.00
13	T	1,1'-Biphenyl	1000.000	1084.402	-8.4	86	0.00
14	T	2,6-Dimethylnaphthalene	1000.000	1073.541	-7.4	86	0.00
15	T	C-2 Naphthalenes	1000.000	1.492	99.9#	0	0.07
16	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	85	0.00
17	S	2-Fluorobiphenyl (Surr)	1000.000	1192.410	-19.2	90	0.00
18	S	Acenaphthylene d-8 (Surr)	1000.000	1162.121	-16.2	89	0.00
19	T	Acenaphthylene	1000.000	1118.313	-11.8	85	0.00
20	T	Acenaphthene	1000.000	1067.283	-6.7	85	0.00
21	T	Dibenzofuran	1000.000	1055.126	-5.5	82	0.00
22	T	1,6,7-Trimethylnaphthalene	1000.000	1086.150	-8.6	85	0.00
23	T	C-3 Naphthalenes	1000.000	0.433	100.0#	0	-0.02
24	T	C-4 Naphthalenes	1000.000	0.000	100.0#	0	-10.85#
25	T	Fluorene	1000.000	1084.065	-8.4	83	0.00
26	T	C-1 Fluorenes	1000.000	0.710	99.9#	0	-0.11
27	T	C-2 Fluorenes	1000.000	0.000	100.0#	0	-11.58#
28	T	C-3 Fluorenes	1000.000	0.223	100.0#	0	-0.09
29	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	83	-0.01
30	T	Dibenzothiopene	1000.000	1063.649	-6.4	82	0.00
31		C-1 Dibenzothiophene	1000.000	0.000	100.0#	0	-11.85#
32		C-2 Dibenzothiophene	1000.000	0.000	100.0#	0	-12.35#
33		C-3 Dibenzothiophene	1000.000	0.000	100.0#	0	-12.90#
34		C-4 Dibenzothiophene	1000.000	0.000	100.0#	0	-13.68#
35	T	Phenanthrene	1000.000	1042.038	-4.2	82	0.00
36	T	Anthracene	1000.000	1079.275	-7.9	82	0.00
37	T	1-Methylphenanthrene	1000.000	1095.134	-9.5	82	0.00
38	T	C-1 Phenanthrene/anthracene	1000.000	1096.496	-9.6	82	-0.02
39	T	C-2 Phenanthrene/anthracene	1000.000	0.000	100.0#	0	-12.55#
40	T	C-3 Phenanthrene/anthracene	1000.000	0.337	100.0#	0	0.02
41	T	C-4 Phenanthrene/anthracene	1000.000	0.000	100.0#	0	-13.87#
42	T	Fluoranthene	1000.000	1092.859	-9.3	81	0.00
43	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	79	-0.01
44	T	Pyrene	1000.000	1123.534	-12.4	80	-0.01
45	T	C-1 Fluoranthene/pyrenes	1000.000	2.801	99.7#	0	-0.02
46	S	Terphenyl-d14 (Surr)	1000.000	1107.013	-10.7	81	-0.01

Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E23010\
Data File : J05231906.D
Acq On : 23 May 2019 11:31 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV3
Misc : 1x, A19E064@1000
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:43:44 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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)
47	T	Benz(a)anthracene	1000.000	1106.948	-10.7	84	-0.01
48	T	Chrysene	1000.000	1064.905	-6.5	81	-0.02
49	T	C-1 Benz(a)anthracene/Chrys	1000.000	2.177	99.8#	0	0.28
50	T	C-2 Benz(a)anthracene/Chrys	1000.000	0.000	100.0#	0	-17.55#
51	T	C-3 Benz(a)anthracene/Chrys	1000.000	0.000	100.0#	0	-18.42#
52		C-4 Benz(a)anthracene/Chrys	1000.000	0.240	100.0#	0	0.14
53	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	75	-0.02
54	T	Benzo(b)fluoranthene	1000.000	1185.007	-18.5	82	-0.02
55	T	Benzo(k)fluoranthene	1000.000	1174.952	-17.5	81	-0.01
56	T	Benzo(b+k)fluoranthene	2000.000	2326.500	-16.3	81	-0.01
57	S	Benzo(a)pyrene d-12 (Surr)	1000.000	1095.902	-9.6	79	-0.02
58	T	Benzo(e)pyrene	1000.000	1128.842	-12.9	80	0.00
59	T	Benzo(a)pyrene	1000.000	1189.312	-18.9	83	-0.02
60	T	Perylene	1000.000	1130.079	-13.0	79	-0.02
61	I	Dibenz(a,h)Anthrcene-d14(IS	2000.000	2000.000	0.0	79	-0.02
62	T	Indeno(1,2,3-cd)Pyrene	1000.000	1017.587	-1.8	80	-0.01
63	T	Dibenz(a,h)anthracene	1000.000	1141.015	-14.1	84	-0.02
64	T	Benzo(g,h,i)perylene	1000.000	1000.805	-0.1	75	-0.01

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

J

Data Path : T:\data\2019-05\9E23010\
Data File : J05231906.D
Acq On : 23 May 2019 11:31 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV3
Misc : 1x, A19E064@1000
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:43:44 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.803	152	177507	2000.00 ng/ml	0.00
3) Naphthalene-d8 (ISTD)	8.076	136	737114	2000.00 ng/ml	0.00
16) Acenaphthene-d10 (ISTD)	9.857	162	337141	2000.00 ng/ml	0.00
29) Phenanthrene-d10 (ISTD)	11.371	188	557160	2000.00 ng/ml	-0.01
43) Chrysene-d12 (ISTD)	15.350	240	455912	2000.00 ng/ml	-0.01
53) Perylene-d12 (ISTD)	18.864	264	395489	2000.00 ng/ml	-0.02
61) Dibenz(a,h)Anthrcene-d...	21.255	292	380208	2000.00 ng/ml	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.354	82	136723	1252.61 ng/ml	0.00
17) 2-Fluorobiphenyl (Surr)	9.162	172	262140	1192.41 ng/ml	0.00
18) Acenaphthylene d-8 (Surr)	9.697	160	345610	1162.12 ng/ml	0.00
46) Terphenyl-d14 (Surr)	13.232	244	232621	1107.01 ng/ml	-0.01
57) Benzo(a)pyrene d-12 (S...	18.661	264	189062	1095.90 ng/ml	-0.02
Target Compounds					Qvalue
4) Decalin	7.530	138	54242	1052.17 ng/ml	89
5) C-1 Decalin	0.000		0	N.D.	
6) C-2 Decalin	0.000		0	N.D.	
7) C-3 Decalin	0.000		0	N.D.	
8) C-4 Decalin	0.000		0	N.D.	
9) Naphthalene	8.097	128	406202	1055.30 ng/ml	98
10) 2-Methylnaphthalene	8.793	142	255498	1100.84 ng/ml	98
11) C-1 Naphthalenes	8.894	142	237926	1025.13 ng/ml	99
12) 1-Methylnaphthalene	8.894	142	243945	1060.16 ng/ml	98
13) 1,1'-Biphenyl	9.263	154	289498	1084.40 ng/ml	99
14) 2,6-Dimethylnaphthalene	9.424	156	218809	1073.54 ng/ml	98
15) C-2 Naphthalenes	9.606	156	304	N.D.	
19) Acenaphthylene	9.713	152	374023	1118.31 ng/ml	99
20) Acenaphthene	9.889	153	245557	1067.28 ng/ml	97
21) Dibenzofuran	10.066	168	293265	1055.13 ng/ml	97
22) 1,6,7-Trimethylnaphtha...	10.274	170	193112	1086.15 ng/ml	97
23) C-3 Naphthalenes	10.210	170	77	N.D.	
24) C-4 Naphthalenes	0.000		0	N.D.	
25) Fluorene	10.413	166	242685	1084.06 ng/ml	99
26) C-1 Fluorenes	10.857	180	159	N.D.	
27) C-2 Fluorenes	0.000		0	N.D.	
28) C-3 Fluorenes	12.350	208	50	N.D.	
30) Dibenzothiopene	11.269	184	298980	1063.65 ng/ml	99
31) C-1 Dibenzothiophene	0.000		0	N.D.	
32) C-2 Dibenzothiophene	0.000		0	N.D.	
33) C-3 Dibenzothiophene	0.000		0	N.D.	
34) C-4 Dibenzothiophene	0.000		0	N.D.	
35) Phenanthrene	11.397	178	323913	1042.04 ng/ml	99
36) Anthracene	11.451	178	311740	1079.28 ng/ml	99
37) 1-Methylphenanthrene	12.029	192	227450	1095.13 ng/ml	97
38) C-1 Phenanthrene/anthr...	12.029	192	227733	1096.50 ng/ml#	100
39) C-2 Phenanthrene/anthr...	0.000		0	N.D.	
40) C-3 Phenanthrene/anthr...	13.232	220	70	N.D.	
41) C-4 Phenanthrene/anthr...	0.000		0	N.D.	
42) Fluoranthene	12.713	202	326379	1092.86 ng/ml	98
44) Pyrene	13.023	202	336113	1123.53 ng/ml	99
45) C-1 Fluoranthene/pyrenes	13.649	216	838	2.80 ng/ml#	100

Data Path : T:\data\2019-05\9E23010\
Data File : J05231906.D
Acq On : 23 May 2019 11:31 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV3
Misc : 1x, A19E064@1000
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

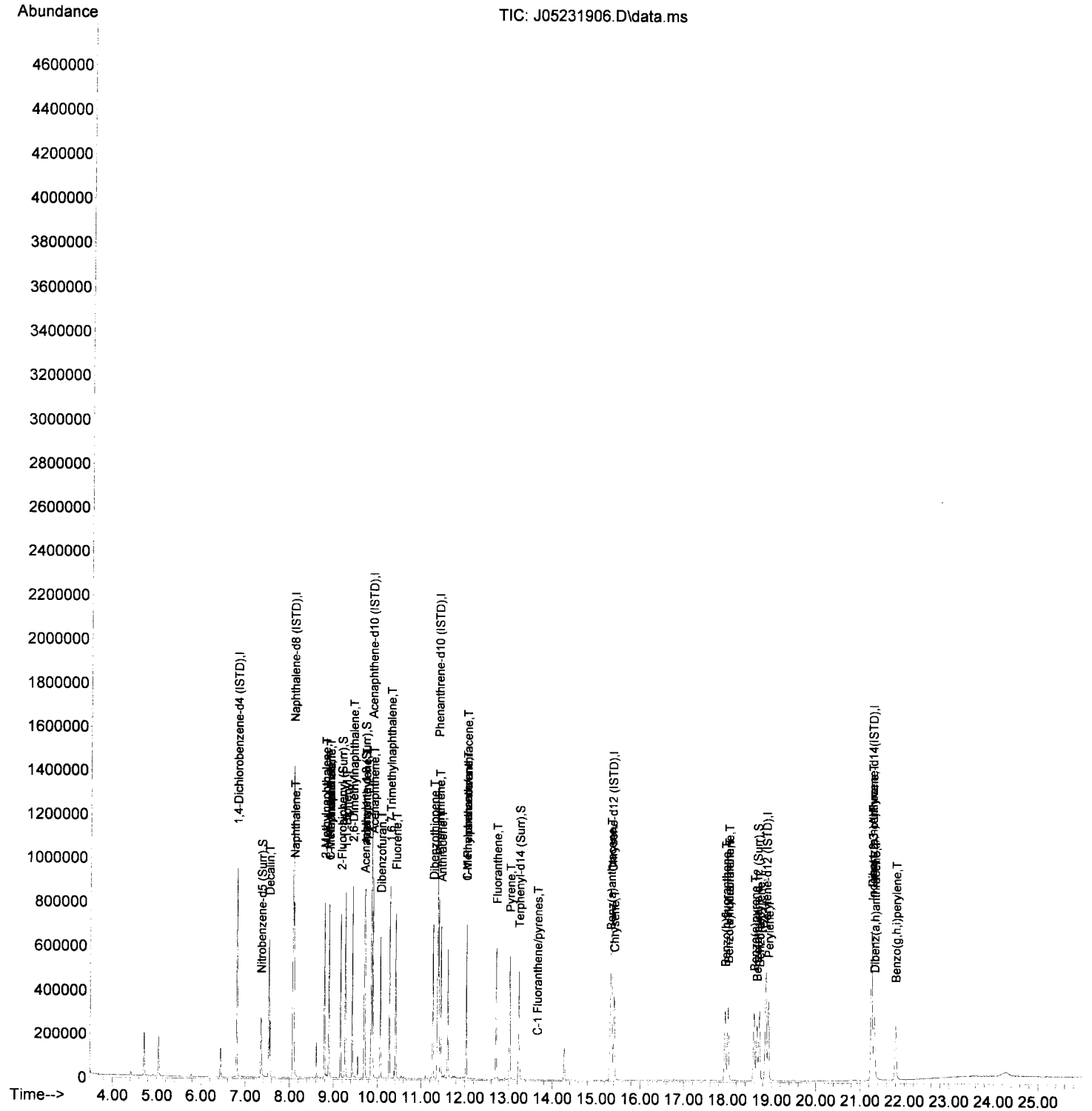
Quant Time: May 23 14:43:44 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
47) Benz(a)anthracene	15.323	228	274225	1106.95 ng/ml	99
48) Chrysene	15.404	228	257771	1064.91 ng/ml	98
49) C-1 Benz(a)anthracene/...	16.655	242	527	N.D.	
50) C-2 Benz(a)anthracene/...	0.000		0	N.D.	
51) C-3 Benz(a)anthracene/...	0.000		0	N.D.	
52) C-4 Benz(a)anthracene/...	20.148	284	58	N.D.	
54) Benzo(b)fluoranthene	17.939	252	257741	1185.01 ng/ml	99
55) Benzo(k)fluoranthene	18.008	252	264682	1174.95 ng/ml	95
56) Benzo(b+k)fluoranthene	18.008	252	534146	2326.50 ng/ml	95
58) Benzo(e)pyrene	18.602	252	250215	1128.84 ng/ml	96
59) Benzo(a)pyrene	18.720	252	235666	1189.31 ng/ml	100
60) Perylene	18.923	252	264202	1130.08 ng/ml	98
62) Indeno(1,2,3-cd)Pyrene	21.260	276	206202	1017.59 ng/ml	97
63) Dibenz(a,h)anthracene	21.319	278	214224	1141.01 ng/ml	96
64) Benzo(g,h,i)perylene	21.801	276	212255	1000.81 ng/ml	93

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231906.D
Acq On : 23 May 2019 11:31 am
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCV3
Misc : 1x, A19E064@1000
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:43:44 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



No Name Entered Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

AMS 5/23/19

Quant Time: May 23 14:44:04 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.808	152	186129	2000.00 ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.076	136	772629	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.857	162	357400	2000.00 ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.371	188	560569	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.345	240	482711	2000.00 ng/ml	0.00
86) Perylene-d12 (ISTD)	18.859	264	424933	2000.00 ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.250	292	378470	2000.00 ng/ml	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	0.000	112	0	0.00 ng/ml	
5) Phenol-d6(Surr)	0.000	99	0	0.00 ng/ml	
19) Nitrobenzene-d5 (Surr)	7.343	82	72	19.09 ng/ml	-0.01
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	0.000		0	N.D.	
3) Pyridine	0.000		0	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	0.000		0	N.D.	
17) 3+4-Methylphenol	0.000		0	N.D.	
18) Hexachloroethane	0.000		0	N.D.	
20) Nitrobenzene	7.386	77	54	N.D.	
22) Isophorone	0.000		0	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	0.000		0	N.D.	
30) 4-Chloroaniline	0.000		0	N.D.	
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	8.638	107	77	64.31 ng/ml#	1
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.	
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.	

Data Path : T:\data\2019-05\9E23010\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

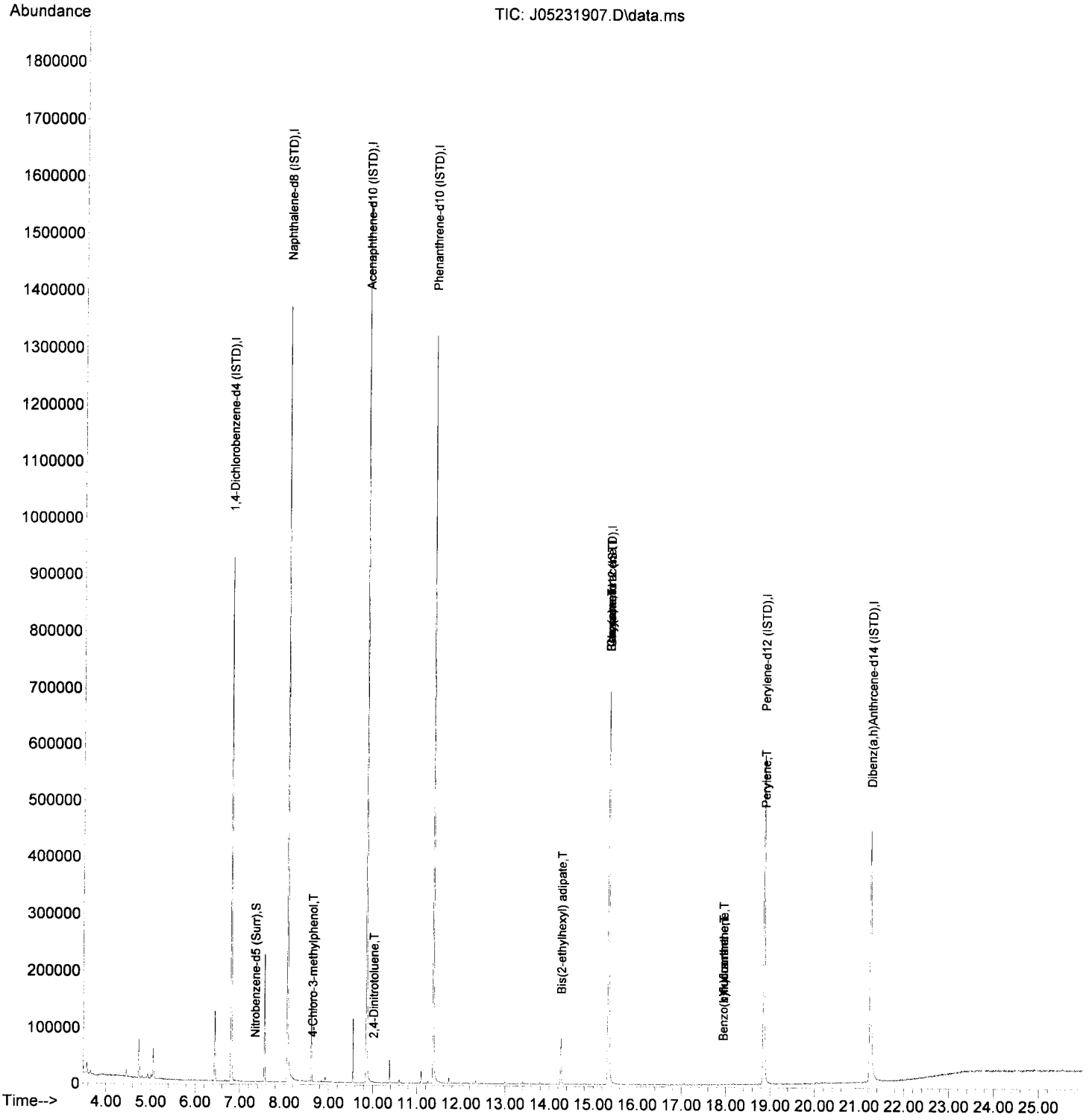
Quant Time: May 23 14:44:04 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
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	0.000		0	N.D.	
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	0.000		0	N.D.	
54) 2,4-Dinitrotoluene	10.012	165	67	61.11 ng/ml#	17
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...	0.000		0	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)	10.488	77	51	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	11.371	178	230	N.D.	
72) Anthracene	11.371	178	230	N.D.	
73) Carbazole	0.000		0	N.D.	
74) Di-n-butyl phthalate	11.954	149	67	N.D.	
75) Fluoranthene	12.724	202	79	N.D.	
76) Benzidine	0.000		0	N.D.	
77) Pyrene	0.000		0	N.D.	
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.270	129	25302	183.95 ng/ml	96
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.340	228	1353	5.14 ng/ml	86
84) Chrysene	15.340	228	1339	5.24 ng/ml	83
85) Bis(2-ethylhexyl) phth...	0.000		0	N.D.	
87) Di-n-octyl phthalate	0.000		0	N.D.	
88) Benzo(b)fluoranthene	17.939	252	94	9.25 ng/ml	54
89) Benzo(k)fluoranthene	17.939	252	94	10.79 ng/ml	53
90) Benzo(b+k)fluoranthene	17.939	252	94	17.48 ng/ml	53
91) Benzo(e)pyrene	0.000		0	N.D.	
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.870	252	1475	6.84 ng/ml#	61
95) Indeno(1,2,3-cd)pyrene	21.260	276	108	N.D.	
96) Dibenz(a,h)anthracene	21.244	278	96	N.D.	
97) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:04 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:46:49 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10

DTH 5/24/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.808	152	186129	2000.00 ng/ml	0.00
3) Naphthalene-d8 (ISTD)	8.076	136	772629	2000.00 ng/ml	0.00
16) Acenaphthene-d10 (ISTD)	9.857	162	357621	2000.00 ng/ml	0.00
29) Phenanthrene-d10 (ISTD)	11.371	188	560569	2000.00 ng/ml	-0.01
43) Chrysene-d12 (ISTD)	15.345	240	482711	2000.00 ng/ml	-0.02
53) Perylene-d12 (ISTD)	18.859	264	424933	2000.00 ng/ml	-0.02
61) Dibenz(a,h)Anthrcene-d...	21.250	292	378470	2000.00 ng/ml	-0.02
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.343	82	72	9.71 ng/ml	0.00
17) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00 ng/ml	
18) Acenaphthylene d-8 (Surr)	0.000	160	0	0.00 ng/ml	
46) Terphenyl-d14 (Surr)	0.000	244	0	0.00 ng/ml	
57) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
4) Decalin	0.000		0	N.D.	
5) C-1 Decalin	7.830	152	137m	2.54 ng/ml	
6) C-2 Decalin	8.424	166	29	N.D.	
7) C-3 Decalin	8.616	180	22	N.D.	
8) C-4 Decalin	9.039		0	N.D.	
9) Naphthalene	0.000		0	N.D.	
10) 2-Methylnaphthalene	0.000		0	N.D.	
11) C-1 Naphthalenes	8.959	142	15	N.D.	
12) 1-Methylnaphthalene	0.000		0	N.D.	
13) 1,1'-Biphenyl	0.000		0	N.D.	
14) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
15) C-2 Naphthalenes	9.301		0	N.D.	
19) Acenaphthylene	0.000		0	N.D.	
20) Acenaphthene	0.000		0	N.D.	
21) Dibenzofuran	0.000		0	N.D.	
22) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	
23) C-3 Naphthalenes	10.392	170	9	N.D.	
24) C-4 Naphthalenes	11.349	184	108	N.D.	
25) Fluorene	0.000		0	N.D.	
26) C-1 Fluorenes	10.659		0	N.D.	
27) C-2 Fluorenes	11.435		0	N.D.	
28) C-3 Fluorenes	12.542	208	983m	4.14 ng/ml	
30) Dibenzothiopene	0.000		0	N.D.	
31) C-1 Dibenzothiophene	11.708		0	N.D.	
32) C-2 Dibenzothiophene	12.088		0	N.D.	
33) C-3 Dibenzothiophene	12.836	226	8	N.D.	
34) C-4 Dibenzothiophene	13.334		0	N.D.	
35) Phenanthrene	11.371	178	230	N.D.	
36) Anthracene	11.371	178	230	N.D.	
37) 1-Methylphenanthrene	0.000		0	N.D.	
38) C-1 Phenanthrene/anthr...	11.858		0	N.D.	
39) C-2 Phenanthrene/anthr...	12.248		0	N.D.	
40) C-3 Phenanthrene/anthr...	12.767		0	N.D.	
41) C-4 Phenanthrene/anthr...	13.403		0	N.D.	
42) Fluoranthene	12.724	202	79	N.D.	
44) Pyrene	0.000		0	N.D.	
45) C-1 Fluoranthene/pyrenes	13.302		0	N.D.	

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:46:49 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10

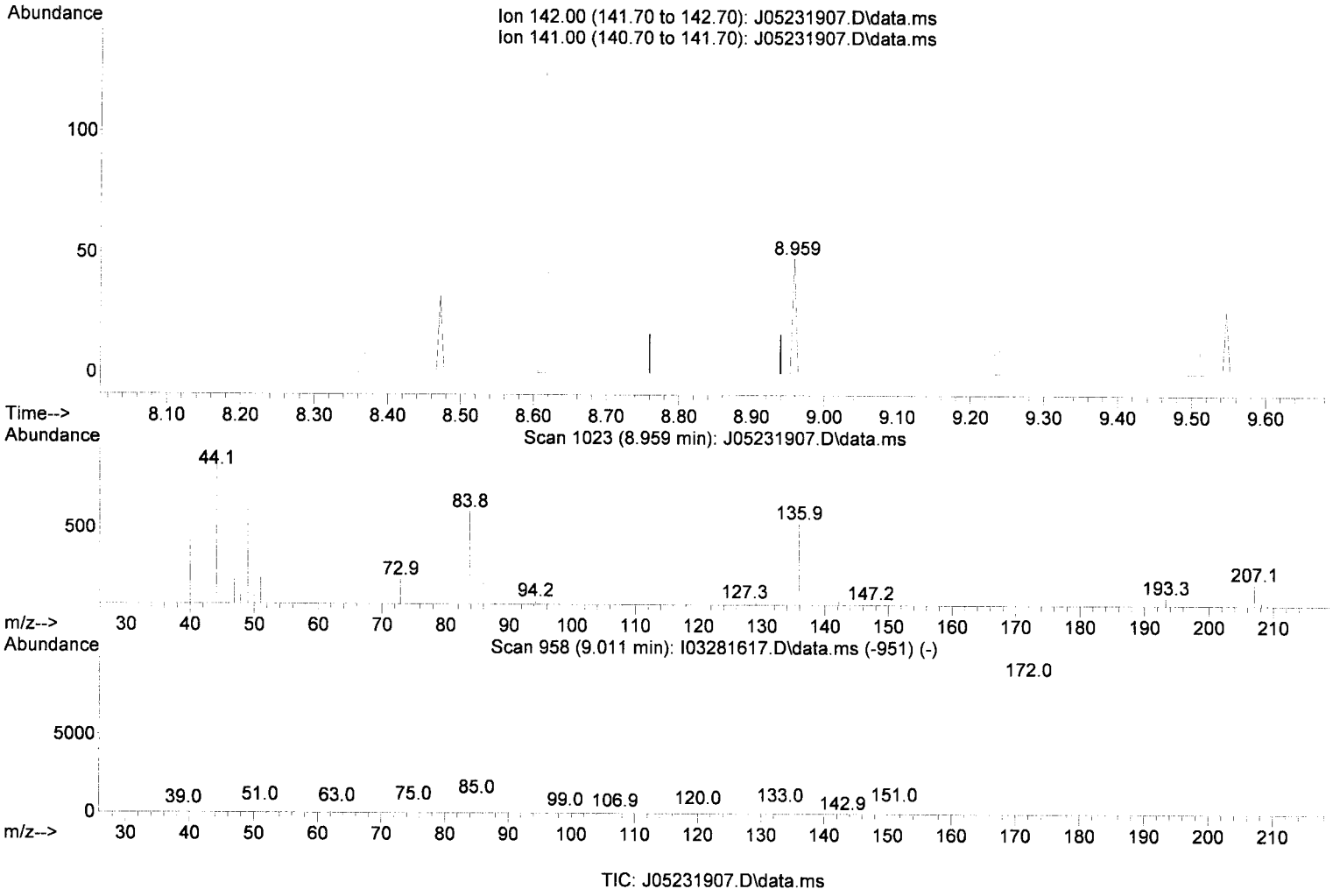
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
47) Benz(a)anthracene	15.340	228	1353	5.16 ng/ml	85
48) Chrysene	15.340	228	1339	5.22 ng/ml	82
49) C-1 Benz(a)anthracene/...	16.308	242	8	N.D.	
50) C-2 Benz(a)anthracene/...	16.933		0	N.D.	
51) C-3 Benz(a)anthracene/...	17.254		0	N.D.	
52) C-4 Benz(a)anthracene/...	20.907	284	313	N.D.	
54) Benzo(b)fluoranthene	17.939	252	94	10.55 ng/ml	56
55) Benzo(k)fluoranthene	17.939	252	94	10.94 ng/ml	53
56) Benzo(b+k)fluoranthene	17.939	252	94	19.79 ng/ml	53
58) Benzo(e)pyrene	18.859	252	1007	12.96 ng/ml#	1
59) Benzo(a)pyrene	0.000		0	N.D.	
60) Perylene	18.870	252	1475	5.87 ng/ml	71
62) Indeno(1,2,3-cd)Pyrene	21.260	276	108	N.D.	
63) Dibenz(a,h)anthracene	21.244	278	96	N.D.	
64) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(11) C-1 Naphthalenes (T)

8.959min (+ 0.109) 0.06 ng/ml m

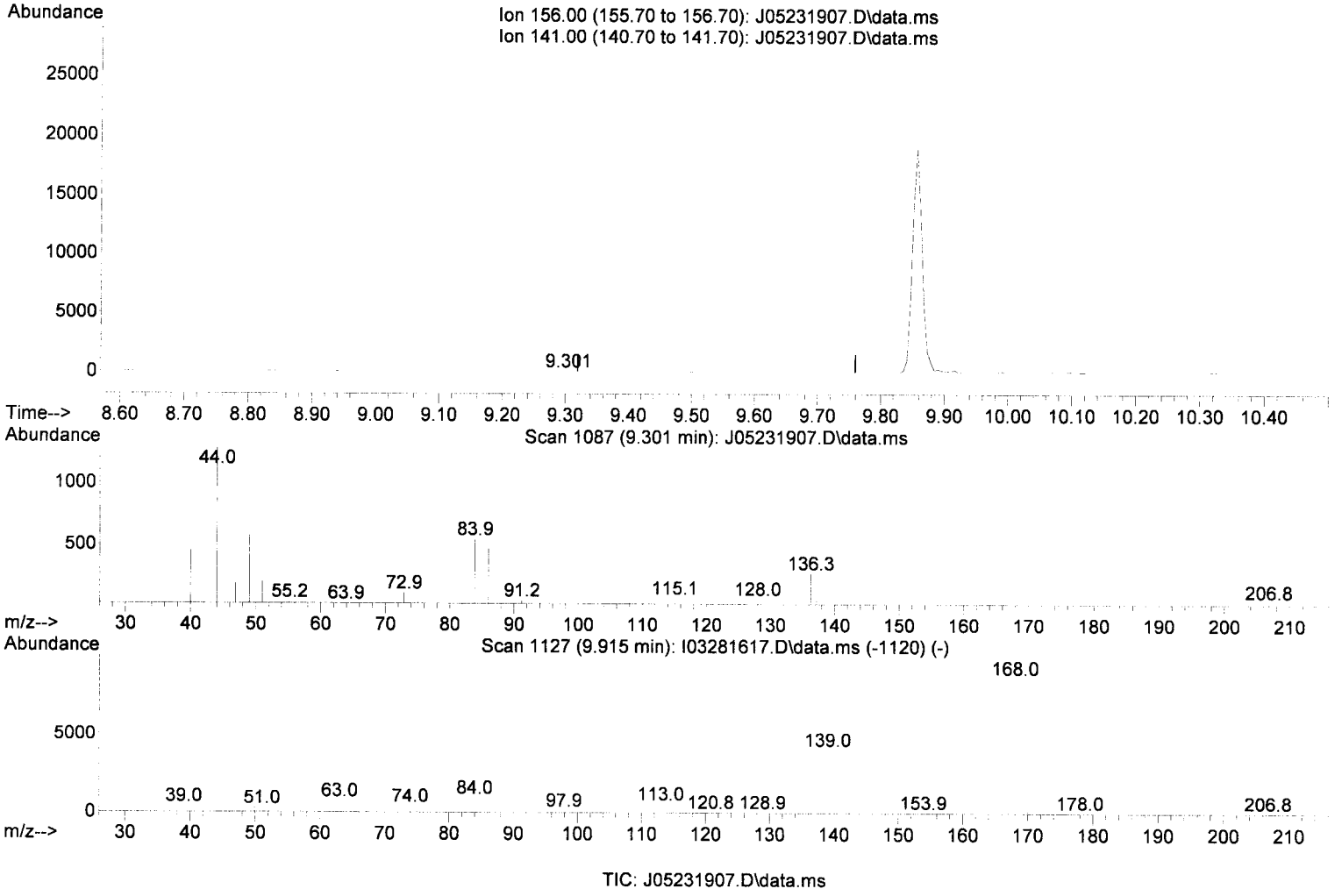
response 15

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	88.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(15) C-2 Naphthalenes (T)

9.301min (-0.239) 0.00 ng/ml m

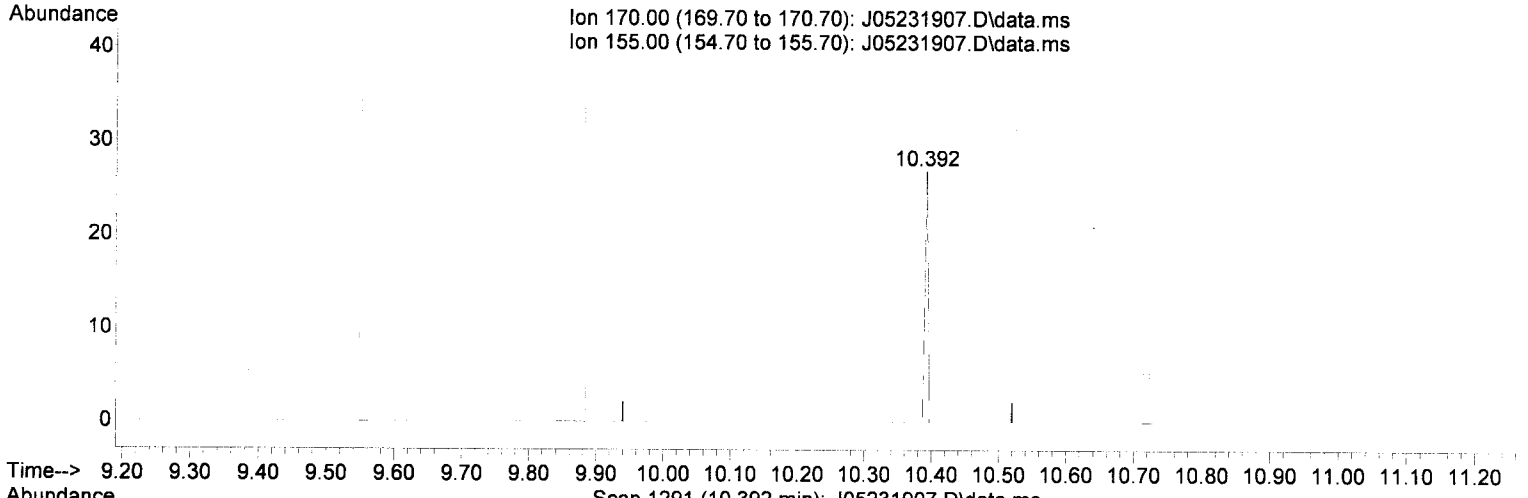
response 0

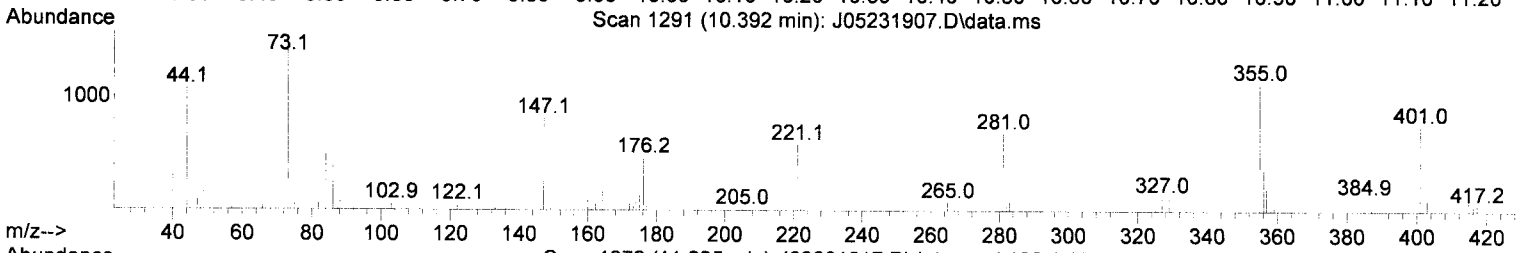
Ion	Exp%	Act%
156.00	100.00	0.00
141.00	16.10	0.00
0.00	0.00	0.00
0.00	0.00	0.00

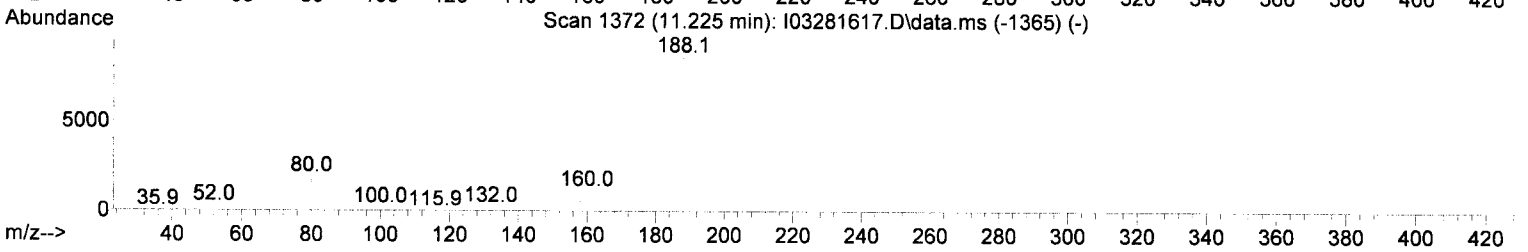
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J05231907.D\data.ms

(23) C-3 Naphthalenes (T)

10.392min (+ 0.162) 0.05 ng/ml m

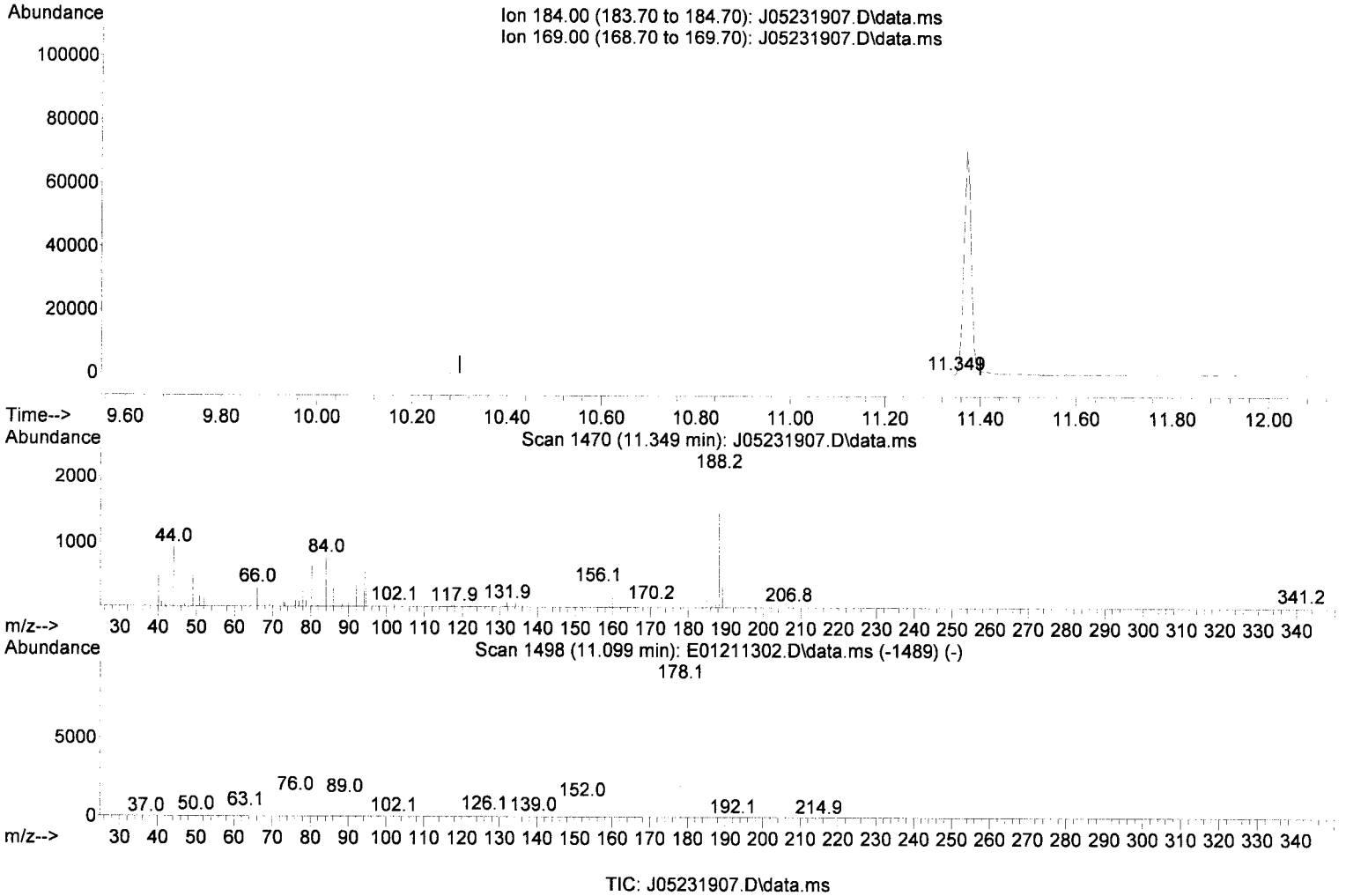
response 9

Ion	Exp%	Act%
170.00	100.00	100.00
155.00	83.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(24) C-4 Naphthalenes (T)

11.349min (+ 0.499) 0.57 ng/ml m

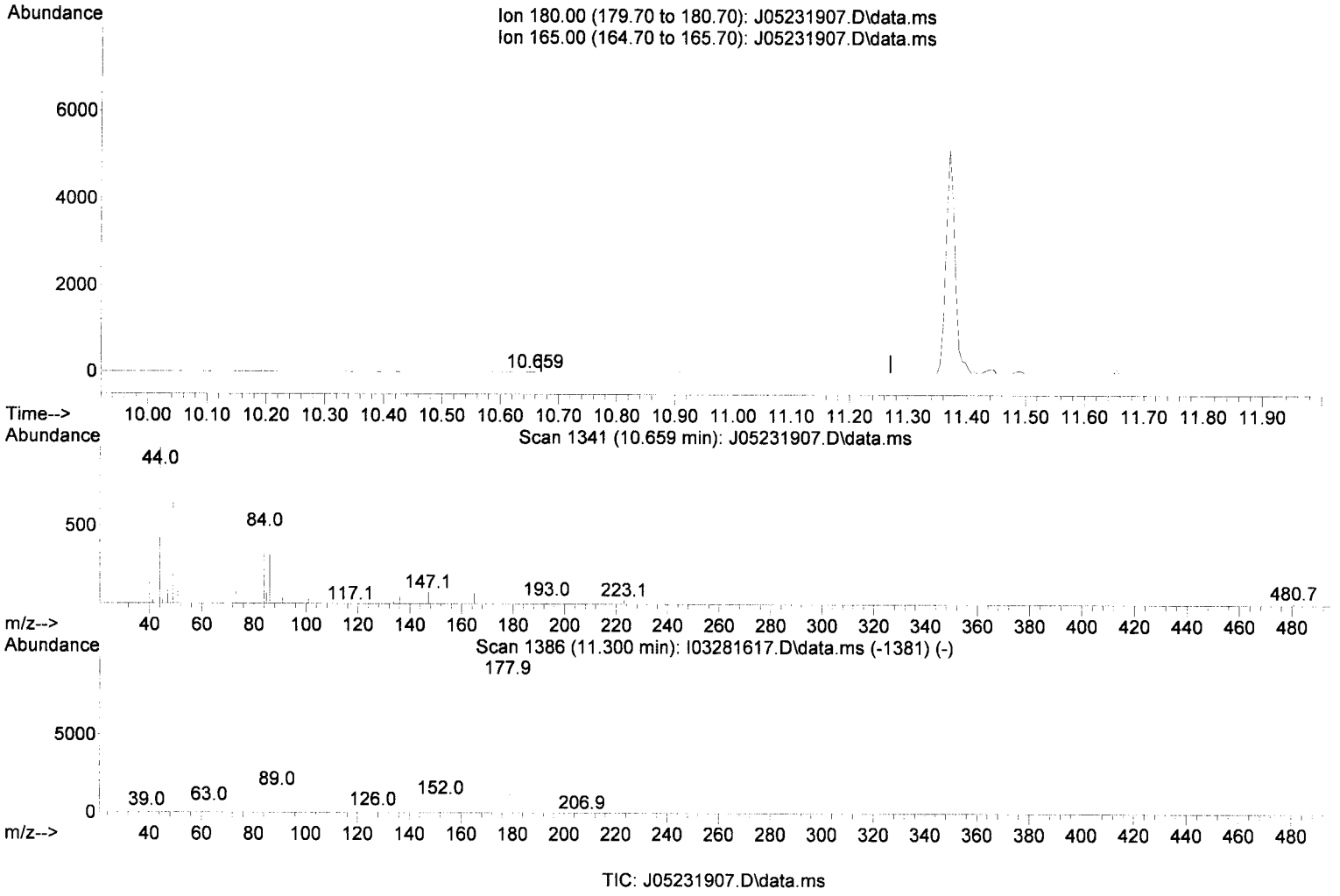
response 108

Ion	Exp%	Act%
184.00	100.00	100.00
169.00	50.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(26) C-1 Fluorenes (T)

10.659min (-0.311) 0.00 ng/ml m

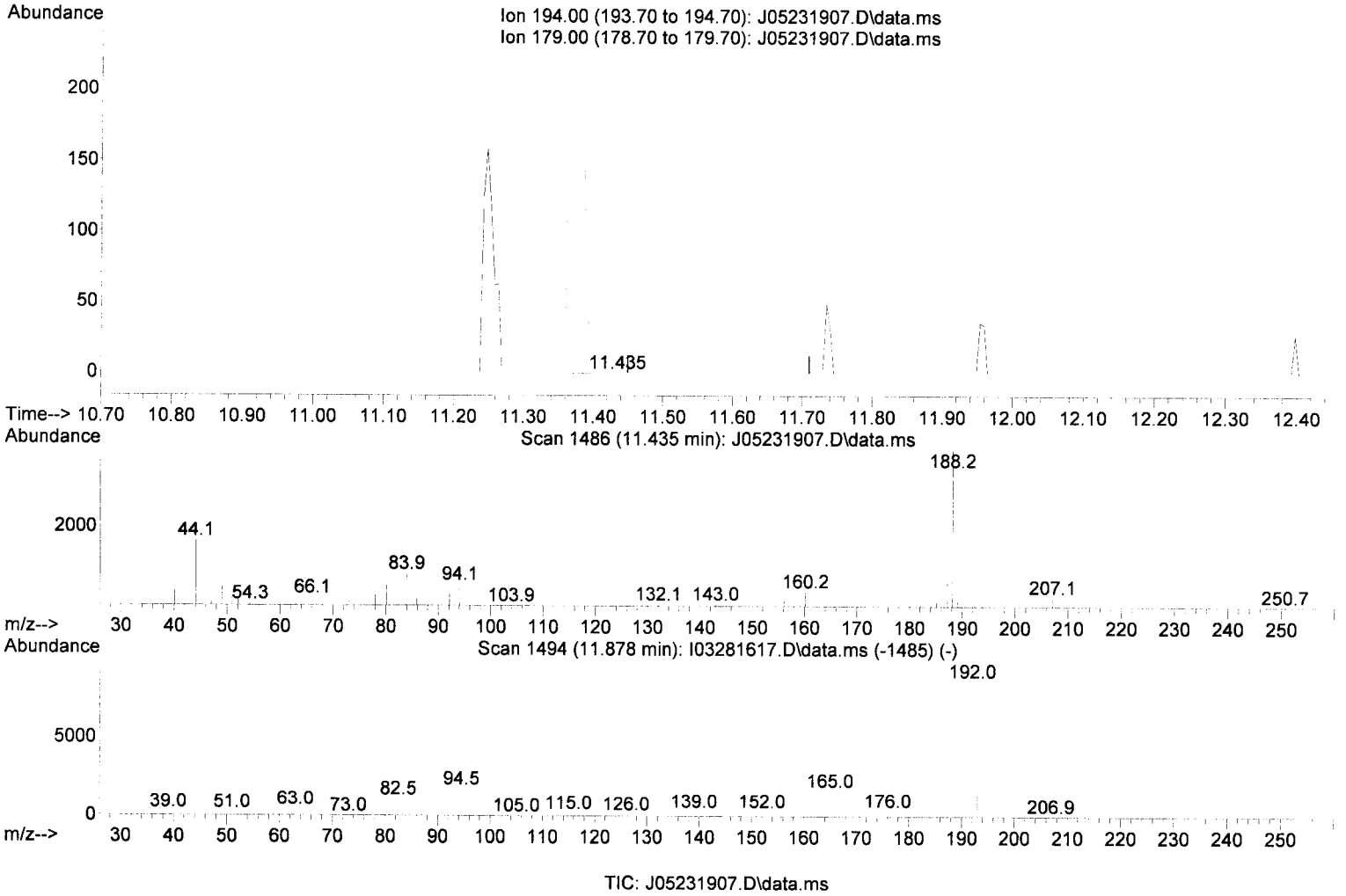
response 0

Ion	Exp%	Act%
180.00	100.00	0.00
165.00	135.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(27) C-2 Fluorenes (T)

11.435min (-0.145) 0.00 ng/ml m

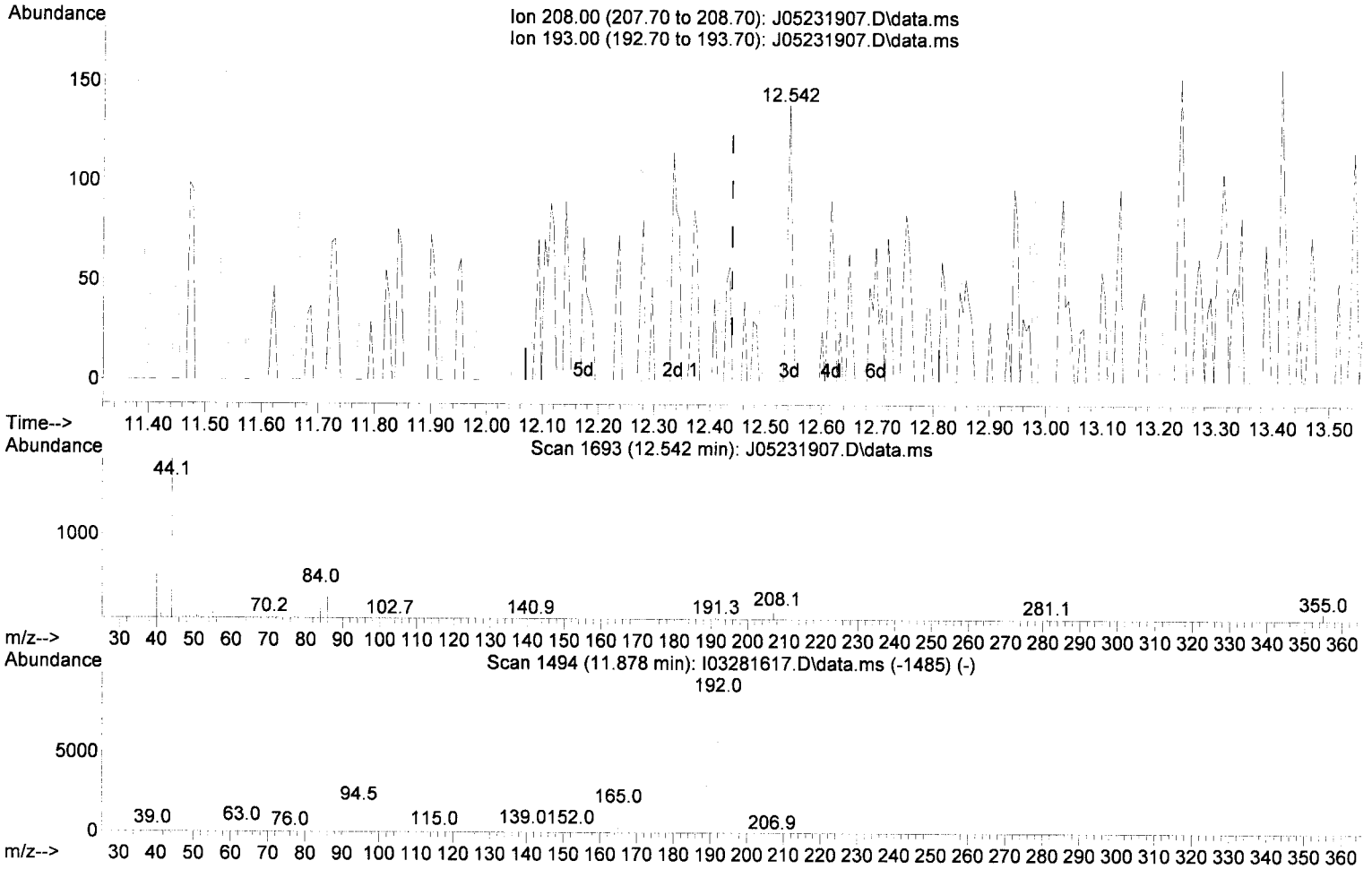
response 0

Ion	Exp%	Act%
194.00	100.00	0.00
179.00	50.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(28) C-3 Fluorenes (T)

12.542min (+ 0.102) 4.14 ng/ml m

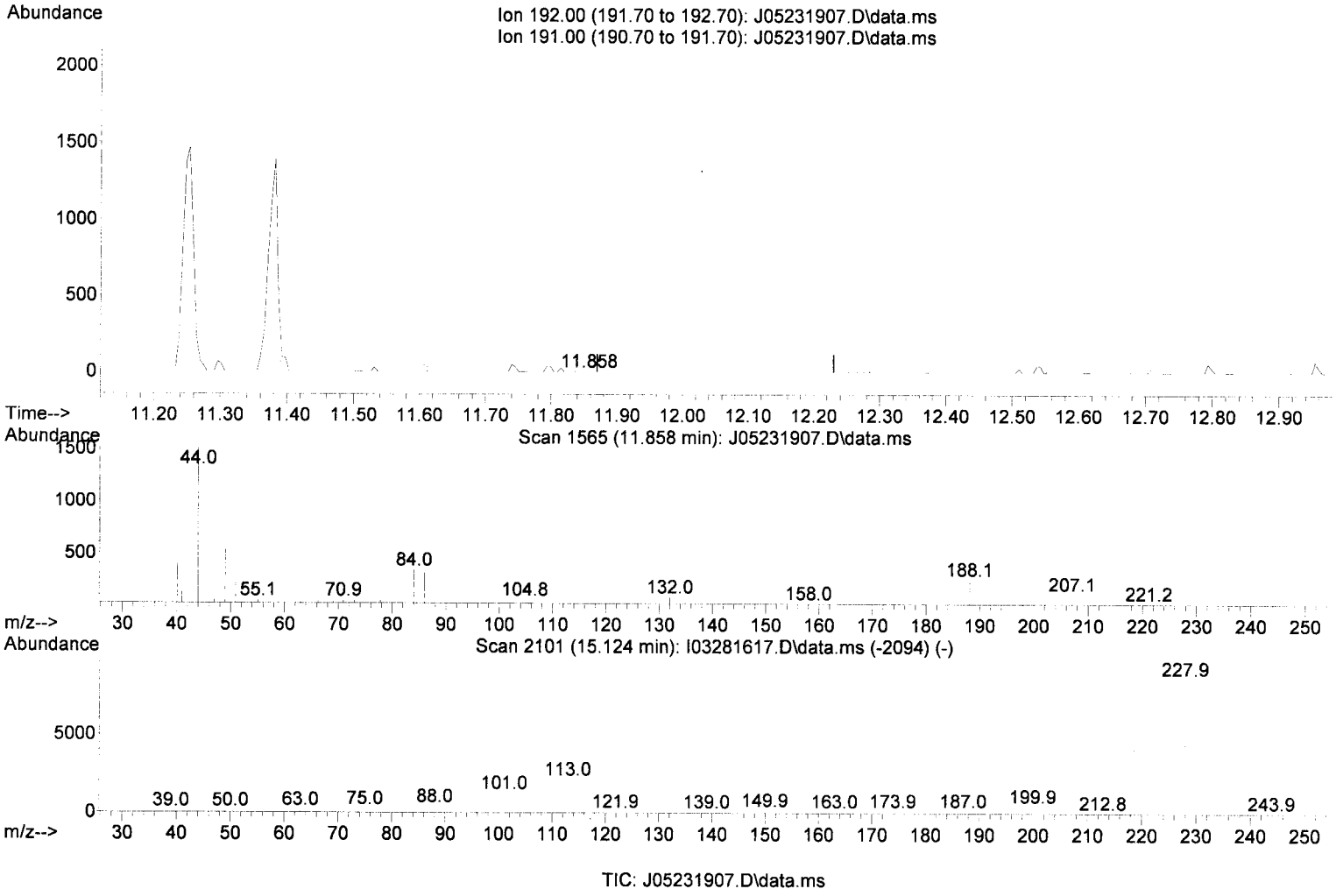
response 983

Ion	Exp%	Act%
208.00	100.00	100.00
193.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(38) C-1 Phenanthrene/anthracene (T)

11.858min (-0.192) 0.00 ng/ml m

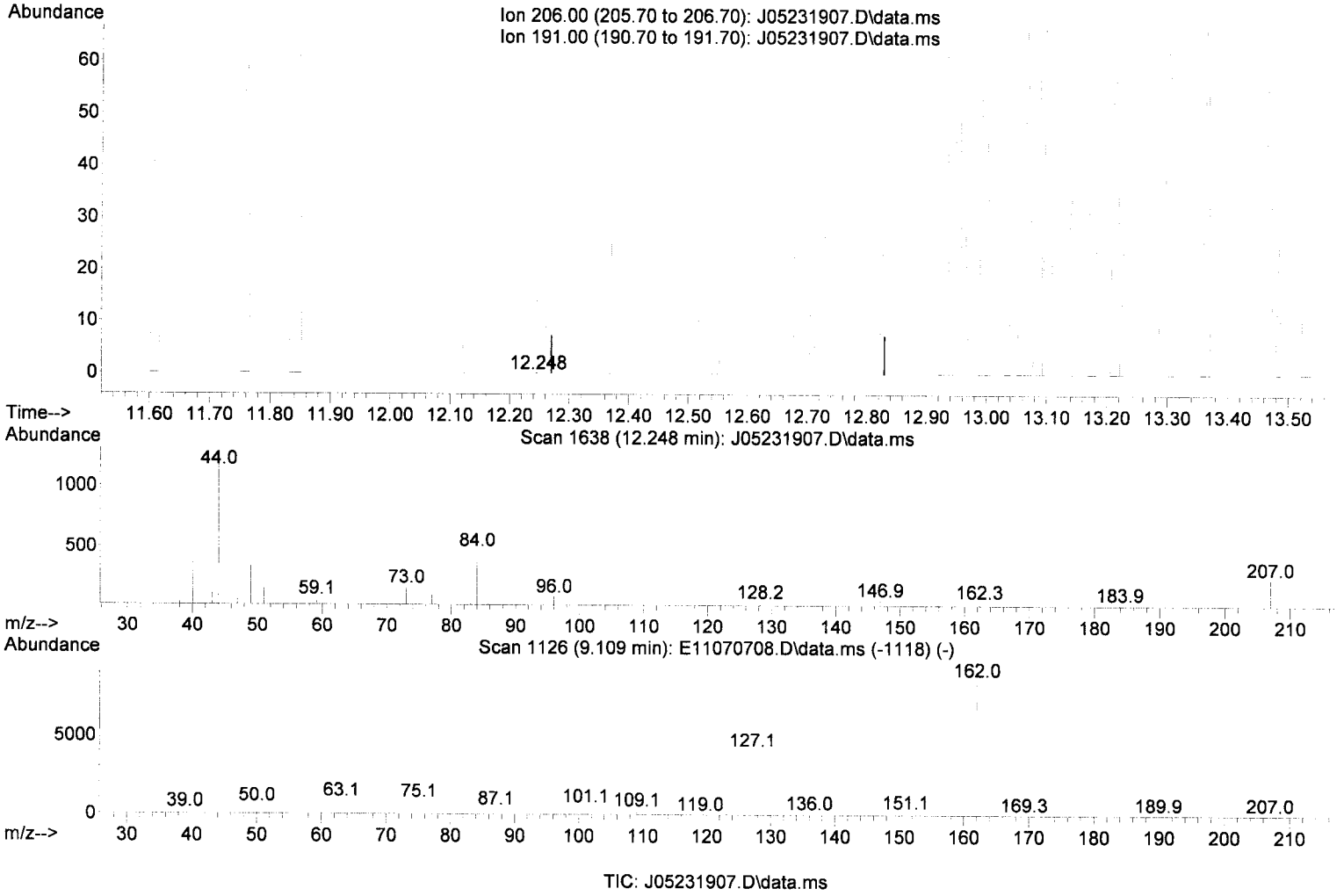
response 0

Ion	Exp%	Act%
192.00	100.00	0.00
191.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(39) C-2 Phenanthrene/anthracene (T)

12.248min (-0.302) 0.00 ng/ml m

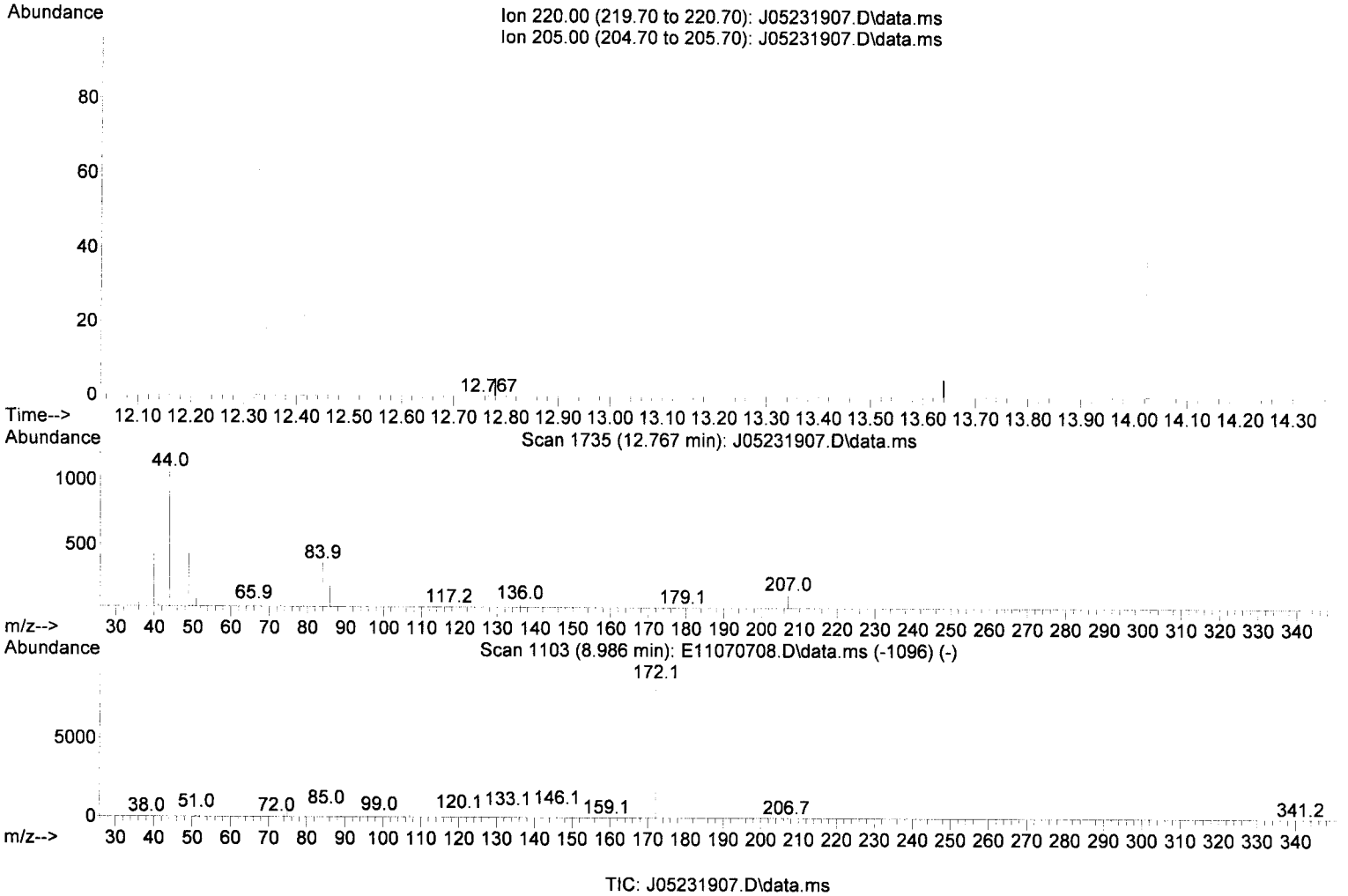
response 0

Ion	Exp%	Act%
206.00	100.00	0.00
191.00	50.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(40) C-3 Phenanthrene/anthracene (T)

12.767min (-0.443) 0.00 ng/ml m

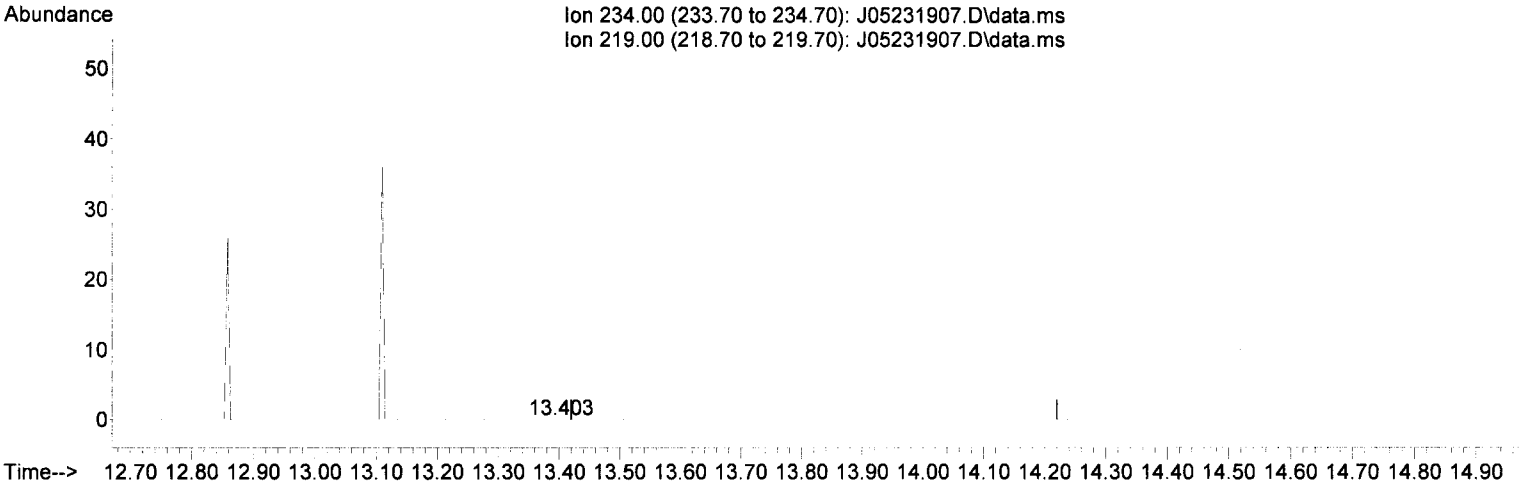
response 0

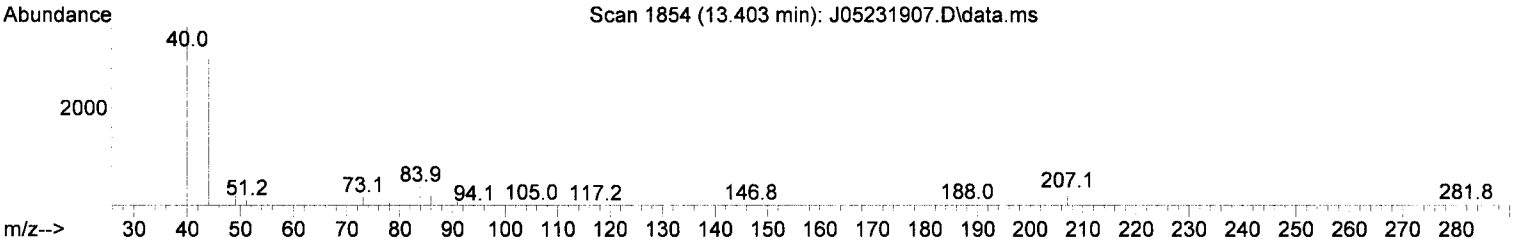
Ion	Exp%	Act%
220.00	100.00	0.00
205.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

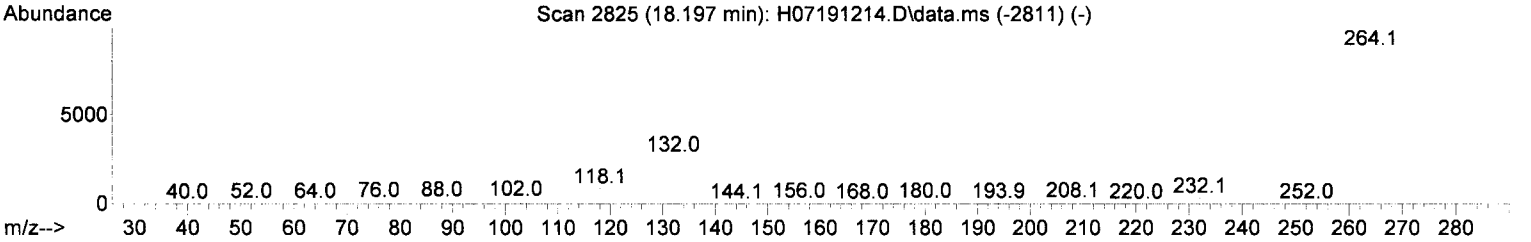
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J05231907.D\data.ms

(41) C-4 Phenanthrene/anthracene (T)

13.403min (-0.467) 0.00 ng/ml m

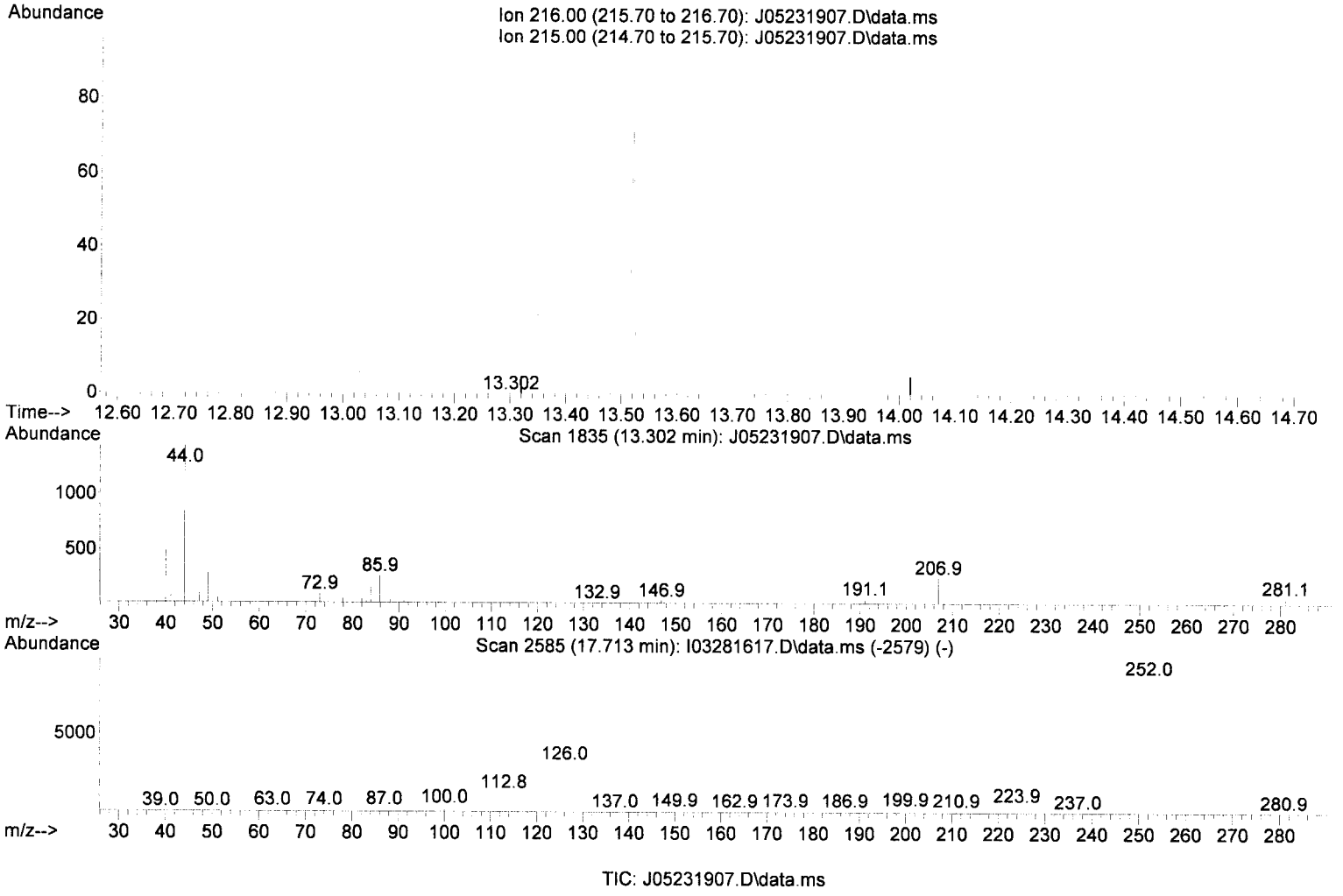
response 0

Ion	Exp%	Act%
234.00	100.00	0.00
219.00	50.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(45) C-1 Fluoranthene/pyrenes (T)

13.302min (-0.368) 0.00 ng/ml m

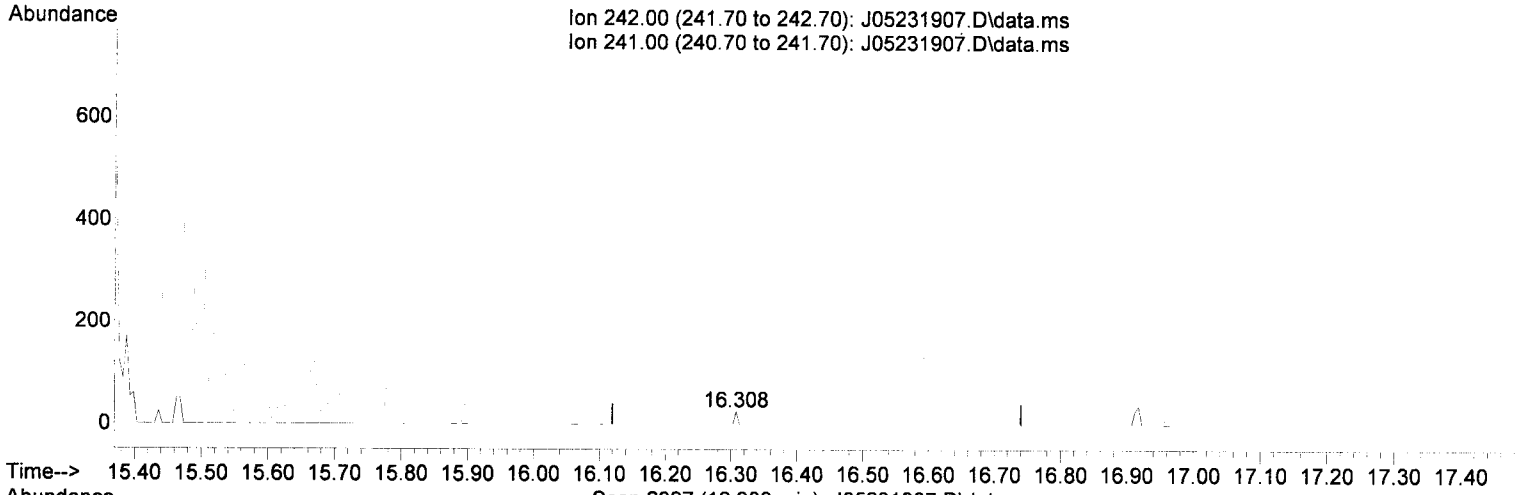
response 0

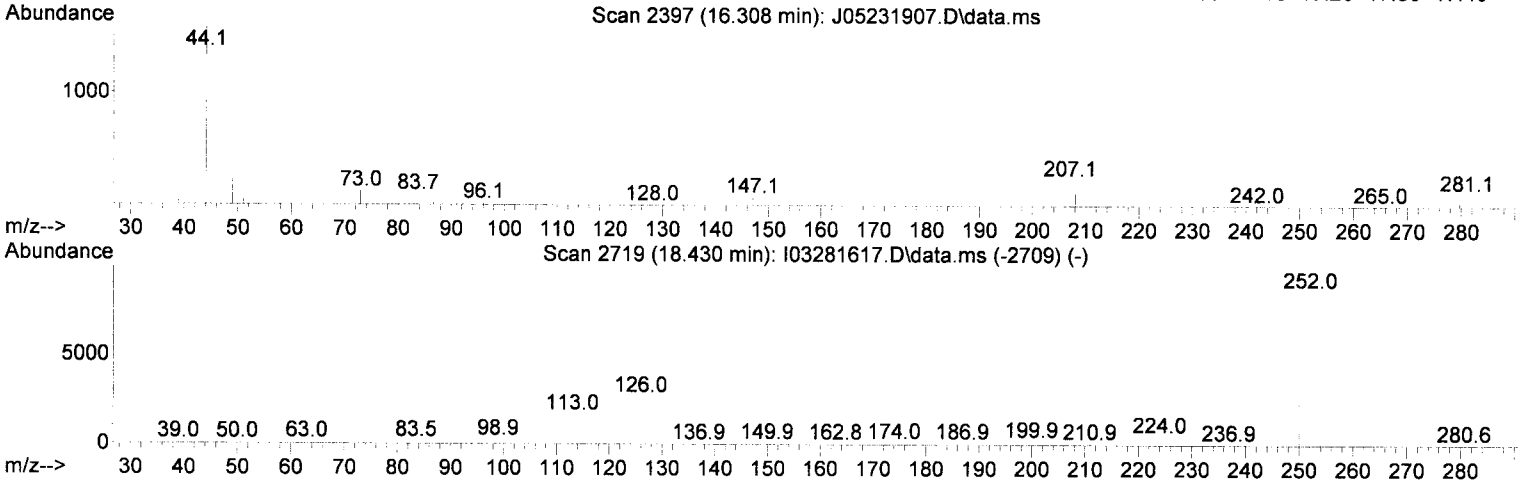
Ion	Exp%	Act%
216.00	100.00	0.00
215.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10





TIC: J05231907.D\data.ms

(49) C-1 Benz(a)anthracene/Chrysenes (T)

16.308min (-0.072) 0.03 ng/ml m

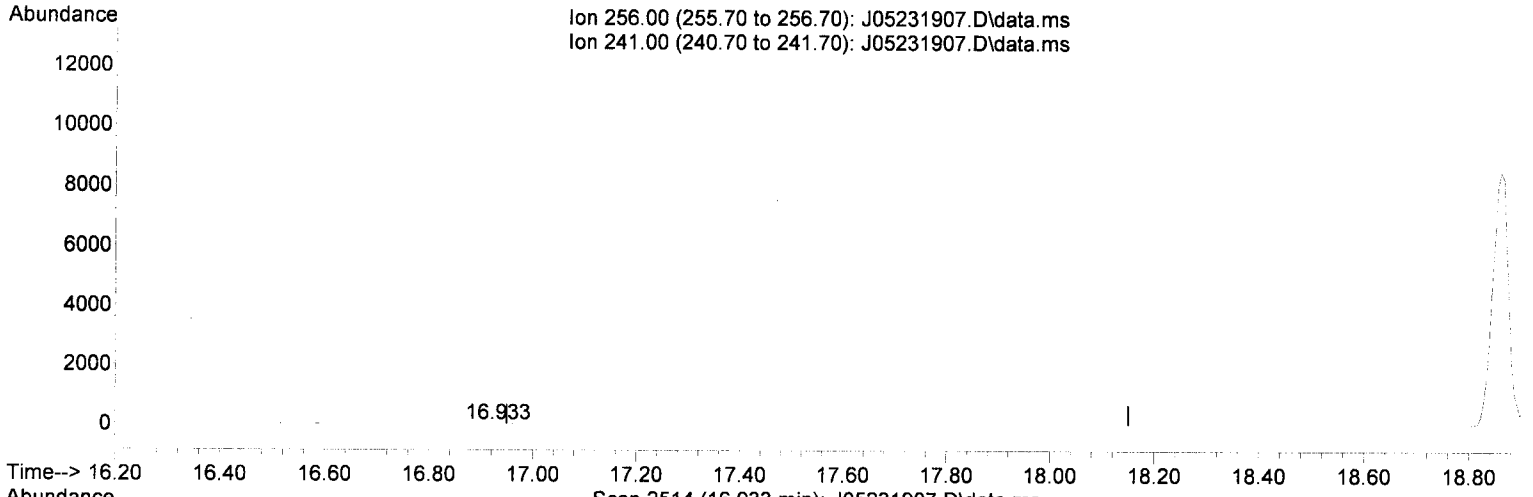
response 8

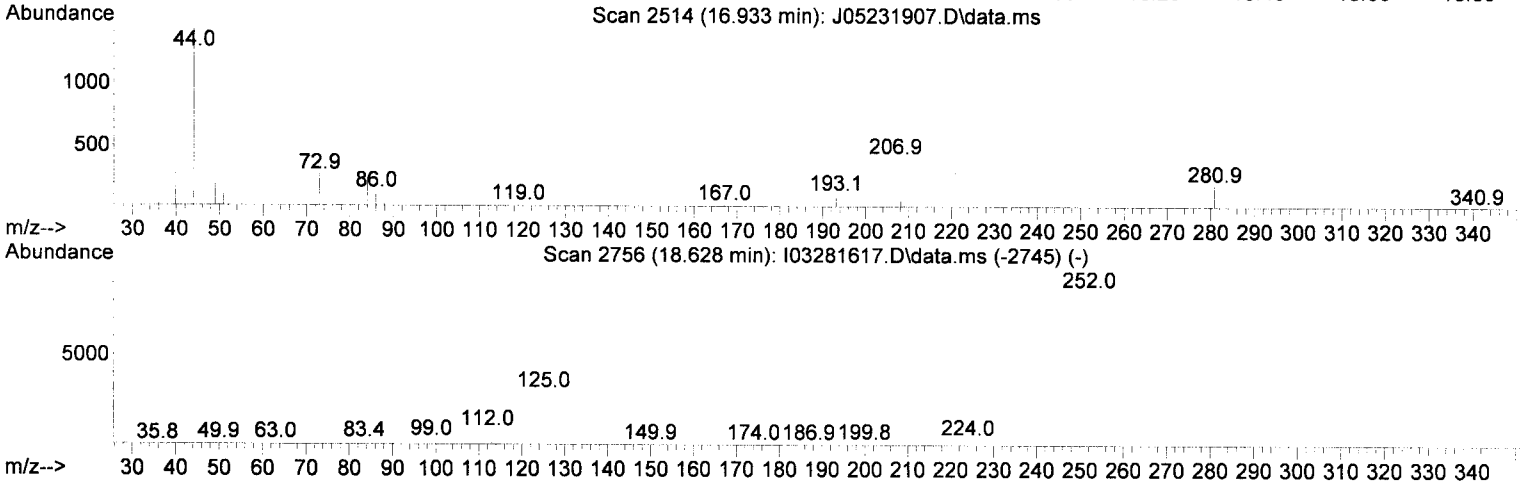
Ion	Exp%	Act%
242.00	100.00	100.00
241.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10





TIC: J05231907.D\data.ms

(50) C-2 Benz(a)anthracene/Chrysenes (T)

16.933min (-0.617) 0.00 ng/ml m

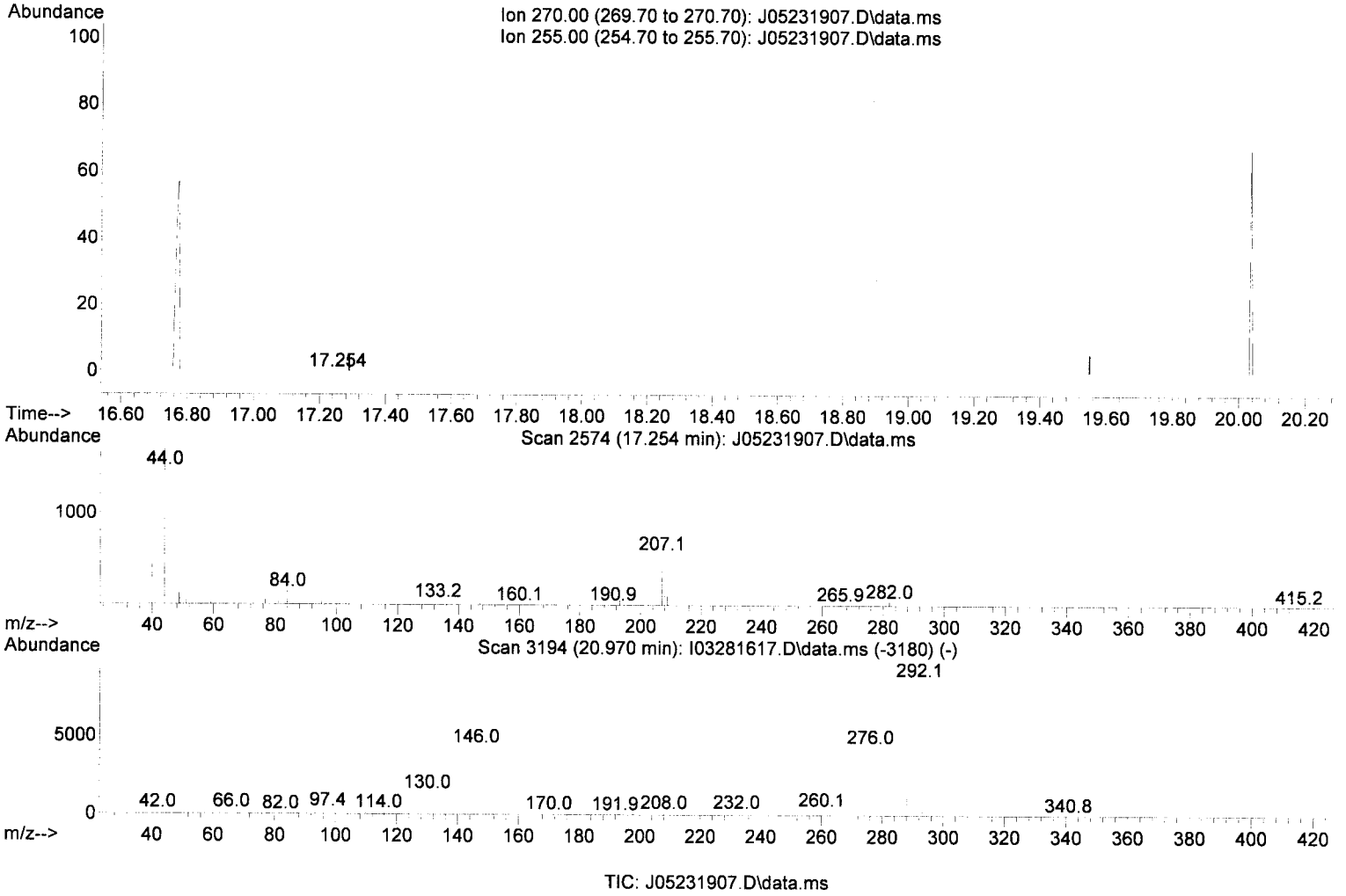
response 0

Ion	Exp%	Act%
256.00	100.00	0.00
241.00	50.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231907.D\data.ms

(51) C-3 Benz(a)anthracene/Chrysenes (T)

17.254min (-1.166) 0.00 ng/ml m

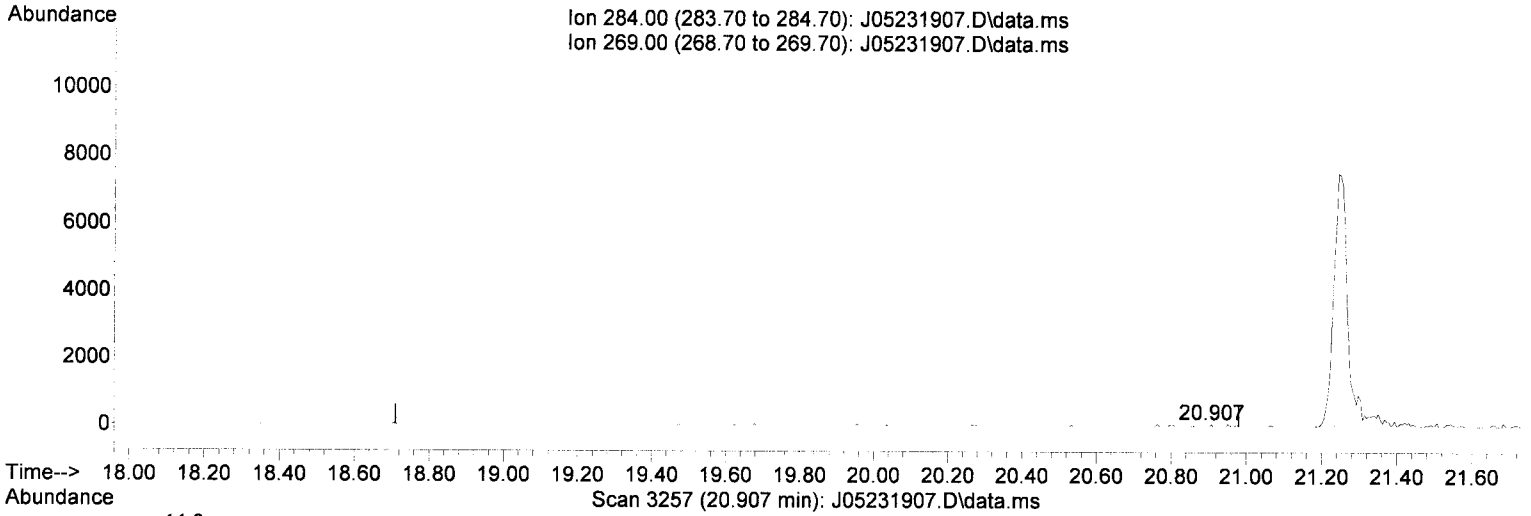
response 0

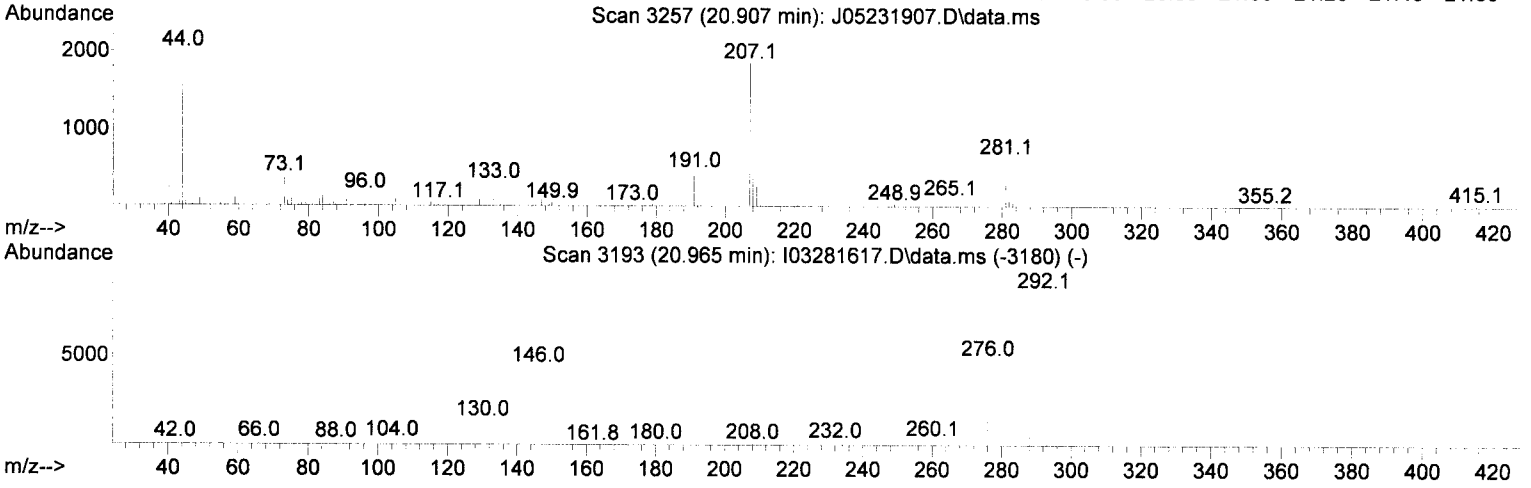
Ion	Exp%	Act%
270.00	100.00	0.00
255.00	50.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:42:39 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10





TIC: J05231907.D\data.ms

(52) C-4 Benz(a)anthracene/Chrysenes

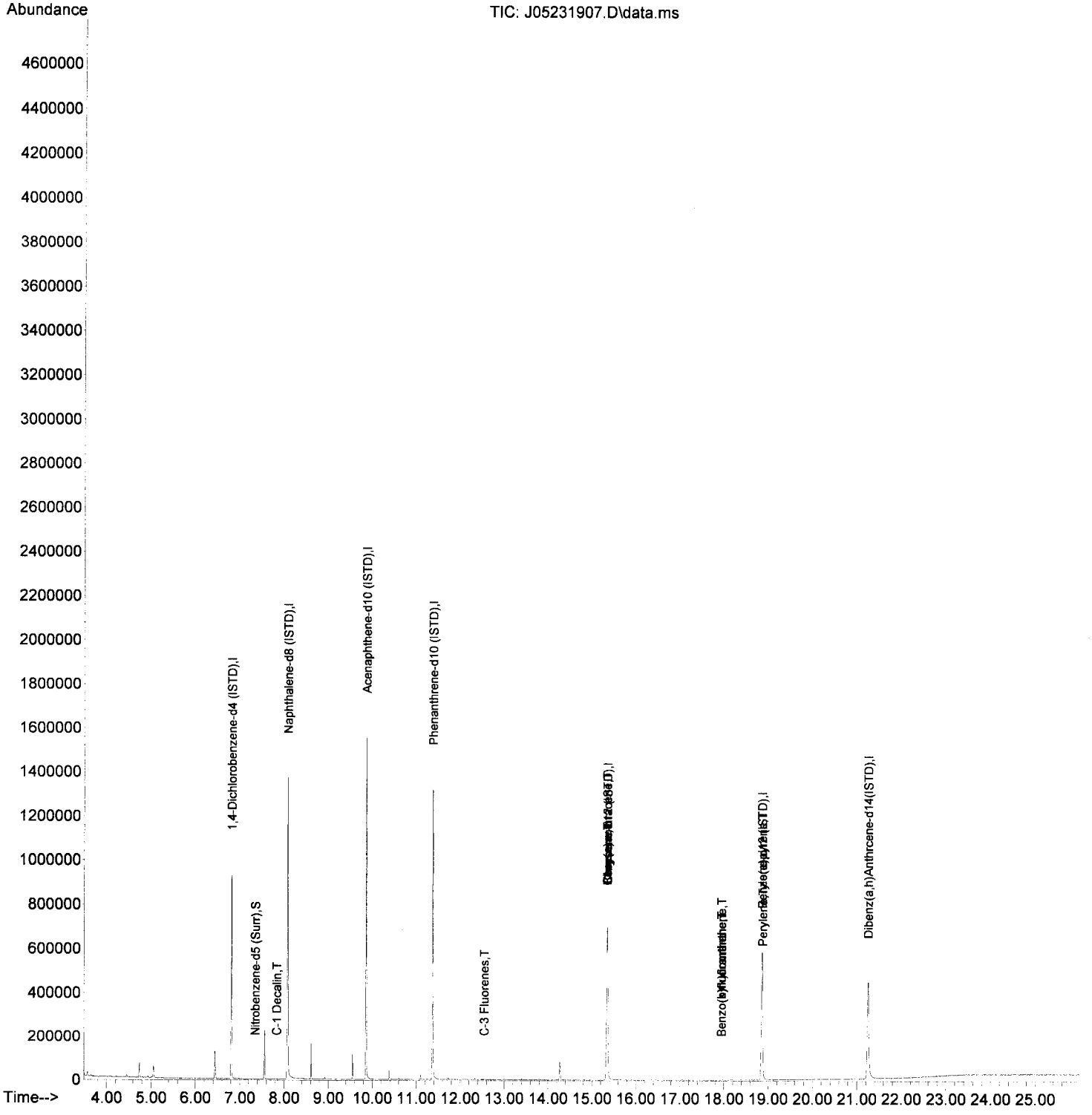
20.907min (+ 0.897) 1.22 ng/ml m

response 313

Ion	Exp%	Act%
284.00	100.00	100.00
269.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : T:\data\2019-05\9E23010\homolog\
Data File : J05231907.D
Acq On : 23 May 2019 12:08 pm
Operator : JK/ AMS/ DTH
Sample : 9E23010-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 24 18:46:49 2019
Quant Method : T:\methods\SV10_041519_HOMOLOG.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue Apr 16 09:29:20 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Data Path : T:\data\2019-05\9E23010\
Data File : J05231908.D
Acq On : 23 May 2019 12:43 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-BLK1
Misc : 1x, 8270D LL FULL LIST
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

AMS 5/23/19

Quant Time: May 23 14:44:24 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.803	152	178980	2000.00 ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.076	136	761638	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.857	162	354982	2000.00 ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.371	188	589543	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.345	240	496727	2000.00 ng/ml	0.00
86) Perylene-d12 (ISTD)	18.859	264	441516	2000.00 ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.250	292	408839	2000.00 ng/ml	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	5.535	112	219156	1883.58 ng/ml	-0.01
5) Phenol-d6(Surr)	6.450	99	290352	1940.02 ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	271635	2006.84 ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.162	172	475952	1900.30 ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.659	330	51837	1772.41 ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.232	244	533734	2282.67 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	4.118	74	50	N.D.	
3) Pyridine	4.268	79	178	N.D.	
6) Phenol	6.461	94	883	14.87 ng/ml#	1
7) Aniline	6.471	93	58	N.D.	
8) Bis(2-chloroethyl) ether	6.530	93	324	N.D.	
9) 2-Chlorophenol	6.610	128	108	N.D.	
10) 1,3-Dichlorobenzene	6.814	146	51	N.D.	
11) 1,4-Dichlorobenzene	6.814	146	51	N.D.	
12) Benzyl alcohol	0.000		0	N.D.	
13) 1,2-Dichlorobenzene	0.000		0	N.D.	
14) 2-Methylphenol	7.113	107	50	N.D.	
15) 2,2'-Oxybis(1-Chloropr...	7.060	45	173	N.D.	
16) N-Nitrosodi-n-propylamine	7.177	70	102	N.D.	
17) 3+4-Methylphenol	7.215	107	72	9.58 ng/ml#	1
18) Hexachloroethane	0.000		0	N.D.	
20) Nitrobenzene	7.348	77	1226	9.63 ng/ml#	29
22) Isophorone	7.605	82	577	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	7.835	105	113	753.62 ng/ml#	34
27) 2,4-Dichlorophenol	0.000		0	N.D.	
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
29) Naphthalene	8.097	128	1797	4.56 ng/ml	90
30) 4-Chloroaniline	8.097	127	160	15.72 ng/ml	72
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	8.648	107	56	64.14 ng/ml#	1
33) 2-Methylnaphthalene	8.803	142	377	N.D.	
34) 1-Methylnaphthalene	8.905	142	184	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	9.263	154	983	3.42 ng/ml	72
41) 2-Chloronaphthalene	0.000		0	N.D.	
42) 2-Nitroaniline	0.000		0	N.D.	
43) 2,6-Dimethylnaphthalene	9.504	156	58	N.D.	

Data Path : T:\data\2019-05\9E23010\
Data File : J05231908.D
Acq On : 23 May 2019 12:43 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-BLK1
Misc : 1x, 8270D LL FULL LIST
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

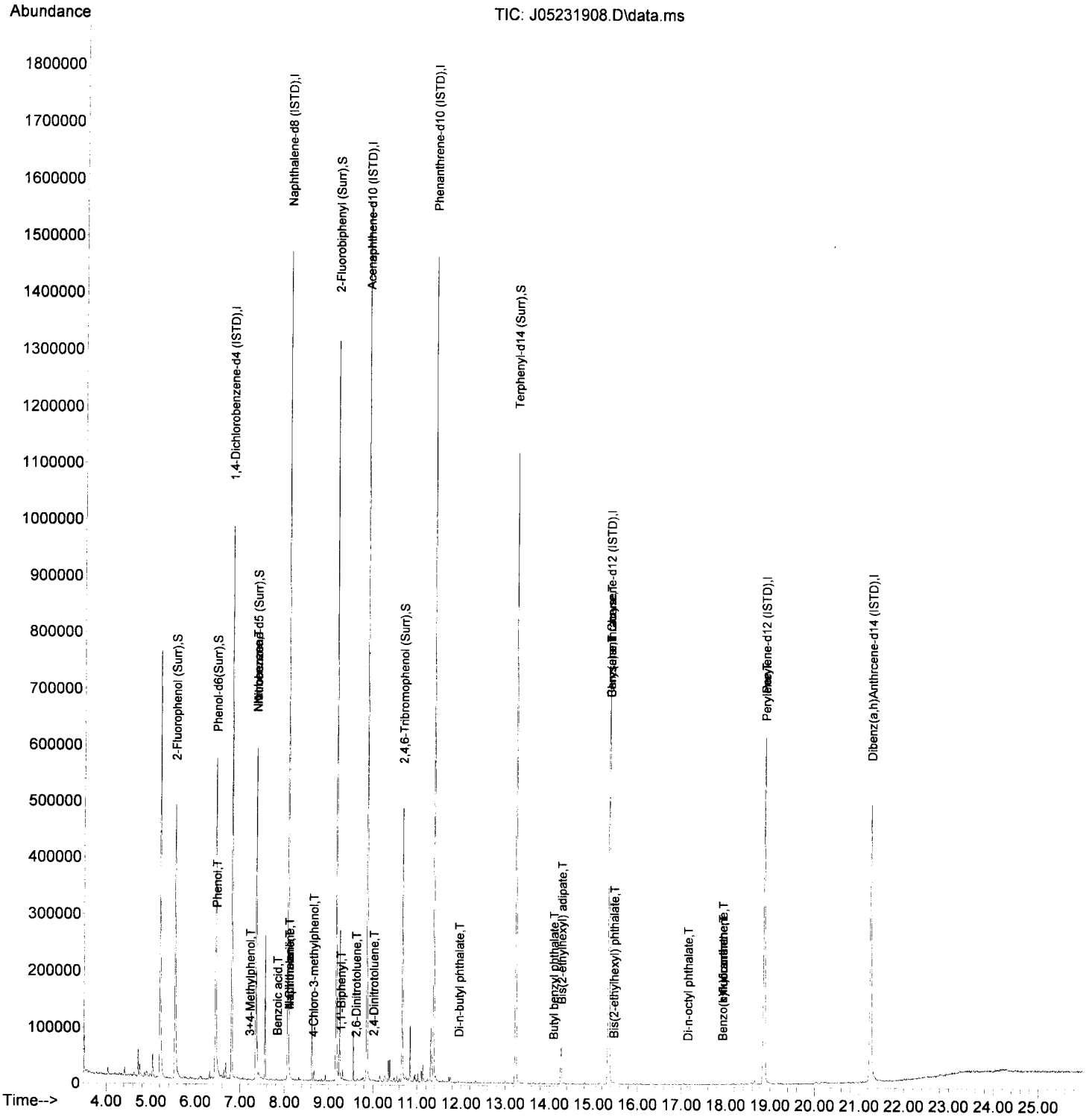
Quant Time: May 23 14:44:24 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	9.563	163	186	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	9.611	165	53	33.48 ng/ml#	20
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	9.707	152	77	N.D.	
50) 3-Nitroaniline	9.862	138	78	N.D.	
51) Acenaphthene	9.889	153	261	N.D.	
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	0.000		0	N.D.	
54) 2,4-Dinitrotoluene	10.007	165	111	61.77 ng/ml#	41
55) Dibenzofuran	10.071	168	135	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	10.269	149	576	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.173	170	83	N.D.	
60) Fluorene	10.419	166	62	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)	10.568	77	121	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	11.397	178	658	N.D.	
72) Anthracene	11.397	178	658	N.D.	
73) Carbazole	11.617	167	73	N.D.	
74) Di-n-butyl phthalate	11.943	149	1371	3.80 ng/ml	87
75) Fluoranthene	12.718	202	449	N.D.	
76) Benzidine	0.000		0	N.D.	
77) Pyrene	13.029	202	324	N.D.	
80) Butyl benzyl phthalate	14.093	149	478	32.56 ng/ml	80
81) Bis(2-ethylhexyl) adipate	14.270	129	20161	142.44 ng/ml	97
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.350	228	1629	6.01 ng/ml	59
84) Chrysene	15.350	228	1509	5.74 ng/ml	57
85) Bis(2-ethylhexyl) phth...	15.457	149	1287	6.17 ng/ml	76
87) Di-n-octyl phthalate	17.136	149	56	66.40 ng/ml#	9
88) Benzo(b)fluoranthene	17.923	252	56	9.08 ng/ml	54
89) Benzo(k)fluoranthene	17.923	252	56	10.63 ng/ml	53
90) Benzo(b+k)fluoranthene	17.923	252	56	17.32 ng/ml	53
91) Benzo(e)pyrene	0.000		0	N.D.	
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.864	252	726	3.24 ng/ml#	38
95) Indeno(1,2,3-cd)pyrene	21.255	276	149	N.D.	
96) Dibenz(a,h)anthracene	21.266	278	62	N.D.	
97) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231908.D
Acq On : 23 May 2019 12:43 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-BLK1
Misc : 1x, 8270D LL FULL LIST
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:24 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Data Path : T:\data\2019-05\9E23010\
Data File : J05231909.D
Acq On : 23 May 2019 1:19 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-BS1@4
Misc : 4x, 8270D LL FULL LIST
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

AMS 5/23/19

Quant Time: May 23 14:44:30 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	191541	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.076	136	760566	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.857	162	336278	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.371	188	539341	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.345	240	470913	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.859	264	422411	2000.00	ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.255	292	401761	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.546	112	66814	536.59	ng/ml	0.00
5) Phenol-d6(Surr)	6.450	99	86207	538.23	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	75933	540.59	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.162	172	133772	563.81	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.659	330	14983	577.37	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.232	244	130371	588.13	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.155	74	78974	836.76	ng/ml	98
3) Pyridine	4.188	79	107158m	695.84	ng/ml	
6) Phenol	6.461	94	157218	881.50	ng/ml	98
7) Aniline	6.487	93	96707	513.54	ng/ml	86
8) Bis(2-chloroethyl) ether	6.536	93	141521	872.65	ng/ml	98
9) 2-Chlorophenol	6.605	128	118145	907.30	ng/ml	99
10) 1,3-Dichlorobenzene	6.755	146	123743	844.56	ng/ml	95
11) 1,4-Dichlorobenzene	6.824	146	123533	845.13	ng/ml	99
12) Benzyl alcohol	6.942	108	67497	886.71	ng/ml	96
13) 1,2-Dichlorobenzene	6.980	146	121718	855.59	ng/ml	98
14) 2-Methylphenol	7.049	107	94255	934.48	ng/ml	96
15) 2,2'-Oxybis(1-Chloropr...	7.065	45	149949	817.07	ng/ml	92
16) N-Nitrosodi-n-propylamine	7.193	70	89800	846.13	ng/ml	99
17) 3+4-Methylphenol	7.199	107	122615	933.45	ng/ml	98
18) Hexachloroethane	7.311	201	37999	964.55	ng/ml	94
20) Nitrobenzene	7.370	77	127420	935.16	ng/ml	98
22) Isophorone	7.605	82	243261	858.77	ng/ml	96
23) 2-Nitrophenol	7.691	139	70266	1170.49	ng/ml	92
24) 2,4-Dimethylphenol	7.728	122	90531	779.49	ng/ml	98
25) Bis(2-chloroethoxy) me...	7.809	93	136218	896.59	ng/ml	99
26) Benzoic acid	7.803	105	56430	1509.69	ng/ml	97
27) 2,4-Dichlorophenol	7.937	162	86629	927.32	ng/ml	98
28) 1,2,4-Trichlorobenzene	8.017	180	98476	911.58	ng/ml	98
29) Naphthalene	8.097	128	343514	872.55	ng/ml	98
30) 4-Chloroaniline	8.151	127	75284	608.72	ng/ml	97
31) Hexachlorobutadiene	8.220	225	51791	882.39	ng/ml	97
32) 4-Chloro-3-methylphenol	8.627	107	96733	878.89	ng/ml	97
33) 2-Methylnaphthalene	8.793	142	221724	858.85	ng/ml	96
34) 1-Methylnaphthalene	8.894	142	208035	830.77	ng/ml	96
36) Hexachlorocyclopentadiene	8.959	237	51721	1110.01	ng/ml	98
37) 2,4,6-Trichlorophenol	9.082	196	54275	909.33	ng/ml	99
38) 2,4,5-Trichlorophenol	9.119	198	52033	973.83	ng/ml	95
39) 1,1'-Biphenyl	9.258	154	616	N.D.		
41) 2-Chloronaphthalene	9.290	162	186572	967.82	ng/ml	93
42) 2-Nitroaniline	9.386	138	59830	962.08	ng/ml	100
43) 2,6-Dimethylnaphthalene	9.542	156	53	N.D.		

Data Path : T:\data\2019-05\9E23010\
Data File : J05231909.D
Acq On : 23 May 2019 1:19 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-BS1@4
Misc : 4x, 8270D LL FULL LIST
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

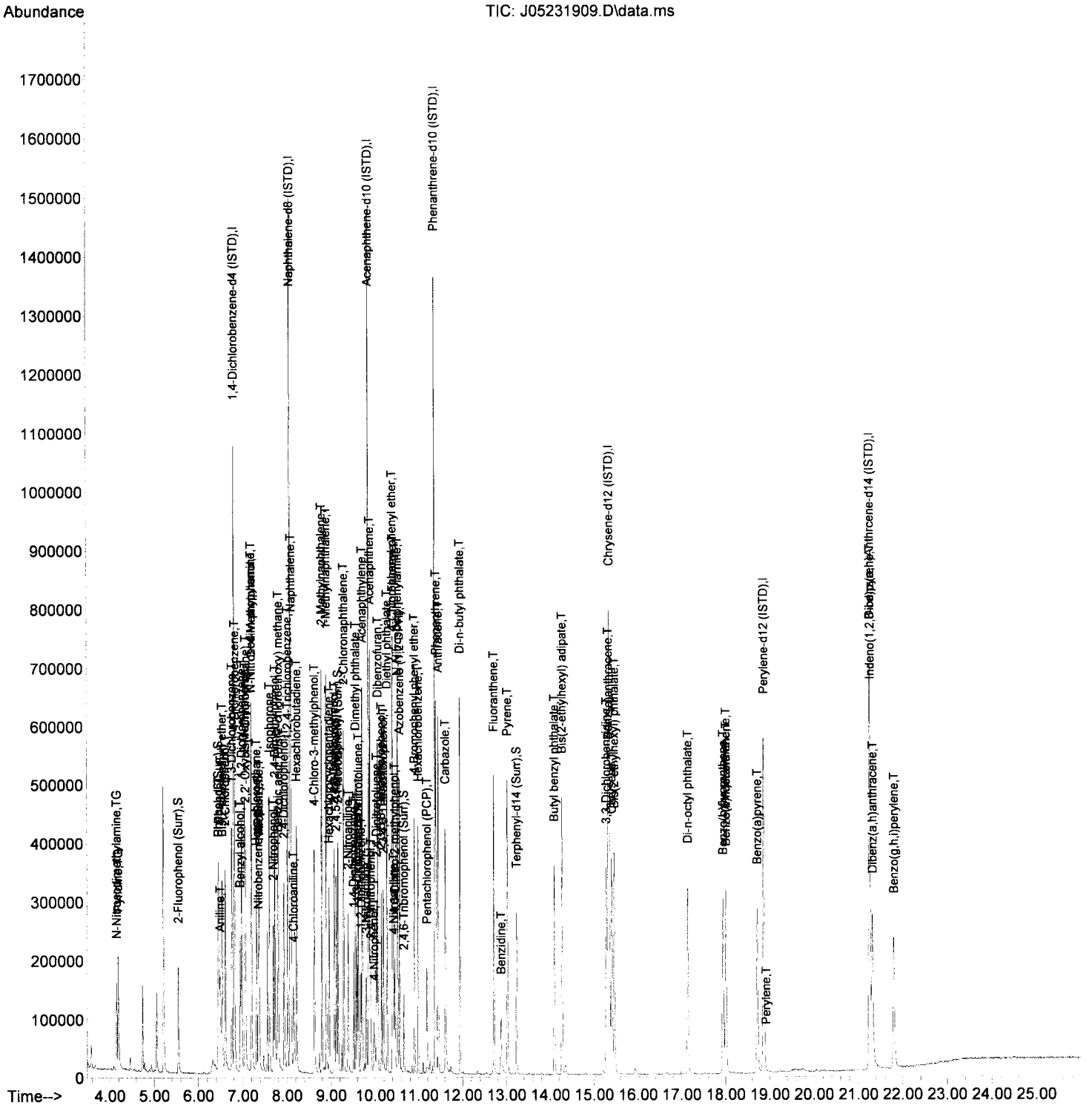
Quant Time: May 23 14:44:30 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.515	168	26118	1157.15	ng/ml	97
45) Dimethyl phthalate	9.563	163	209339	894.98	ng/ml	98
46) 1,3-Dinitrobenzene	9.595	168	30841	1068.73	ng/ml	99
47) 2,6-Dinitrotoluene	9.627	165	49248	998.77	ng/ml	92
48) 1,2-Dinitrobenzene	9.686	168	20637	915.70	ng/ml	94
49) Acenaphthylene	9.713	152	312565	929.19	ng/ml	100
50) 3-Nitroaniline	9.804	138	35942	781.81	ng/ml	93
51) Acenaphthene	9.889	153	193638	895.07	ng/ml	98
52) 2,4-Dinitrophenol	9.905	184	13937	1412.64	ng/ml	84
53) 4-Nitrophenol	9.980	139	25481	812.89	ng/ml	91
54) 2,4-Dinitrotoluene	10.039	165	57496	958.48	ng/ml	97
55) Dibenzofuran	10.066	168	249171	881.60	ng/ml	98
56) 2,3,5,6-Tetrachlorophenol	10.146	232	37535	889.32	ng/ml	99
57) 2,3,4,6-Tetrachlorophenol	10.194	232	40772	887.60	ng/ml	93
58) Diethyl phthalate	10.274	149	213493	955.66	ng/ml	99
59) 2,3,5-Trimethylnaphtha...	10.232	170	57	N.D.		
60) Fluorene	10.413	166	195368	882.70	ng/ml	98
61) 4-Chlorophenyl phenyl ...	10.403	204	86007	849.18	ng/ml	95
62) 4-Nitroaniline	10.429	138	38742	915.99	ng/ml	88
63) 4,6-Dinitro-2-methylph...	10.456	198	24591	1407.69	ng/ml	96
65) N-Nitrosodiphenylamine	10.520	169	160444	966.22	ng/ml	99
66) Azobenzene (1,2-DPH)	10.563	77	214856	956.01	ng/ml	96
68) 4-Bromophenyl phenyl e...	10.900	248	48008	904.30	ng/ml	93
69) Hexachlorobenzene	10.986	284	56645	875.09	ng/ml	99
70) Pentachlorophenol (PCP)	11.184	266	22644	791.03	ng/ml	95
71) Phenanthrene	11.398	178	268033	915.85	ng/ml	99
72) Anthracene	11.446	178	264759	928.90	ng/ml	99
73) Carbazole	11.606	167	230603	956.01	ng/ml	97
74) Di-n-butyl phthalate	11.938	149	340541	1032.58	ng/ml	99
75) Fluoranthene	12.708	202	279846	958.86	ng/ml	98
76) Benzidine	12.874	184	63910	655.28	ng/ml	98
77) Pyrene	13.023	202	290306	965.22	ng/ml	99
80) Butyl benzyl phthalate	14.093	149	137097	1000.24	ng/ml	99
81) Bis(2-ethylhexyl) adipate	14.270	129	147805	1101.49	ng/ml	97
82) 3,3-Dichlorobenzidine	15.281	252	140050	3683.82	ng/ml	99
83) Benz(a)anthracene	15.323	228	245810	956.59	ng/ml	98
84) Chrysene	15.404	228	236406	948.15	ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.462	149	190365	962.36	ng/ml	98
87) Di-n-octyl phthalate	17.137	149	296780	1020.84	ng/ml	98
88) Benzo(b)fluoranthene	17.939	252	234380	963.06	ng/ml	98
89) Benzo(k)fluoranthene	18.003	252	239468	967.51	ng/ml	97
90) Benzo(b+k)fluoranthene	18.003	252	481897	1930.27	ng/ml	97
91) Benzo(e)pyrene	18.586	252	117	N.D.		
92) Benzo(a)pyrene	18.714	252	221213	993.56	ng/ml	98
93) Perylene	18.912	252	731	3.41	ng/ml	97
95) Indeno(1,2,3-cd)pyrene	21.260	276	196454	874.08	ng/ml	92
96) Dibenz(a,h)anthracene	21.319	278	190460	947.33	ng/ml	92
97) Benzo(g,h,i)perylene	21.801	276	200321	922.14	ng/ml	97

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

Data Path : T:\data\2019-05\9E23010\
Data File : J05231909.D
Acq On : 23 May 2019 1:19 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-BS1@4
Misc : 4x, 8270D LL FULL LIST
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:30 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

MOC
AMS 5/23/19

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.808	152	187203	2000.00 ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.076	136	771304	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.857	162	346599	2000.00 ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.371	188	541694	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.345	240	468376	2000.00 ng/ml	0.00
86) Perylene-d12 (ISTD)	18.859	264	421436	2000.00 ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.250	292	390289	2000.00 ng/ml	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	0.000	112	0	0.00 ng/ml	
5) Phenol-d6(Surr)	0.000	99	0	0.00 ng/ml	
19) Nitrobenzene-d5 (Surr)	0.000	82	0	0.00 ng/ml	
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)	13.237	244	75	0.34 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	
3) Pyridine	4.278	79	77	N.D.	
6) Phenol	6.487	94	3453	29.37 ng/ml	92
7) Aniline	6.493	93	456	N.D.	
8) Bis(2-chloroethyl) ether	6.493	93	456	2.88 ng/ml#	67
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	7.070	107	841	8.53 ng/ml#	51
15) 2,2'-Oxybis(1-Chloropr...	0.000		0	N.D.	
16) N-Nitrosodi-n-propylamine	7.151	70	51	N.D.	
17) 3+4-Methylphenol	7.220	107	1468	22.03 ng/ml	86
18) Hexachloroethane	0.000		0	N.D.	
20) Nitrobenzene	7.359	77	383	2.88 ng/ml#	15
22) Isophorone	0.000		0	N.D.	
23) 2-Nitrophenol	0.000		0	N.D.	
24) 2,4-Dimethylphenol	7.750	122	275	27.60 ng/ml#	59
25) Bis(2-chloroethoxy) me...	0.000		0	N.D.	
26) Benzoic acid	7.894	105	138	753.94 ng/ml#	1
27) 2,4-Dichlorophenol	0.000		0	N.D.	
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
29) Naphthalene	8.097	128	375482	940.48 ng/ml	100
30) 4-Chloroaniline	8.156	127	338	17.14 ng/ml#	49
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	0.000		0	N.D.	
33) 2-Methylnaphthalene	8.793	142	88832	339.30 ng/ml	98
34) 1-Methylnaphthalene	8.894	142	41575	163.72 ng/ml	98
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	9.263	154	40607	144.53 ng/ml	98
41) 2-Chloronaphthalene	9.338	162	90	N.D.	
42) 2-Nitroaniline	0.000		0	N.D.	
43) 2,6-Dimethylnaphthalene	9.434	156	5846	28.38 ng/ml	98

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

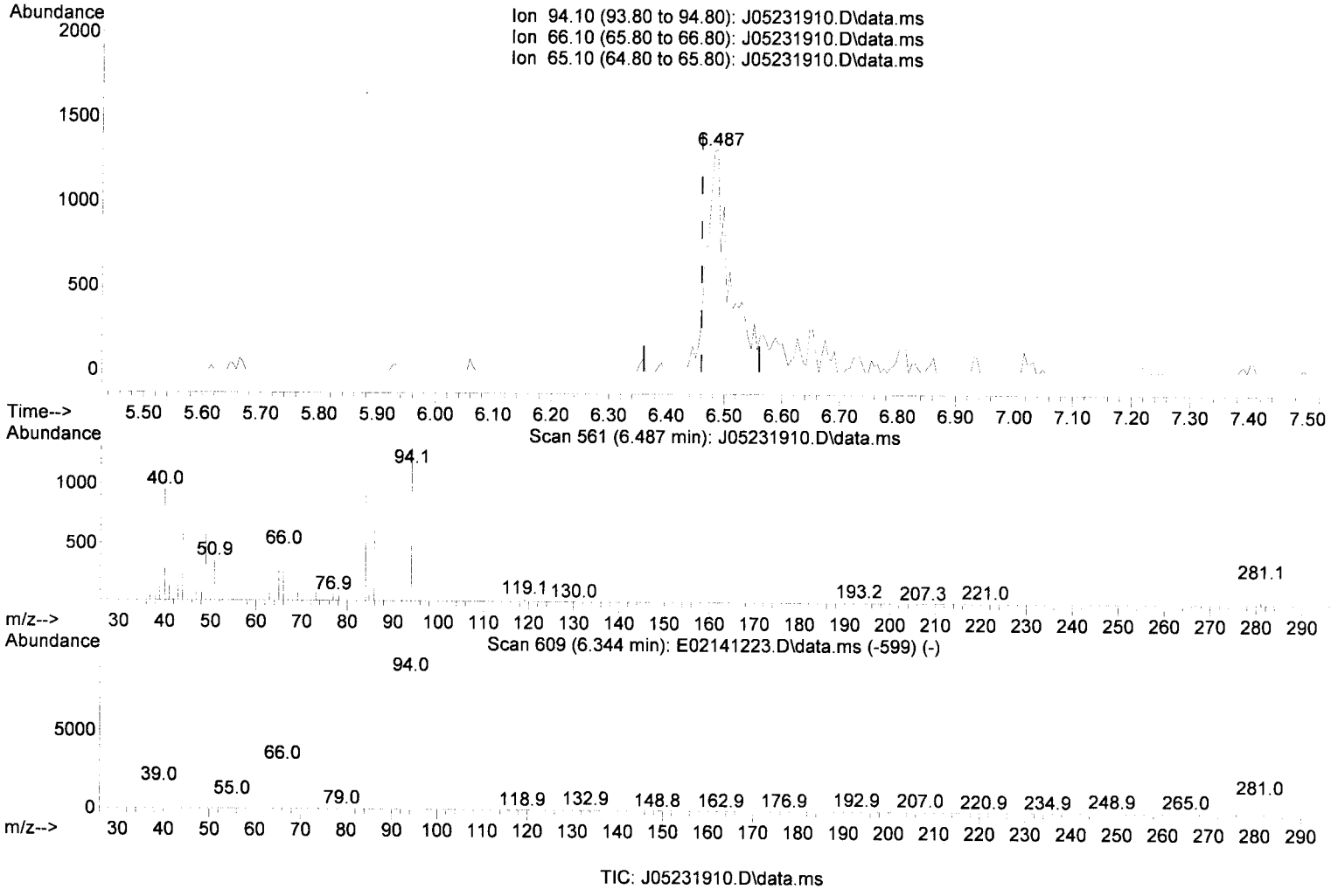
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.536	168	381	136.79 ng/ml#	40
45) Dimethyl phthalate	9.536	163	76	N.D.	
46) 1,3-Dinitrobenzene	9.536	168	381	77.20 ng/ml#	10
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	9.713	152	2091	6.03 ng/ml	88
50) 3-Nitroaniline	9.862	138	52	N.D.	
51) Acenaphthene	9.889	153	128585	576.67 ng/ml	100
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	10.012	139	192	78.81 ng/ml#	34
54) 2,4-Dinitrotoluene	10.055	165	151	62.42 ng/ml#	1
55) Dibenzofuran	10.066	168	92989	319.21 ng/ml	99
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...	10.280	170	328	N.D.	
60) Fluorene	10.413	166	67367	295.31 ng/ml	96
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	
62) 4-Nitroaniline	10.413	138	735	16.86 ng/ml#	23
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	10.526	169	234	N.D.	
66) Azobenzene (1,2-DPH)	10.574	77	414	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	11.397	178	315152	1072.18 ng/ml	99
72) Anthracene	11.451	178	85635	299.14 ng/ml	98
73) Carbazole	11.606	167	34509	142.44 ng/ml	96
74) Di-n-butyl phthalate	11.948	149	73	N.D.	
75) Fluoranthene	12.713	202	205707	701.77 ng/ml	98
76) Benzidine	12.900	184	54	80.86 ng/ml	66
77) Pyrene	13.023	202	179866	595.43 ng/ml	98
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.270	129	12904	96.69 ng/ml	93
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.318	228	40433	158.20 ng/ml	98
84) Chrysene	15.403	228	38823	156.55 ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.414	149	52	N.D.	
87) Di-n-octyl phthalate	17.051	149	118	66.61 ng/ml	80
88) Benzo(b)fluoranthene	17.933	252	42363	183.24 ng/ml MOS	96
89) Benzo(k)fluoranthene	18.003	252	15834	72.80 ng/ml MOS	93
90) Benzo(b+k)fluoranthene	17.933	252	59473	253.29 ng/ml	95
91) Benzo(e)pyrene	18.591	252	22034	95.35 ng/ml	94
92) Benzo(a)pyrene	18.714	252	37532	177.96 ng/ml	93
93) Perylene	18.918	252	13015	60.84 ng/ml	97
95) Indeno(1,2,3-cd)pyrene	21.255	276	24892	114.01 ng/ml	81
96) Dibenz(a,h)anthracene	21.308	278	2863	14.66 ng/ml	76
97) Benzo(g,h,i)perylene	21.800	276	24544	116.30 ng/ml	92

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

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(6) Phenol (T)

6.487min (+ 0.027) 29.37 ng/ml

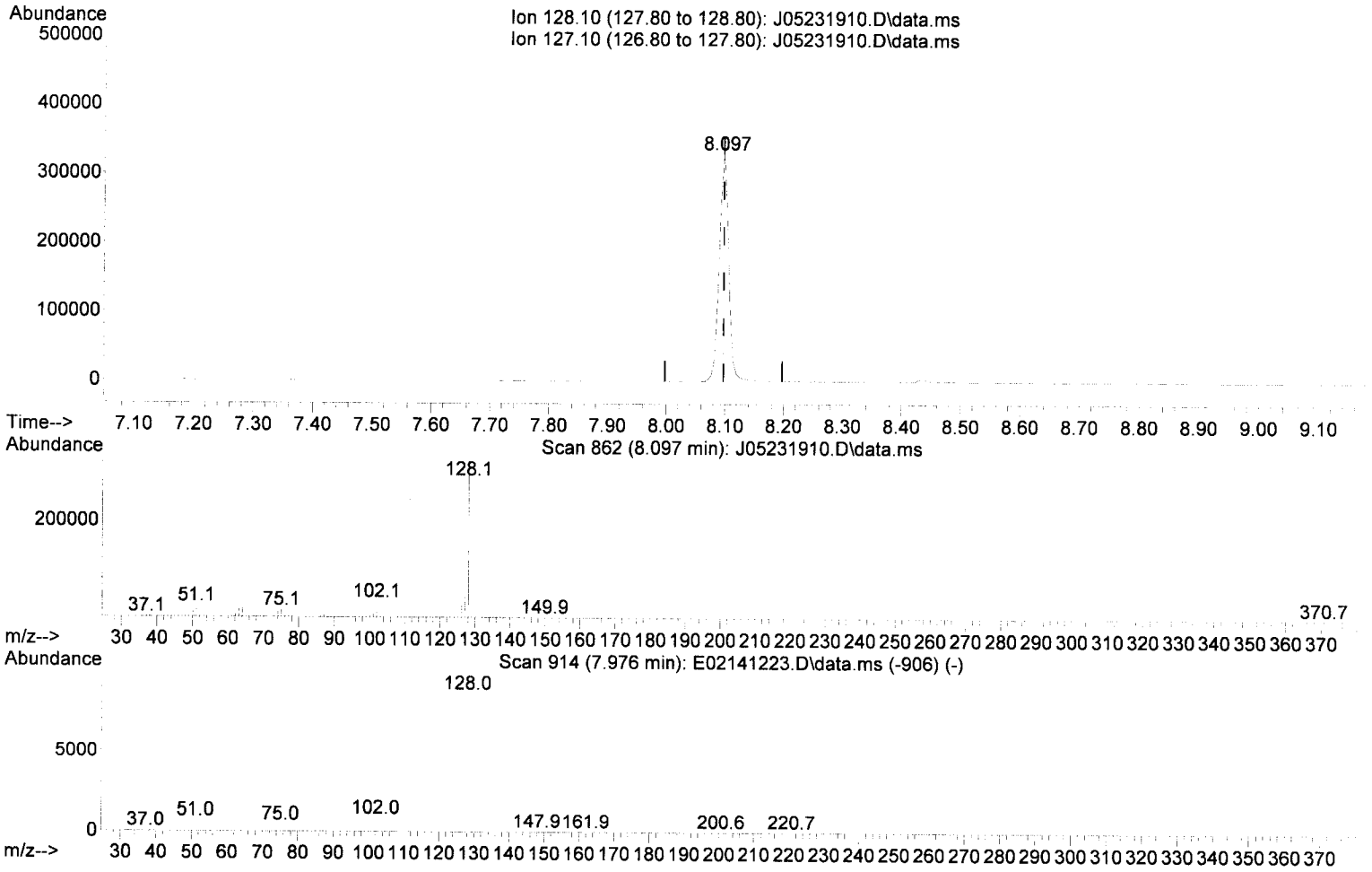
response 3453

Ion	Exp%	Act%
94.10	100.00	100.00
66.10	34.30	35.05
65.10	26.20	34.52
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(29) Naphthalene (T)

8.097min (-0.000) 940.48 ng/ml

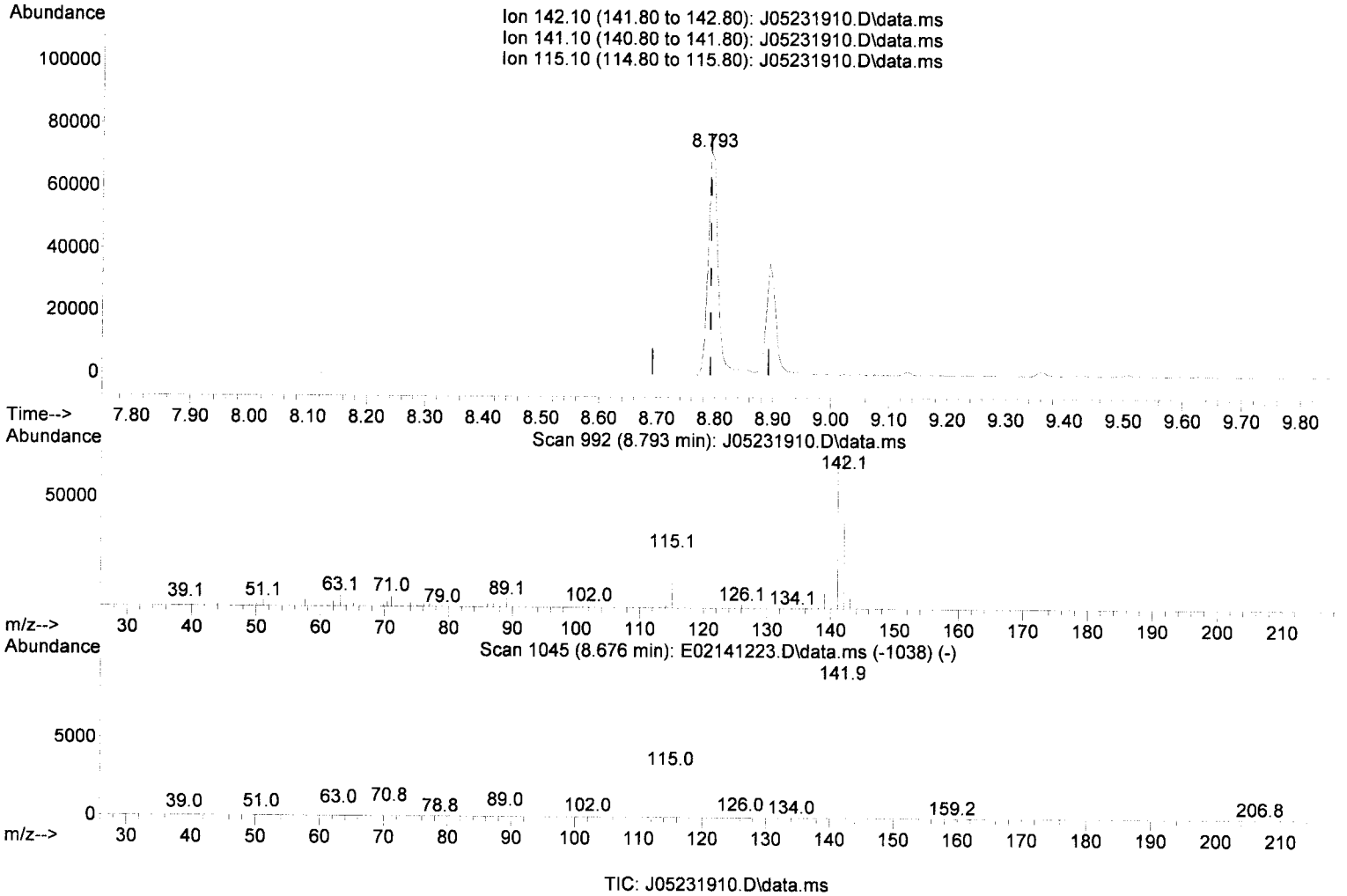
response 375482

Ion	Exp%	Act%
128.10	100.00	100.00
127.10	12.70	12.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(33) 2-Methylnaphthalene (T)

8.793min (-0.000) 339.30 ng/ml

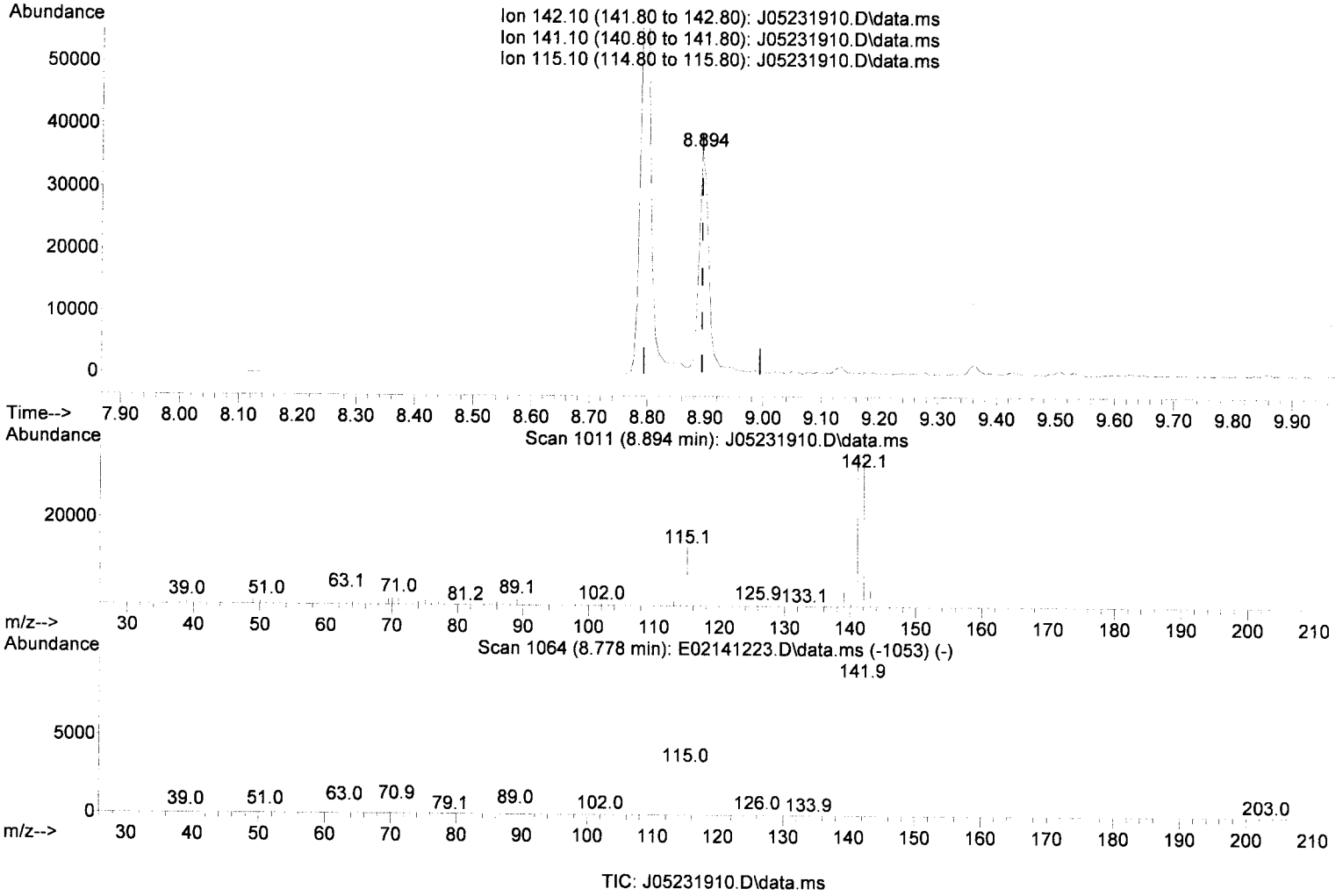
response 88832

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	86.30	88.28
115.10	33.70	35.57
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(34) 1-Methylnaphthalene (T)

8.894min (-0.000) 163.72 ng/ml

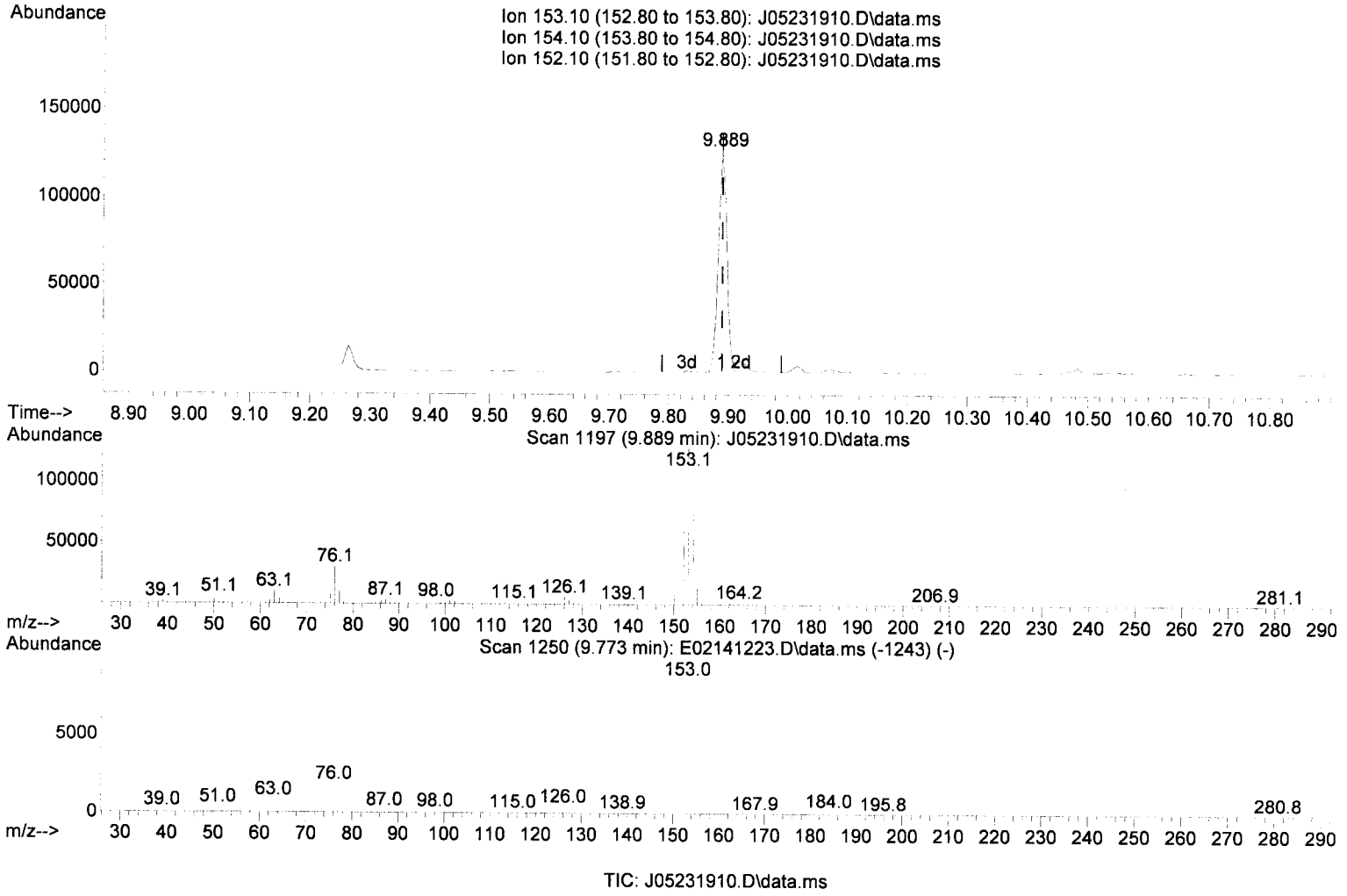
response 41575

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	89.20	89.79
115.10	34.90	37.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(51) Acenaphthene (T)

9.889min (-0.000) 576.67 ng/ml

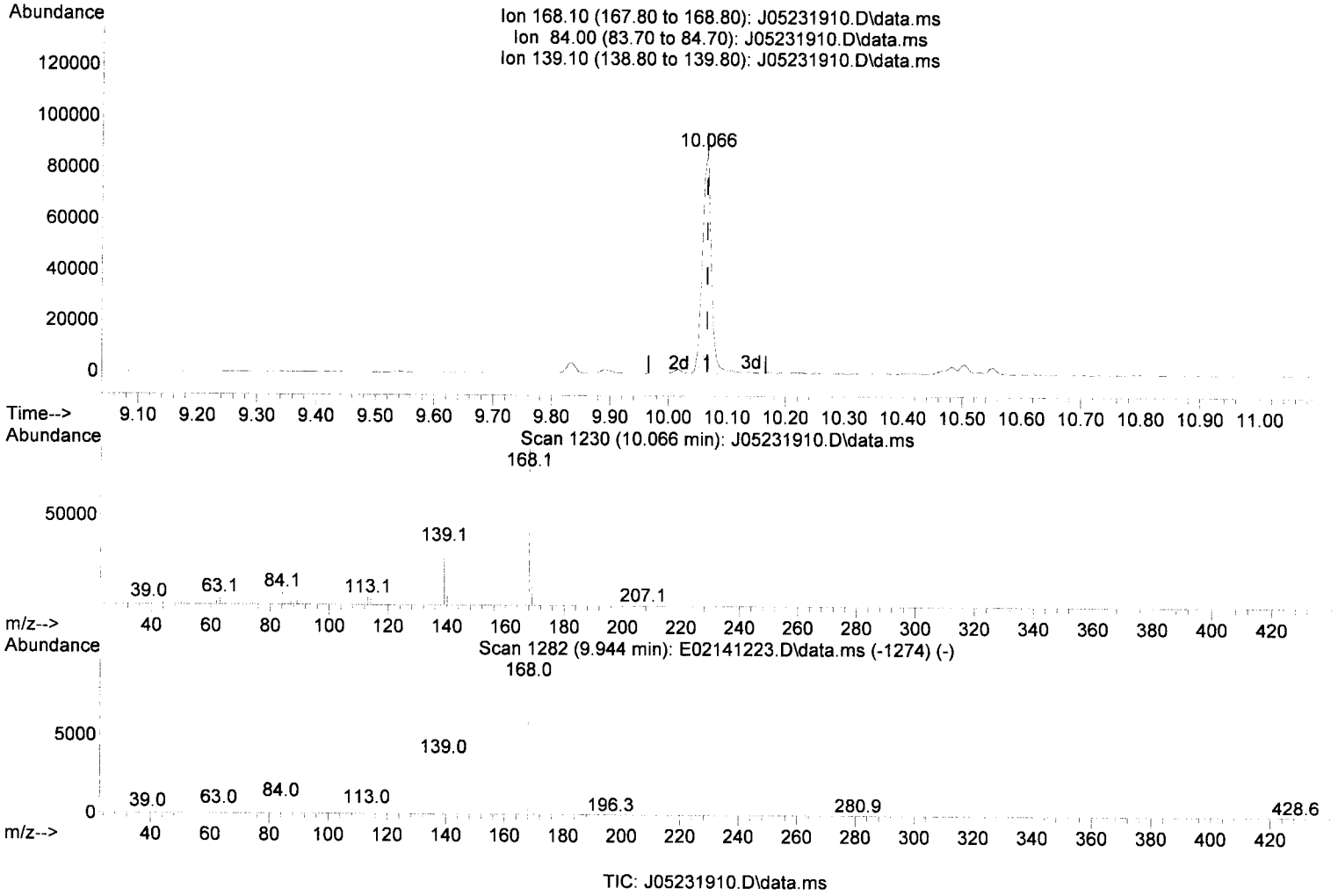
response 128585

Ion	Exp%	Act%
153.10	100.00	100.00
154.10	93.50	93.57
152.10	47.70	47.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(55) Dibenzofuran (T)

10.066min (-0.000) 319.21 ng/ml

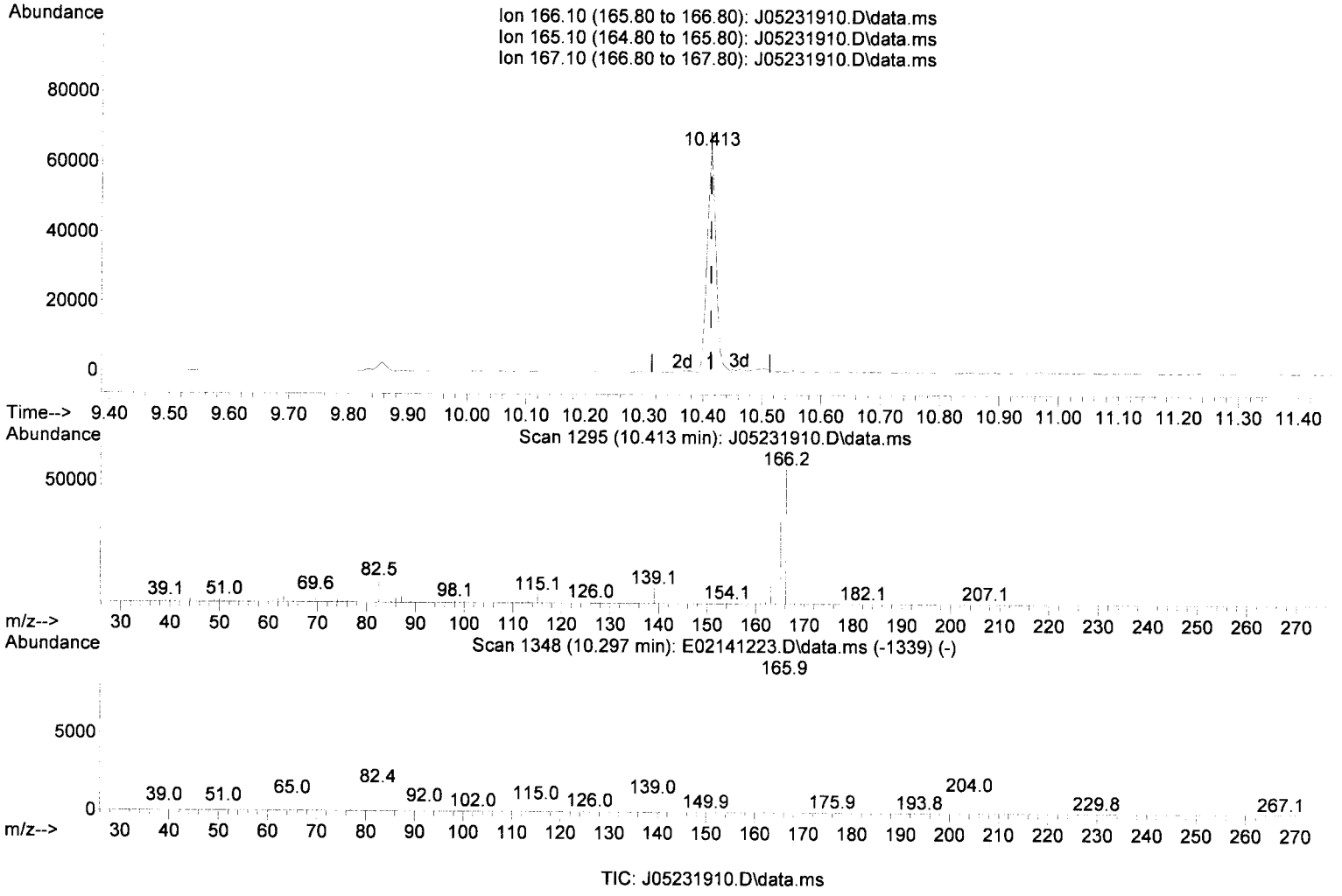
response 92989

Ion	Exp%	Act%
168.10	100.00	100.00
84.00	8.70	8.75
139.10	39.00	38.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(60) Fluorene (T)

10.413min (-0.000) 295.31 ng/ml

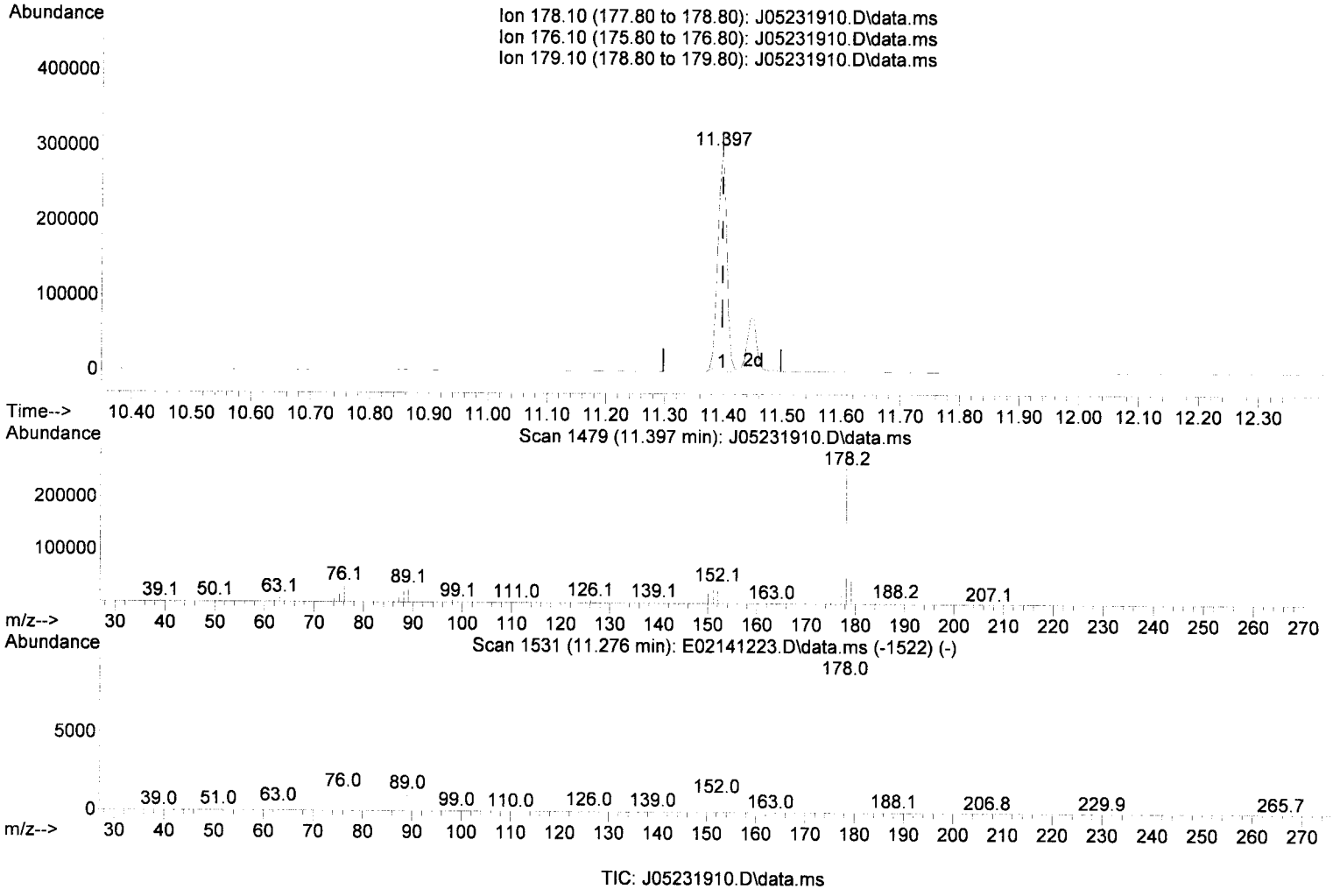
response 67367

Ion	Exp%	Act%
166.10	100.00	100.00
165.10	93.70	97.89
167.10	13.50	14.55
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(71) Phenanthrene (T)

11.397min (-0.000) 1072.18 ng/ml

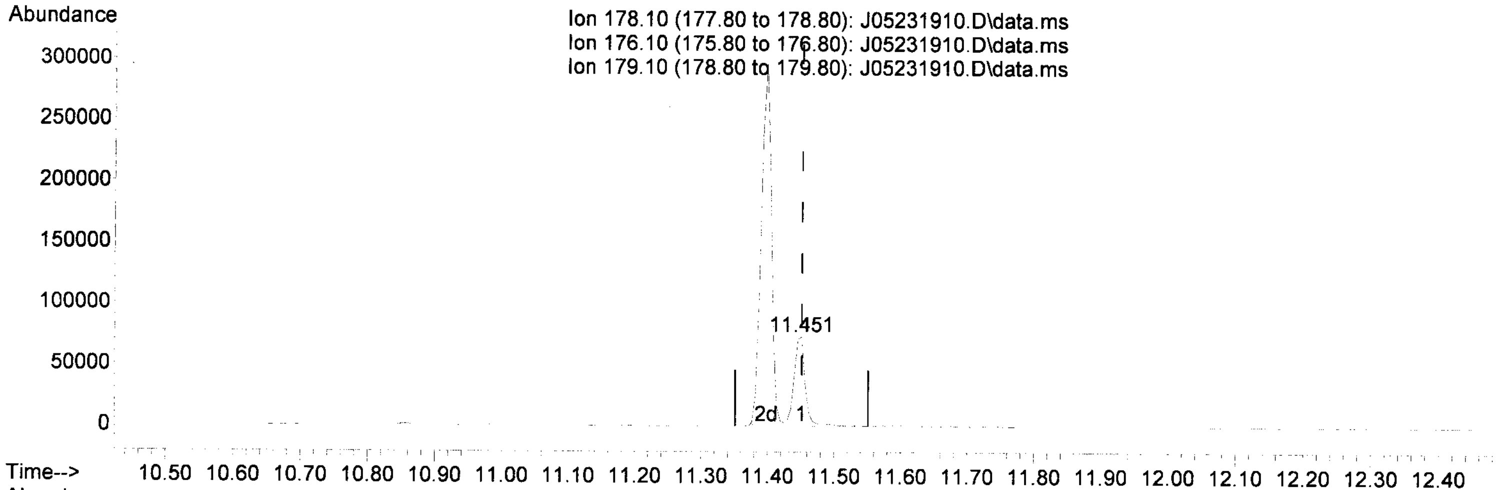
response 315152

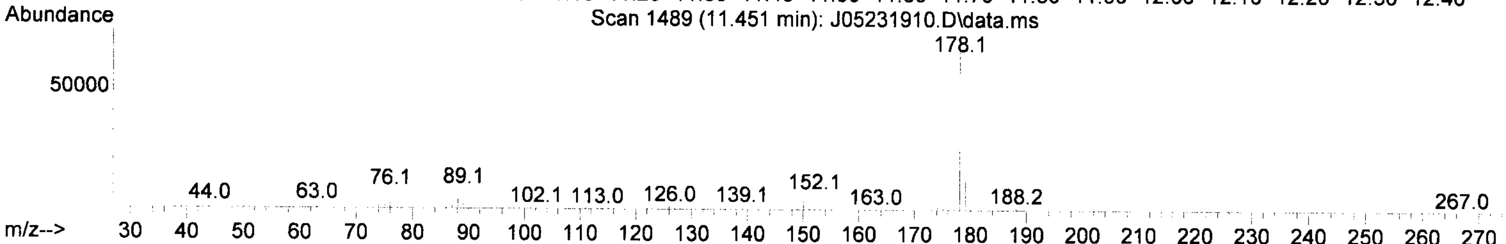
Ion	Exp%	Act%
178.10	100.00	100.00
176.10	19.40	19.14
179.10	15.20	16.17
0.00	0.00	0.00

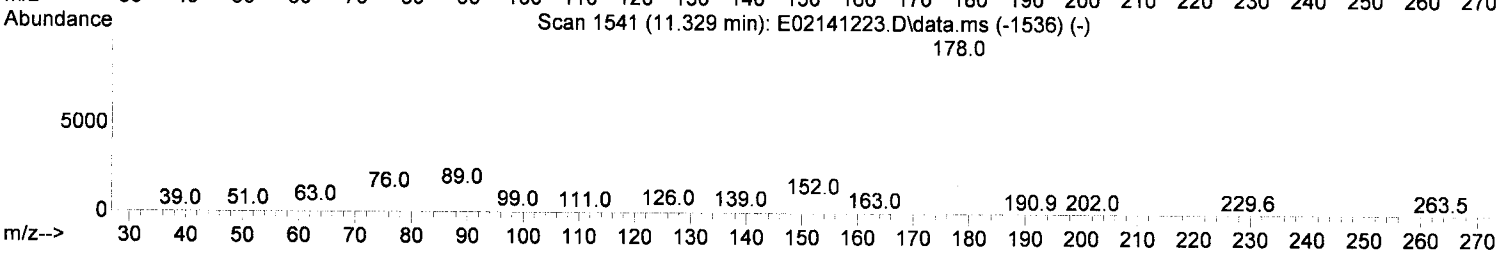
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J05231910.D\data.ms

(72) Anthracene (T)

11.451min (-0.000) 299.14 ng/ml

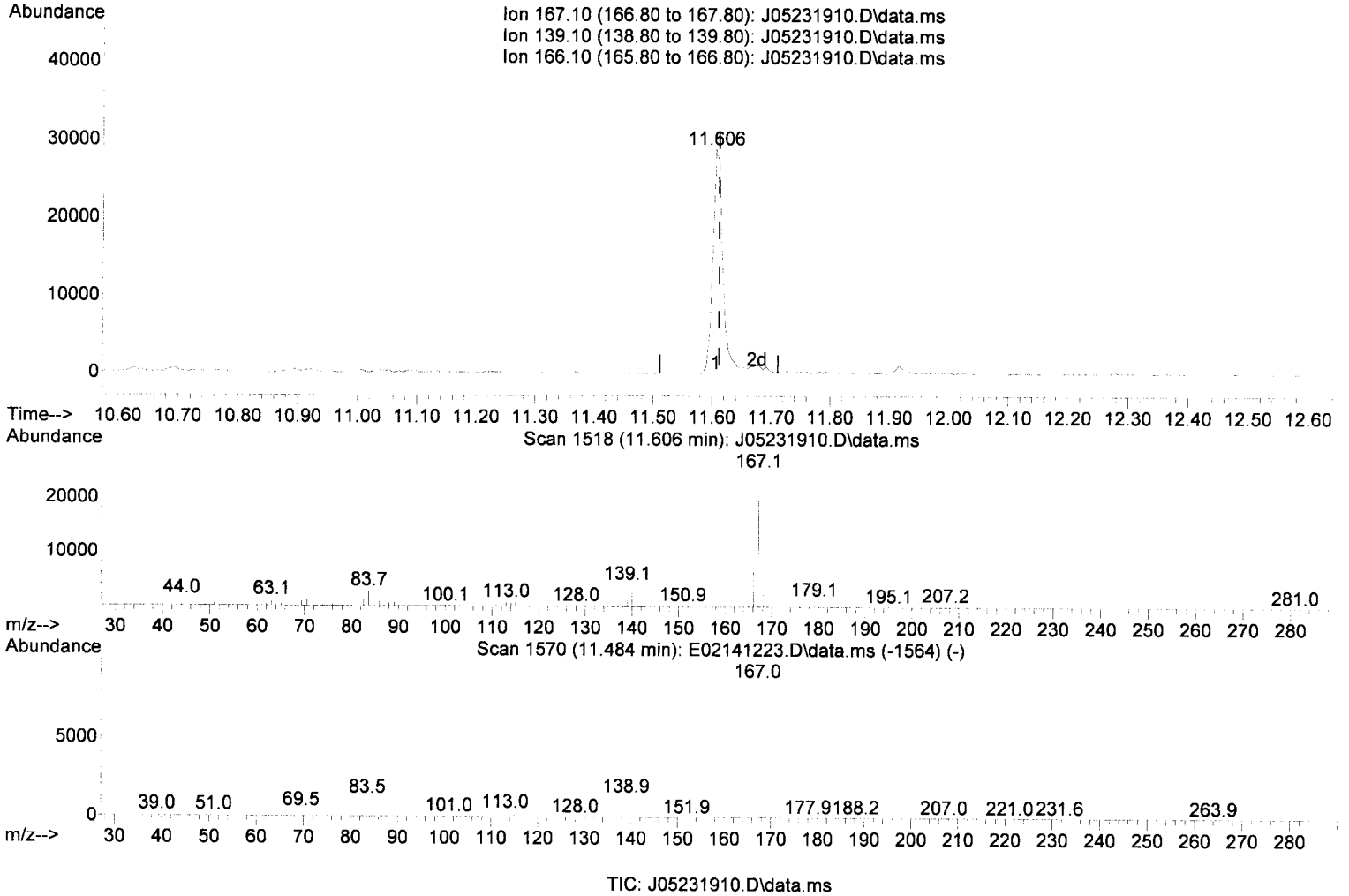
response 85635

Ion	Exp%	Act%
178.10	100.00	100.00
176.10	18.70	17.75
179.10	15.90	16.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(73) Carbazole (T)

11.606min (-0.006) 142.44 ng/ml

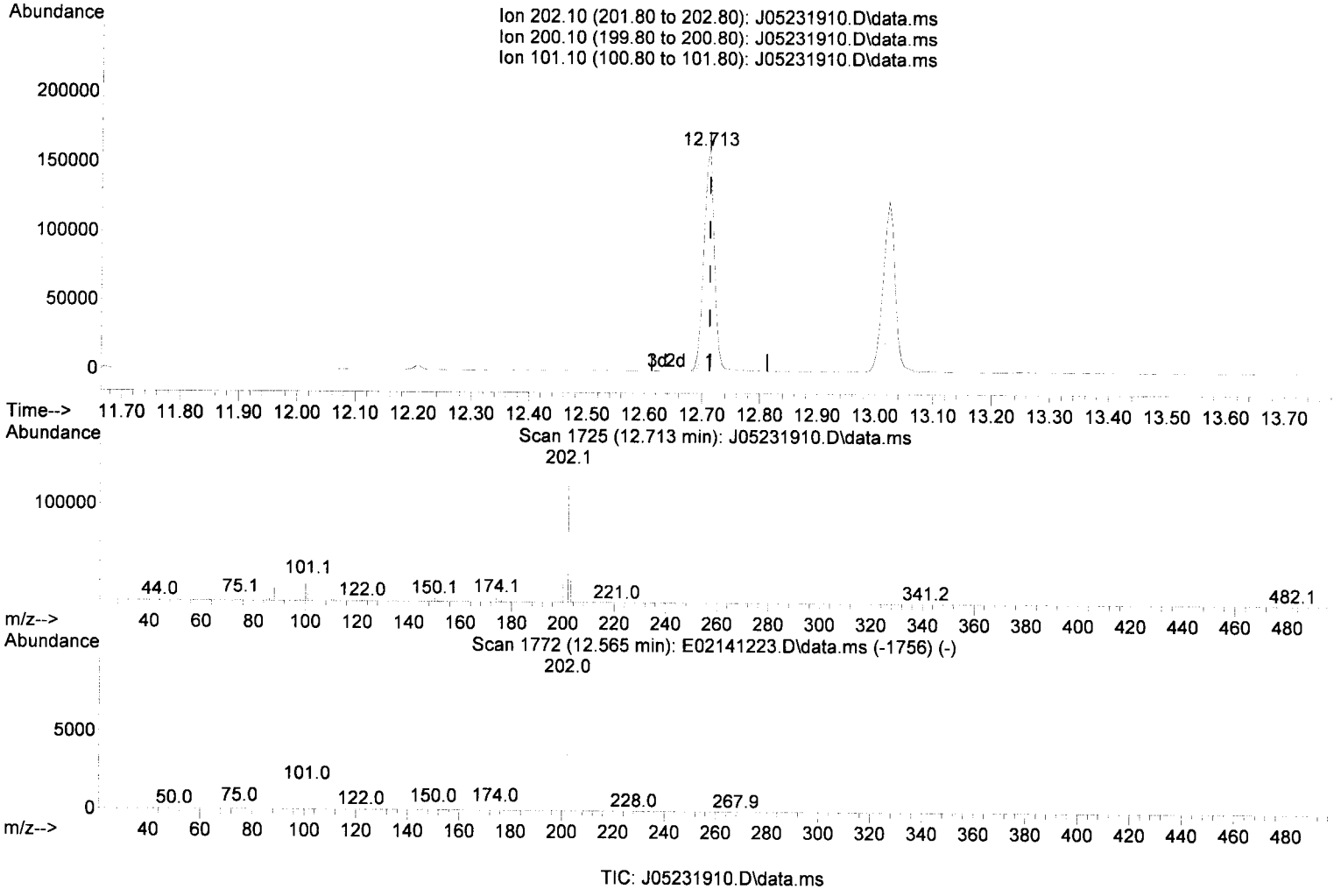
response 34509

Ion	Exp%	Act%
167.10	100.00	100.00
139.10	13.50	14.30
166.10	21.10	23.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(75) Fluoranthene (T)

12.713min (-0.000) 701.77 ng/ml

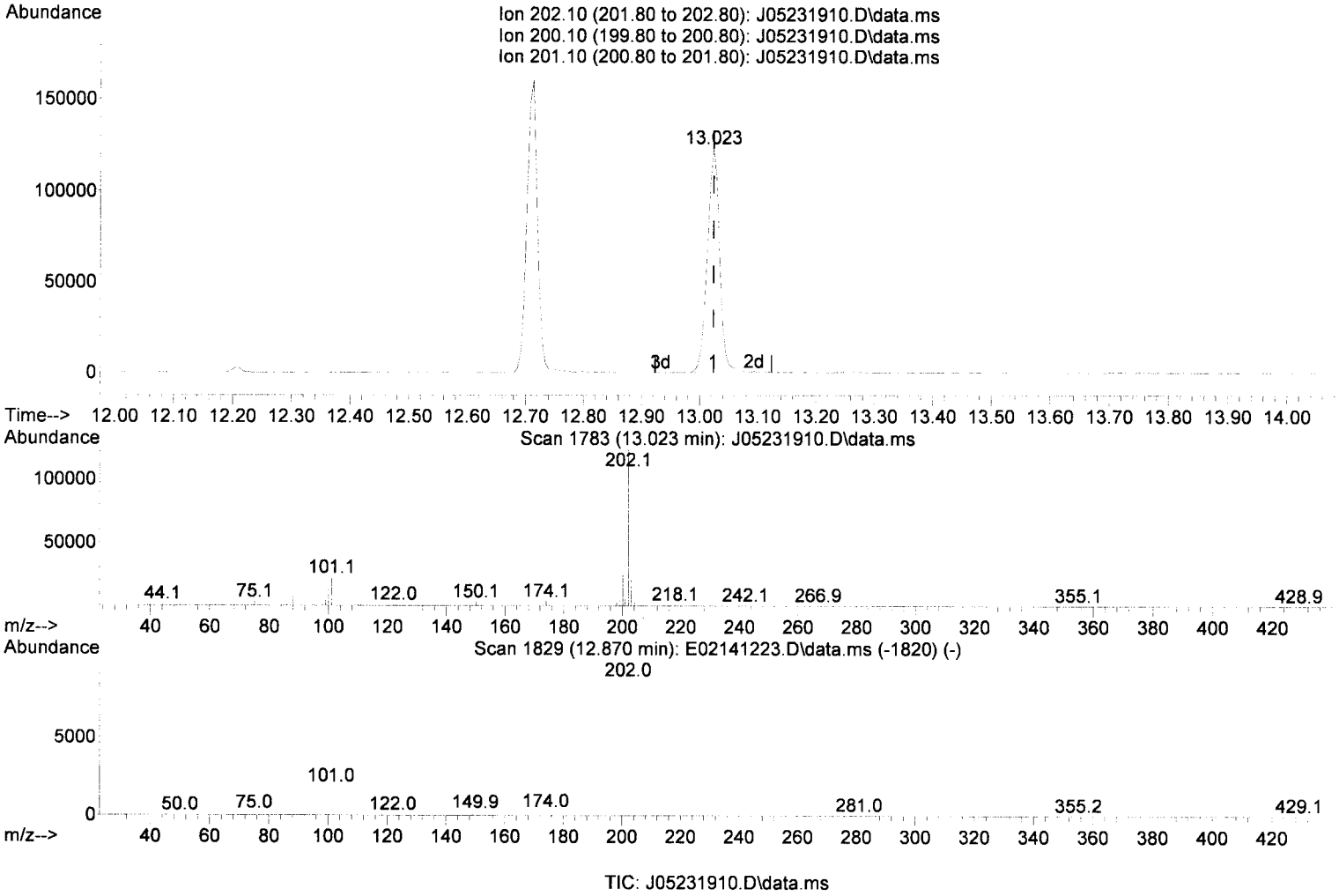
response 205707

Ion	Exp%	Act%
202.10	100.00	100.00
200.10	20.20	20.32
101.10	17.00	14.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(77) Pyrene (T)

13.023min (-0.000) 595.43 ng/ml

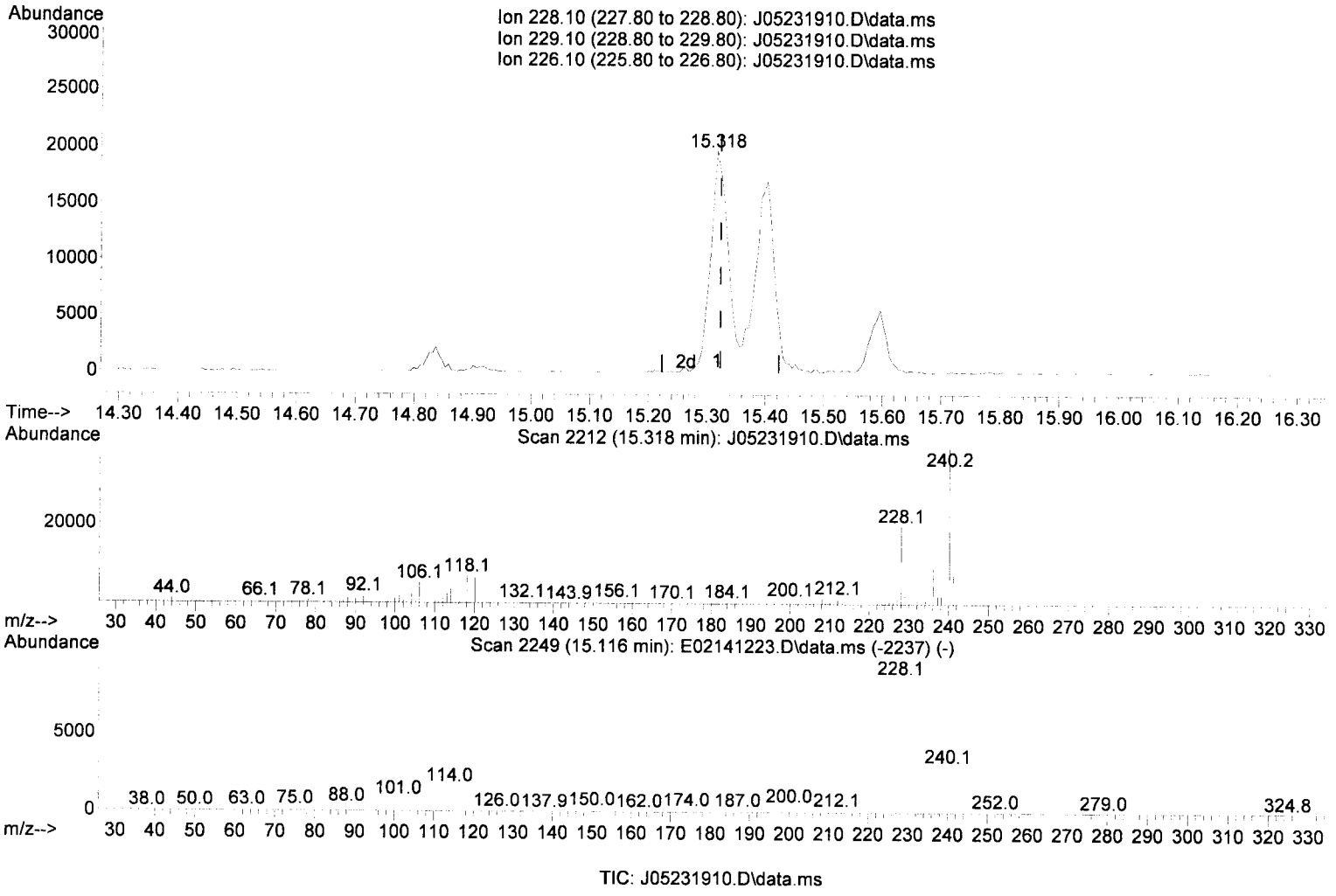
response 179866

Ion	Exp%	Act%
202.10	100.00	100.00
200.10	20.70	20.20
201.10	17.30	15.92
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(83) Benz(a)anthracene (T)

15.318min (-0.006) 158.20 ng/ml

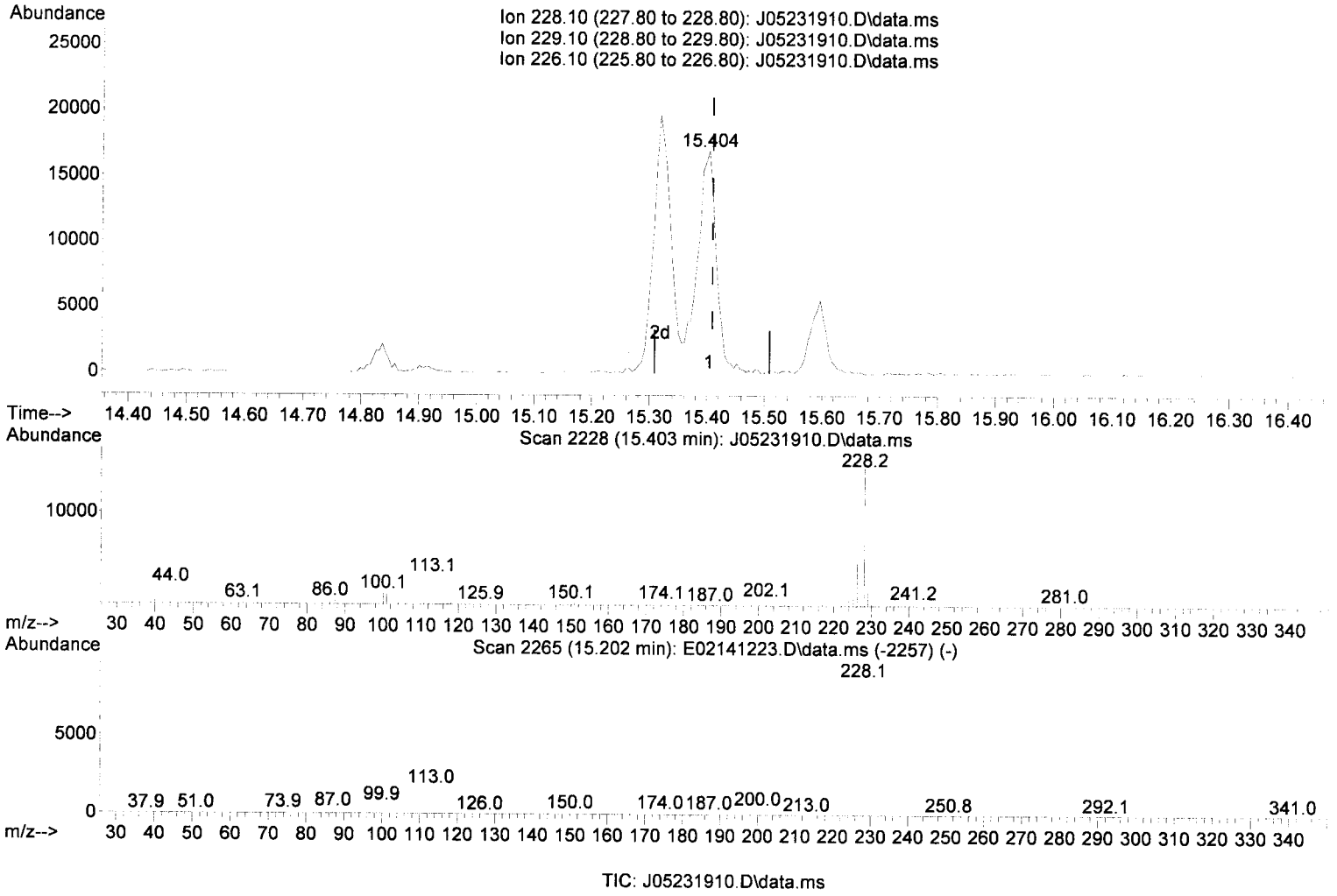
response 40433

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.60	19.34
226.10	26.50	24.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(84) Chrysene (T)

15.403min (-0.006) 156.55 ng/ml

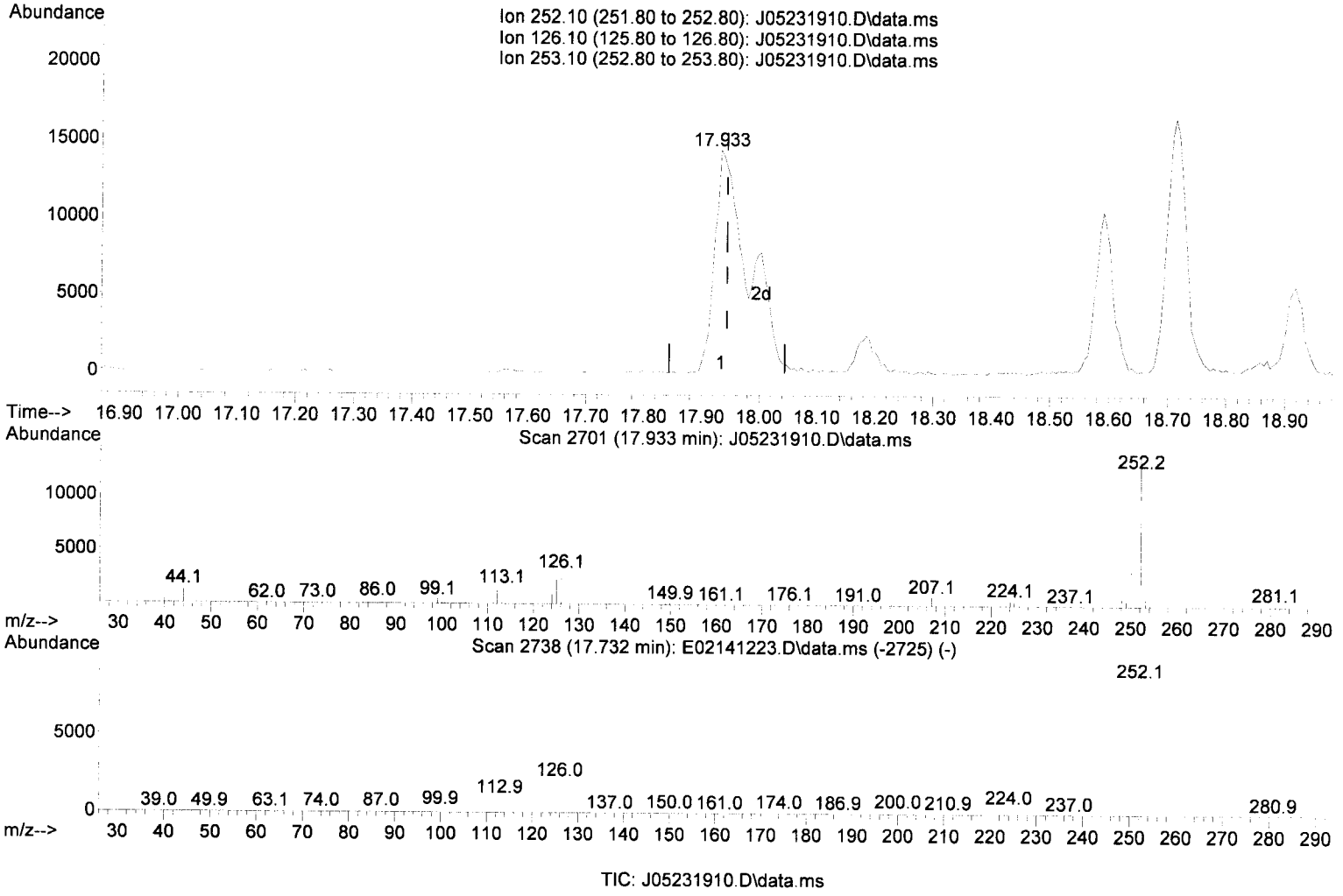
response 38823

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.50	18.44
226.10	29.30	27.52
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(88) Benzo(b)fluoranthene (T)

17.933min (-0.011) 183.24 ng/ml

response 42363

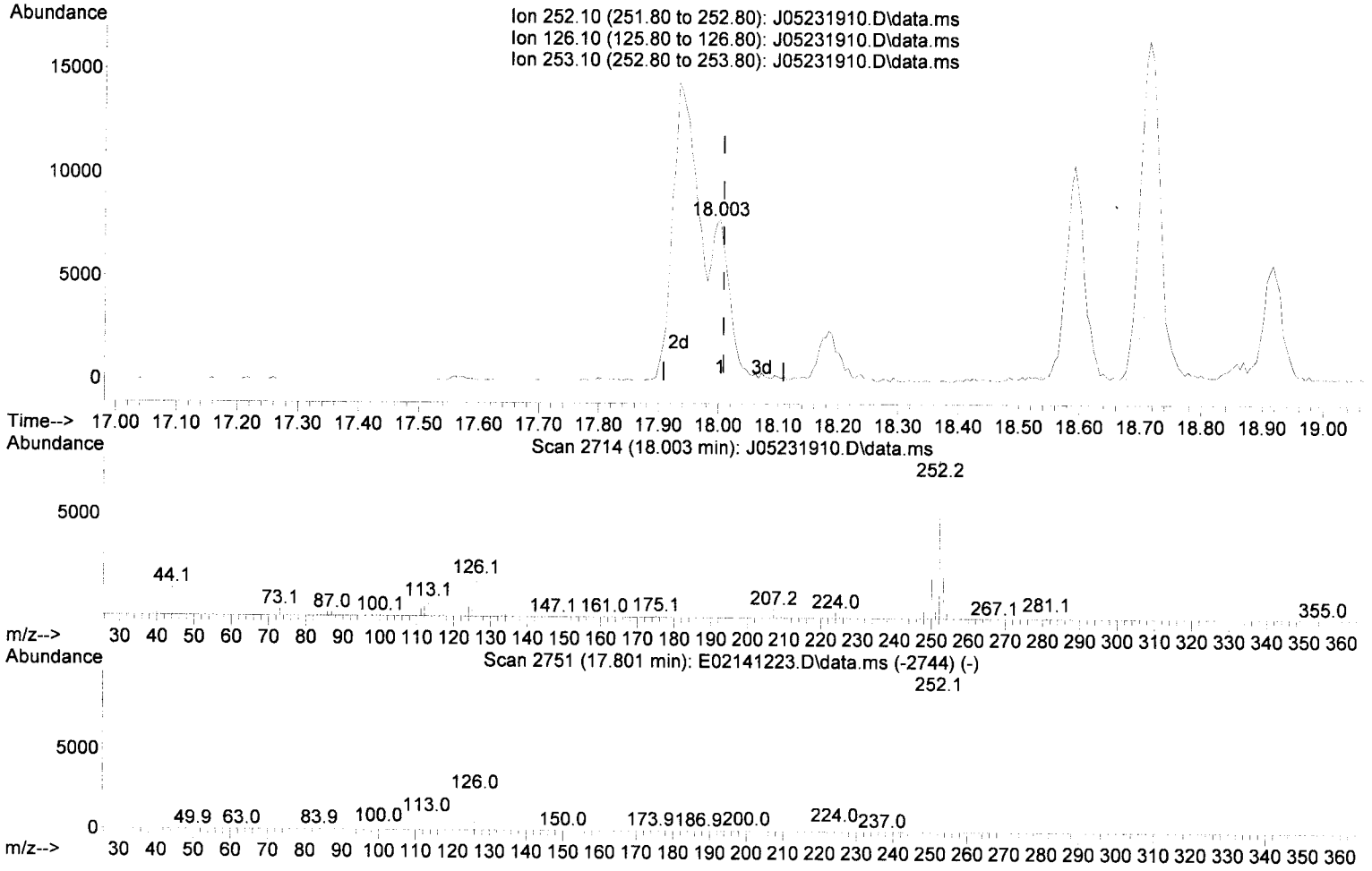
Ion	Exp%	Act%
252.10	100.00	100.00
126.10	21.90	20.44
253.10	22.00	19.63
0.00	0.00	0.00

MOS

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(89) Benzo(k)fluoranthene (T)

18.003min (-0.006) 72.80 ng/ml

response 15834

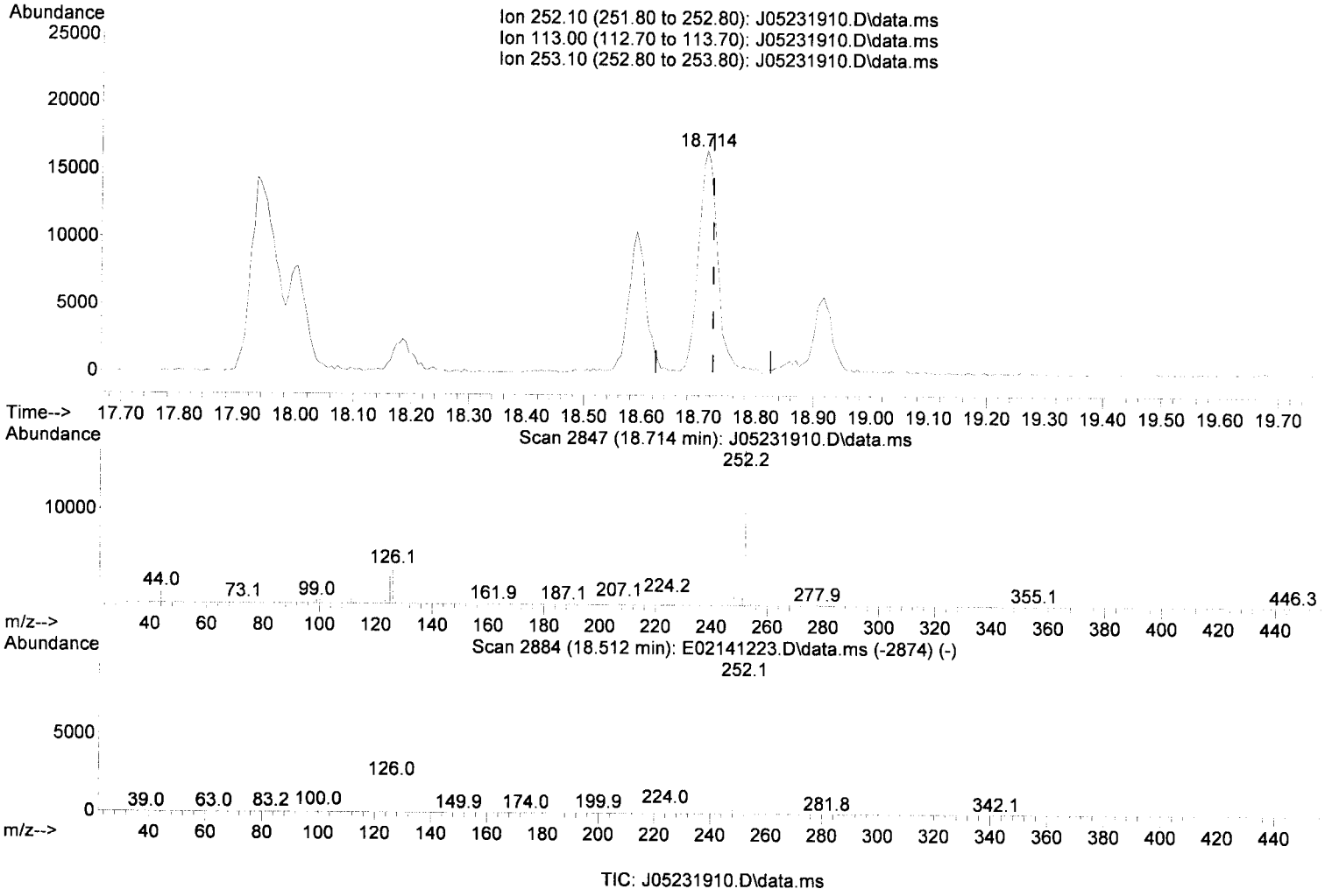
Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	24.31
253.10	21.70	27.19
0.00	0.00	0.00

MOS

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(92) Benzo(a)pyrene (T)

18.714min (-0.011) 177.96 ng/ml

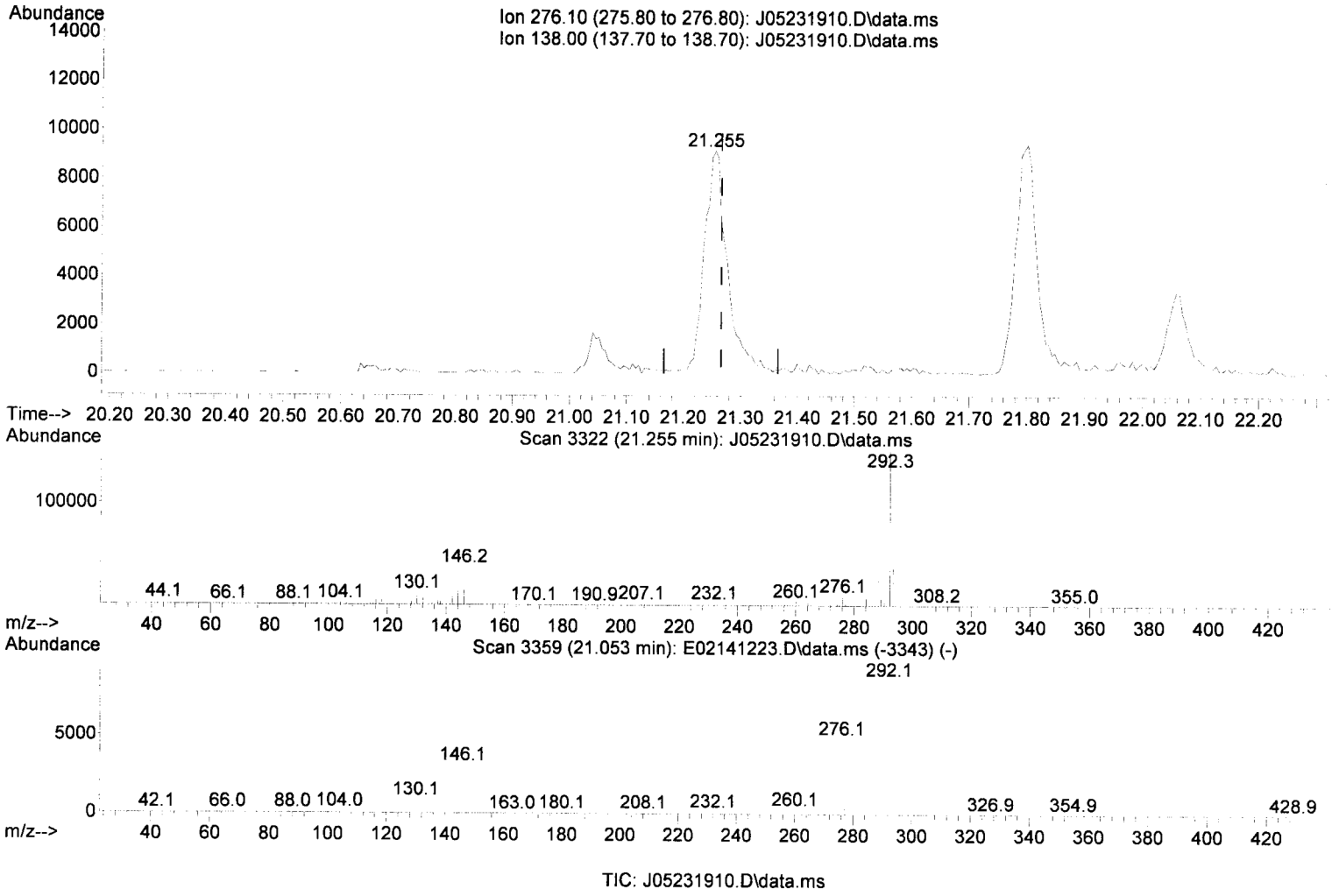
response 37532

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	13.40	10.95
253.10	21.60	25.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(95) Indeno(1,2,3-cd)pyrene (T)

21.255min (-0.011) 114.01 ng/ml

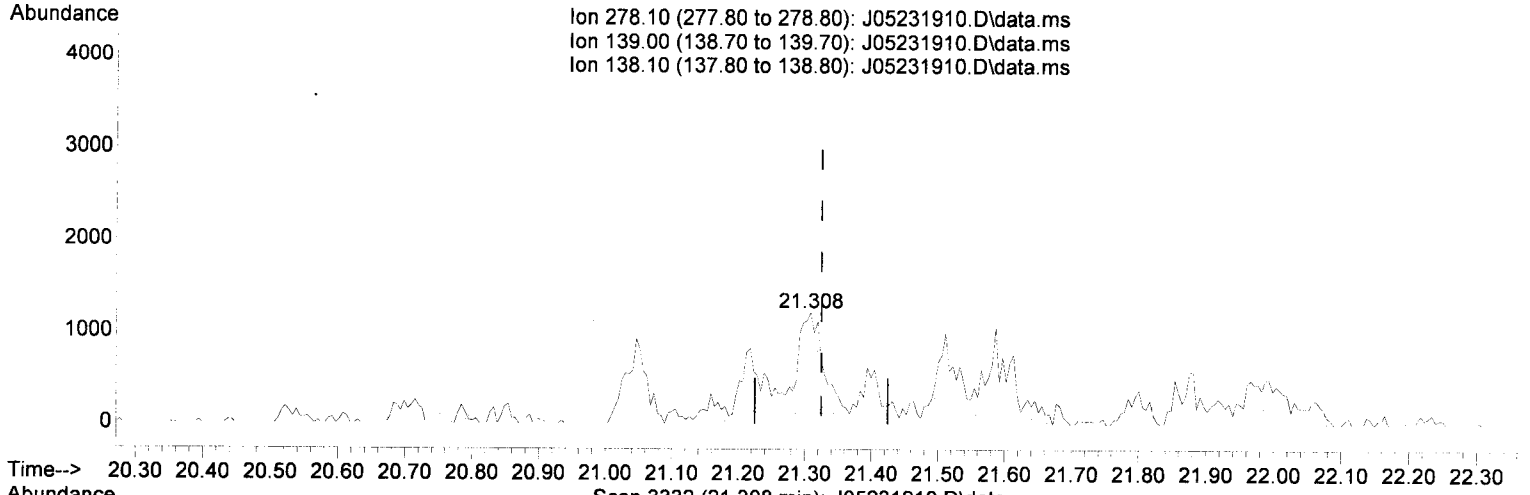
response 24892

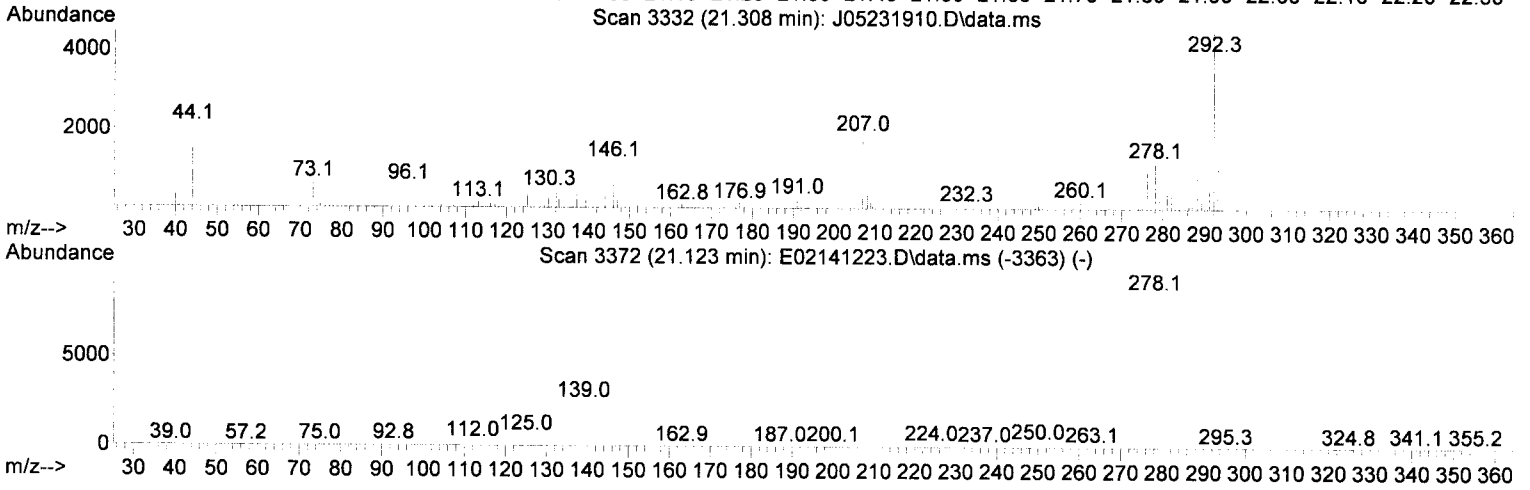
Ion	Exp%	Act%
276.10	100.00	100.00
138.00	30.60	41.26
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10





TIC: J05231910.D\data.ms

(96) Dibenz(a,h)anthracene (T)

21.308min (-0.016) 14.66 ng/ml

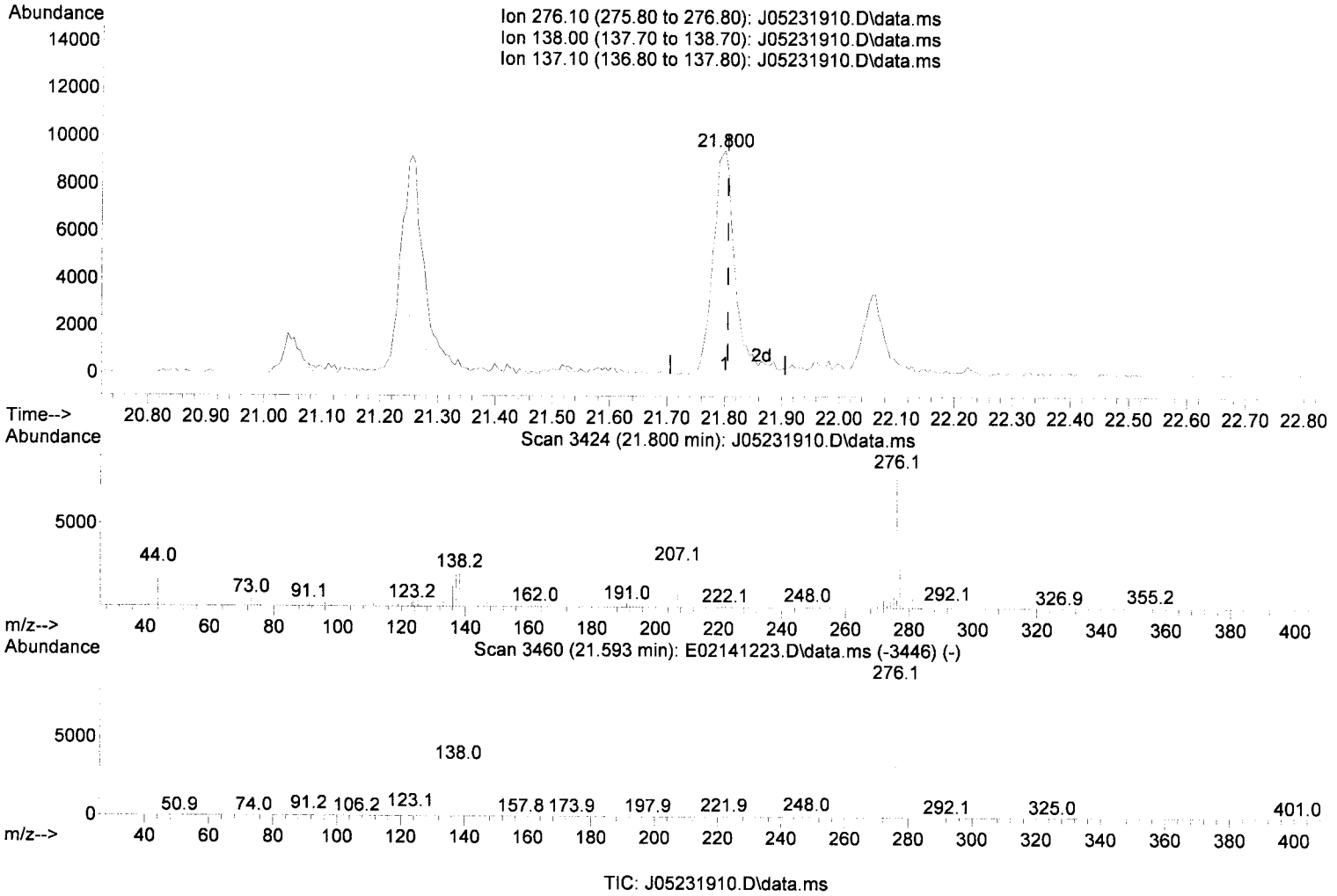
response 2863

Ion	Exp%	Act%
278.10	100.00	100.00
139.00	25.20	17.01
138.10	18.50	34.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231910.D\data.ms

(97) Benzo(g,h,i)perylene (T)

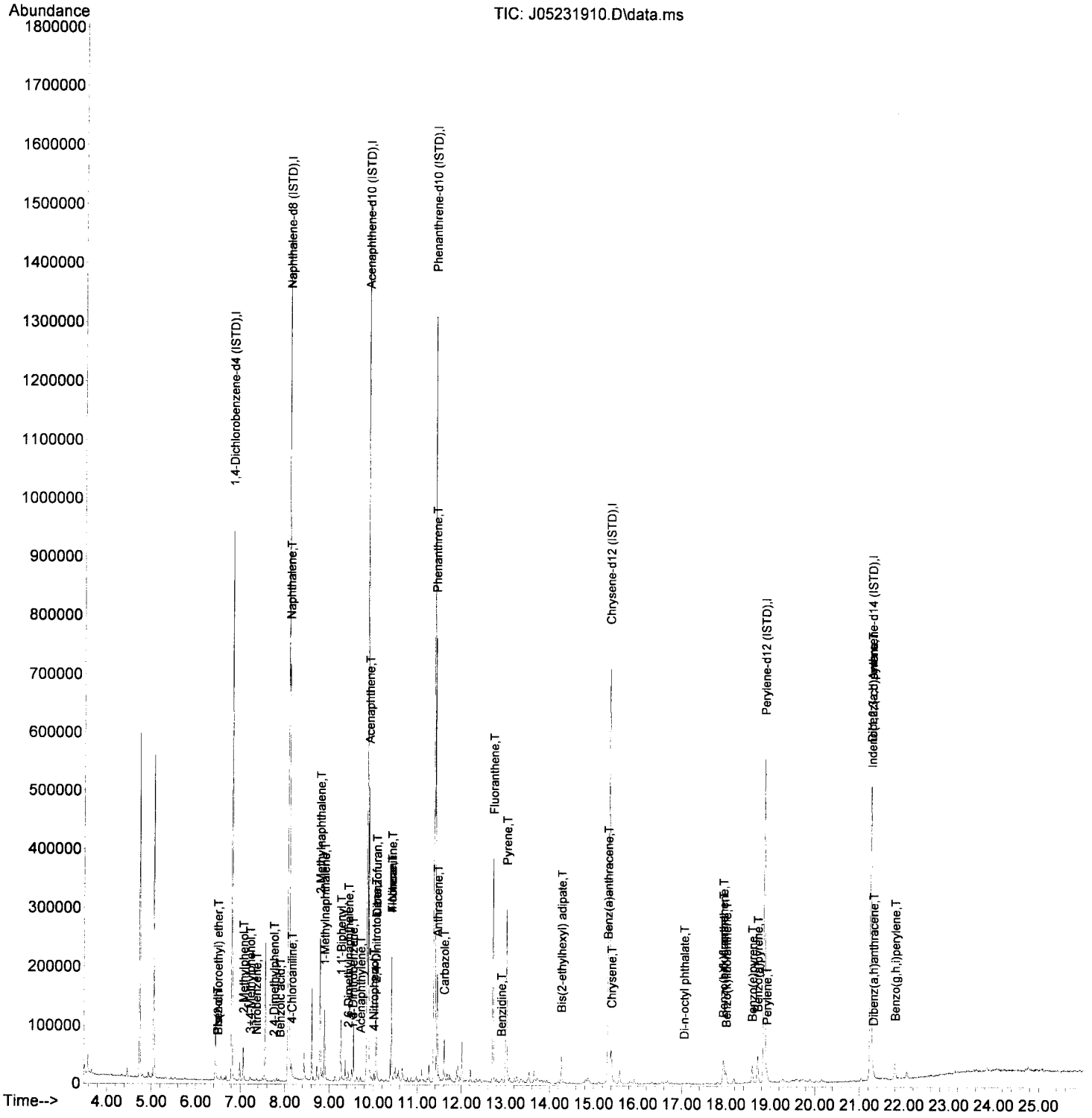
21.800min (-0.006) 116.30 ng/ml

response 24544

Ion	Exp%	Act%
276.10	100.00	100.00
138.00	28.10	22.36
137.10	23.10	20.63
0.00	0.00	0.00

Data Path : T:\data\2019-05\9E23010\
Data File : J05231910.D
Acq On : 23 May 2019 1:55 pm
Operator : JK/ AMS/ DTH
Sample : A9E0677-01@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 14:44:36 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



No Name Entered Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231911.D
Acq On : 23 May 2019 2:34 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-DUP1@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

AMS MOS 5/23/19

Quant Time: May 23 15:06:26 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.803	152	176173	2000.00 ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.076	136	764466	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.857	162	361123	2000.00 ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.371	188	587312	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.345	240	497173	2000.00 ng/ml	0.00
86) Perylene-d12 (ISTD)	18.859	264	448583	2000.00 ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.250	292	413689	2000.00 ng/ml	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	0.000	112	0	0.00 ng/ml	
5) Phenol-d6(Surr)	0.000	99	0	0.00 ng/ml	
19) Nitrobenzene-d5 (Surr)	0.000	82	0	0.00 ng/ml	
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)	13.232	244	136	0.58 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	
3) Pyridine	4.209	79	87	N.D.	
6) Phenol	6.477	94	3646	31.78 ng/ml	87
7) Aniline	6.504	93	515	2.97 ng/ml#	1
8) Bis(2-chloroethyl) ether	6.504	93	515	3.45 ng/ml#	59
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	7.065	107	977	10.53 ng/ml	83
15) 2,2'-Oxybis(1-Chloropr...	7.135	45	57	N.D.	
16) N-Nitrosodi-n-propylamine	0.000		0	N.D.	
17) 3+4-Methylphenol	7.215	107	2926	36.63 ng/ml#	68
18) Hexachloroethane	0.000		0	N.D.	
20) Nitrobenzene	7.359	77	302	N.D.	
22) Isophorone	7.627	82	61	N.D.	
23) 2-Nitrophenol	0.000		0	N.D.	
24) 2,4-Dimethylphenol	7.744	122	406	28.70 ng/ml#	80
25) Bis(2-chloroethoxy) me...	0.000		0	N.D.	
26) Benzoic acid	7.809	105	72	753.06 ng/ml#	34
27) 2,4-Dichlorophenol	0.000		0	N.D.	
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
29) Naphthalene	8.097	128	375213	948.21 ng/ml	100
30) 4-Chloroaniline	8.156	127	242	16.38 ng/ml#	40
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	0.000		0	N.D.	
33) 2-Methylnaphthalene	8.793	142	92579	356.78 ng/ml	96
34) 1-Methylnaphthalene	8.894	142	43317	172.10 ng/ml	95
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	9.263	154	42861	146.41 ng/ml	96
41) 2-Chloronaphthalene	9.338	162	120	N.D.	
42) 2-Nitroaniline	0.000		0	N.D.	
43) 2,6-Dimethylnaphthalene	9.435	156	6679	31.12 ng/ml	93

Data Path : T:\data\2019-05\9E23010\
Data File : J05231911.D
Acq On : 23 May 2019 2:34 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-DUP1@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 15:06:26 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10

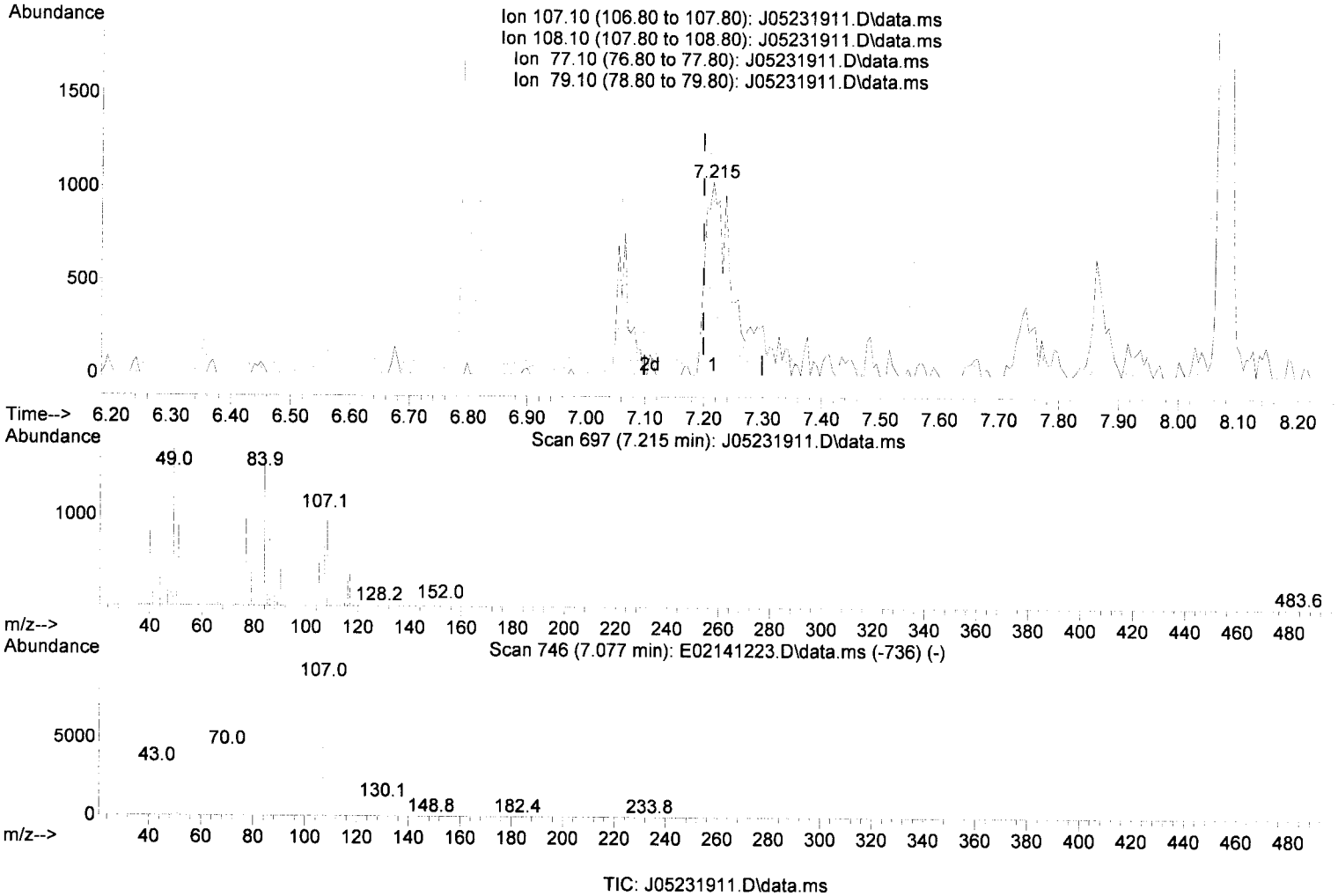
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.536	168	303	133.14 ng/ml#	28
45) Dimethyl phthalate	9.579	163	54	N.D.	
46) 1,3-Dinitrobenzene	9.536	168	303	74.27 ng/ml#	1
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	9.713	152	2425	6.71 ng/ml	99
50) 3-Nitroaniline	0.000		0	N.D.	
51) Acenaphthene	9.889	153	140109	603.08 ng/ml	98
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	10.012	139	145	77.27 ng/ml#	11
54) 2,4-Dinitrotoluene	10.018	165	770	71.40 ng/ml#	50
55) Dibenzofuran	10.060	168	102659	338.23 ng/ml	93
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...	10.264	170	865	4.51 ng/ml	85
60) Fluorene	10.413	166	77230	324.93 ng/ml	98
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	
62) 4-Nitroaniline	10.408	138	888	19.55 ng/ml#	27
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	10.504	169	605	3.35 ng/ml#	1
66) Azobenzene (1,2-DPH)	10.574	77	282	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	11.398	178	355996	1117.06 ng/ml	99
72) Anthracene	11.446	178	99691	321.19 ng/ml	97
73) Carbazole	11.606	167	40616	154.63 ng/ml	100
74) Di-n-butyl phthalate	11.938	149	84	N.D.	
75) Fluoranthene	12.708	202	235059	739.61 ng/ml	99
76) Benzidine	0.000		0	N.D.	
77) Pyrene	13.024	202	205028	626.01 ng/ml	99
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.270	129	10159	71.71 ng/ml	92
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.318	228	43497	160.33 ng/ml	97
84) Chrysene	15.398	228	42454	161.28 ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.393	149	124	N.D.	
87) Di-n-octyl phthalate	0.000		0	N.D.	
88) Benzo(b)fluoranthene	17.939	252	46414	188.35 ng/ml	95 MOS
89) Benzo(k)fluoranthene	~~17.939~~	~~252~~	~~61050~~	~~237.06 ng/ml~~	~~93~~ MI.MOS
90) Benzo(b+k)fluoranthene	17.939	252	65155	260.20 ng/ml	93
91) Benzo(e)pyrene	18.591	252	25060	101.88 ng/ml	93
92) Benzo(a)pyrene	18.715	252	41253	183.43 ng/ml	97
93) Perylene	18.918	252	13943	61.23 ng/ml	97
95) Indeno(1,2,3-cd)pyrene	21.250	276	27717	119.77 ng/ml	89
96) Dibenz(a,h)anthracene	21.309	278	3594	17.36 ng/ml	96
97) Benzo(g,h,i)perylene	21.795	276	26964	120.54 ng/ml	95

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

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231911.D
Acq On : 23 May 2019 2:34 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-DUP1@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 15:07:19 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231911.D\data.ms

(17) 3+4-Methylphenol (T)

7.215min (+ 0.016) 36.63 ng/ml

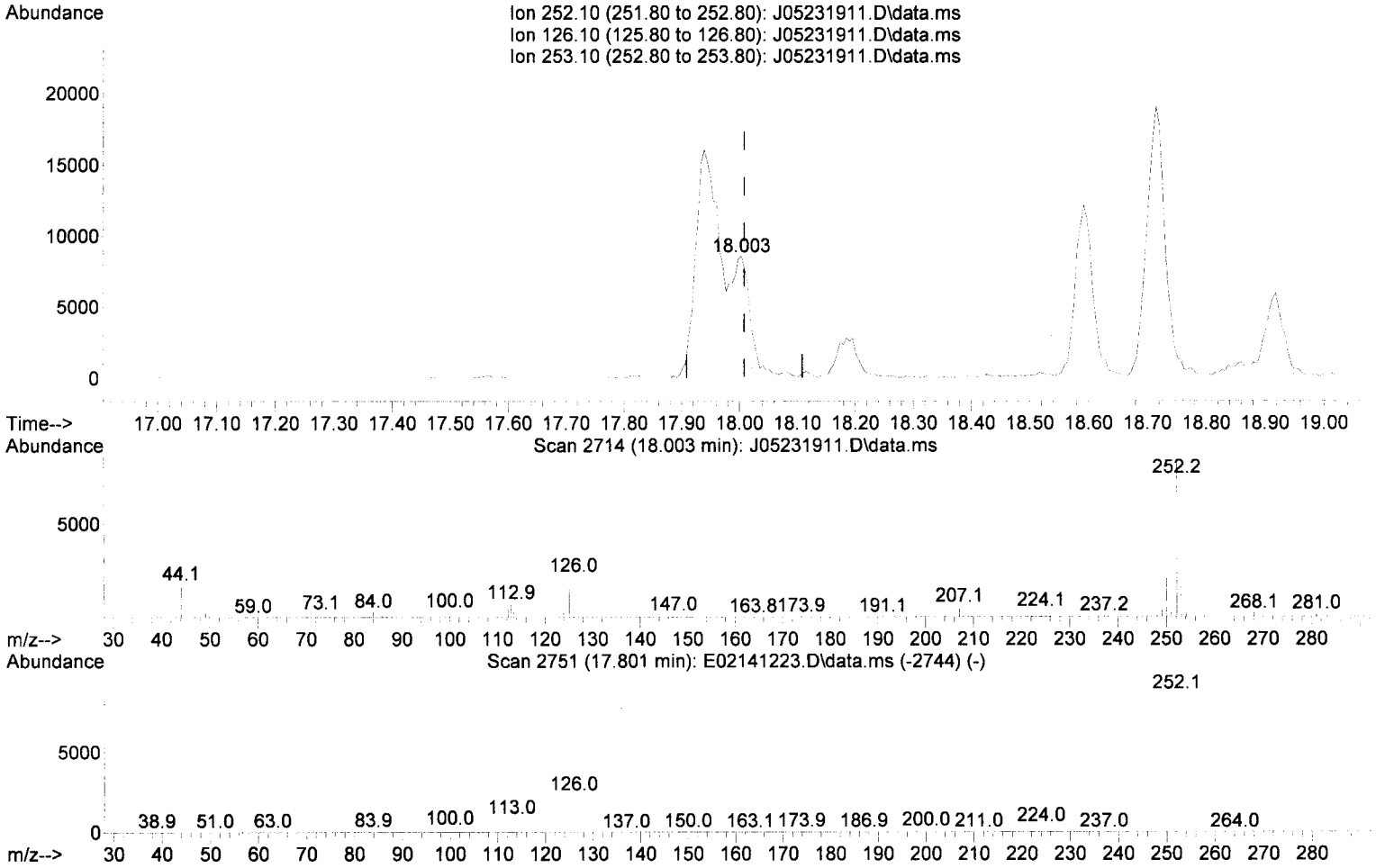
response 2926

Ion	Exp%	Act%
107.10	100.00	100.00
108.10	91.10	91.71
77.10	32.60	92.00#
79.10	27.90	51.88

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E23010\
Data File : J05231911.D
Acq On : 23 May 2019 2:34 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-DUP1@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 15:06:26 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J05231911.D\data.ms

(89) Benzo(k)fluoranthene (T)

18.003min (-0.005) 85.89 ng/ml m

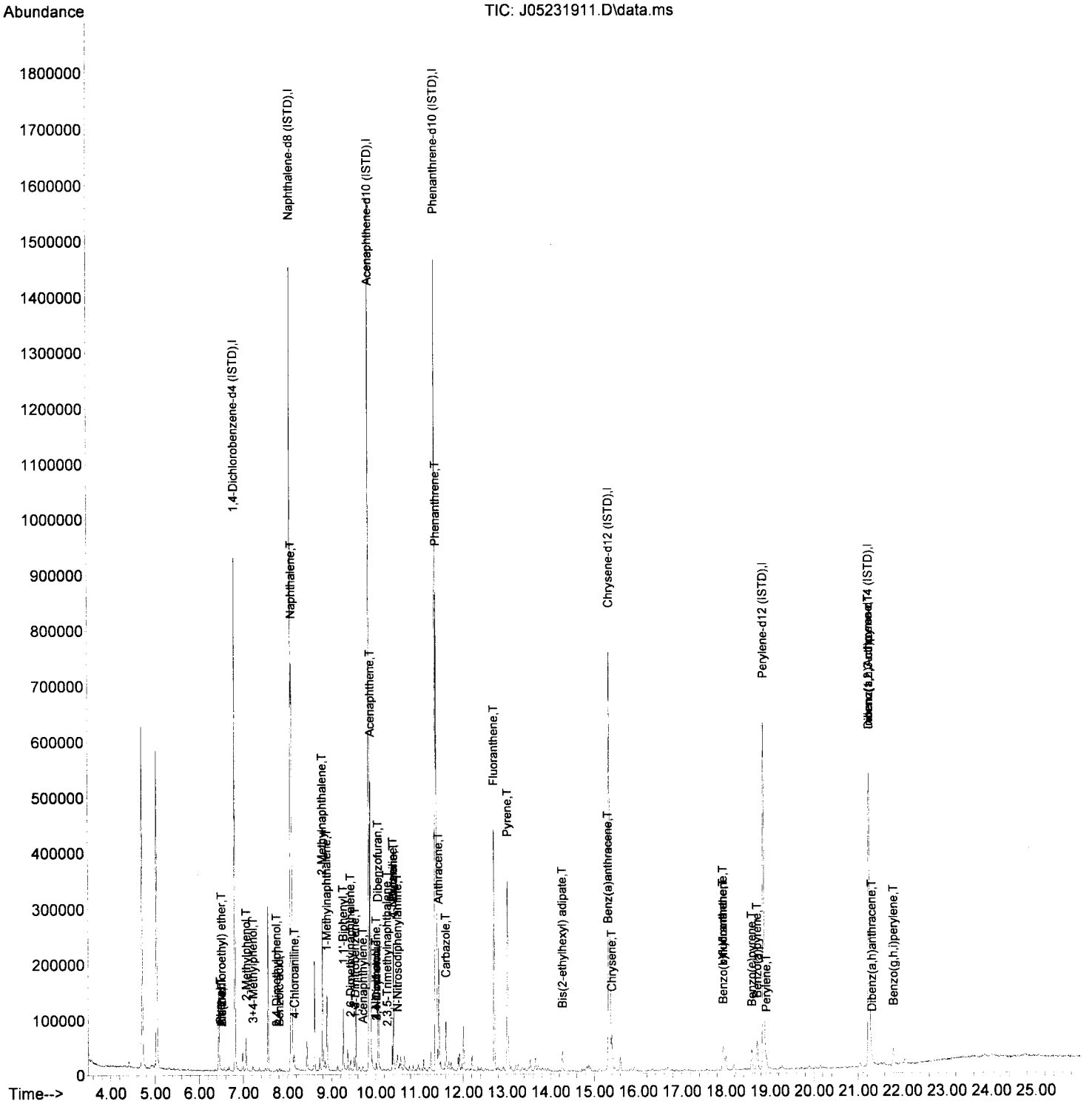
response 20385

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	25.57
253.10	21.70	23.12
0.00	0.00	0.00

AMS 5/23/19

Data Path : T:\data\2019-05\9E23010\
Data File : J05231911.D
Acq On : 23 May 2019 2:34 pm
Operator : JK/ AMS/ DTH
Sample : 9051172-DUP1@10000
Misc : 10000x, 8270D LL FULL LIST
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: May 23 15:06:26 2019
Quant Method : T:\methods\SV10_041219R1.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Tue May 21 11:13:18 2019
Response via : Initial Calibration
InstName : SV-GCMS10



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

Semivolatile Organic Compunds By EPA 8270D

Calibration Data

Sequence 9D12042 (Cal ID A9E2401) SV-GCMS10

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9D12042**	Instrument:	**SV-GCMS10**
Date:	**04/12/19 17:14**	Calibration:	**A9D1505**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9D12042-TUN1	Water	QC	QC			A19D031	A19D089
2	9D12042-TUN2	Water	QC	QC			A19D031	A19D089
3	9D12042-ICB1	Water	QC	QC			A19D031	
4	9D12042-CAL1	Water	QC	QC			A19D031	A19D053
5	9D12042-CAL2	Water	QC	QC			A19D031	A19D054
6	9D12042-CAL3	Water	QC	QC			A19D031	A19D055
7	9D12042-CAL4	Water	QC	QC			A19D031	A19D056
8	9D12042-CAL5	Water	QC	QC			A19D031	A19D057
9	9D12042-CAL6	Water	QC	QC			A19D031	A19D058
10	9D12042-CAL7	Water	QC	QC			A19D031	A19D059
11	9D12042-CAL8	Water	QC	QC			A19D031	A19D060
12	9D12042-CAL9	Water	QC	QC			A19D031	A19D061
13	9D12042-CALA	Water	QC	QC			A19D031	A19D062
14	9D12042-IBL1	Water	QC	QC			A19D031	
15	9D12042-ICV1	Water	QC	QC			A19D031	A19C239
16	9D12042-IBL2	Water	QC	QC			A19D031	

Data Entered By: 4/15/19

Data Reviewed By: 4/17/19

Comments: Raise 3,3-Dichlorobenzidene to 200/400 for soils

Calibration Status Report SV-GCMS10

Method Path : C:\msdchem\1\methods\
Method File : SV10_041219.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Apr 15 09:10:15 2019
Response Via : Initial Calibration

A9D1505
4/15/19

#	ID	Conc	ISTD Conc	Path\File
1	20	20	2000	C:\msdchem\1\data\2019-04\9D12042\J04121915.D
2	50	50	2000	C:\msdchem\1\data\2019-04\9D12042\J04121916.D
3	100	100	2000	C:\msdchem\1\data\2019-04\9D12042\J04121917.D
4	200	200	2000	C:\msdchem\1\data\2019-04\9D12042\J04121918.D
5	500	500	2000	C:\msdchem\1\data\2019-04\9D12042\J04121919.D
6	1000	1000	2000	C:\msdchem\1\data\2019-04\9D12042\J04121920.D
7	2000	2000	2000	C:\msdchem\1\data\2019-04\9D12042\J04121921.D
8	4000	4000	2000	C:\msdchem\1\data\2019-04\9D12042\J04121922.D
9	6000	6000	2000	C:\msdchem\1\data\2019-04\9D12042\J04121923.D
10	8000	8000	2000	C:\msdchem\1\data\2019-04\9D12042\J04121924.D

#	ID	Update Time	Quant Time	Acquisition Time
1	20	Apr 15 09:09 2019	Apr 15 08:54 2019	12 Apr 2019 6:51 pm
2	50	Apr 15 09:09 2019	Apr 15 08:59 2019	12 Apr 2019 7:27 pm
3	100	Apr 15 09:09 2019	Apr 15 09:00 2019	12 Apr 2019 8:03 pm
4	200	Apr 15 09:09 2019	Apr 15 09:01 2019	12 Apr 2019 8:39 pm
5	500	Apr 15 09:09 2019	Apr 15 08:55 2019	12 Apr 2019 9:16 pm
6	1000	Apr 15 09:09 2019	Apr 15 08:55 2019	12 Apr 2019 9:52 pm
7	2000	Apr 15 09:09 2019	Apr 15 08:55 2019	12 Apr 2019 10:28 pm
8	4000	Apr 15 09:10 2019	Apr 15 08:55 2019	12 Apr 2019 11:04 pm
9	6000	Apr 15 09:10 2019	Apr 15 09:04 2019	12 Apr 2019 11:40 pm
10	8000	Apr 15 09:10 2019	Apr 15 09:05 2019	13 Apr 2019 12:15 am

SV10_041219.M Mon Apr 15 12:04:32 2019

Method Path : C:\msdchem\1\methods\
Method File : SV10_041219.M
Title : EPA 8270D: Semivolatile Organics

40)	S	2-Fluorobiphen...		1.365	1.351	1.571	1.631	1.557	1.472	1.360	1.233	1.160	1.411	11.25
41)	T	2-Chloronaphth...	0.973	1.048	1.079	1.228	1.325	1.256	1.215	1.144	1.051		1.147	10.16
42)	T	2-Nitroaniline				0.154	0.226	0.345	0.366	0.407	0.429	0.431	0.429	0.348	29.95
43)	T	2,6-Dimethylna...	1.059	1.207	1.248	1.323	1.361	1.306	1.238	1.137	1.038	0.970	1.189	11.13
44)	T	1,4-Dinitroben...				0.061	0.101	0.120	0.155	0.178	0.183	0.188	0.141	34.41
45)	T	Dimethyl phtha...	1.354	1.382	1.480	1.488	1.532	1.434	1.403	1.355	1.261	1.222	1.391	7.09
46)	T	1,3-Dinitroben...				0.072	0.102	0.153	0.166	0.193	0.208	0.208	0.206	0.163	31.75
47)	T	2,6-Dinitrotol...			0.127	0.166	0.245	0.288	0.301	0.309	0.312	0.301	0.284	0.259	26.10
48)	T	1,2-Dinitroben...					0.109	0.129	0.135	0.139	0.148	0.143	0.134	0.134	9.38
49)	T	Acenaphthylene	1.903	1.943	2.139	2.109	2.208	2.145	2.004	1.899	1.657		2.001	8.59
50)	T	3-Nitroaniline					0.245	0.293	0.300	0.296	0.274	0.261	0.246	0.273	8.61
51)	T	Acenaphthene	1.408	1.319	1.403	1.409	1.407	1.342	1.276	1.193	1.089	1.022	1.287	10.97
52)	T	2,4-Dinitrophenol					0.014	0.029	0.046	0.070	0.103	0.118	0.131	0.073	62.20
53)	T	4-Nitrophenol				0.063	0.111	0.154	0.189	0.226	0.253	0.257	0.260	0.189	39.12
54)	T	2,4-Dinitrotol...				0.164	0.244	0.314	0.353	0.392	0.412	0.394	0.378	0.331	26.17
55)	T	Dibenzofuran	1.700	1.774	1.786	1.856	1.873	1.747	1.699	1.604	1.442	1.329	1.681	10.48
56)	T	2,3,5,6-Tetrac...			0.096	0.134	0.202	0.242	0.259	0.276	0.291	0.279	0.277	0.228	30.66
57)	T	2,3,4,6-Tetrac...	0.110	0.170	0.216	0.262	0.275	0.284	0.294	0.300	0.293	0.283	0.249		25.53
58)	T	Diethyl phthalate	1.300	1.326	1.517	1.498	1.521	1.419	1.347	1.234	1.100	1.024	1.329		12.89
59)	T	2,3,5-Trimethy...	1.053	1.124	1.202	1.211	1.204	1.116	1.063	0.964	0.873	0.818	1.063		13.08
60)	T	Fluorene	1.307	1.354	1.472	1.488	1.483	1.385	1.329	1.216	1.094	1.036	1.316		12.04
61)	T	4-Chlorophenyl...	0.615	0.614	0.658	0.648	0.649	0.622	0.608	0.574	0.527	0.510	0.602		8.39
62)	T	4-Nitroaniline				0.180	0.243	0.254	0.270	0.276	0.270	0.263	0.256	0.252	12.23
63)	T	4,6-Dinitro-2-...				0.022	0.045	0.072	0.090	0.124	0.159	0.169	0.176	0.107	54.99
															5.07
64)	I	Phenanthrene-d10 (...	----------	ISTD	----------										
65)	T	N-Nitrosodiphe...	0.531	0.631	0.697	0.695	0.721	0.665	0.635	0.576	0.521	0.486	0.616		13.41
66)	T	Azobenzene (1,...	0.794	0.821	0.920	0.938	0.963	0.906	0.865	0.788	0.701	0.637	0.833		12.72
67)	S	2,4,6-Tribromo...			0.049	0.068	0.088	0.094	0.098	0.102	0.104	0.100	0.096	0.089	20.57
68)	T	4-Bromophenyl ...	0.164	0.190	0.206	0.215	0.220	0.210	0.205	0.198	0.183	0.178	0.197		9.01
69)	T	Hexachlorobenzene	0.288	0.270	0.261	0.248	0.253	0.243	0.229	0.215	0.201	0.193	0.240		12.70
70)	T	Pentachlorophe...			0.068	0.074	0.096	0.101	0.105	0.120	0.126	0.125	0.125	0.104	20.99
71)	T	Phenanthrene	1.156	1.176	1.215	1.197	1.177	1.131	1.078	0.984	0.893	0.845	1.085		12.23
72)	T	Anthracene	0.998	1.082	1.183	1.181	1.197	1.126	1.088	0.991	0.894	0.828	1.057		11.97
73)	T	Carbazole	0.754	0.833	0.975	1.009	1.014	0.972	0.880	0.718			0.894		13.01
74)	T	Di-n-butyl pht...			1.118	1.287	1.377	1.332	1.317	1.229	1.101	1.024	1.223		10.44
75)	T	Fluoranthene	0.942	0.962	1.129	1.208	1.238	1.176	1.159	1.083	0.990	0.936	1.082		10.70
76)	T	Benzidine			0.274	0.272	0.362	0.430	0.434	0.454	0.474	0.461	0.395		20.93
77)	T	Pyrene	1.015	1.042	1.181	1.234	1.278	1.200	1.168	1.088	0.999	0.948	1.115		10.03
															6.90
78)	I	Chrysene-d12 (ISTD)	----------	ISTD	----------										
79)	S	Terphenyl-d14 ...	0.817	0.900	0.960	0.969	1.012	0.993	0.970	0.963	0.920	0.912	0.941		5.99
80)	T	Butyl benzyl p...			0.276	0.369	0.445	0.562	0.599	0.642	0.685	0.676	0.686	0.549	27.53
81)	T	Bis(2-ethylhex...					0.438	0.531	0.567	0.595	0.633	0.614	0.613	0.570	11.84
82)	T	3,3-Dichlorobe...					0.275	0.221	0.206	0.148	0.143	0.148		0.190	28.01
83)	T	Benz(a)anthracene	1.101	1.023	1.076	1.128	1.153	1.113	1.102	1.098	1.062	1.057	1.091		3.46
84)	T	Chrysene	1.033	1.015	1.088	1.089	1.096	1.084	1.074	1.059	1.029	1.023	1.059		2.95
85)	T	Bis(2-ethylhex...					0.651	0.808	0.862	0.886	0.912	0.886	0.876	0.840	10.65
															7.73
86)	I	Perylene-d12 (ISTD)	----------	ISTD	----------										
87)	T	Di-n-octyl pht...				0.566	0.833	1.176	1.379	1.539	1.664	1.603	1.577	1.292	31.17

Method Path : C:\msdchem\1\methods\
Method File : SV10_041219.M
Title : EPA 8270D: Semivolatile Organics

88)	T	Benzo(b)fluora...	0.699	0.833	0.984	1.068	1.198	1.192	1.221	1.258	1.208	1.219	1.088	17.56
89)	T	Benzo(k)fluora...	0.627	0.853	1.029	1.119	1.211	1.211	1.182	1.162	1.079	0.983	1.046	17.75
90)	T	Benzo(b+k)fluo...	0.741	0.872	1.038	1.118	1.230	1.225	1.222	1.229	1.162	1.142	1.098	15.32
91)	T	Benzo(e)pyrene	0.844	0.896	1.052	1.110	1.217	1.203	1.198	1.194	1.134	1.118	1.097	11.91
92)	T	Benzo(a)pyrene	0.583	0.699	0.849	0.998	1.096	1.108	1.137	1.127	1.066	1.037	0.970	20.03
93)	T	Perylene	0.971	0.954	1.028	1.105	1.075	1.052	1.029	1.018	0.966	0.955	1.015	5.19
94)	I	Dibenz(a,h)Anthrce...	----------ISTD----------											9.34
95)	T	Indeno(1,2,3-c...	1.200	1.053	1.089	1.086	1.105	1.089	1.090	1.120	1.107	1.249	1.119	5.31
96)	T	Dibenz(a,h)ant...	0.963	0.914	1.002	0.999	1.043	1.026	1.063	1.032	0.993	0.973	1.001	4.36
97)	T	Benzo(g,h,i)pe...	0.904	0.982	1.006	1.096	1.175	1.179	1.157	1.137	1.094	1.084	1.081	8.42

(#) = Out of Range

Response Factor Report SV-GCMS10

Method Path : C:\msdchem\1\methods\
Method File : SV10_041219.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Apr 15 09:10:15 2019
Response Via : Initial Calibration

4/15/19

Calibration Files
20 =J04121915.D 50 =J04121916.D 100 =J04121917.D 200 =J04121918.D 500 =J04121919.D 1000=J04121920.D 2000=J04121921.D
4000=J04121922.D 6000=J04121923.D 8000=J04121924.D

		Compound	20	50	100	200	500	1000	2000	4000	6000	8000	Avg	%RSD
														3.00
1)	I	1,4-Dichlorobenzen...	----------ISTD----------											
2)	TG	N-Nitrosodimet...	0.888	0.995	0.939	0.973	0.991	1.009	0.991	1.036	1.021	1.012	0.985	4.41
3)	TG	Pyridine	1.215	1.364	1.498	1.598	1.610	1.706	1.703	1.795	1.797	1.793	1.608	12.27
4)	S	2-Fluorophenol...	1.086	1.025	1.156	1.272	1.350	1.360	1.389	1.463	1.464	1.436	1.300	12.28
5)	S	Phenol-d6(Surr)		1.196	1.397	1.568	1.712	1.762	1.826	1.894	1.872	1.825	1.672	14.32
6)	T	Phenol	1.024	1.450	1.505	1.809	1.941	1.767	2.012	2.061	2.011	1.954	1.753	18.94
7)	T	Aniline		2.011	1.972	1.868	1.965	2.160	1.907	1.860	1.950	2.006	1.966	4.62
8)	T	Bis(2-chloroet...	1.724	1.649	1.643	1.711	1.781	1.704	1.774	1.777	1.641	1.530	1.693	4.69
9)	T	2-Chlorophenol	1.076	1.143	1.289	1.344	1.445	1.486	1.466	1.479	1.468	1.400	1.360	10.82
10)	T	1,3-Dichlorobe...	1.462	1.540	1.520	1.645	1.638	1.564	1.542	1.522	1.468	1.396	1.530	5.01
11)	T	1,4-Dichlorobe...	1.544	1.590	1.611	1.601	1.611	1.531	1.527	1.484	1.420	1.344	1.526	5.80
12)	T	Benzyl alcohol		0.358	0.408	0.645	0.704	0.833	0.932	1.017	1.017	1.004	0.769	33.42
13)	T	1,2-Dichlorobe...	1.405	1.553	1.535	1.620	1.605	1.529	1.490	1.437	1.384	1.297	1.485	6.94
14)	T	2-Methylphenol	0.839	0.813	0.917	1.025	1.128	1.186	1.180	1.192	1.152	1.100	1.053	13.92
15)	T	2,2'-Oxybis(1-...	2.142	2.068	2.029	2.018	2.081	2.004	1.877	1.780	1.656	1.507	1.916	10.81
16)	T	N-Nitrosodi-n-...	1.012	1.002	1.055	1.127	1.244	1.219	1.168	1.103	1.043		1.108	7.96
17)	T	3+4-Methylphenol	0.739	0.817	1.026	1.178	1.421	1.489	1.518				1.170	27.41
18)	T	Hexachloroethane	0.346	0.408	0.412	0.414	0.431	0.412	0.426	0.432	0.422	0.410	0.411	5.99
19)	S	Nitrobenzene-d...		0.948	1.285	1.307	1.424	1.482	1.567	1.582	1.549	1.516	1.407	14.44
20)	T	Nitrobenzene		1.106	1.323	1.394	1.485	1.534	1.537	1.532	1.482	1.411	1.423	9.81
														2.40
21)	I	Naphthalene-d8 (ISTD)	----------ISTD----------											
22)	T	Isophorone	0.687	0.703	0.729	0.776	0.799	0.773	0.757	0.754	0.737	0.733	0.745	4.57
23)	T	2-Nitrophenol			0.075	0.110	0.138	0.161	0.165	0.178	0.179	0.179	0.148	25.66
24)	T	2,4-Dimethylph...		0.172	0.214	0.257	0.308	0.315	0.323	0.306	0.289	0.281	0.274	18.59
25)	T	Bis(2-chloroet...	0.282	0.330	0.416	0.431	0.444	0.439	0.437	0.430	0.403	0.382	0.400	13.47
26)	T	Benzoic acid					0.053	0.111	0.168	0.220	0.239	0.249	0.173	45.07
27)	T	2,4-Dichloroph...		0.102	0.118	0.156	0.224	0.245	0.255	0.258	0.246		0.200	32.22
28)	T	1,2,4-Trichlor...	0.268	0.287	0.313	0.302	0.306	0.296	0.282	0.274	0.262	0.250	0.284	7.21
29)	T	Naphthalene	1.039	1.088	1.130	1.131	1.147	1.092	1.052	0.972	0.881	0.820	1.035	10.72
30)	T	4-Chloroaniline	0.197	0.190	0.227	0.259	0.337	0.349	0.354				0.273	26.43
31)	T	Hexachlorobuta...	0.178	0.164	0.171	0.157	0.158	0.156	0.150	0.142	0.135	0.132	0.154	9.53
32)	T	4-Chloro-3-met...			0.124	0.189	0.275	0.290	0.309	0.318	0.308	0.299	0.264	26.37
33)	T	2-Methylnaphth...	0.578	0.596	0.643	0.748	0.773	0.740	0.726	0.682	0.624		0.679	10.53
34)	T	1-Methylnaphth...	0.631	0.642	0.685	0.732	0.748	0.698	0.680	0.641	0.581	0.548	0.658	9.58
														3.28
35)	I	Acenaphthene-d10 (...	----------ISTD----------											
36)	T	Hexachlorocycl...		0.128	0.180	0.211	0.262	0.291	0.300	0.311	0.309	0.302	0.255	26.05
37)	T	2,4,6-Trichlor...		0.154	0.161	0.247	0.327	0.341	0.364	0.367	0.359	0.343	0.296	29.20
38)	T	2,4,5-Trichlor...		0.181	0.190	0.252	0.315	0.338	0.341	0.360	0.340	0.335	0.295	23.36
39)	T	1,1'-Biphenyl	1.288	1.495	1.510	1.783	1.864	1.789	1.694	1.546			1.621	11.97

Compound List Report SV-GCMS10

Method Path : C:\msdchem\1\methods\
Method File : SV10_041219.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Apr 15 09:10:15 2019
Response Via : Initial Calibration

Total Cpnds : 97

JJ 4/15/19

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-Dichlorobenzene-d4 (ISTD)	152	6.808	1.000	A	2	A	R
2	T	N-Nitrosodimethylamine	74	4.150	0.610	A	2	A	A
3	T	Pyridine	79	4.177	0.614	A	2	A	A
4	S	2-Fluorophenol (Surr)	112	5.535	0.813	A	1	A	R
5	S	Phenol-d6(Surr)	99	6.433	0.945	A	2	A	R
6	T	Phenol	94	6.449	0.947	Q	2	A	R
7	T	Aniline	93	6.487	0.953	A	2	A	R
8	T	Bis(2-chloroethyl) ether	93	6.541	0.961	A	2	A	R
9	T	2-Chlorophenol	128	6.605	0.970	A	2	A	R
10	T	1,3-Dichlorobenzene	146	6.755	0.992	A	2	A	R
11	T	1,4-Dichlorobenzene	146	6.830	1.003	A	2	A	R
12	T	Benzyl alcohol	108	6.936	1.019	Q	2	A	R
13	T	1,2-Dichlorobenzene	146	6.979	1.025	A	2	A	R
14	T	2-Methylphenol	107	7.044	1.035	A	2	A	R
15	T	2,2'-Oxybis(1-Chloropropane)	45	7.070	1.039	A	2	A	R
16	T	N-Nitrosodi-n-propylamine	70	7.198	1.057	A	2	A	R
17	T	3+4-Methylphenol	107	7.193	1.057	Q	3	A	R
18	T	Hexachloroethane	201	7.322	1.075	A	2	A	R
19	S	Nitrobenzene-d5 (Surr)	82	7.353	1.080	Q	2	A	R
20	T	Nitrobenzene	77	7.375	1.083	A	2	A	R
21	I	Naphthalene-d8 (ISTD)	136	8.081	1.000	A	1	A	R
22	T	Isophorone	82	7.605	0.941	A	2	A	R
23	T	2-Nitrophenol	139	7.696	0.952	Q	2	A	R
24	T	2,4-Dimethylphenol	122	7.722	0.956	Q	2	A	R
25	T	Bis(2-chloroethoxy) methane	93	7.814	0.967	A	2	A	R
26	T	Benzoic acid	105	7.813	0.967	Q	2	A	R
27	T	2,4-Dichlorophenol	162	7.931	0.981	Q	2	A	R
28	T	1,2,4-Trichlorobenzene	180	8.022	0.993	A	2	A	R
29	T	Naphthalene	128	8.103	1.003	A	1	A	R
30	T	4-Chloroaniline	127	8.145	1.008	Q	2	A	R
31	T	Hexachlorobutadiene	225	8.231	1.019	A	2	A	R
32	T	4-Chloro-3-methylphenol	107	8.621	1.067	Q	2	A	R
33	T	2-Methylnaphthalene	142	8.797	1.089	A	2	A	R
34	T	1-Methylnaphthalene	142	8.900	1.101	A	2	A	R
35	I	Acenaphthene-d10 (ISTD)	162	9.868	1.000	A	2	A	R
36	T	Hexachlorocyclopentadiene	237	8.969	0.909	Q	2	A	R
37	T	2,4,6-Trichlorophenol	196	9.081	0.920	Q	2	A	R
38	T	2,4,5-Trichlorophenol	198	9.118	0.924	Q	2	A	R
39	T	1,1'-Biphenyl	154	9.268	0.939	A	2	A	R
40	S	2-Fluorobiphenyl (Surr)	172	9.167	0.929	A	2	A	R
41	T	2-Chloronaphthalene	162	9.295	0.942	A	2	A	R
42	T	2-Nitroaniline	138	9.391	0.952	Q	2	A	R
43	T	2,6-Dimethylnaphthalene	156	9.429	0.956	A	2	A	R
44	T	1,4-Dinitrobenzene	168	9.514	0.964	Q	2	A	R
45	T	Dimethyl phthalate	163	9.568	0.970	A	2	A	R
46	T	1,3-Dinitrobenzene	168	9.600	0.973	Q	2	A	R
47	T	2,6-Dinitrotoluene	165	9.626	0.976	Q	2	A	R
48	T	1,2-Dinitrobenzene	168	9.691	0.982	A	2	A	R
49	T	Acenaphthylene	152	9.717	0.985	A	2	A	R
50	T	3-Nitroaniline	138	9.803	0.993	A	2	A	R
51	T	Acenaphthene	153	9.900	1.003	A	2	A	R
52	T	2,4-Dinitrophenol	184	9.905	1.004	Q	2	A	R
53	T	4-Nitrophenol	139	9.958	1.009	Q	2	A	R
54	T	2,4-Dinitrotoluene	165	10.038	1.017	Q	2	A	R

55	T	Dibenzofuran	168	10.071	1.021	A	2	A	R
56	T	2,3,5,6-Tetrachlorophenol	232	10.151	1.029	Q	2	A	R
57	T	2,3,4,6-Tetrachlorophenol	232	10.193	1.033	Q	2	A	R
58	T	Diethyl phthalate	149	10.285	1.042	A	2	A	R
59	T	2,3,5-Trimethylnaphthalene	170	10.280	1.042	A	2	A	R
60	T	Fluorene	166	10.419	1.056	A	2	A	R
61	T	4-Chlorophenyl phenyl ether	204	10.408	1.055	A	2	A	R
62	T	4-Nitroaniline	138	10.423	1.056	A	2	A	R
63	T	4,6-Dinitro-2-methylphenol	198	10.461	1.060	Q	2	A	R
64	I	Phenanthrene-d10 (ISTD)	188	11.381	1.000	A	2	A	R
65	T	N-Nitrosodiphenylamine	169	10.526	0.925	A	2	A	R
66	T	Azobenzene (1,2-DPH)	77	10.574	0.929	A	2	A	R
67	S	2,4,6-Tribromophenol (Surr)	330	10.664	0.937	Q	2	A	R
68	T	4-Bromophenyl phenyl ether	248	10.911	0.959	A	2	A	R
69	T	Hexachlorobenzene	284	10.991	0.966	A	2	A	R
70	T	Pentachlorophenol (PCP)	266	11.183	0.983	Q	2	A	R
71	T	Phenanthrene	178	11.403	1.002	A	2	A	R
72	T	Anthracene	178	11.456	1.007	A	2	A	R
73	T	Carbazole	167	11.611	1.020	A	2	A	R
74	T	Di-n-butyl phthalate	149	11.948	1.050	A	2	A	R
75	T	Fluoranthene	202	12.719	1.117	A	2	A	R
76	T	Benzidine	184	12.878	1.132	Q	2	A	R
77	T	Pyrene	202	13.029	1.145	A	2	A	R
78	I	Chrysene-d12 (ISTD)	240	15.355	1.000	A	2	A	R
79	S	Terphenyl-d14 (Surr)	244	13.243	0.862	A	2	A	R
80	T	Butyl benzyl phthalate	149	14.109	0.919	Q	2	A	R
81	T	Bis(2-ethylhexyl) adipate	129	14.291	0.931	A	2	A	R
82	T	3,3-Dichlorobenzidine	252	15.291	0.996	Q	2	A	R
83	T	Benz(a)anthracene	228	15.334	0.999	A	2	A	R
84	T	Chrysene	228	15.414	1.004	A	2	A	R
85	T	Bis(2-ethylhexyl) phthalate	149	15.489	1.009	A	2	A	R
86	I	Perylene-d12 (ISTD)	264	18.875	1.000	A	2	A	R
87	T	Di-n-octyl phthalate	149	17.163	0.909	Q	2	A	R
88	T	Benzo(b)fluoranthene	252	17.949	0.951	Q	2	A	R
89	T	Benzo(k)fluoranthene	252	18.019	0.955	Q	2	A	R
90	T	Benzo(b+k)fluoranthene	252	18.019	0.955	Q	2	A	R
91	T	Benzo(e)pyrene	252	18.607	0.986	A	2	A	R
92	T	Benzo(a)pyrene	252	18.730	0.992	Q	2	A	R
93	T	Perylene	252	18.934	1.003	A	2	A	B
94	I	Dibenz(a,h)Anthrcene-d14 (I...	292	21.266	1.000	A	1	A	B
95	T	Indeno(1,2,3-cd)pyrene	276	21.266	1.000	A	1	A	R
96	T	Dibenz(a,h)anthracene	278	21.330	1.003	A	2	A	R
97	T	Benzo(g,h,i)perylene	276	21.811	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

SV10_041219.M Mon Apr 15 10:45:34 2019

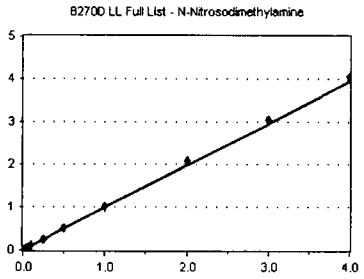
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

N-Nitrosodimethylamine

Curve Fit: **AVERAGE RF**

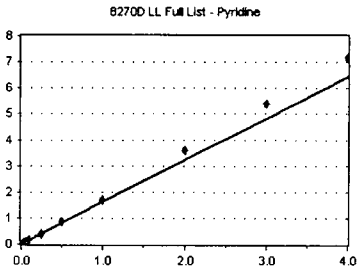


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	1826	0.888	4.16
9D12042-CAL2	50	5209	0.995	4.15
9D12042-CAL3	100	10206	0.939	4.19
9D12042-CAL4	200	21690	0.973	4.20
9D12042-CAL5	500	53776	0.991	4.16
9D12042-CAL6	1000	104701	1.009	4.15
9D12042-CAL7	2000	208448	0.991	4.17
9D12042-CAL8	4000	426026	1.036	4.17
9D12042-CAL9	6000	627490	1.021	4.15
9D12042-CALA	8000	831842	1.012	4.17

AVE RF **0.985** RF RSD **4.41** AVE RT **4.17**

Pyridine

Curve Fit: **AVERAGE RF**

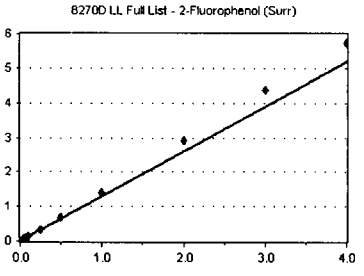


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2498	1.215	4.23
9D12042-CAL2	50	7142	1.364	4.20
9D12042-CAL3	100	16277	1.498	4.23
9D12042-CAL4	200	35631	1.598	4.21
9D12042-CAL5	500	87366	1.610	4.18
9D12042-CAL6	1000	177059	1.706	4.18
9D12042-CAL7	2000	358336	1.703	4.18
9D12042-CAL8	4000	737969	1.795	4.18
9D12042-CAL9	6000	1105047	1.797	4.16
9D12042-CALA	8000	1473300	1.793	4.17

AVE RF **1.608** RF RSD **12.27** AVE RT **4.19**

2-Fluorophenol (Surr)

Curve Fit: **AVERAGE RF**

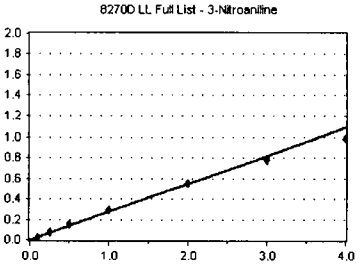


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2233	1.086	5.54
9D12042-CAL2	50	5365	1.025	5.54
9D12042-CAL3	100	12560	1.156	5.54
9D12042-CAL4	200	28367	1.272	5.54
9D12042-CAL5	500	73276	1.350	5.53
9D12042-CAL6	1000	141127	1.360	5.54
9D12042-CAL7	2000	292249	1.389	5.54
9D12042-CAL8	4000	601422	1.463	5.54
9D12042-CAL9	6000	900422	1.464	5.54
9D12042-CALA	8000	1179847	1.436	5.54

AVE RF **1.300** RF RSD **12.28** AVE RT **5.54**

3-Nitroaniline

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~533~~	~~0.126~~	~~9.80~~
~~9D12042-CAL2~~	~~50~~	~~1478~~	~~0.138~~	~~9.80~~
~~9D12042-CAL3~~	~~100~~	~~4053~~	~~0.183~~	~~9.80~~
9D12042-CAL4	200	11232	0.245	9.80
9D12042-CAL5	500	31835	0.293	9.80
9D12042-CAL6	1000	61316	0.300	9.80
9D12042-CAL7	2000	125110	0.296	9.81
9D12042-CAL8	4000	227237	0.274	0.00
9D12042-CAL9	6000	329674	0.261	0.00
9D12042-CALA	8000	417444	0.246	0.00

AVE RF **0.273** RF RSD **8.61** AVE RT **5.60**

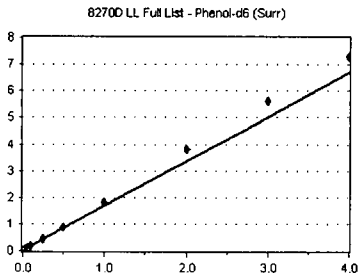
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Phenol-d6 (Surr)

Curve Fit: **AVERAGE RF**

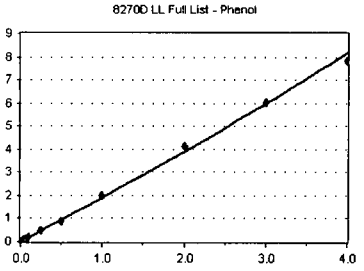


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~2259~~	~~1.099~~	~~6.44~~
9D12042-CAL2	50	6263	1.196	6.44
9D12042-CAL3	100	15186	1.397	6.44
9D12042-CAL4	200	34950	1.568	6.44
9D12042-CAL5	500	92867	1.712	6.43
9D12042-CAL6	1000	182856	1.762	6.43
9D12042-CAL7	2000	384186	1.826	6.44
9D12042-CAL8	4000	778420	1.894	6.45
9D12042-CAL9	6000	1151230	1.872	6.45
9D12042-CALA	8000	1499696	1.825	6.46

AVE RF **1.672** RF RSD **14.32** AVE RT **6.44**

Phenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

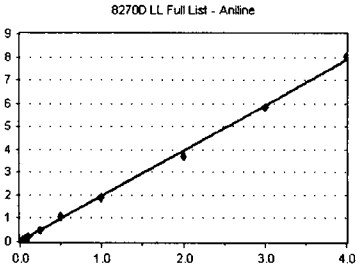


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2105	1.024	6.45
9D12042-CAL2	50	7594	1.450	6.45
9D12042-CAL3	100	16356	1.505	6.45
9D12042-CAL4	200	40326	1.809	6.45
9D12042-CAL5	500	105308	1.941	6.45
9D12042-CAL6	1000	183416	1.767	6.45
9D12042-CAL7	2000	423399	2.012	6.46
9D12042-CAL8	4000	846992	2.061	6.46
9D12042-CAL9	6000	1236521	2.011	6.47
9D12042-CALA	8000	1605219	1.954	6.47

AVE RF **1.753** RF RSD **18.94** AVE RT **6.46**

Aniline

Curve Fit: **AVERAGE RF**

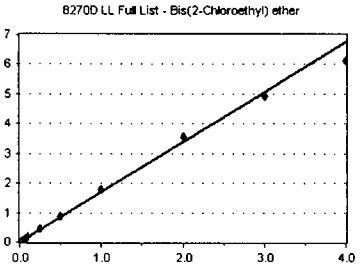


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~3702~~	~~1.801~~	~~6.49~~
9D12042-CAL2	50	10528	2.011	6.49
9D12042-CAL3	100	21433	1.972	6.49
9D12042-CAL4	200	41636	1.868	6.49
9D12042-CAL5	500	106597	1.965	6.49
9D12042-CAL6	1000	224184	2.160	6.49
9D12042-CAL7	2000	401171	1.907	6.49
9D12042-CAL8	4000	764336	1.860	6.49
9D12042-CAL9	6000	1198758	1.950	6.49
9D12042-CALA	8000	1648364	2.006	6.50

AVE RF **1.966** RF RSD **4.62** AVE RT **6.49**

Bis(2-Chloroethyl) ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	3544	1.724	6.54
9D12042-CAL2	50	8634	1.649	6.54
9D12042-CAL3	100	17852	1.643	6.55
9D12042-CAL4	200	38143	1.711	6.55
9D12042-CAL5	500	96650	1.781	6.54
9D12042-CAL6	1000	176845	1.704	6.54
9D12042-CAL7	2000	373313	1.774	6.55
9D12042-CAL8	4000	730472	1.777	6.55
9D12042-CAL9	6000	1009123	1.641	6.55
9D12042-CALA	8000	1256889	1.530	6.56

AVE RF **1.693** RF RSD **4.69** AVE RT **6.55**

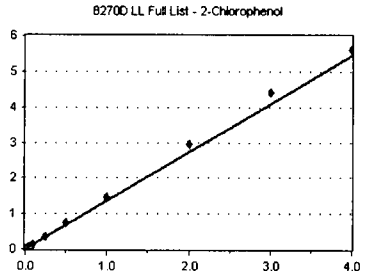
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

2-Chlorophenol

Curve Fit: **AVERAGE RF**

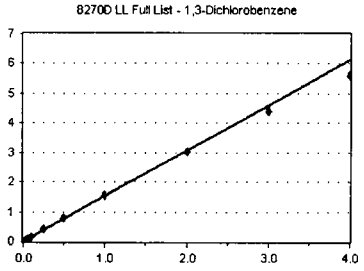


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2212	1.076	6.61
9D12042-CAL2	50	5987	1.143	6.61
9D12042-CAL3	100	14013	1.289	6.61
9D12042-CAL4	200	29959	1.344	6.61
9D12042-CAL5	500	78427	1.445	6.61
9D12042-CAL6	1000	154232	1.486	6.61
9D12042-CAL7	2000	308446	1.466	6.61
9D12042-CAL8	4000	607949	1.479	6.61
9D12042-CAL9	6000	902513	1.468	6.61
9D12042-CALA	8000	1150237	1.400	6.62

AVE RF **1.360** RF RSD **10.82** AVE RT **6.61**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

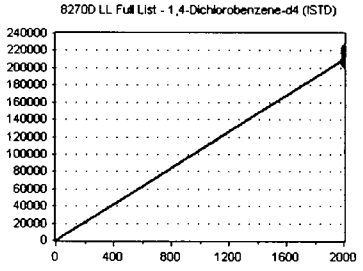


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	3006	1.462	6.76
9D12042-CAL2	50	8063	1.540	6.76
9D12042-CAL3	100	16517	1.520	6.76
9D12042-CAL4	200	36684	1.645	6.76
9D12042-CAL5	500	88880	1.638	6.76
9D12042-CAL6	1000	162324	1.564	6.76
9D12042-CAL7	2000	324509	1.542	6.76
9D12042-CAL8	4000	625796	1.522	6.76
9D12042-CAL9	6000	902850	1.468	6.76
9D12042-CALA	8000	1147379	1.396	6.77

AVE RF **1.530** RF RSD **5.01** AVE RT **6.76**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**

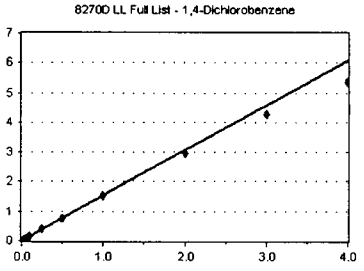


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	2000	205604	102.802	6.81
9D12042-CAL2	2000	209444	104.722	6.81
9D12042-CAL3	2000	217345	108.673	6.81
9D12042-CAL4	2000	222946	111.473	6.81
9D12042-CAL5	2000	217042	108.521	6.81
9D12042-CAL6	2000	207595	103.798	6.81
9D12042-CAL7	2000	210386	105.193	6.81
9D12042-CAL8	2000	205518	102.759	6.81
9D12042-CAL9	2000	204951	102.475	6.81
9D12042-CALA	2000	205419	102.710	6.81

AVE RF **105.313** RF RSD **3.00** AVE RT **6.81**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	3174	1.544	6.82
9D12042-CAL2	50	8325	1.590	6.82
9D12042-CAL3	100	17508	1.611	6.83
9D12042-CAL4	200	35701	1.601	6.82
9D12042-CAL5	500	87396	1.611	6.82
9D12042-CAL6	1000	158903	1.531	6.83
9D12042-CAL7	2000	321266	1.527	6.83
9D12042-CAL8	4000	609817	1.484	6.83
9D12042-CAL9	6000	873197	1.420	6.83
9D12042-CALA	8000	1104480	1.344	6.84

AVE RF **1.526** RF RSD **5.80** AVE RT **6.83**

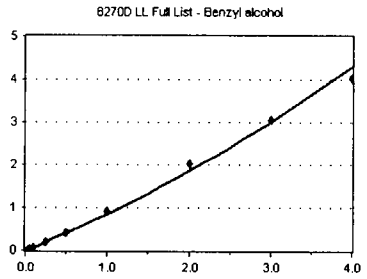
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Benzyl alcohol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

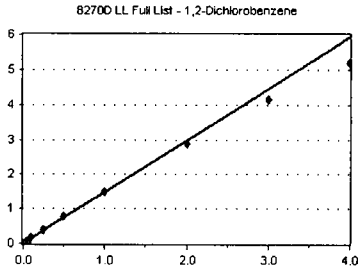


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~527~~	~~0.256~~	~~6.95~~
9D12042-CAL2	50	1873	0.358	6.95
9D12042-CAL3	100	4432	0.408	6.94
9D12042-CAL4	200	14374	0.645	6.94
9D12042-CAL5	500	38189	0.704	6.94
9D12042-CAL6	1000	86489	0.833	6.94
9D12042-CAL7	2000	196023	0.932	6.94
9D12042-CAL8	4000	417822	1.017	6.95
9D12042-CAL9	6000	625005	1.017	6.95
9D12042-CALA	8000	825334	1.004	6.96

AVE RF **0.769** RF RSD **33.42** AVE RT **6.95**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

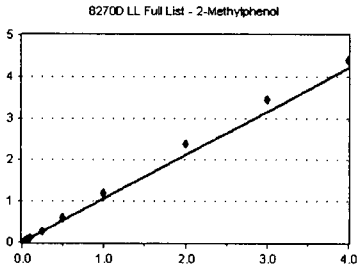


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2889	1.405	6.99
9D12042-CAL2	50	8131	1.553	6.98
9D12042-CAL3	100	16678	1.535	6.99
9D12042-CAL4	200	36123	1.620	6.99
9D12042-CAL5	500	87063	1.605	6.98
9D12042-CAL6	1000	158706	1.529	6.98
9D12042-CAL7	2000	313391	1.490	6.99
9D12042-CAL8	4000	590567	1.437	6.99
9D12042-CAL9	6000	851080	1.384	6.99
9D12042-CALA	8000	1066099	1.297	6.99

AVE RF **1.485** RF RSD **6.94** AVE RT **6.98**

2-Methylphenol

Curve Fit: **AVERAGE RF**

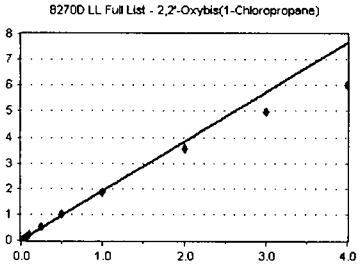


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	1724	0.839	7.04
9D12042-CAL2	50	4259	0.813	7.04
9D12042-CAL3	100	9962	0.917	7.04
9D12042-CAL4	200	22860	1.025	7.04
9D12042-CAL5	500	61181	1.128	7.04
9D12042-CAL6	1000	123097	1.186	7.04
9D12042-CAL7	2000	248169	1.180	7.04
9D12042-CAL8	4000	490045	1.192	7.05
9D12042-CAL9	6000	708351	1.152	7.05
9D12042-CALA	8000	904249	1.100	7.05

AVE RF **1.053** RF RSD **13.92** AVE RT **7.05**

2,2'-Oxybis(1-Chloropropane)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4404	2.142	7.07
9D12042-CAL2	50	10826	2.068	7.07
9D12042-CAL3	100	22045	2.029	7.07
9D12042-CAL4	200	44983	2.018	7.07
9D12042-CAL5	500	112928	2.081	7.07
9D12042-CAL6	1000	207984	2.004	7.07
9D12042-CAL7	2000	394994	1.877	7.08
9D12042-CAL8	4000	731830	1.780	7.08
9D12042-CAL9	6000	1018502	1.656	7.08
9D12042-CALA	8000	1238496	1.507	7.08

AVE RF **1.916** RF RSD **10.81** AVE RT **7.07**

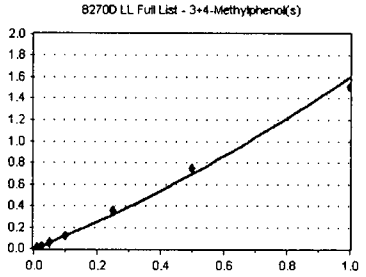
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

3+4-Methylphenol(s)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

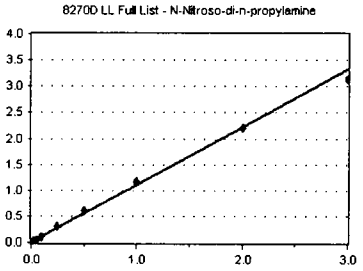


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	1519	0.739	7.19
9D12042-CAL2	50	4279	0.817	7.19
9D12042-CAL3	100	11154	1.026	7.19
9D12042-CAL4	200	26267	1.178	7.19
9D12042-CAL5	500	77098	1.421	7.19
9D12042-CAL6	1000	154518	1.489	7.19
9D12042-CAL7	2000	319359	1.518	7.19
~~9D12042-CAL8~~	~~4000~~	~~622867~~	~~1.515~~	~~7.20~~
~~9D12042-CAL9~~	~~6000~~	~~876610~~	~~1.426~~	~~7.21~~
~~9D12042-CALA~~	~~8000~~	~~1108625~~	~~1.349~~	~~7.22~~

AVE RF **1.170** RF RSD **27.41** AVE RT **7.19**

N-Nitroso-di-n-propylamine

Curve Fit: **AVERAGE RF**

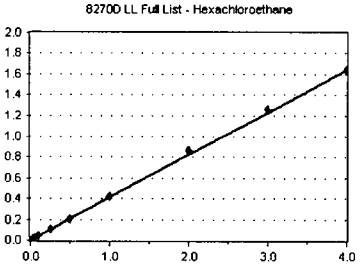


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2080	1.012	7.20
9D12042-CAL2	50	5246	1.002	7.20
9D12042-CAL3	100	11467	1.055	7.20
9D12042-CAL4	200	25133	1.127	7.20
9D12042-CAL5	500	67493	1.244	7.20
9D12042-CAL6	1000	126521	1.219	7.20
9D12042-CAL7	2000	245818	1.168	7.20
9D12042-CAL8	4000	453288	1.103	7.22
9D12042-CAL9	6000	641593	1.043	7.22
~~9D12042-CALA~~	~~8000~~	~~824622~~	~~1.004~~	~~7.23~~

AVE RF **1.108** RF RSD **7.96** AVE RT **7.20**

Hexachloroethane

Curve Fit: **AVERAGE RF**

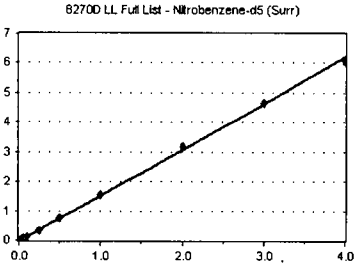


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	711	0.346	7.32
9D12042-CAL2	50	2137	0.408	7.32
9D12042-CAL3	100	4477	0.412	7.32
9D12042-CAL4	200	9240	0.414	7.32
9D12042-CAL5	500	23400	0.431	7.32
9D12042-CAL6	1000	42742	0.412	7.32
9D12042-CAL7	2000	89727	0.426	7.32
9D12042-CAL8	4000	177511	0.432	7.32
9D12042-CAL9	6000	259269	0.422	7.32
9D12042-CALA	8000	336985	0.410	7.32

AVE RF **0.411** RF RSD **5.99** AVE RT **7.32**

Nitrobenzene-d5 (Surr)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~2134~~	~~1.038~~	~~7.36~~
9D12042-CAL2	50	4963	0.948	7.35
9D12042-CAL3	100	13960	1.285	7.35
9D12042-CAL4	200	29144	1.307	7.35
9D12042-CAL5	500	77263	1.424	7.35
9D12042-CAL6	1000	153864	1.482	7.35
9D12042-CAL7	2000	329613	1.567	7.36
9D12042-CAL8	4000	650463	1.582	7.37
9D12042-CAL9	6000	952331	1.549	7.37
9D12042-CALA	8000	1245282	1.516	7.37

AVE RF **1.407** RF RSD **14.44** AVE RT **7.36**

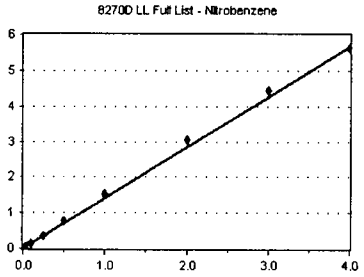
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Nitrobenzene

Curve Fit: **AVERAGE RF**

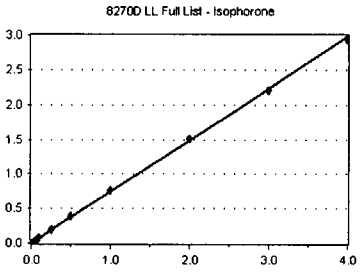


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~2275~~	~~1.106~~	~~7.38~~
9D12042-CAL2	50	5793	1.106	7.37
9D12042-CAL3	100	14380	1.323	7.38
9D12042-CAL4	200	31068	1.394	7.38
9D12042-CAL5	500	80603	1.485	7.38
9D12042-CAL6	1000	159222	1.534	7.38
9D12042-CAL7	2000	323406	1.537	7.38
9D12042-CAL8	4000	629792	1.532	7.38
9D12042-CAL9	6000	911090	1.482	7.39
9D12042-CALA	8000	1159115	1.411	7.39

AVE RF **1.423** RF RSD **9.81** AVE RT **7.38**

Isophorone

Curve Fit: **AVERAGE RF**

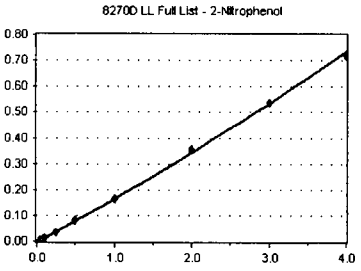


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5760	0.687	7.61
9D12042-CAL2	50	15037	0.703	7.61
9D12042-CAL3	100	31645	0.729	7.61
9D12042-CAL4	200	70389	0.776	7.61
9D12042-CAL5	500	179496	0.799	7.61
9D12042-CAL6	1000	336596	0.773	7.61
9D12042-CAL7	2000	660663	0.757	7.61
9D12042-CAL8	4000	1289086	0.754	7.62
9D12042-CAL9	6000	1905816	0.737	7.63
9D12042-CALA	8000	2513149	0.733	7.64

AVE RF **0.745** RF RSD **4.57** AVE RT **7.61**

2-Nitrophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

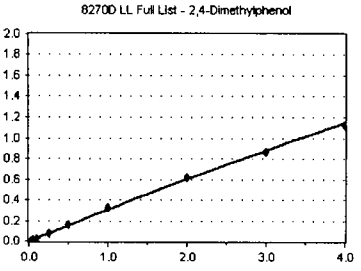


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~482~~	~~5.750~~	~~7.70~~
~~9D12042-CAL2~~	~~50~~	~~1610~~	~~7.531~~	~~7.69~~
9D12042-CAL3	100	3262	7.518	7.70
9D12042-CAL4	200	10018	0.110	7.70
9D12042-CAL5	500	30957	0.138	7.70
9D12042-CAL6	1000	70238	0.161	7.70
9D12042-CAL7	2000	144348	0.165	7.70
9D12042-CAL8	4000	303901	0.178	7.70
9D12042-CAL9	6000	463565	0.179	7.70
9D12042-CALA	8000	613878	0.179	7.70

AVE RF **0.148** RF RSD **25.66** AVE RT **7.70**

2,4-Dimethylphenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~1331~~	~~0.159~~	~~7.73~~
9D12042-CAL2	50	3681	0.172	7.72
9D12042-CAL3	100	9305	0.214	7.72
9D12042-CAL4	200	23349	0.257	7.72
9D12042-CAL5	500	69085	0.308	7.72
9D12042-CAL6	1000	137294	0.315	7.72
9D12042-CAL7	2000	281937	0.323	7.73
9D12042-CAL8	4000	523529	0.306	7.73
9D12042-CAL9	6000	746900	0.289	7.74
9D12042-CALA	8000	964243	0.281	7.74

AVE RF **0.274** RF RSD **18.59** AVE RT **7.73**

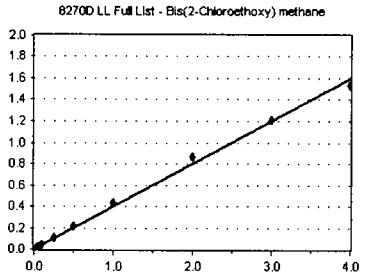
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Bis(2-Chloroethoxy) methane

Curve Fit: **AVERAGE RF**

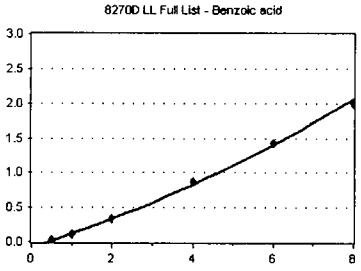


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2366	0.282	7.81
9D12042-CAL2	50	7058	0.330	7.81
9D12042-CAL3	100	18067	0.416	7.81
9D12042-CAL4	200	39106	0.431	7.81
9D12042-CAL5	500	99782	0.444	7.81
9D12042-CAL6	1000	191279	0.439	7.81
9D12042-CAL7	2000	381475	0.437	7.82
9D12042-CAL8	4000	734704	0.430	7.83
9D12042-CAL9	6000	1040589	0.403	7.83
9D12042-CALA	8000	1311481	0.382	7.83

AVE RF **0.400** RF RSD **13.47** AVE RT **7.82**

Benzoic acid

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

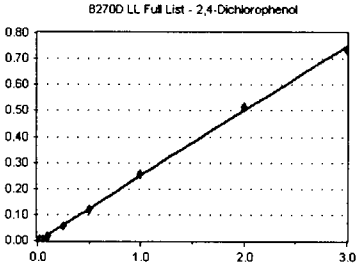


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~40~~	~~55~~	~~3.281~~	~~7.77~~
~~9D12042-CAL2~~	~~100~~	~~106~~	~~2.479~~	~~7.89~~
~~9D12042-CAL3~~	~~200~~	~~212~~	~~2.443~~	~~7.78~~
~~9D12042-CAL4~~	~~400~~	~~2517~~	~~0.014~~	~~7.77~~
9D12042-CAL5	1000	23976	5.336	7.79
9D12042-CAL6	2000	96370	0.111	7.81
9D12042-CAL7	4000	293257	0.168	7.85
9D12042-CAL8	8000	750898	0.220	7.90
9D12042-CAL9	12000	1234711	0.239	7.93
9D12042-CALA	16000	1706623	0.249	7.96

AVE RF **0.173** RF RSD **45.07** AVE RT **7.87**

2,4-Dichlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

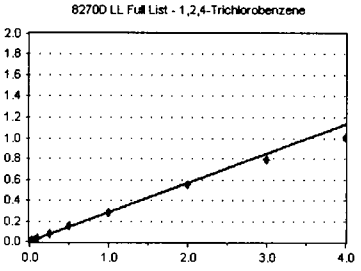


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~425~~	~~5.070~~	~~7.94~~
9D12042-CAL2	50	2177	0.102	7.94
9D12042-CAL3	100	5136	0.118	7.93
9D12042-CAL4	200	14168	0.156	7.93
9D12042-CAL5	500	50336	0.224	7.93
9D12042-CAL6	1000	106512	0.245	7.93
9D12042-CAL7	2000	222208	0.255	7.94
9D12042-CAL8	4000	440368	0.258	7.94
9D12042-CAL9	6000	634884	0.246	7.95
~~9D12042-CALA~~	~~8000~~	~~807681~~	~~0.236~~	~~7.95~~

AVE RF **0.200** RF RSD **32.22** AVE RT **7.94**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2246	0.268	8.02
9D12042-CAL2	50	6141	0.287	8.02
9D12042-CAL3	100	13568	0.313	8.02
9D12042-CAL4	200	27382	0.302	8.02
9D12042-CAL5	500	68791	0.306	8.02
9D12042-CAL6	1000	129034	0.296	8.02
9D12042-CAL7	2000	246059	0.282	8.02
9D12042-CAL8	4000	468931	0.274	8.03
9D12042-CAL9	6000	677553	0.262	8.03
9D12042-CALA	8000	857676	0.250	8.03

AVE RF **0.284** RF RSD **7.21** AVE RT **8.02**

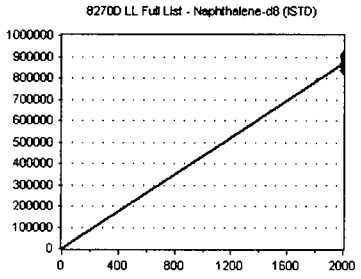
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Naphthalene-d8 (ISTD)

Curve Fit: **AVERAGE RF**

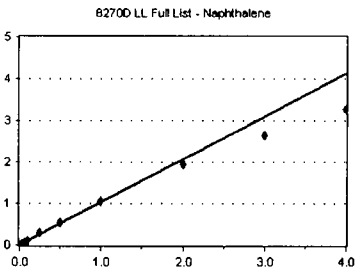


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	2000	838248	419.124	8.08
9D12042-CAL2	2000	855155	427.578	8.08
9D12042-CAL3	2000	867816	433.908	8.08
9D12042-CAL4	2000	907511	453.756	8.08
9D12042-CAL5	2000	898567	449.283	8.08
9D12042-CAL6	2000	870566	435.283	8.08
9D12042-CAL7	2000	872864	436.432	8.08
9D12042-CAL8	2000	854691	427.346	8.09
9D12042-CAL9	2000	861766	430.883	8.09
9D12042-CALA	2000	857219	428.609	8.09

AVE RF **434.220** RF RSD **2.40** AVE RT **8.08**

Naphthalene

Curve Fit: **AVERAGE RF**

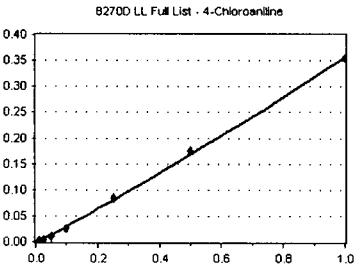


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	8711	1.039	8.10
9D12042-CAL2	50	23251	1.088	8.10
9D12042-CAL3	100	49024	1.130	8.10
9D12042-CAL4	200	102649	1.131	8.10
9D12042-CAL5	500	257687	1.147	8.10
9D12042-CAL6	1000	475302	1.092	8.10
9D12042-CAL7	2000	918583	1.052	8.10
9D12042-CAL8	4000	1661053	0.972	8.11
9D12042-CAL9	6000	2278161	0.881	8.11
9D12042-CALA	8000	2813330	0.820	8.11

AVE RF **1.035** RF RSD **10.72** AVE RT **8.11**

4-Chloroaniline

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

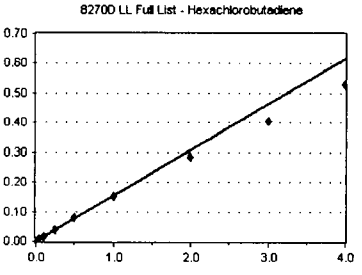


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	1652	0.197	8.15
9D12042-CAL2	50	4055	0.190	8.15
9D12042-CAL3	100	9860	0.227	8.15
9D12042-CAL4	200	23535	0.259	8.15
9D12042-CAL5	500	75620	0.337	8.15
9D12042-CAL6	1000	151775	0.349	8.15
9D12042-CAL7	2000	308711	0.354	8.15
~~9D12042-CAL8~~	~~4000~~	~~625745~~	~~0.366~~	~~8.15~~
~~9D12042-CAL9~~	~~6000~~	~~903302~~	~~0.349~~	~~8.16~~
~~9D12042-CALA~~	~~8000~~	~~1106729~~	~~0.323~~	~~8.16~~

AVE RF **0.273** RF RSD **26.43** AVE RT **8.15**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	1492	0.178	8.23
9D12042-CAL2	50	3496	0.164	8.23
9D12042-CAL3	100	7405	0.171	8.23
9D12042-CAL4	200	14260	0.157	8.23
9D12042-CAL5	500	35545	0.158	8.23
9D12042-CAL6	1000	67844	0.156	8.23
9D12042-CAL7	2000	131105	0.150	8.23
9D12042-CAL8	4000	243190	0.142	8.23
9D12042-CAL9	6000	350040	0.135	8.24
9D12042-CALA	8000	453153	0.132	8.24

AVE RF **0.154** RF RSD **9.53** AVE RT **8.23**

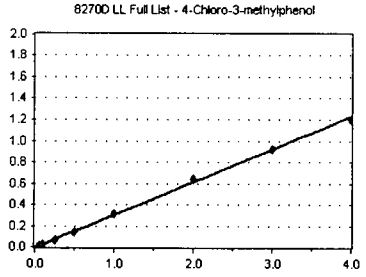
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

4-Chloro-3-methylphenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

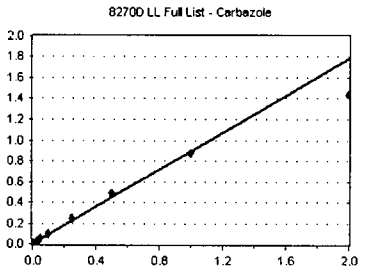


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~606~~	~~7.229~~	~~8.63~~
~~9D12042-CAL2~~	~~50~~	~~2641~~	~~0.124~~	~~8.63~~
9D12042-CAL3	100	5402	0.124	8.63
9D12042-CAL4	200	17148	0.189	8.62
9D12042-CAL5	500	61878	0.275	8.62
9D12042-CAL6	1000	126121	0.290	8.62
9D12042-CAL7	2000	269479	0.309	8.63
9D12042-CAL8	4000	543982	0.318	8.63
9D12042-CAL9	6000	795091	0.308	8.63
9D12042-CALA	8000	1024540	0.299	8.64

AVE RF **0.264** RF RSD **26.37** AVE RT **8.63**

Carbazole

Curve Fit: **AVERAGE RF**

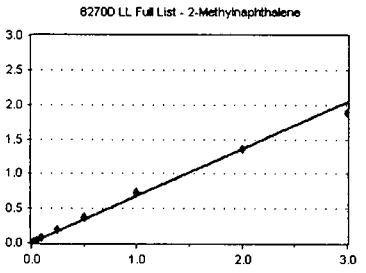


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5247	0.754	11.61
9D12042-CAL2	50	14600	0.833	11.61
9D12042-CAL3	100	36766	0.975	11.61
9D12042-CAL4	200	80323	1.009	11.61
9D12042-CAL5	500	187353	1.014	11.61
9D12042-CAL6	1000	340948	0.972	11.61
9D12042-CAL7	2000	651258	0.880	0.00
9D12042-CAL8	4000	1088868	0.718	0.00
~~9D12042-CAL9~~	~~6000~~	~~1519317~~	~~0.652~~	~~0.00~~
~~9D12042-CALA~~	~~8000~~	~~1858306~~	~~0.583~~	~~0.00~~

AVE RF **0.894** RF RSD **13.01** AVE RT **8.71**

2-Methylnaphthalene

Curve Fit: **AVERAGE RF**

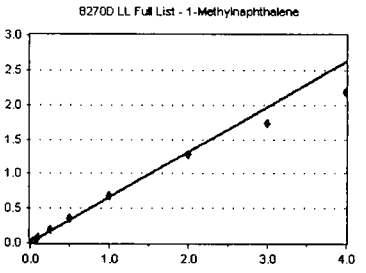


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4843	0.578	8.80
9D12042-CAL2	50	12740	0.596	8.80
9D12042-CAL3	100	27918	0.643	8.80
9D12042-CAL4	200	67852	0.748	8.80
9D12042-CAL5	500	173683	0.773	8.80
9D12042-CAL6	1000	322088	0.740	8.80
9D12042-CAL7	2000	633302	0.726	8.80
9D12042-CAL8	4000	1165928	0.682	8.80
9D12042-CAL9	6000	1614149	0.624	8.81
~~9D12042-CALA~~	~~8000~~	~~2022092~~	~~0.590~~	~~8.81~~

AVE RF **0.679** RF RSD **10.53** AVE RT **8.80**

1-Methylnaphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5287	0.631	8.90
9D12042-CAL2	50	13733	0.642	8.90
9D12042-CAL3	100	29703	0.685	8.90
9D12042-CAL4	200	66438	0.732	8.90
9D12042-CAL5	500	168058	0.748	8.90
9D12042-CAL6	1000	303908	0.698	8.90
9D12042-CAL7	2000	593190	0.680	8.91
9D12042-CAL8	4000	1095549	0.641	8.91
9D12042-CAL9	6000	1501404	0.581	8.91
9D12042-CALA	8000	1877715	0.548	8.91

AVE RF **0.658** RF RSD **9.58** AVE RT **8.90**

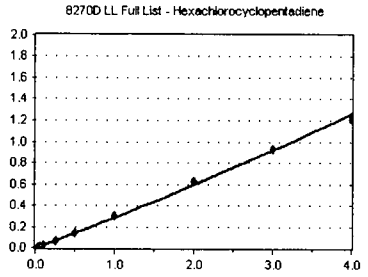
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Hexachlorocyclopentadiene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

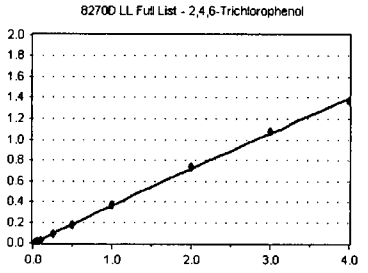


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~396~~	~~9.377~~	~~8.96~~
9D12042-CAL2	50	1375	0.128	8.97
9D12042-CAL3	100	3968	0.180	8.97
9D12042-CAL4	200	9648	0.211	8.97
9D12042-CAL5	500	28477	0.262	8.97
9D12042-CAL6	1000	59442	0.291	8.97
9D12042-CAL7	2000	126849	0.300	8.97
9D12042-CAL8	4000	258289	0.311	8.97
9D12042-CAL9	6000	390476	0.309	8.97
9D12042-CALA	8000	512416	0.302	8.98

AVE RF **0.255** RF RSD **26.05** AVE RT **8.97**

2,4,6-Trichlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

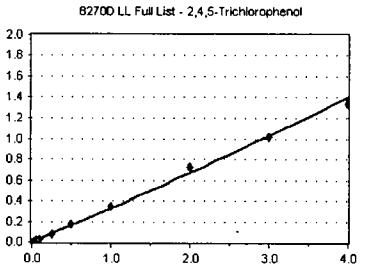


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~637~~	~~0.151~~	~~9.08~~
9D12042-CAL2	50	1647	0.154	9.08
9D12042-CAL3	100	3552	0.161	9.08
9D12042-CAL4	200	11339	0.247	9.08
9D12042-CAL5	500	35536	0.327	9.08
9D12042-CAL6	1000	69804	0.341	9.08
9D12042-CAL7	2000	154065	0.364	9.08
9D12042-CAL8	4000	304939	0.367	9.09
9D12042-CAL9	6000	453546	0.359	9.09
9D12042-CALA	8000	583608	0.343	9.09

AVE RF **0.296** RF RSD **29.20** AVE RT **9.08**

2,4,5-Trichlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

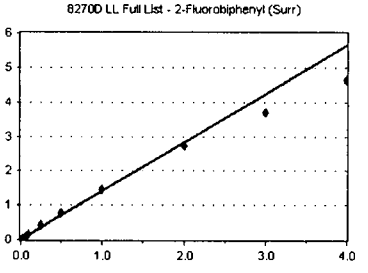


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~570~~	~~0.135~~	~~9.12~~
9D12042-CAL2	50	1937	0.181	9.12
9D12042-CAL3	100	4207	0.190	9.12
9D12042-CAL4	200	11558	0.252	9.12
9D12042-CAL5	500	34165	0.315	9.11
9D12042-CAL6	1000	69025	0.338	9.12
9D12042-CAL7	2000	144274	0.341	9.12
9D12042-CAL8	4000	298945	0.360	9.12
9D12042-CAL9	6000	429331	0.340	9.12
9D12042-CALA	8000	569105	0.335	9.13

AVE RF **0.295** RF RSD **23.36** AVE RT **9.12**

2-Fluorobiphenyl (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~4958~~	~~1.174~~	~~9.17~~
9D12042-CAL2	50	14620	1.365	9.17
9D12042-CAL3	100	29847	1.351	9.17
9D12042-CAL4	200	71986	1.571	9.17
9D12042-CAL5	500	177018	1.631	9.17
9D12042-CAL6	1000	318318	1.557	9.17
9D12042-CAL7	2000	622727	1.472	9.17
9D12042-CAL8	4000	1129555	1.360	9.17
9D12042-CAL9	6000	1558757	1.233	9.17
9D12042-CALA	8000	1972042	1.160	9.18

AVE RF **1.411** RF RSD **11.25** AVE RT **9.17**

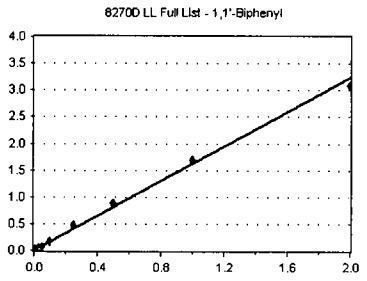
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

1,1'-Biphenyl

Curve Fit: **AVERAGE RF**

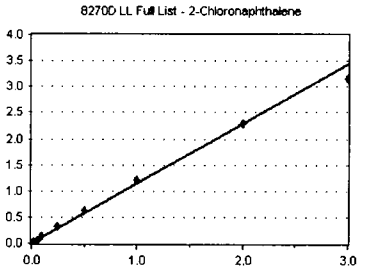


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5440	1.288	9.27
9D12042-CAL2	50	16008	1.495	9.27
9D12042-CAL3	100	33353	1.510	9.27
9D12042-CAL4	200	81722	1.783	9.27
9D12042-CAL5	500	202383	1.864	9.27
9D12042-CAL6	1000	365897	1.789	9.27
9D12042-CAL7	2000	716600	1.694	9.27
9D12042-CAL8	4000	1284403	1.546	9.27
~~9D12042-CAL9~~	~~6000~~	~~1770639~~	~~1.401~~	~~9.28~~
~~9D12042-CALA~~	~~8000~~	~~2197978~~	~~1.293~~	~~9.28~~

AVE RF **1.621** RF RSD **11.97** AVE RT **9.27**

2-Chloronaphthalene

Curve Fit: **AVERAGE RF**

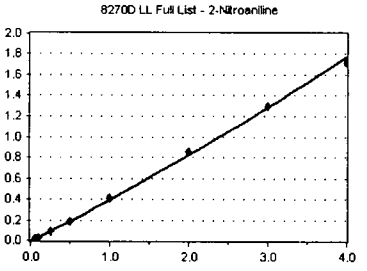


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4110	0.973	9.30
9D12042-CAL2	50	11226	1.048	9.30
9D12042-CAL3	100	23833	1.079	9.30
9D12042-CAL4	200	56267	1.228	9.30
9D12042-CAL5	500	143842	1.325	9.30
9D12042-CAL6	1000	256777	1.256	9.30
9D12042-CAL7	2000	513880	1.215	9.30
9D12042-CAL8	4000	950535	1.144	9.30
9D12042-CAL9	6000	1327873	1.051	9.31
~~9D12042-CALA~~	~~8000~~	~~1678580~~	~~0.988~~	~~9.31~~

AVE RF **1.147** RF RSD **10.16** AVE RT **9.30**

2-Nitroaniline

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

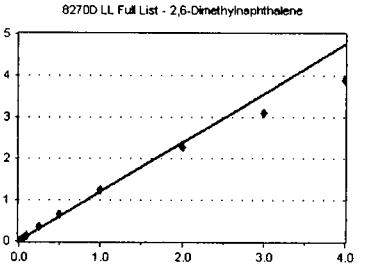


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~491~~	~~0.116~~	~~9.39~~
~~9D12042-CAL2~~	~~50~~	~~1501~~	~~0.140~~	~~9.39~~
9D12042-CAL3	100	3408	0.154	9.39
9D12042-CAL4	200	10366	0.226	9.39
9D12042-CAL5	500	37427	0.345	9.39
9D12042-CAL6	1000	74805	0.366	9.39
9D12042-CAL7	2000	172195	0.407	9.39
9D12042-CAL8	4000	356149	0.429	9.40
9D12042-CAL9	6000	544899	0.431	9.40
9D12042-CALA	8000	729589	0.429	9.41

AVE RF **0.348** RF RSD **29.95** AVE RT **9.39**

2,6-Dimethylnaphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4471	1.059	9.43
9D12042-CAL2	50	12930	1.207	9.43
9D12042-CAL3	100	27574	1.248	9.43
9D12042-CAL4	200	60607	1.323	9.43
9D12042-CAL5	500	147706	1.361	9.43
9D12042-CAL6	1000	267086	1.306	9.43
9D12042-CAL7	2000	523522	1.238	9.43
9D12042-CAL8	4000	944826	1.137	9.44
9D12042-CAL9	6000	1312335	1.038	9.44
9D12042-CALA	8000	1648270	0.970	9.45

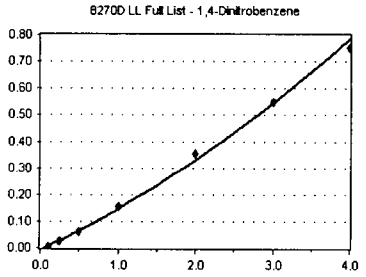
AVE RF **1.189** RF RSD **11.13** AVE RT **9.43**

Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

1,4-Dinitrobenzene

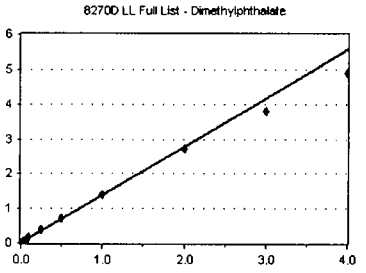


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~72~~	~~1.705~~	~~0.00~~
~~9D12042-CAL2~~	~~50~~	~~512~~	~~4.781~~	~~9.52~~
~~9D12042-CAL3~~	~~100~~	~~1082~~	~~4.899~~	~~9.52~~
9D12042-CAL4	200	2775	6.055	9.52
9D12042-CAL5	500	10966	0.101	9.52
9D12042-CAL6	1000	24586	0.120	9.52
9D12042-CAL7	2000	65644	0.155	9.52
9D12042-CAL8	4000	148152	0.178	9.53
9D12042-CAL9	6000	231647	0.183	9.53
9D12042-CALA	8000	319922	0.188	9.54

AVE RF **0.141** RF RSD **34.41** AVE RT **9.52**

Dimethylphthalate

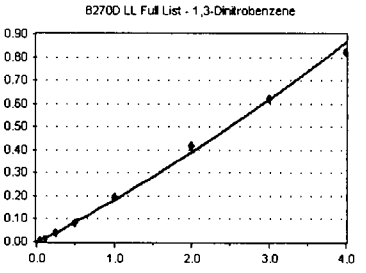


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5716	1.354	9.56
9D12042-CAL2	50	14804	1.382	9.56
9D12042-CAL3	100	32685	1.480	9.56
9D12042-CAL4	200	68197	1.488	9.56
9D12042-CAL5	500	166367	1.532	9.57
9D12042-CAL6	1000	293273	1.434	9.57
9D12042-CAL7	2000	593270	1.403	9.57
9D12042-CAL8	4000	1125792	1.355	9.58
9D12042-CAL9	6000	1593856	1.261	9.59
9D12042-CALA	8000	2076750	1.222	9.60

AVE RF **1.391** RF RSD **7.09** AVE RT **9.57**

1,3-Dinitrobenzene

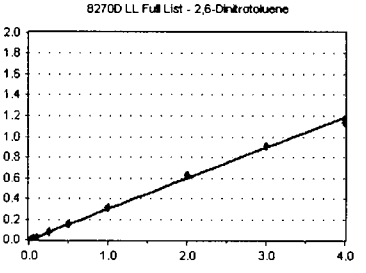


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~137~~	~~3.244~~	~~9.60~~
~~9D12042-CAL2~~	~~50~~	~~496~~	~~4.632~~	~~9.60~~
9D12042-CAL3	100	1592	7.208	9.60
9D12042-CAL4	200	4684	0.102	9.60
9D12042-CAL5	500	16599	0.153	9.60
9D12042-CAL6	1000	33847	0.166	9.60
9D12042-CAL7	2000	81663	0.193	9.60
9D12042-CAL8	4000	172914	0.208	9.61
9D12042-CAL9	6000	262552	0.208	9.62
9D12042-CALA	8000	349862	0.206	9.63

AVE RF **0.163** RF RSD **31.75** AVE RT **9.61**

2,6-Dinitrotoluene



Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~429~~	~~0.102~~	~~9.63~~
9D12042-CAL2	50	1360	0.127	9.63
9D12042-CAL3	100	3662	0.166	9.63
9D12042-CAL4	200	11248	0.245	9.63
9D12042-CAL5	500	31238	0.288	9.63
9D12042-CAL6	1000	61642	0.301	9.63
9D12042-CAL7	2000	130676	0.309	9.63
9D12042-CAL8	4000	259088	0.312	9.64
9D12042-CAL9	6000	380933	0.301	9.65
9D12042-CALA	8000	483438	0.284	9.65

AVE RF **0.259** RF RSD **26.10** AVE RT **9.63**

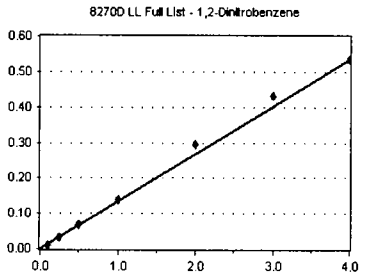
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

1,2-Dinitrobenzene

Curve Fit: **AVERAGE RF**

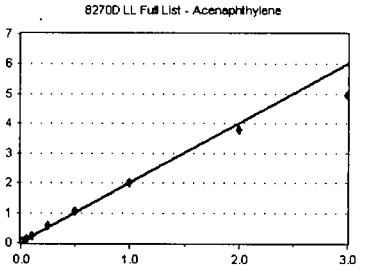


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~247~~	~~0.058~~	~~9.68~~
~~9D12042-CAL2~~	~~50~~	~~594~~	~~5.547~~	~~9.68~~
~~9D12042-CAL3~~	~~100~~	~~1685~~	~~7.629~~	~~9.69~~
9D12042-CAL4	200	5007	0.109	9.68
9D12042-CAL5	500	14052	0.129	9.69
9D12042-CAL6	1000	27578	0.135	9.69
9D12042-CAL7	2000	58797	0.139	9.70
9D12042-CAL8	4000	123107	0.148	9.70
9D12042-CAL9	6000	181239	0.143	9.71
9D12042-CALA	8000	227922	0.134	9.72

AVE RF **0.134** RF RSD **9.38** AVE RT **9.70**

Acenaphthylene

Curve Fit: **AVERAGE RF**

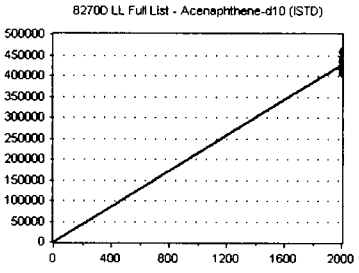


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	8037	1.903	9.72
9D12042-CAL2	50	20809	1.943	9.72
9D12042-CAL3	100	47235	2.139	9.72
9D12042-CAL4	200	96629	2.109	9.72
9D12042-CAL5	500	239738	2.208	9.72
9D12042-CAL6	1000	438645	2.145	9.72
9D12042-CAL7	2000	847485	2.004	9.72
9D12042-CAL8	4000	1577347	1.899	9.72
9D12042-CAL9	6000	2093729	1.657	9.73
~~9D12042-CALA~~	~~8000~~	~~2539761~~	~~1.494~~	~~9.73~~

AVE RF **2.001** RF RSD **8.59** AVE RT **9.72**

Acenaphthene-d10 (ISTD)

Curve Fit: **AVERAGE RF**

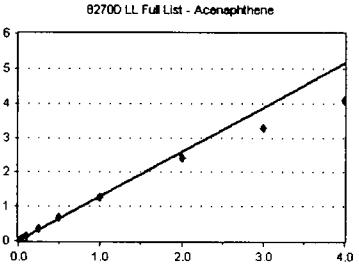


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	2000	422298	211.149	9.86
9D12042-CAL2	2000	428361	214.180	9.86
9D12042-CAL3	2000	441746	220.873	9.86
9D12042-CAL4	2000	458269	229.135	9.86
9D12042-CAL5	2000	434239	217.120	9.86
9D12042-CAL6	2000	408985	204.493	9.87
9D12042-CAL7	2000	422972	211.486	9.87
9D12042-CAL8	2000	415395	207.698	9.87
9D12042-CAL9	2000	421304	210.652	9.87
9D12042-CALA	2000	424880	212.440	9.87

AVE RF **213.923** RF RSD **3.28** AVE RT **9.87**

Acenaphthene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5944	1.408	9.90
9D12042-CAL2	50	14121	1.319	9.90
9D12042-CAL3	100	30980	1.403	9.90
9D12042-CAL4	200	64550	1.409	9.90
9D12042-CAL5	500	152764	1.407	9.89
9D12042-CAL6	1000	274380	1.342	9.90
9D12042-CAL7	2000	539641	1.276	9.90
9D12042-CAL8	4000	991538	1.193	9.91
9D12042-CAL9	6000	1376414	1.089	9.91
9D12042-CALA	8000	1737085	1.022	9.91

AVE RF **1.287** RF RSD **10.97** AVE RT **9.90**

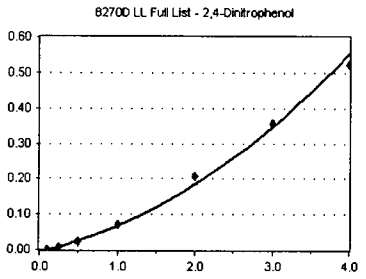
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

2,4-Dinitrophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

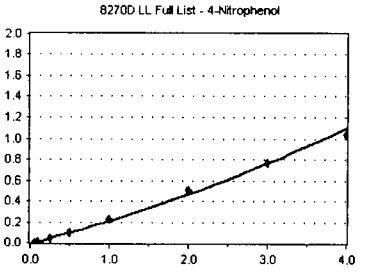


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
~~9D12042-CAL2~~	~~50~~	~~0~~	~~0.000~~	~~0.00~~
~~9D12042-CAL3~~	~~100~~	~~95~~	~~4.301~~	~~9.91~~
9D12042-CAL4	200	631	1.377	9.91
9D12042-CAL5	500	3186	2.935	9.91
9D12042-CAL6	1000	9505	4.648	9.91
9D12042-CAL7	2000	29815	0.070	9.91
9D12042-CAL8	4000	85634	0.103	9.92
9D12042-CAL9	6000	149631	0.118	9.93
9D12042-CALA	8000	222443	0.131	9.93

AVE RF **0.073** RF RSD **62.20** AVE RT **9.91**

4-Nitrophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

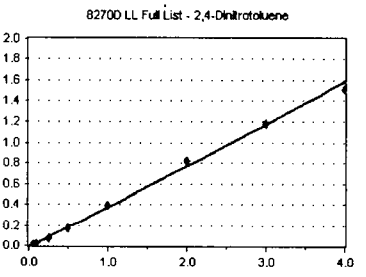


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~81~~	~~1.918~~	~~0.00~~
~~9D12042-CAL2~~	~~50~~	~~479~~	~~4.473~~	~~9.96~~
9D12042-CAL3	100	1391	6.298	9.96
9D12042-CAL4	200	5108	0.111	9.96
9D12042-CAL5	500	16667	0.154	9.96
9D12042-CAL6	1000	38661	0.189	9.96
9D12042-CAL7	2000	95687	0.226	9.96
9D12042-CAL8	4000	210496	0.253	9.98
9D12042-CAL9	6000	325043	0.257	9.98
9D12042-CALA	8000	441662	0.260	9.99

AVE RF **0.189** RF RSD **39.12** AVE RT **9.97**

2,4-Dinitrotoluene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

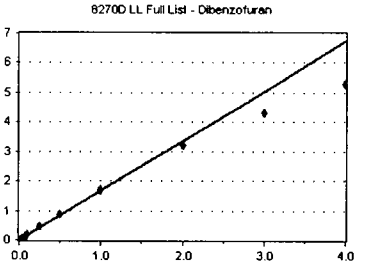


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~516~~	~~0.122~~	~~10.04~~
~~9D12042-CAL2~~	~~50~~	~~1414~~	~~0.132~~	~~10.04~~
9D12042-CAL3	100	3628	0.164	10.04
9D12042-CAL4	200	11165	0.244	10.04
9D12042-CAL5	500	34132	0.314	10.04
9D12042-CAL6	1000	72103	0.353	10.04
9D12042-CAL7	2000	165775	0.392	10.04
9D12042-CAL8	4000	342144	0.412	10.06
9D12042-CAL9	6000	498579	0.394	10.06
9D12042-CALA	8000	642029	0.378	10.07

AVE RF **0.331** RF RSD **26.17** AVE RT **10.05**

Dibenzofuran

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	7180	1.700	10.07
9D12042-CAL2	50	18996	1.774	10.07
9D12042-CAL3	100	39453	1.786	10.07
9D12042-CAL4	200	85043	1.856	10.07
9D12042-CAL5	500	203340	1.873	10.07
9D12042-CAL6	1000	357236	1.747	10.07
9D12042-CAL7	2000	718481	1.699	10.07
9D12042-CAL8	4000	1332830	1.604	10.08
9D12042-CAL9	6000	1822175	1.442	10.08
9D12042-CALA	8000	2258697	1.329	10.08

AVE RF **1.681** RF RSD **10.48** AVE RT **10.07**

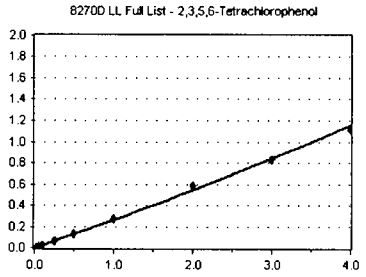
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

2,3,5,6-Tetrachlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

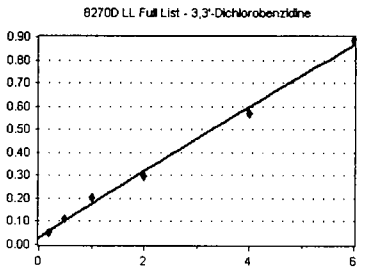


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~365~~	~~8.643~~	~~10.16~~
9D12042-CAL2	50	1033	0.096	10.15
9D12042-CAL3	100	2960	0.134	10.15
9D12042-CAL4	200	9240	0.202	10.15
9D12042-CAL5	500	26249	0.242	10.15
9D12042-CAL6	1000	53006	0.259	10.15
9D12042-CAL7	2000	116600	0.276	10.15
9D12042-CAL8	4000	241470	0.291	10.16
9D12042-CAL9	6000	352904	0.279	10.16
9D12042-CALA	8000	471457	0.277	10.16

AVE RF **0.228** RF RSD **30.66** AVE RT **10.15**

3,3'-Dichlorobenzidine

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

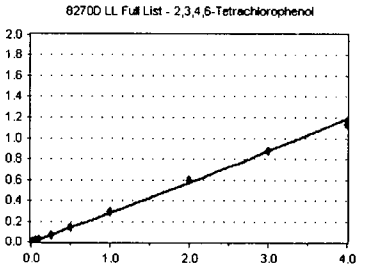


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~40~~	~~2133~~	~~0.175~~	~~0.00~~
~~9D12042-CAL2~~	~~100~~	~~6271~~	~~0.205~~	~~0.00~~
~~9D12042-CAL3~~	~~200~~	~~17285~~	~~0.255~~	~~15.29~~
9D12042-CAL4	400	40983	0.275	15.29
9D12042-CAL5	1000	74081	0.221	15.29
9D12042-CAL6	2000	125386	0.206	15.29
9D12042-CAL7	4000	194322	0.148	15.30
9D12042-CAL8	8000	367601	0.143	0.00
9D12042-CAL9	12000	561471	0.148	0.00
~~9D12042-CALA~~	~~16000~~	~~784747~~	~~0.156~~	~~0.00~~

AVE RF **0.190** RF RSD **28.01** AVE RT **10.19**

2,3,4,6-Tetrachlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

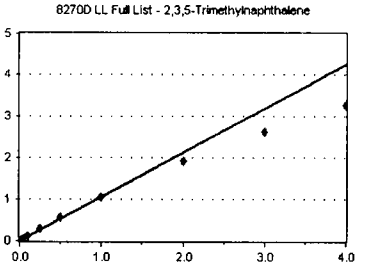


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	466	0.110	10.19
9D12042-CAL2	50	1825	0.170	10.19
9D12042-CAL3	100	4761	0.216	10.19
9D12042-CAL4	200	12019	0.262	10.19
9D12042-CAL5	500	29885	0.275	10.19
9D12042-CAL6	1000	57975	0.284	10.19
9D12042-CAL7	2000	124349	0.294	10.19
9D12042-CAL8	4000	249107	0.300	10.20
9D12042-CAL9	6000	370697	0.293	10.21
9D12042-CALA	8000	480353	0.283	10.21

AVE RF **0.249** RF RSD **25.53** AVE RT **10.20**

2,3,5-Trimethylnaphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4447	1.053	10.27
9D12042-CAL2	50	12035	1.124	10.28
9D12042-CAL3	100	26553	1.202	10.28
9D12042-CAL4	200	55486	1.211	10.28
9D12042-CAL5	500	130703	1.204	10.28
9D12042-CAL6	1000	228198	1.116	10.28
9D12042-CAL7	2000	449654	1.063	10.29
9D12042-CAL8	4000	800915	0.964	10.29
9D12042-CAL9	6000	1102900	0.873	10.29
9D12042-CALA	8000	1390016	0.818	10.30

AVE RF **1.063** RF RSD **13.08** AVE RT **10.28**

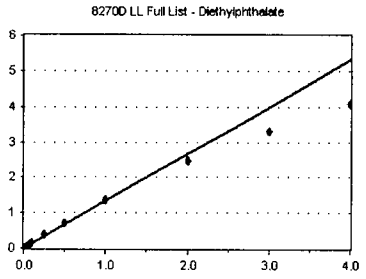
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Diethylphthalate

Curve Fit: **AVERAGE RF**

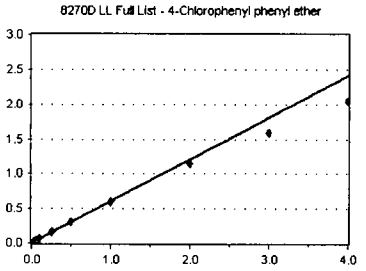


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5489	1.300	10.28
9D12042-CAL2	50	14203	1.326	10.28
9D12042-CAL3	100	33503	1.517	10.28
9D12042-CAL4	200	68644	1.498	10.28
9D12042-CAL5	500	165131	1.521	10.28
9D12042-CAL6	1000	290221	1.419	10.29
9D12042-CAL7	2000	569548	1.347	10.29
9D12042-CAL8	4000	1025219	1.234	10.29
9D12042-CAL9	6000	1390913	1.100	10.30
9D12042-CALA	8000	1740855	1.024	10.30

AVE RF **1.329** RF RSD **12.89** AVE RT **10.29**

4-Chlorophenyl phenyl ether

Curve Fit: **AVERAGE RF**

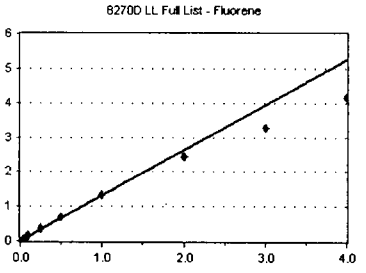


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2599	0.615	10.41
9D12042-CAL2	50	6570	0.614	10.41
9D12042-CAL3	100	14524	0.658	10.41
9D12042-CAL4	200	29693	0.648	10.41
9D12042-CAL5	500	70419	0.649	10.41
9D12042-CAL6	1000	127242	0.622	10.41
9D12042-CAL7	2000	257040	0.608	10.41
9D12042-CAL8	4000	476543	0.574	10.41
9D12042-CAL9	6000	666343	0.527	10.42
9D12042-CALA	8000	866576	0.510	10.42

AVE RF **0.602** RF RSD **8.39** AVE RT **10.41**

Fluorene

Curve Fit: **AVERAGE RF**

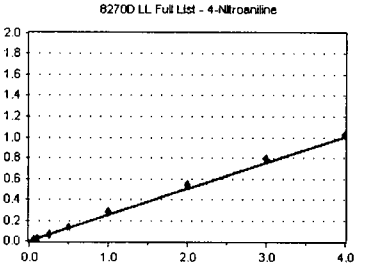


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5519	1.307	10.42
9D12042-CAL2	50	14499	1.354	10.42
9D12042-CAL3	100	32507	1.472	10.42
9D12042-CAL4	200	68196	1.488	10.42
9D12042-CAL5	500	160999	1.483	10.42
9D12042-CAL6	1000	283189	1.385	10.42
9D12042-CAL7	2000	562191	1.329	10.42
9D12042-CAL8	4000	1010351	1.216	10.43
9D12042-CAL9	6000	1382772	1.094	10.43
9D12042-CALA	8000	1760020	1.036	10.44

AVE RF **1.316** RF RSD **12.04** AVE RT **10.42**

4-Nitroaniline

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~410~~	~~9.709~~	~~10.42~~
~~9D12042-CAL2~~	~~50~~	~~1321~~	~~0.123~~	~~10.42~~
9D12042-CAL3	100	3975	0.180	10.42
9D12042-CAL4	200	11137	0.243	10.42
9D12042-CAL5	500	27588	0.254	10.42
9D12042-CAL6	1000	55130	0.270	10.42
9D12042-CAL7	2000	116803	0.276	10.43
9D12042-CAL8	4000	224177	0.270	10.44
9D12042-CAL9	6000	332833	0.263	10.45
9D12042-CALA	8000	435677	0.256	10.46

AVE RF **0.252** RF RSD **12.23** AVE RT **10.43**

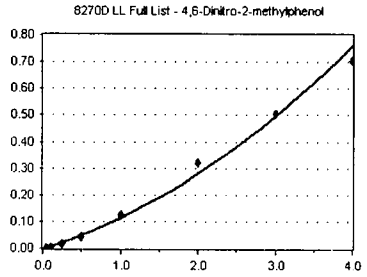
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

4,6-Dinitro-2-methylphenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

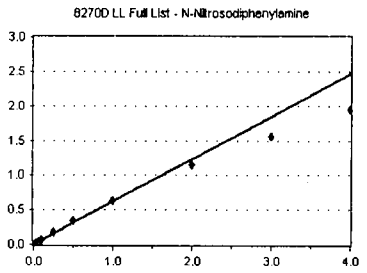


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~66~~	~~1.563~~	~~10.46~~
~~9D12042-CAL2~~	~~50~~	~~144~~	~~0.013~~	~~10.46~~
9D12042-CAL3	100	481	2.178	10.46
9D12042-CAL4	200	2085	0.045	10.46
9D12042-CAL5	500	7777	7.164	10.46
9D12042-CAL6	1000	18318	8.958	10.46
9D12042-CAL7	2000	52412	0.124	10.46
9D12042-CAL8	4000	132375	0.159	10.47
9D12042-CAL9	6000	214039	0.169	10.48
9D12042-CALA	8000	299612	0.176	10.49

AVE RF **0.107** RF RSD **54.99** AVE RT **10.47**

N-Nitrosodiphenylamine

Curve Fit: **AVERAGE RF**

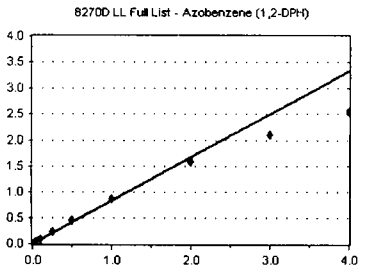


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	3694	0.531	10.53
9D12042-CAL2	50	11052	0.631	10.53
9D12042-CAL3	100	26271	0.697	10.53
9D12042-CAL4	200	55332	0.695	10.53
9D12042-CAL5	500	133109	0.721	10.53
9D12042-CAL6	1000	233117	0.665	10.53
9D12042-CAL7	2000	470356	0.635	10.53
9D12042-CAL8	4000	873790	0.576	10.54
9D12042-CAL9	6000	1213548	0.521	10.54
9D12042-CALA	8000	1549603	0.486	10.55

AVE RF **0.616** RF RSD **13.41** AVE RT **10.53**

Azobenzene (1,2-DPH)

Curve Fit: **AVERAGE RF**

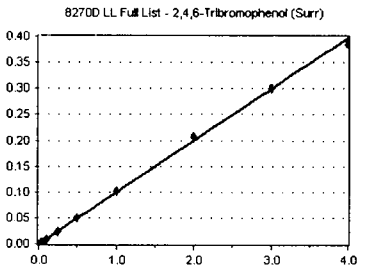


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5526	0.794	10.57
9D12042-CAL2	50	14382	0.821	10.57
9D12042-CAL3	100	34700	0.920	10.57
9D12042-CAL4	200	74635	0.938	10.57
9D12042-CAL5	500	177851	0.963	10.57
9D12042-CAL6	1000	317716	0.906	10.57
9D12042-CAL7	2000	640569	0.865	10.57
9D12042-CAL8	4000	1195391	0.788	10.58
9D12042-CAL9	6000	1634030	0.701	10.59
9D12042-CALA	8000	2030780	0.637	10.59

AVE RF **0.833** RF RSD **12.72** AVE RT **10.57**

2,4,6-Tribromophenol (Surr)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~384~~	~~0.055~~	~~10.67~~
9D12042-CAL2	50	864	4.929	10.67
9D12042-CAL3	100	2582	6.846	10.67
9D12042-CAL4	200	7004	8.799	10.67
9D12042-CAL5	500	17282	9.357	10.67
9D12042-CAL6	1000	34203	9.756	10.67
9D12042-CAL7	2000	75759	0.102	10.67
9D12042-CAL8	4000	157542	0.104	10.67
9D12042-CAL9	6000	233263	0.100	10.68
9D12042-CALA	8000	307443	9.646	10.68

AVE RF **0.089** RF RSD **20.57** AVE RT **10.67**

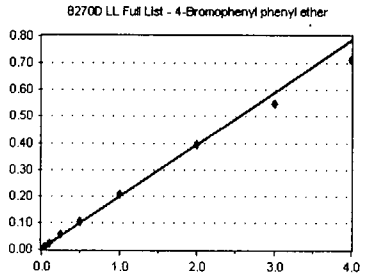
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

4-Bromophenyl phenyl ether

Curve Fit: **AVERAGE RF**

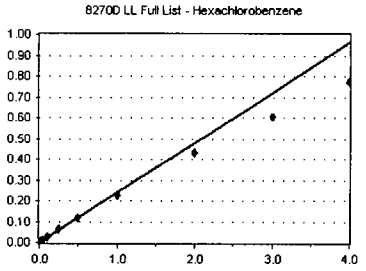


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	1143	0.164	10.91
9D12042-CAL2	50	3328	0.190	10.91
9D12042-CAL3	100	7754	0.206	10.91
9D12042-CAL4	200	17137	0.215	10.91
9D12042-CAL5	500	40555	0.220	10.91
9D12042-CAL6	1000	73569	0.210	10.91
9D12042-CAL7	2000	152125	0.205	10.91
9D12042-CAL8	4000	299638	0.198	10.92
9D12042-CAL9	6000	426557	0.183	10.92
9D12042-CALA	8000	567177	0.178	10.92

AVE RF **0.197** RF RSD **9.01** AVE RT **10.91**

Hexachlorobenzene

Curve Fit: **AVERAGE RF**

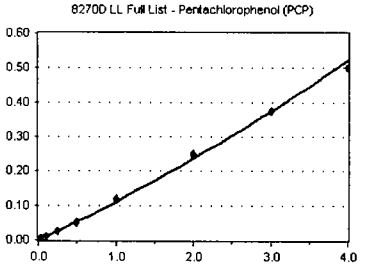


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	2003	0.288	10.99
9D12042-CAL2	50	4727	0.270	10.99
9D12042-CAL3	100	9841	0.261	10.99
9D12042-CAL4	200	19743	0.248	10.99
9D12042-CAL5	500	46685	0.253	10.99
9D12042-CAL6	1000	85256	0.243	10.99
9D12042-CAL7	2000	169660	0.229	11.00
9D12042-CAL8	4000	325856	0.215	11.00
9D12042-CAL9	6000	468256	0.201	11.00
9D12042-CALA	8000	614308	0.193	11.01

AVE RF **0.240** RF RSD **12.70** AVE RT **10.99**

Pentachlorophenol (PCP)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

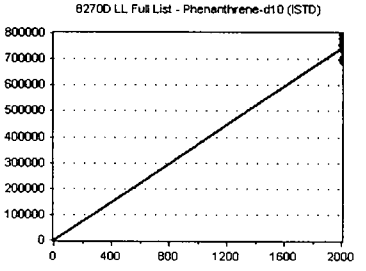


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~966~~	~~0.139~~	~~11.18~~
9D12042-CAL2	50	1190	6.789	11.18
9D12042-CAL3	100	2796	7.413	11.18
9D12042-CAL4	200	7672	9.639	11.18
9D12042-CAL5	500	18590	0.101	11.18
9D12042-CAL6	1000	36665	0.105	11.18
9D12042-CAL7	2000	88610	0.120	11.18
9D12042-CAL8	4000	190485	0.126	11.19
9D12042-CAL9	6000	290217	0.125	11.19
9D12042-CALA	8000	397295	0.125	11.19

AVE RF **0.104** RF RSD **20.99** AVE RT **11.19**

Phenanthrene-d10 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	2000	695574	347.787	11.38
9D12042-CAL2	2000	701109	350.554	11.38
9D12042-CAL3	2000	754332	377.166	11.38
9D12042-CAL4	2000	795971	397.986	11.38
9D12042-CAL5	2000	738796	369.398	11.38
9D12042-CAL6	2000	701196	350.598	11.38
9D12042-CAL7	2000	740336	370.168	11.38
9D12042-CAL8	2000	758182	379.091	11.38
9D12042-CAL9	2000	776478	388.239	11.39
9D12042-CALA	2000	796822	398.411	11.39

AVE RF **372.940** RF RSD **5.07** AVE RT **11.38**

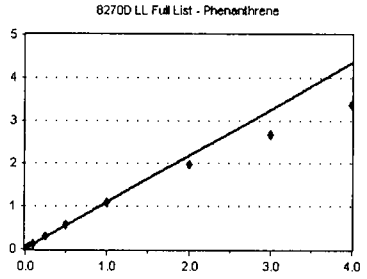
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Phenanthrene

Curve Fit: **AVERAGE RF**

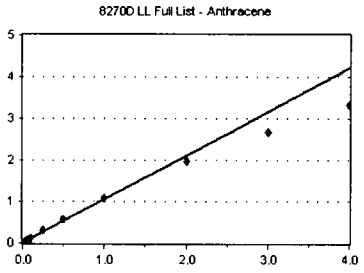


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	8041	1.156	11.40
9D12042-CAL2	50	20614	1.176	11.40
9D12042-CAL3	100	45844	1.215	11.40
9D12042-CAL4	200	95305	1.197	11.40
9D12042-CAL5	500	217396	1.177	11.40
9D12042-CAL6	1000	396616	1.131	11.40
9D12042-CAL7	2000	798010	1.078	11.41
9D12042-CAL8	4000	1492206	0.984	11.41
9D12042-CAL9	6000	2079626	0.893	11.41
9D12042-CALA	8000	2691755	0.845	11.42

AVE RF **1.085** RF RSD **12.23** AVE RT **11.41**

Anthracene

Curve Fit: **AVERAGE RF**

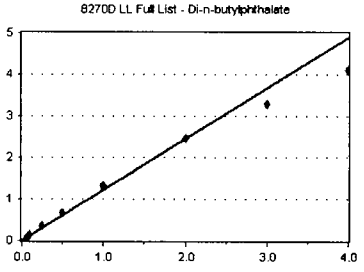


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	6943	0.998	11.45
9D12042-CAL2	50	18968	1.082	11.45
9D12042-CAL3	100	44636	1.183	11.45
9D12042-CAL4	200	94023	1.181	11.45
9D12042-CAL5	500	221004	1.197	11.46
9D12042-CAL6	1000	394791	1.126	11.46
9D12042-CAL7	2000	805661	1.088	11.46
9D12042-CAL8	4000	1503459	0.991	11.46
9D12042-CAL9	6000	2083055	0.894	11.47
9D12042-CALA	8000	2638439	0.828	11.47

AVE RF **1.057** RF RSD **11.97** AVE RT **11.46**

Di-n-butylphthalate

Curve Fit: **AVERAGE RF**

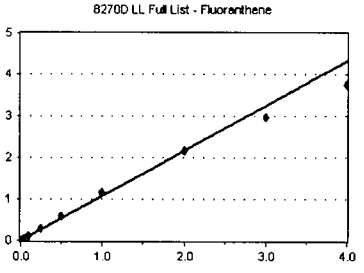


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~6378~~	~~0.917~~	~~0.00~~
~~9D12042-CAL2~~	~~50~~	~~17235~~	~~0.983~~	~~11.95~~
9D12042-CAL3	100	42155	1.118	11.95
9D12042-CAL4	200	102422	1.287	11.95
9D12042-CAL5	500	254292	1.377	11.95
9D12042-CAL6	1000	466951	1.332	11.95
9D12042-CAL7	2000	975285	1.317	11.95
9D12042-CAL8	4000	1863184	1.229	11.95
9D12042-CAL9	6000	2563602	1.101	11.95
9D12042-CALA	8000	3263829	1.024	11.96

AVE RF **1.223** RF RSD **10.44** AVE RT **11.95**

Fluoranthene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	6550	0.942	12.72
9D12042-CAL2	50	16870	0.962	12.72
9D12042-CAL3	100	42585	1.129	12.72
9D12042-CAL4	200	96117	1.208	12.72
9D12042-CAL5	500	228649	1.238	12.72
9D12042-CAL6	1000	412285	1.176	12.72
9D12042-CAL7	2000	857707	1.159	12.72
9D12042-CAL8	4000	1642237	1.083	12.72
9D12042-CAL9	6000	2306517	0.990	12.73
9D12042-CALA	8000	2984085	0.936	12.74

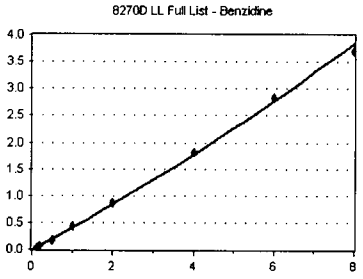
AVE RF **1.082** RF RSD **10.70** AVE RT **12.72**

Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Benzidine

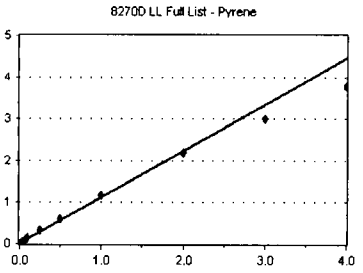


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~40~~	~~5651~~	~~0.406~~	~~12.87~~
~~9D12042-CAL2~~	~~100~~	~~8239~~	~~0.235~~	~~12.87~~
9D12042-CAL3	200	20642	0.274	12.87
9D12042-CAL4	400	43225	0.272	12.87
9D12042-CAL5	1000	133741	0.362	12.87
9D12042-CAL6	2000	301351	0.430	12.88
9D12042-CAL7	4000	643196	0.434	12.88
9D12042-CAL8	8000	1376314	0.454	12.89
9D12042-CAL9	12000	2206262	0.474	12.90
9D12042-CALA	16000	2941124	0.461	12.90

AVE RF **0.395** RF RSD **20.93** AVE RT **12.88**

Pyrene

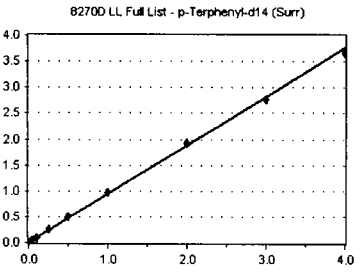


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	7061	1.015	13.03
9D12042-CAL2	50	18258	1.042	13.03
9D12042-CAL3	100	44554	1.181	13.03
9D12042-CAL4	200	98204	1.234	13.03
9D12042-CAL5	500	236036	1.278	13.03
9D12042-CAL6	1000	420841	1.200	13.03
9D12042-CAL7	2000	864674	1.168	13.03
9D12042-CAL8	4000	1649971	1.088	13.04
9D12042-CAL9	6000	2327794	0.999	13.05
9D12042-CALA	8000	3020323	0.948	13.05

AVE RF **1.115** RF RSD **10.03** AVE RT **13.03**

p-Terphenyl-d14 (Surr)

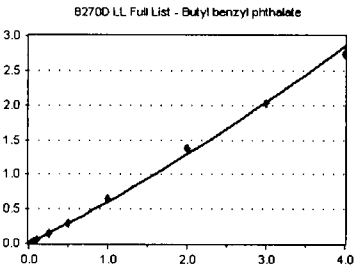


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4983	0.817	13.24
9D12042-CAL2	50	13758	0.900	13.24
9D12042-CAL3	100	32507	0.960	13.24
9D12042-CAL4	200	72239	0.969	13.24
9D12042-CAL5	500	169985	1.012	13.24
9D12042-CAL6	1000	302416	0.993	13.24
9D12042-CAL7	2000	637269	0.970	13.25
9D12042-CAL8	4000	1238678	0.963	13.25
9D12042-CAL9	6000	1748485	0.920	13.25
9D12042-CALA	8000	2287744	0.912	13.26

AVE RF **0.941** RF RSD **5.99** AVE RT **13.25**

Butyl benzyl phthalate



Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~1437~~	~~0.236~~	~~14.11~~
9D12042-CAL2	50	4216	0.276	14.11
9D12042-CAL3	100	12505	0.369	14.11
9D12042-CAL4	200	33181	0.445	14.11
9D12042-CAL5	500	94315	0.562	14.11
9D12042-CAL6	1000	182466	0.599	14.11
9D12042-CAL7	2000	421549	0.642	14.11
9D12042-CAL8	4000	881875	0.685	14.12
9D12042-CAL9	6000	1284862	0.676	14.13
9D12042-CALA	8000	1721965	0.686	14.13

AVE RF **0.549** RF RSD **27.53** AVE RT **14.12**

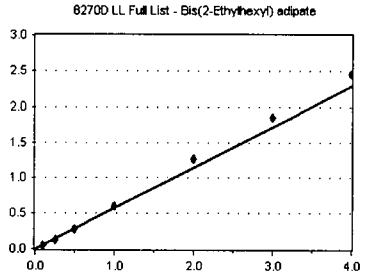
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Bis(2-Ethylhexyl) adipate

Curve Fit: **AVERAGE RF**

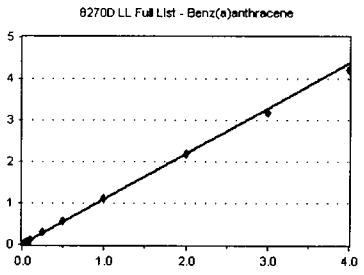


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~2012~~	~~0.330~~	~~0.00~~
~~9D12042-CAL2~~	~~50~~	~~4520~~	~~0.296~~	~~0.00~~
~~9D12042-CAL3~~	~~100~~	~~13416~~	~~0.396~~	~~14.29~~
9D12042-CAL4	200	32652	0.438	14.29
9D12042-CAL5	500	89139	0.531	14.29
9D12042-CAL6	1000	172525	0.567	14.29
9D12042-CAL7	2000	390927	0.595	14.30
9D12042-CAL8	4000	814038	0.633	14.30
9D12042-CAL9	6000	1167165	0.614	14.30
9D12042-CALA	8000	1536908	0.613	14.31

AVE RF **0.570** RF RSD **11.84** AVE RT **14.30**

Benz(a)anthracene

Curve Fit: **AVERAGE RF**

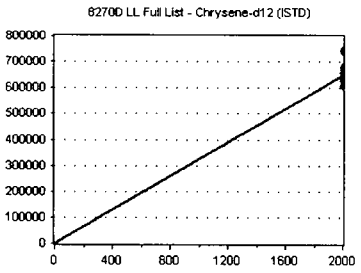


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	6716	1.101	15.33
9D12042-CAL2	50	15643	1.023	15.33
9D12042-CAL3	100	36438	1.076	15.33
9D12042-CAL4	200	84134	1.128	15.33
9D12042-CAL5	500	193655	1.153	15.33
9D12042-CAL6	1000	339038	1.113	15.33
9D12042-CAL7	2000	723880	1.102	15.33
9D12042-CAL8	4000	1412877	1.098	15.35
9D12042-CAL9	6000	2019475	1.062	15.35
9D12042-CALA	8000	2651985	1.057	15.36

AVE RF **1.091** RF RSD **3.46** AVE RT **15.34**

Chrysene-d12 (ISTD)

Curve Fit: **AVERAGE RF**

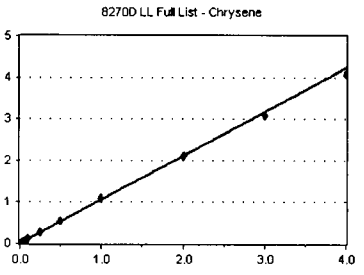


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	2000	610059	305.030	15.35
9D12042-CAL2	2000	611518	305.759	15.35
9D12042-CAL3	2000	677420	338.710	15.36
9D12042-CAL4	2000	745877	372.938	15.36
9D12042-CAL5	2000	671794	335.897	15.36
9D12042-CAL6	2000	609064	304.532	15.36
9D12042-CAL7	2000	656807	328.403	15.37
9D12042-CAL8	2000	643412	321.706	15.37
9D12042-CAL9	2000	633760	316.880	15.38
9D12042-CALA	2000	627246	313.623	15.38

AVE RF **324.348** RF RSD **6.50** AVE RT **15.36**

Chrysene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	6300	1.033	15.41
9D12042-CAL2	50	15517	1.015	15.41
9D12042-CAL3	100	36836	1.088	15.41
9D12042-CAL4	200	81237	1.089	15.41
9D12042-CAL5	500	184149	1.096	15.41
9D12042-CAL6	1000	330019	1.084	15.41
9D12042-CAL7	2000	705299	1.074	15.43
9D12042-CAL8	4000	1362723	1.059	15.44
9D12042-CAL9	6000	1955932	1.029	15.45
9D12042-CALA	8000	2567396	1.023	15.46

AVE RF **1.059** RF RSD **2.95** AVE RT **15.42**

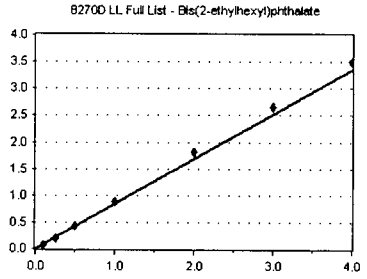
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Bis(2-ethylhexyl)phthalate

Curve Fit: **AVERAGE RF**

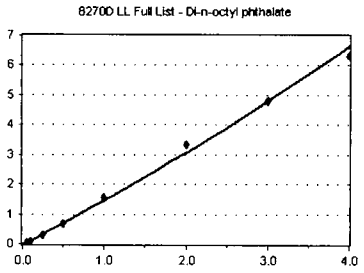


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~1961~~	~~0.321~~	~~15.48~~
~~9D12042-CAL2~~	~~50~~	~~5834~~	~~0.382~~	~~15.49~~
~~9D12042-CAL3~~	~~100~~	~~17462~~	~~0.516~~	~~15.49~~
9D12042-CAL4	200	48543	0.651	15.49
9D12042-CAL5	500	135678	0.808	15.49
9D12042-CAL6	1000	262635	0.862	15.49
9D12042-CAL7	2000	581618	0.886	15.49
9D12042-CAL8	4000	1174172	0.912	15.50
9D12042-CAL9	6000	1684021	0.886	15.50
9D12042-CALA	8000	2197866	0.876	15.51

AVE RF **0.840** RF RSD **10.65** AVE RT **15.49**

Di-n-octyl phthalate

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

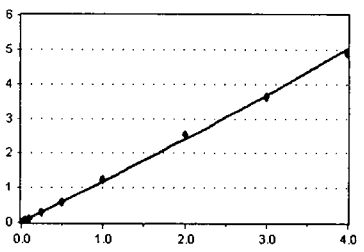


Standard	Concentration	Response	Response Factor	RT
~~9D12042-CAL1~~	~~20~~	~~1918~~	~~0.355~~	~~17.15~~
~~9D12042-CAL2~~	~~50~~	~~5426~~	~~0.399~~	~~17.17~~
9D12042-CAL3	100	17362	0.566	17.16
9D12042-CAL4	200	57618	0.833	17.16
9D12042-CAL5	500	179707	1.176	17.17
9D12042-CAL6	1000	379612	1.379	17.16
9D12042-CAL7	2000	937211	1.539	17.17
9D12042-CAL8	4000	2011354	1.664	17.17
9D12042-CAL9	6000	2987922	1.603	17.18
9D12042-CALA	8000	3987899	1.577	17.19

AVE RF **1.292** RF RSD **31.17** AVE RT **17.17**

Benzo(b)fluoranthene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

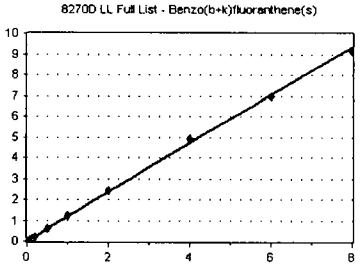


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	3779	0.699	17.93
9D12042-CAL2	50	11314	0.833	17.94
9D12042-CAL3	100	30164	0.984	17.94
9D12042-CAL4	200	73883	1.068	17.94
9D12042-CAL5	500	182995	1.198	17.95
9D12042-CAL6	1000	328149	1.192	17.95
9D12042-CAL7	2000	743627	1.221	17.96
9D12042-CAL8	4000	1520664	1.258	17.97
9D12042-CAL9	6000	2251243	1.208	17.99
9D12042-CALA	8000	3082964	1.219	18.00

AVE RF **1.088** RF RSD **17.56** AVE RT **17.96**

Benzo(b+k)fluoranthene(s)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	40	8014	0.741	17.93
9D12042-CAL2	100	23691	0.872	18.01
9D12042-CAL3	200	63641	1.038	18.01
9D12042-CAL4	400	154717	1.118	18.01
9D12042-CAL5	1000	376051	1.230	18.01
9D12042-CAL6	2000	674655	1.225	18.02
9D12042-CAL7	4000	1488733	1.222	18.03
9D12042-CAL8	8000	2970412	1.229	18.05
9D12042-CAL9	12000	4333245	1.162	18.06
9D12042-CALA	16000	5776538	1.142	18.07

AVE RF **1.098** RF RSD **15.32** AVE RT **18.02**

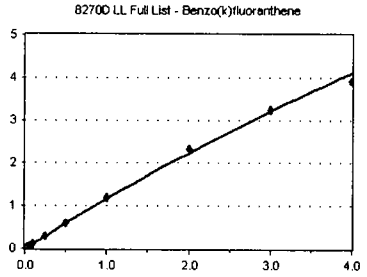
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Benzo(k)fluoranthene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

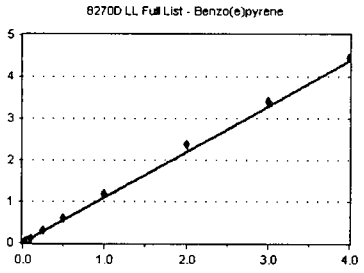


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	3388	0.627	18.01
9D12042-CAL2	50	11590	0.853	18.01
9D12042-CAL3	100	31556	1.029	18.01
9D12042-CAL4	200	77404	1.119	18.01
9D12042-CAL5	500	185113	1.211	18.01
9D12042-CAL6	1000	333411	1.211	18.02
9D12042-CAL7	2000	719520	1.182	18.03
9D12042-CAL8	4000	1404715	1.162	18.05
9D12042-CAL9	6000	2012368	1.079	18.06
9D12042-CALA	8000	2486052	0.983	18.07

AVE RF **1.046** RF RSD **17.75** AVE RT **18.03**

Benzo(e)pyrene

Curve Fit: **AVERAGE RF**

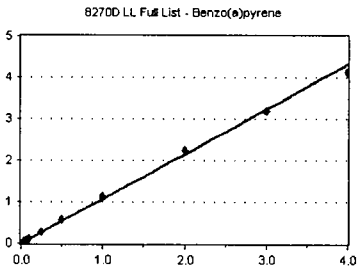


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4564	0.844	18.60
9D12042-CAL2	50	12166	0.896	18.60
9D12042-CAL3	100	32260	1.052	18.60
9D12042-CAL4	200	76788	1.110	18.60
9D12042-CAL5	500	185968	1.217	18.61
9D12042-CAL6	1000	331204	1.203	18.61
9D12042-CAL7	2000	729599	1.198	18.62
9D12042-CAL8	4000	1443185	1.194	18.63
9D12042-CAL9	6000	2113962	1.134	18.65
9D12042-CALA	8000	2828166	1.118	18.66

AVE RF **1.097** RF RSD **11.91** AVE RT **18.62**

Benzo(a)pyrene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

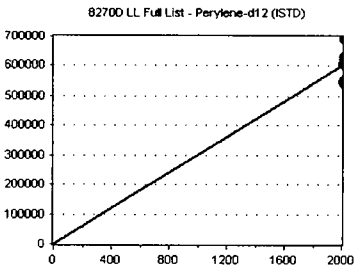


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	3153	0.583	18.73
9D12042-CAL2	50	9489	0.699	18.73
9D12042-CAL3	100	26020	0.849	18.72
9D12042-CAL4	200	69007	0.998	18.72
9D12042-CAL5	500	167492	1.096	18.73
9D12042-CAL6	1000	305060	1.108	18.73
9D12042-CAL7	2000	692390	1.137	18.74
9D12042-CAL8	4000	1361909	1.127	18.76
9D12042-CAL9	6000	1987626	1.066	18.77
9D12042-CALA	8000	2622343	1.037	18.78

AVE RF **0.970** RF RSD **20.03** AVE RT **18.74**

Perylene-d12 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	2000	540507	270.253	18.87
9D12042-CAL2	2000	543287	271.643	18.87
9D12042-CAL3	2000	613080	306.540	18.87
9D12042-CAL4	2000	691727	345.863	18.88
9D12042-CAL5	2000	611227	305.613	18.88
9D12042-CAL6	2000	550560	275.280	18.88
9D12042-CAL7	2000	608933	304.467	18.88
9D12042-CAL8	2000	604409	302.205	18.89
9D12042-CAL9	2000	621448	310.724	18.89
9D12042-CALA	2000	632280	316.140	18.90

AVE RF **300.873** RF RSD **7.73** AVE RT **18.88**

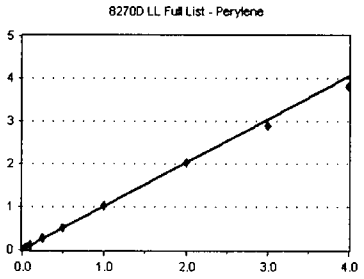
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

Perylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5247	0.971	18.92
9D12042-CAL2	50	12964	0.954	18.92
9D12042-CAL3	100	31514	1.028	18.92
9D12042-CAL4	200	76410	1.105	18.92
9D12042-CAL5	500	164210	1.075	18.93
9D12042-CAL6	1000	289485	1.052	18.93
9D12042-CAL7	2000	626831	1.029	18.94
9D12042-CAL8	4000	1230925	1.018	18.96
9D12042-CAL9	6000	1800658	0.966	18.97
9D12042-CALA	8000	2414315	0.955	18.99

AVE RF **1.015** RF RSD **5.19** AVE RT **18.94**

Dibenz(a,h)anthracene-d14 (ISTD)

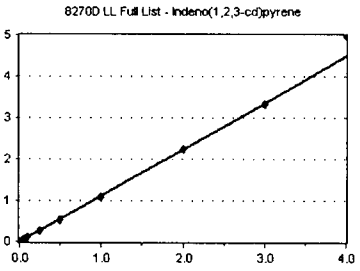
Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	2000	486802	243.401	21.26
9D12042-CAL2	2000	498877	249.438	21.26
9D12042-CAL3	2000	548377	274.188	21.26
9D12042-CAL4	2000	629435	314.718	21.27
9D12042-CAL5	2000	566816	283.408	21.27
9D12042-CAL6	2000	510954	255.477	21.27
9D12042-CAL7	2000	581304	290.652	21.27
9D12042-CAL8	2000	596931	298.465	21.29
9D12042-CAL9	2000	616591	308.295	21.30
9D12042-CALA	2000	623208	311.604	21.31

AVE RF **282.965** RF RSD **9.34** AVE RT **21.27**

Indeno(1,2,3-cd)pyrene

Curve Fit: **AVERAGE RF**

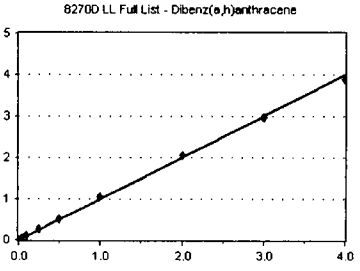


Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	5842	1.200	21.26
9D12042-CAL2	50	13136	1.053	21.26
9D12042-CAL3	100	29860	1.089	21.26
9D12042-CAL4	200	68379	1.086	21.26
9D12042-CAL5	500	156537	1.105	21.26
9D12042-CAL6	1000	278226	1.089	21.27
9D12042-CAL7	2000	633467	1.090	21.28
9D12042-CAL8	4000	1337697	1.120	21.30
9D12042-CAL9	6000	2048112	1.107	21.31
9D12042-CALA	8000	3112495	1.249	21.33

AVE RF **1.119** RF RSD **5.31** AVE RT **21.28**

Dibenz(a,h)anthracene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4686	0.963	21.32
9D12042-CAL2	50	11403	0.914	21.33
9D12042-CAL3	100	27470	1.002	21.33
9D12042-CAL4	200	62866	0.999	21.33
9D12042-CAL5	500	147780	1.043	21.32
9D12042-CAL6	1000	262242	1.026	21.33
9D12042-CAL7	2000	618025	1.063	21.34
9D12042-CAL8	4000	1232473	1.032	21.36
9D12042-CAL9	6000	1836914	0.993	21.37
9D12042-CALA	8000	2425385	0.973	21.38

AVE RF **1.001** RF RSD **4.36** AVE RT **21.34**

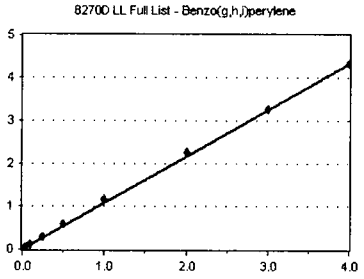
Element Calibration Review Sheet

Calibration ID: **A9D1505** Instrument: **SV-GCMS10** Calibration Date: **04/15/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9D1505**

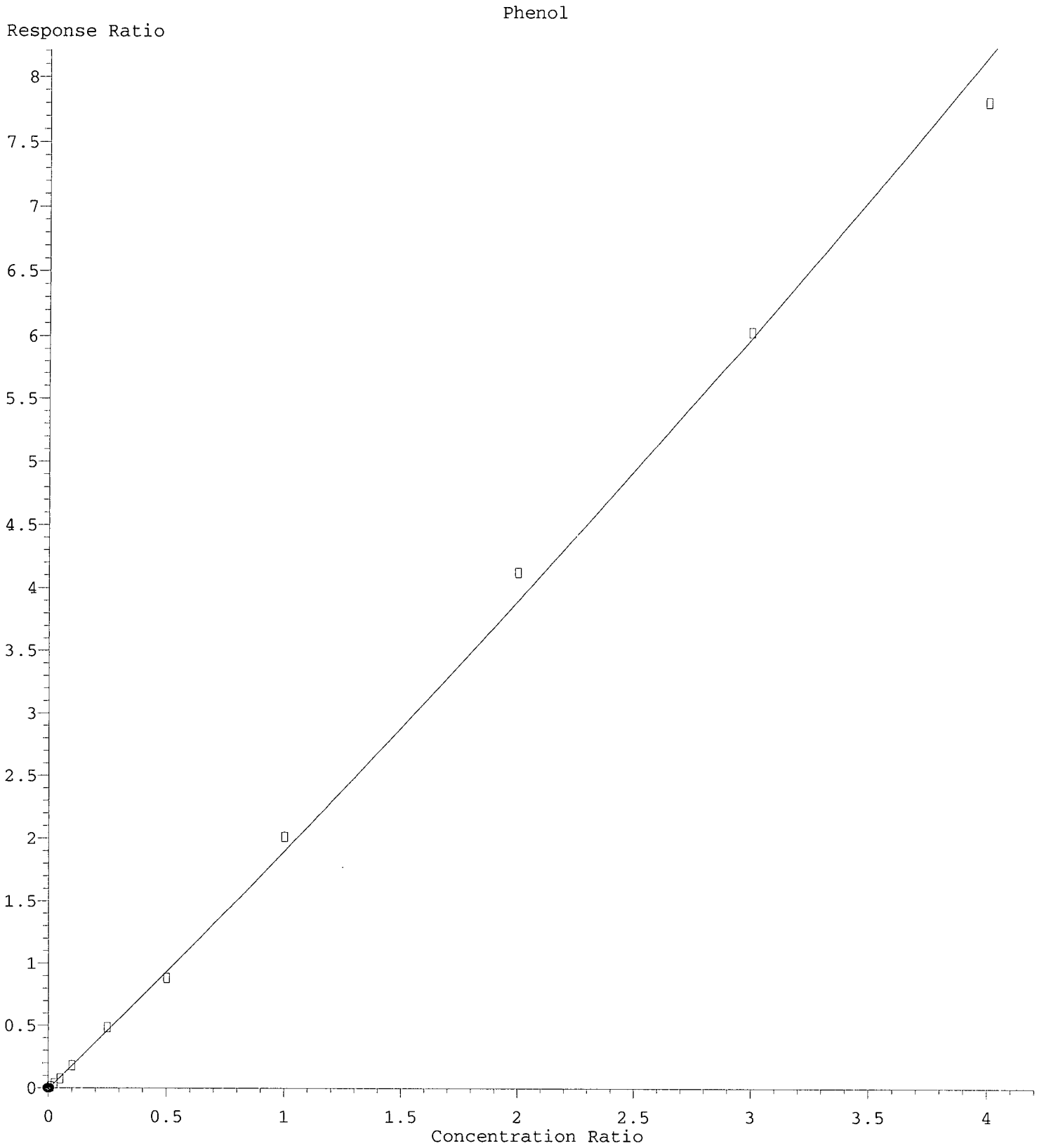
Benzo(g,h,i)perylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D12042-CAL1	20	4399	0.904	21.81
9D12042-CAL2	50	12250	0.982	21.80
9D12042-CAL3	100	27580	1.006	21.80
9D12042-CAL4	200	68971	1.096	21.80
9D12042-CAL5	500	166477	1.175	21.81
9D12042-CAL6	1000	301297	1.179	21.81
9D12042-CAL7	2000	672680	1.157	21.82
9D12042-CAL8	4000	1357790	1.137	21.84
9D12042-CAL9	6000	2023853	1.094	21.87
9D12042-CALA	8000	2701841	1.084	21.88

AVE RF **1.081** RF RSD **8.42** AVE RT **21.82**

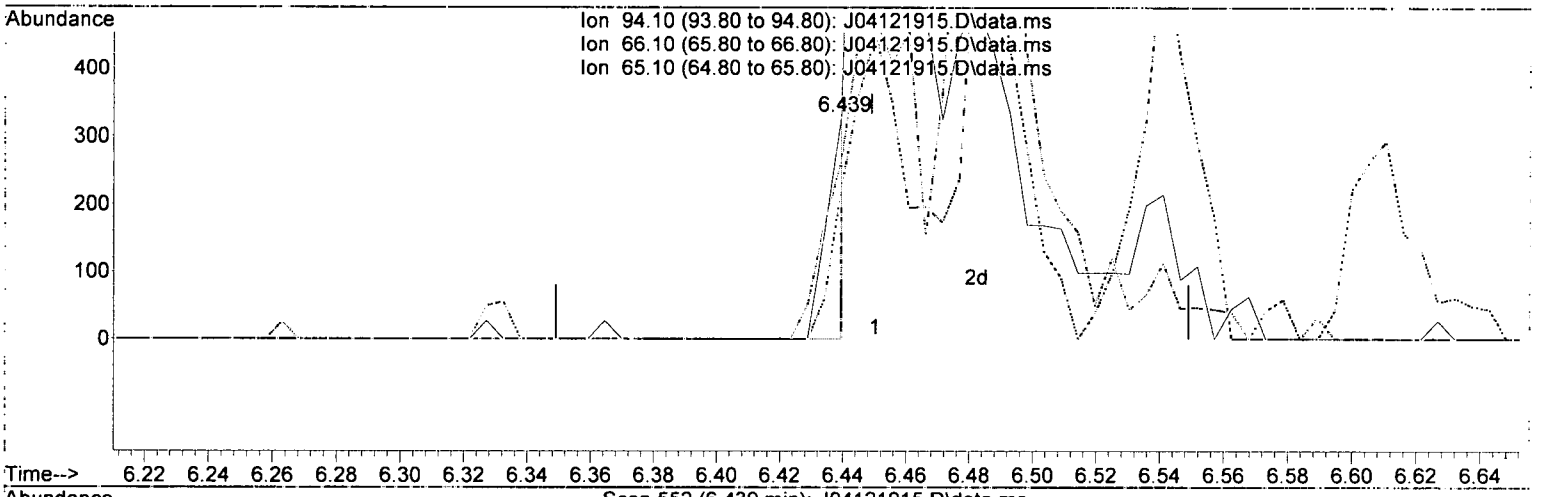


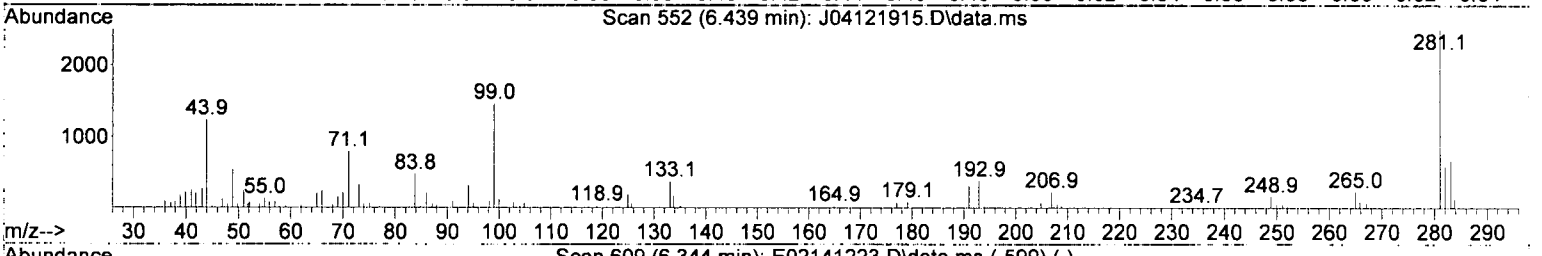
R = 4.53e-002 A*A + 1.86e+000 A - 8.91e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

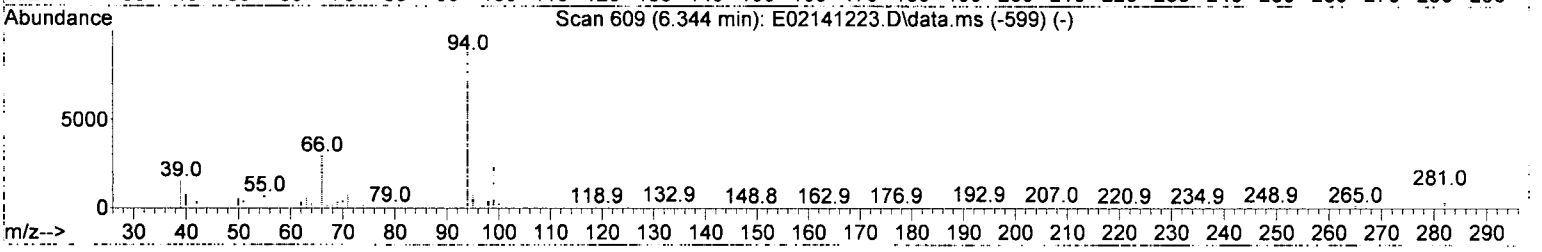
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







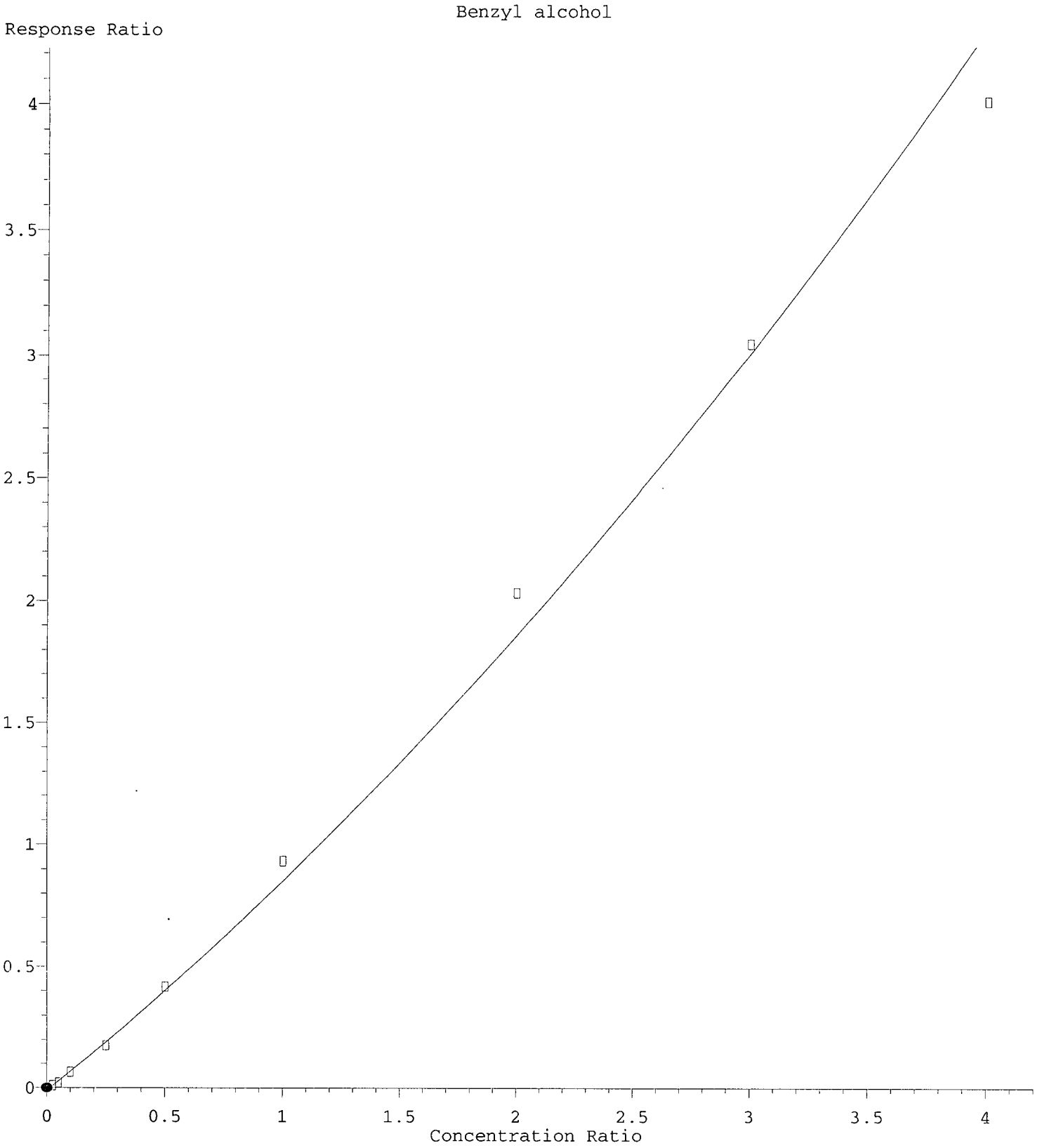
TIC: J04121915.D\data.ms

(6) Phenol (T)

6.439min (-0.010) 10.39 ng/ml m

response 156

Ion	Exp%	Act%
94.10	100.00	100.00
66.10	34.30	80.24#
65.10	26.20	68.09#
0.00	0.00	0.00

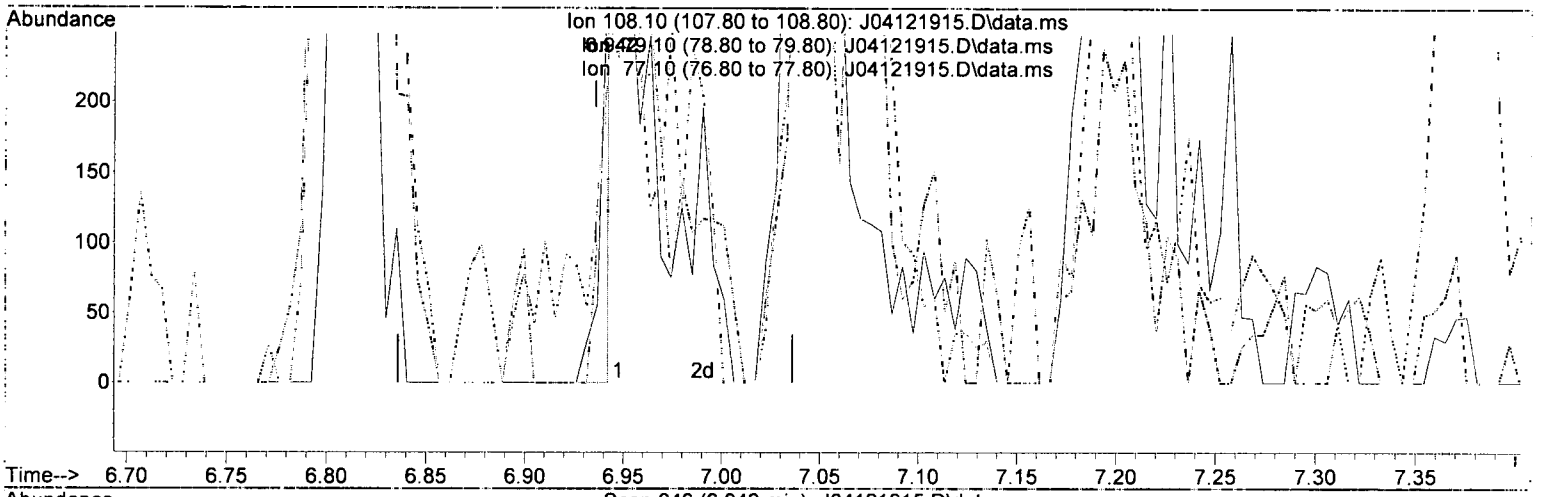


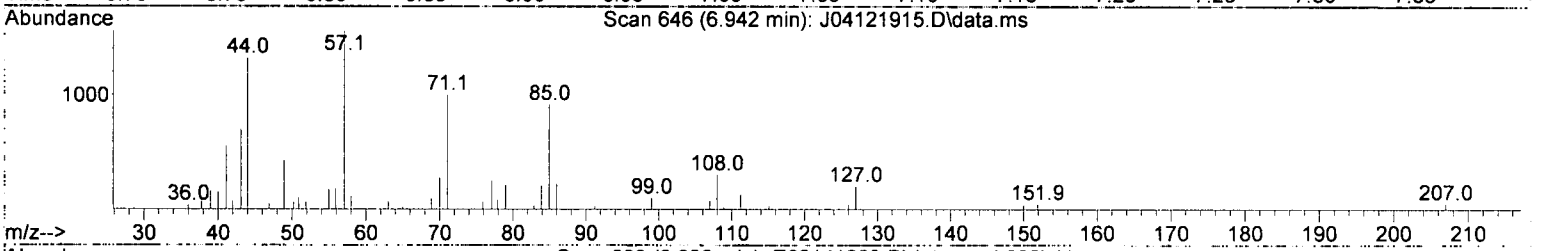
R = 7.20e-002 A*A + 7.92e-001 A - 1.27e-002
Coef of Det (r^2) = 0.991 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

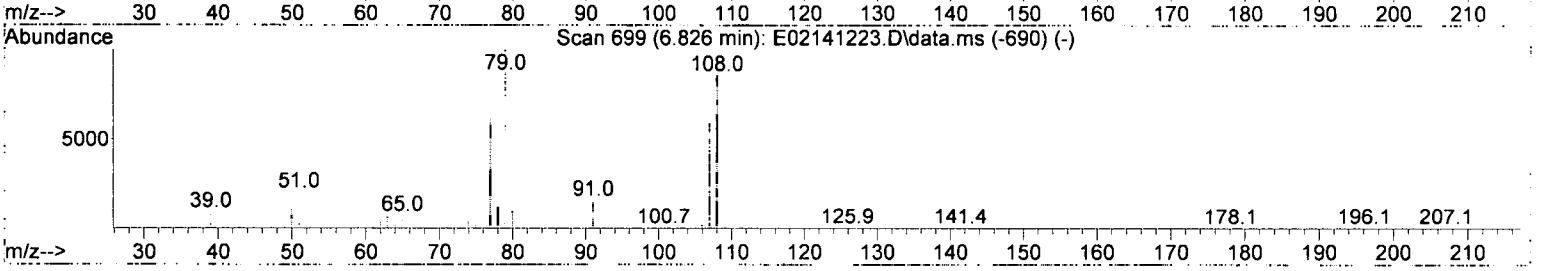
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







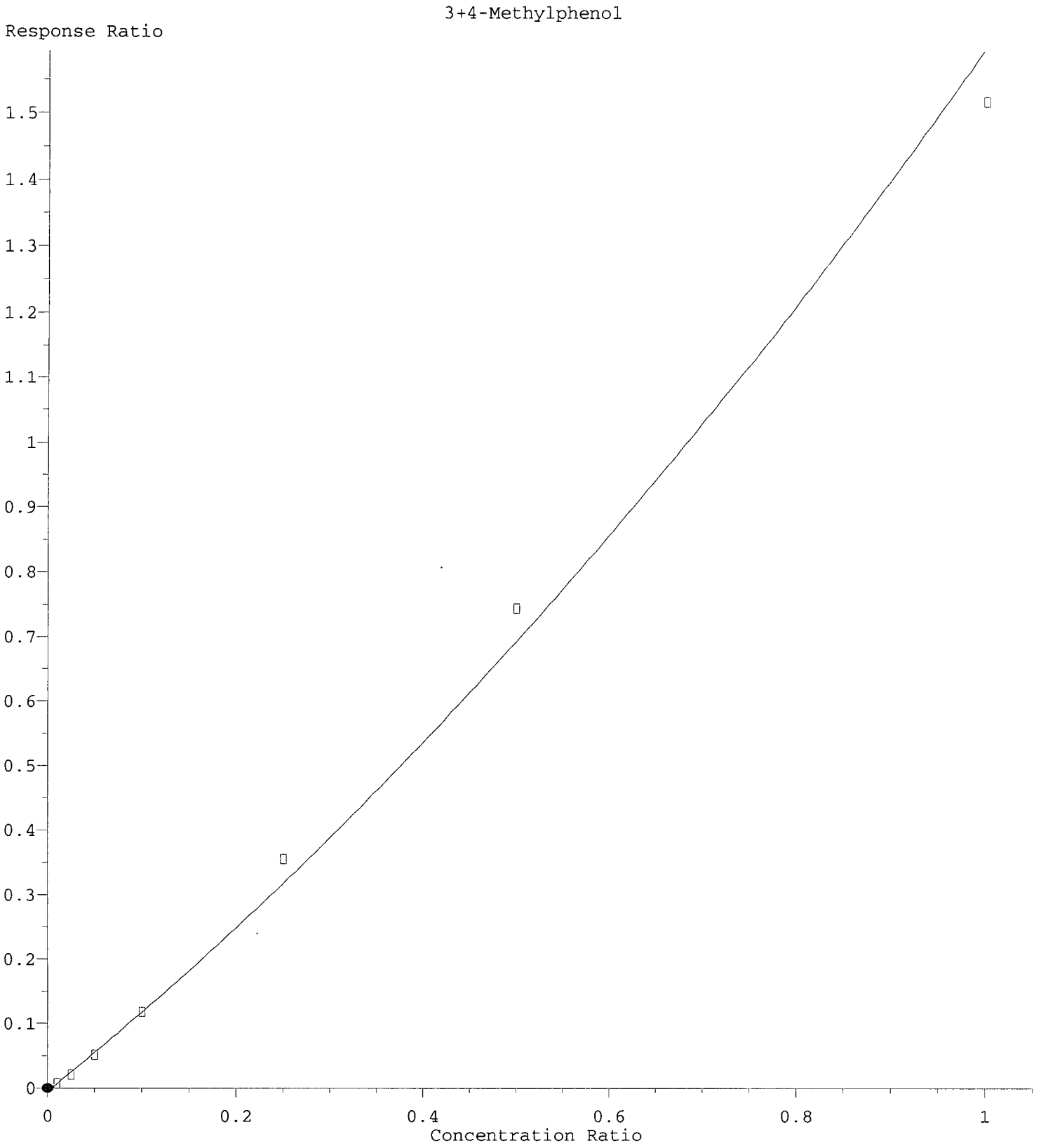
TIC: J04121915.D\data.ms

(12) Benzyl alcohol (T)

6.942min (+ 0.006) 33.75 ng/ml m

response 130

Ion	Exp%	Act%
108.10	100.00	100.00
79.10	130.20	71.96#
77.10	80.10	82.55
0.00	0.00	0.00

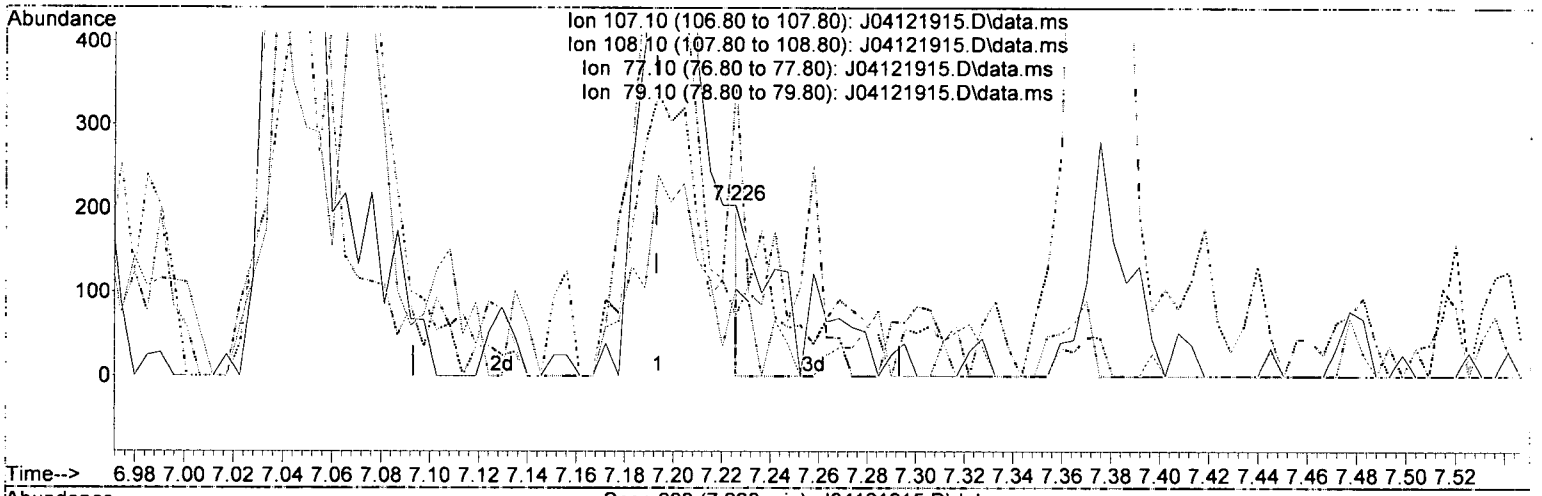


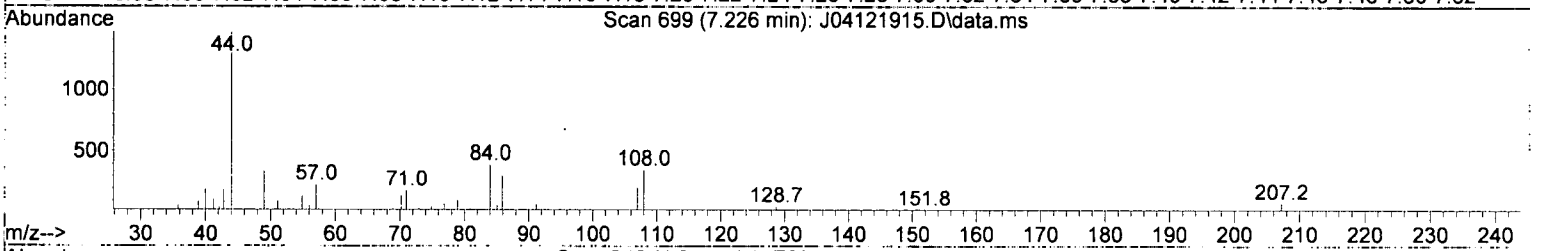
R = 4.16e-001 A*A + 1.19e+000 A - 5.31e-003
Coef of Det (r^2) = 0.990 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

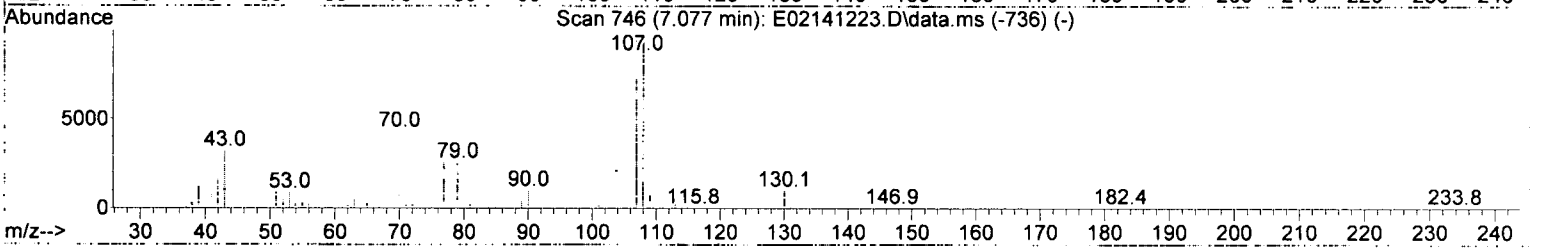
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







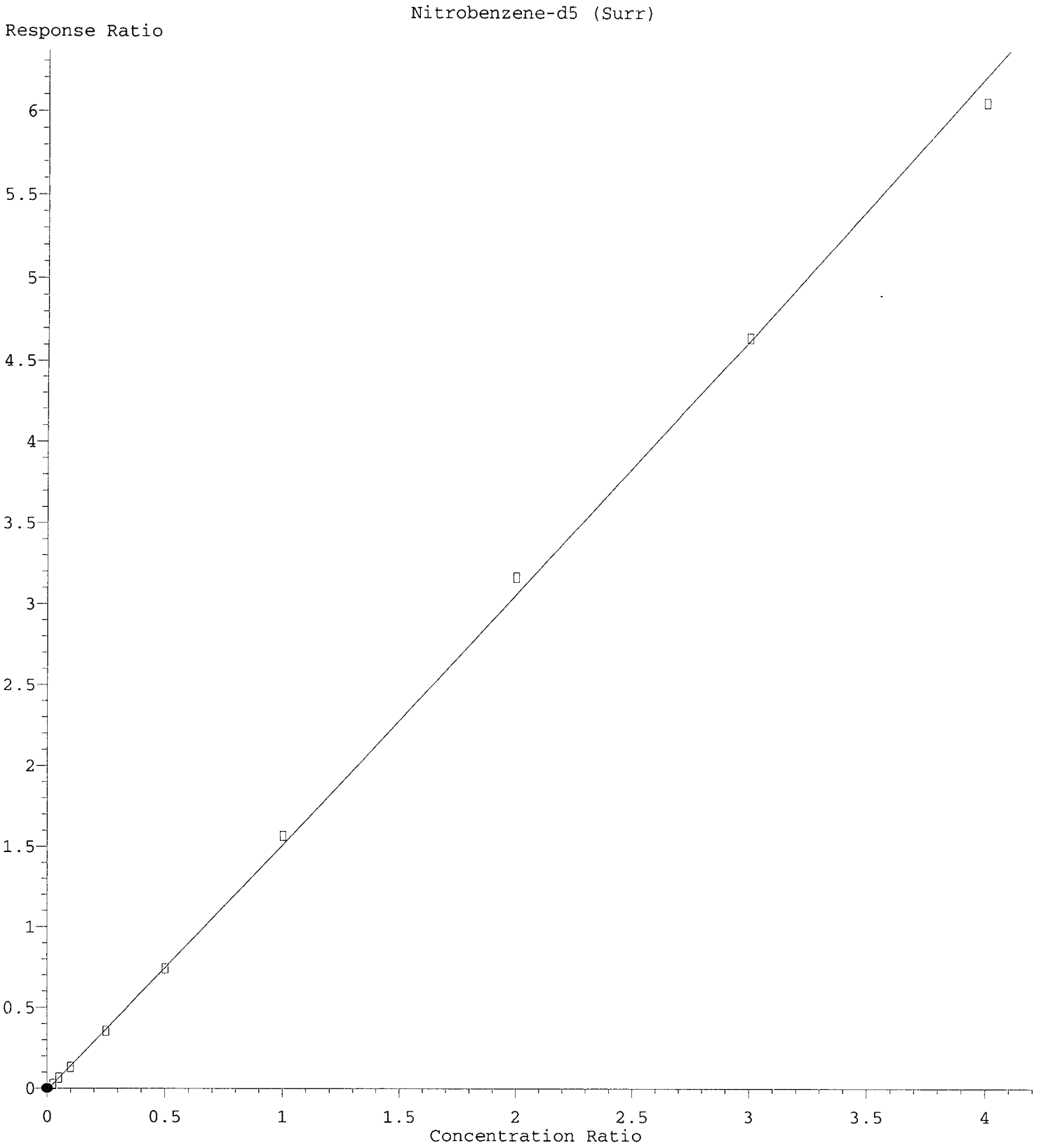
TIC: J04121915.D\data.ms

(17) 3+4-Methylphenol (T)

7.226min (+ 0.033) 10.21 ng/ml m

response 160

Ion	Exp%	Act%
107.10	100.00	100.00
108.10	91.10	171.08#
77.10	32.60	35.29
79.10	27.90	50.98

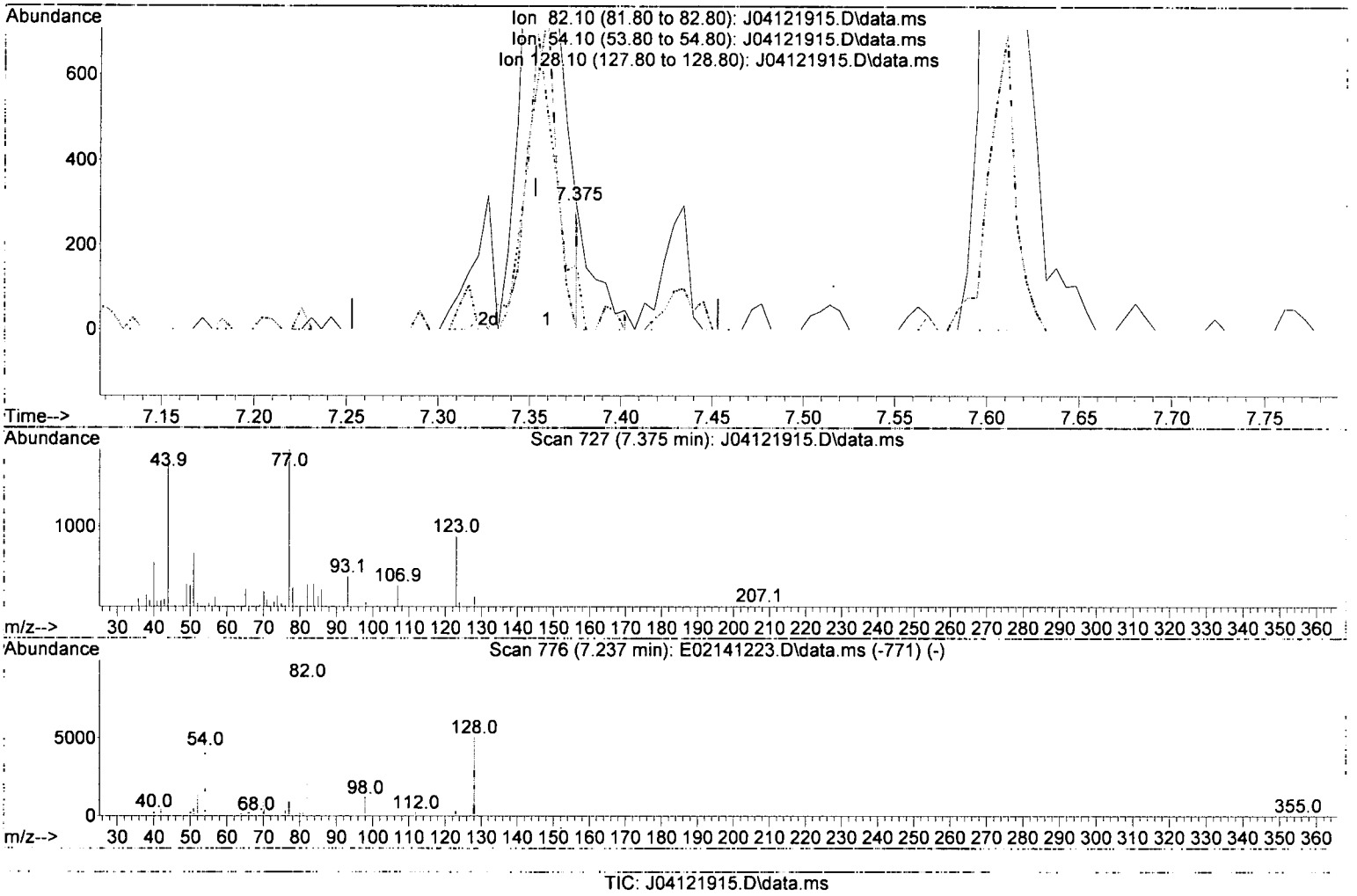


R = 1.06e-002 A*A + 1.52e+000 A - 1.41e-002
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

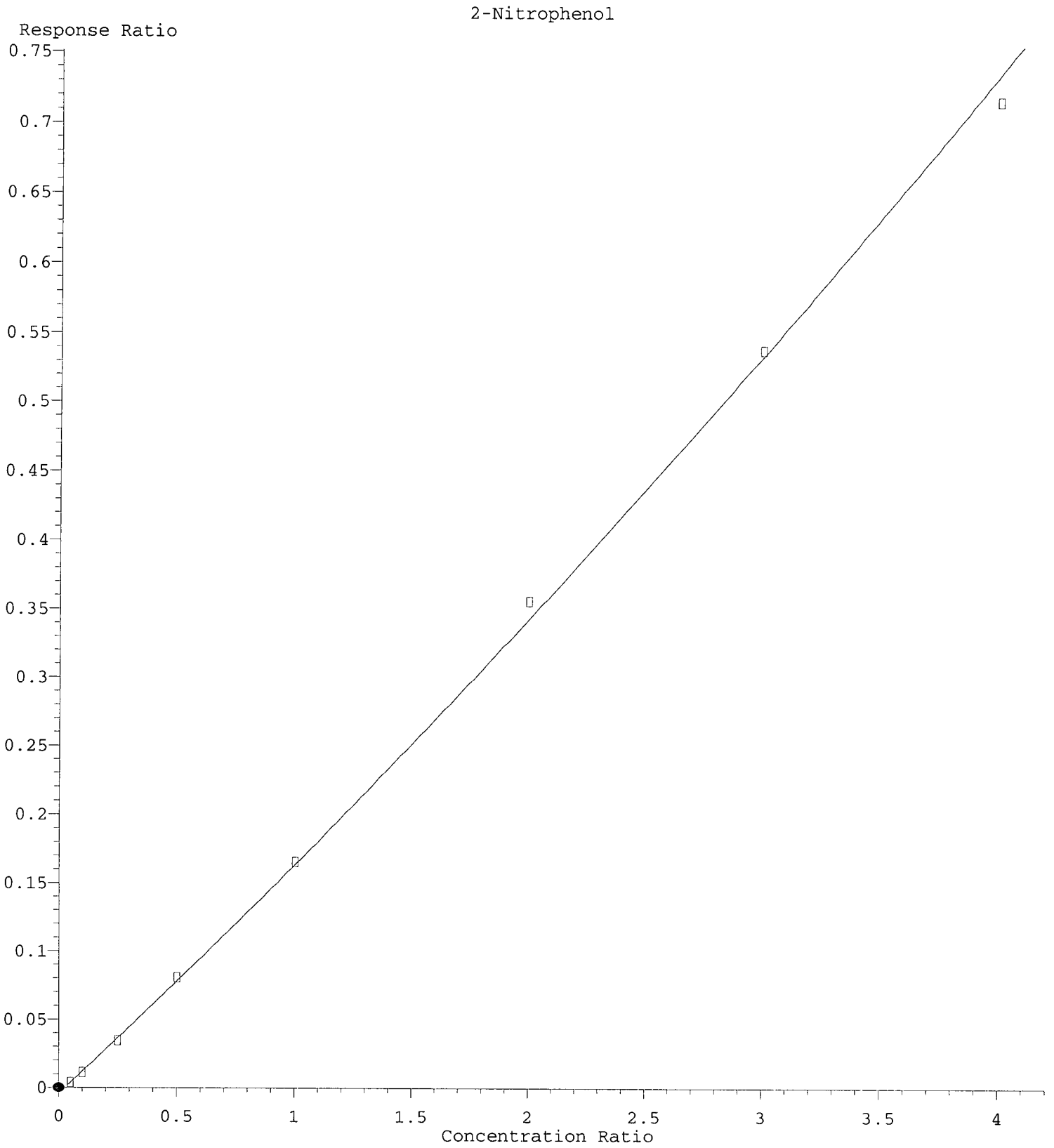


(19) Nitrobenzene-d5 (Surr) (S)

7.375min (+ 0.022) 19.52 ng/ml m

response 147

Ion	Exp%	Act%
82.10	100.00	100.00
54.10	47.50	0.00#
128.10	44.10	51.53
0.00	0.00	0.00

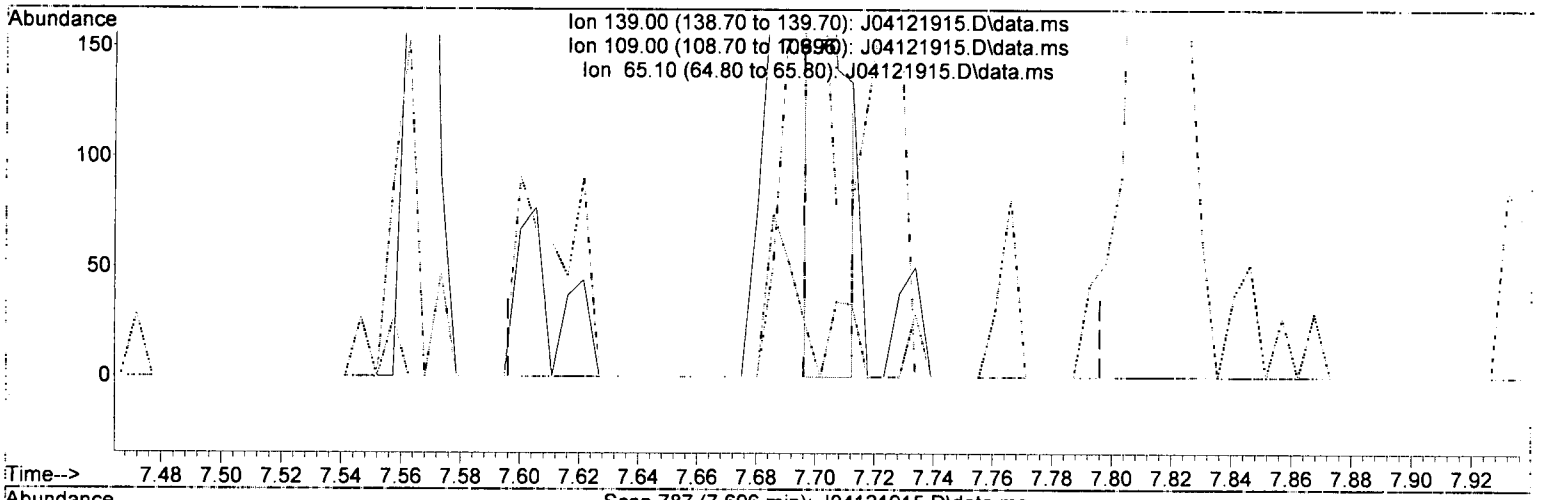


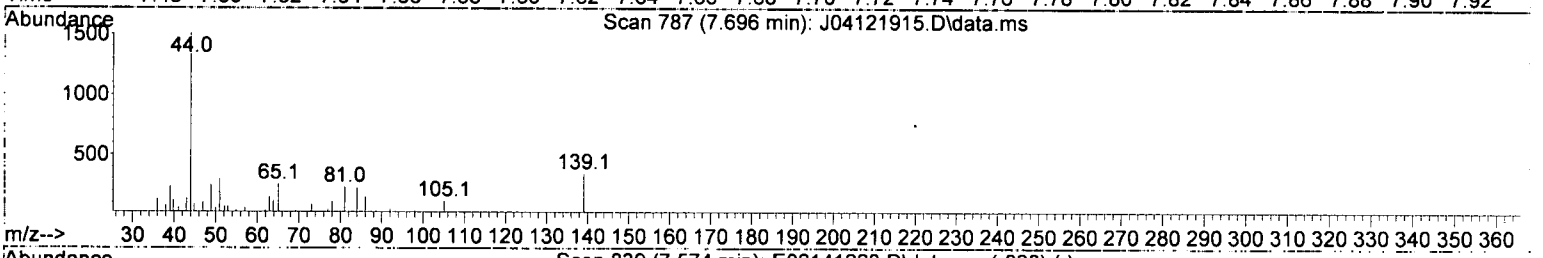
R = 5.66e-003 A*A + 1.62e-001 A - 4.58e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

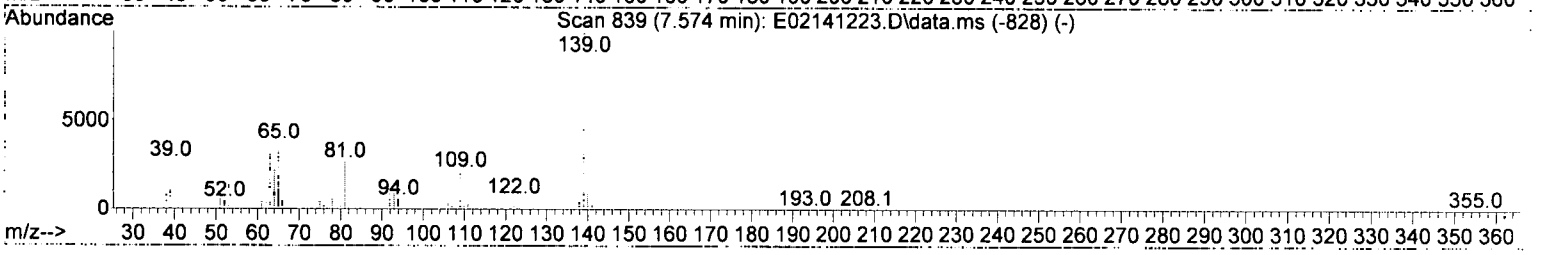
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







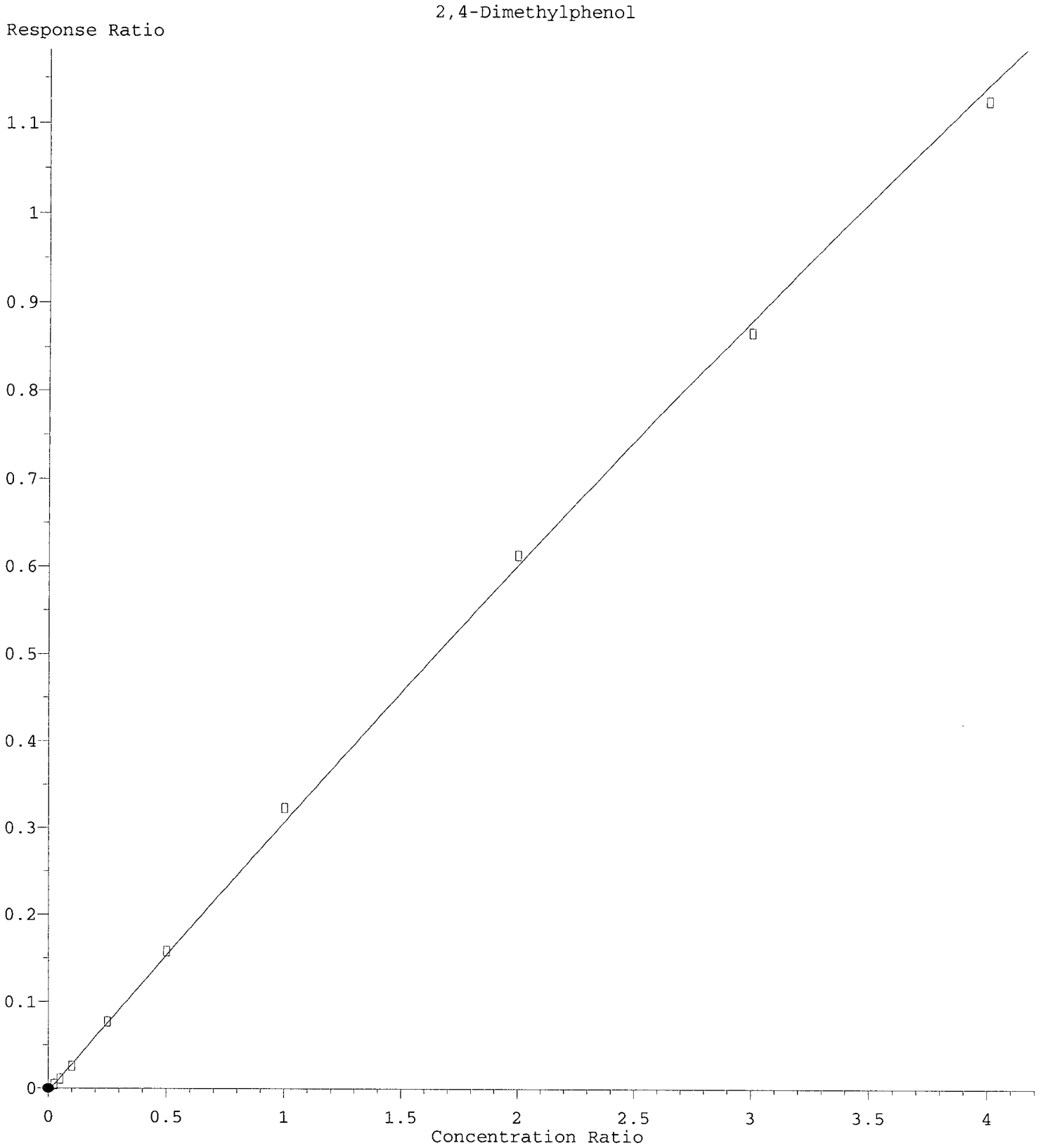
TIC: J04121915.D\data.ms

(23) 2-Nitrophenol (T)

7.696min (+ 0.000) 59.22 ng/ml m

response 194

Ion	Exp%	Act%
139.00	100.00	100.00
109.00	21.70	7.20
65.10	46.00	73.78
0.00	0.00	0.00

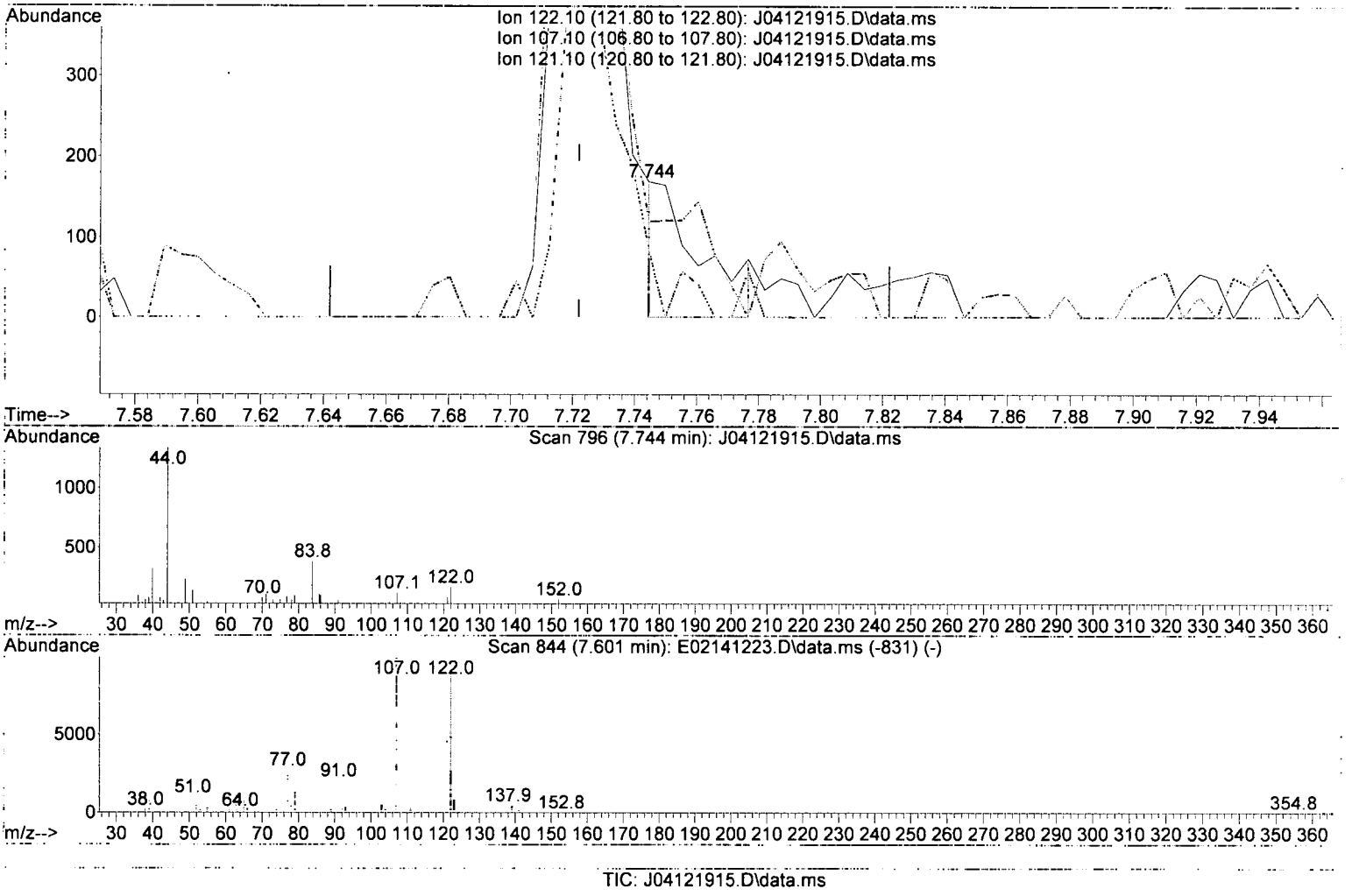


R = -8.10e-003 A*A + 3.19e-001 A - 4.04e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10



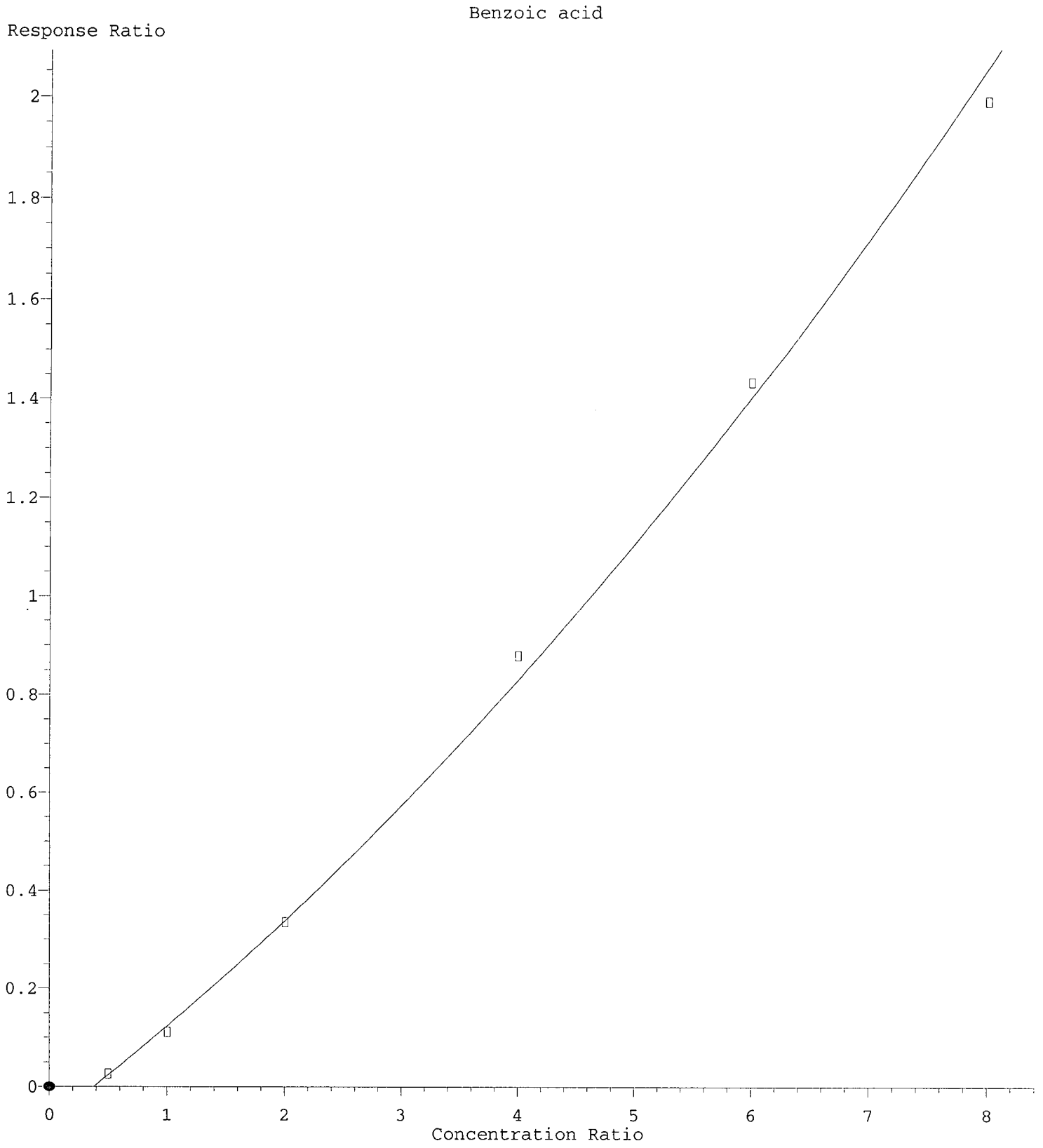
TIC: J04121915.D\data.ms

(24) 2,4-Dimethylphenol (T)

7.744min (+ 0.022) 26.60 ng/ml m

response 165

Ion	Exp%	Act%
122.10	100.00	100.00
107.10	112.80	71.01#
121.10	56.80	49.70
0.00	0.00	0.00

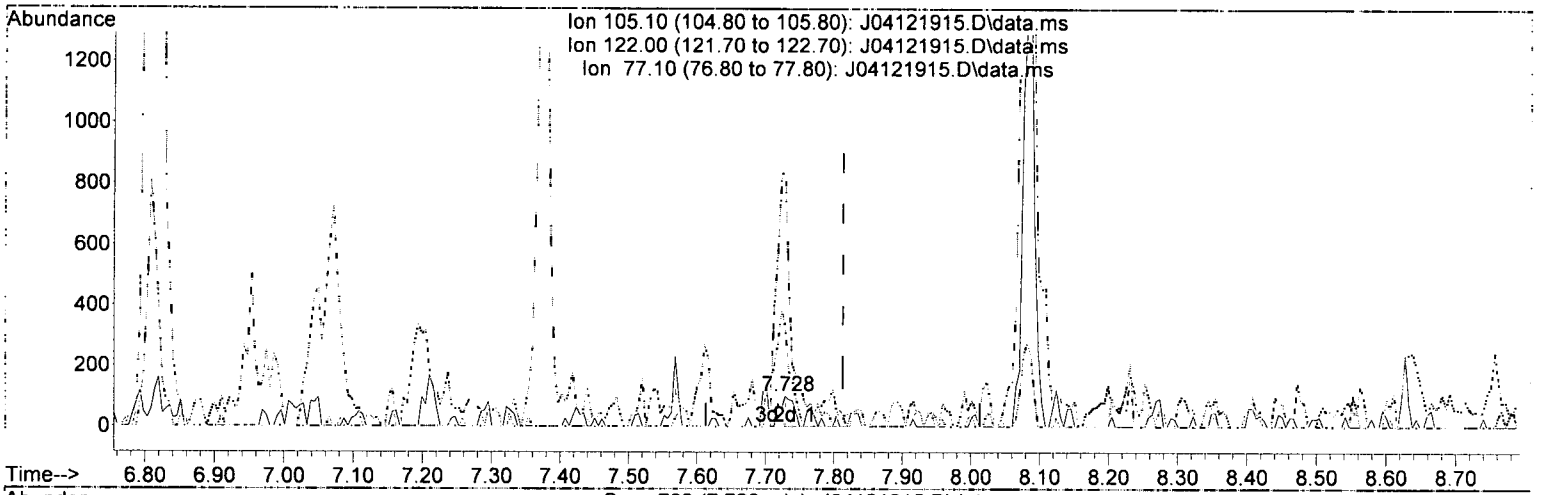


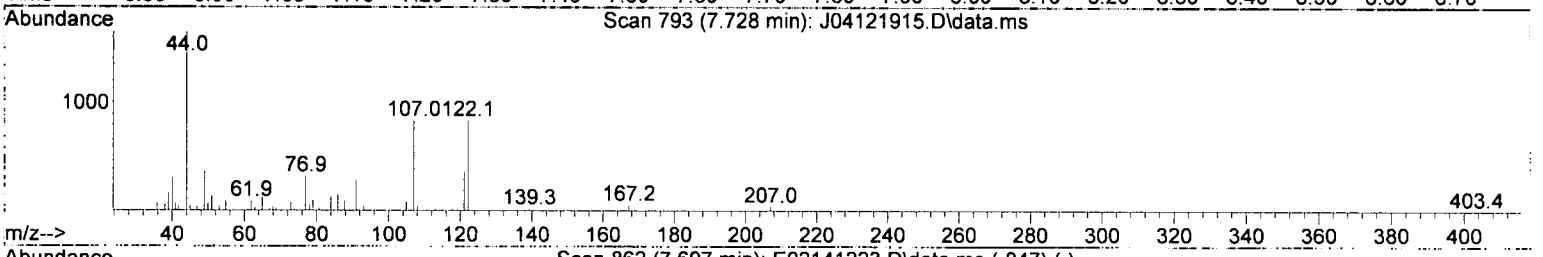
R = 1.02e-002 A*A + 1.84e-001 A - 7.08e-002
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

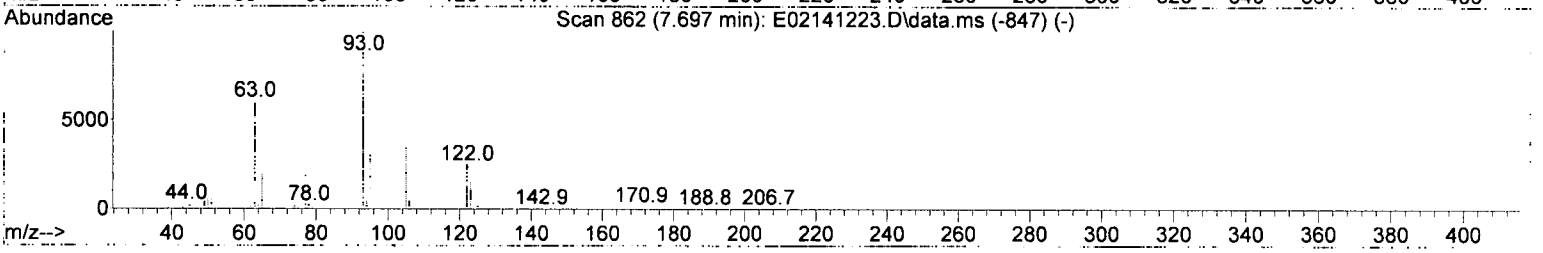
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







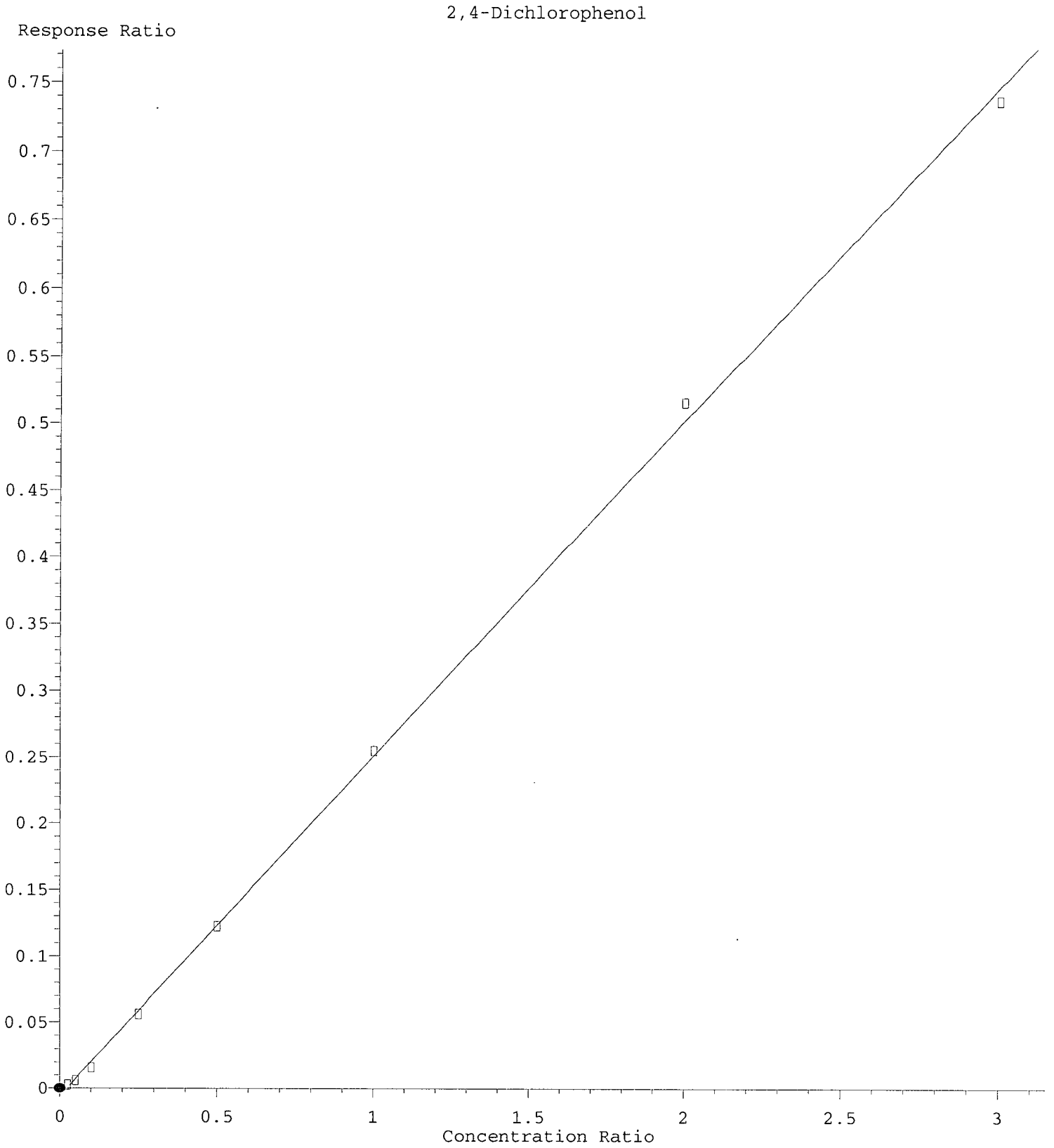
TIC: J04121915.D\data.ms

(26) Benzoic acid (T)

7.728min (-0.085) 753.95 ng/ml m

response 151

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	827.72#
77.10	76.00	329.70#
0.00	0.00	0.00

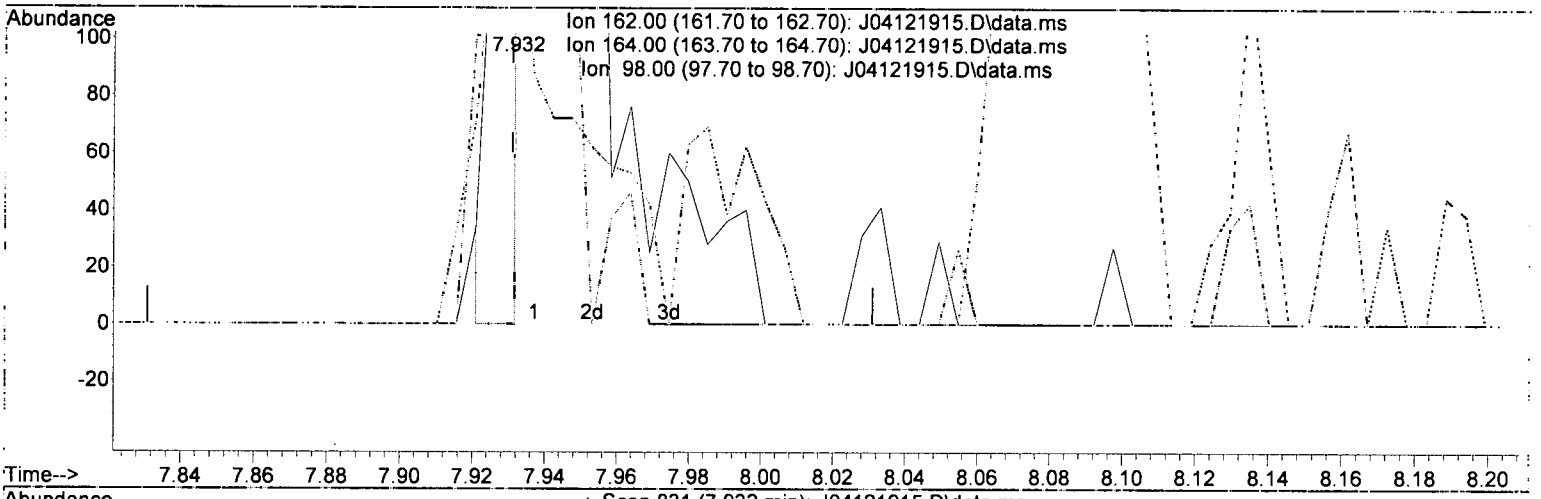


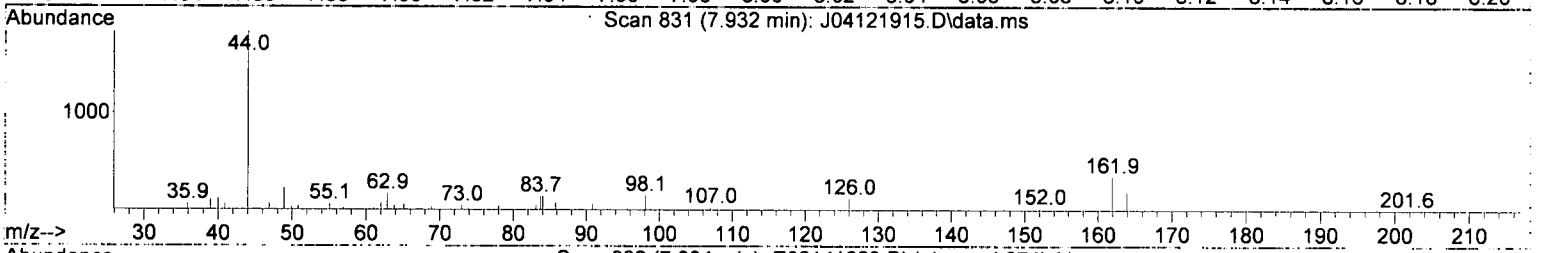
R = -2.93e-003 A*A + 2.60e-001 A - 5.83e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

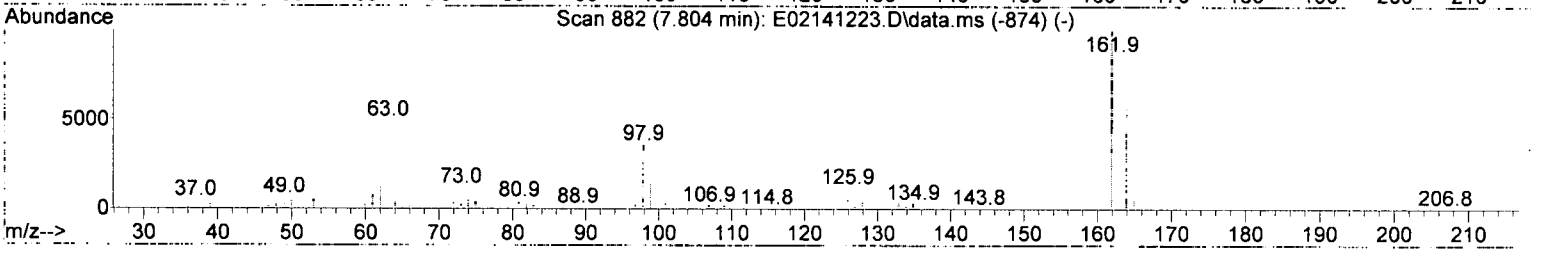
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







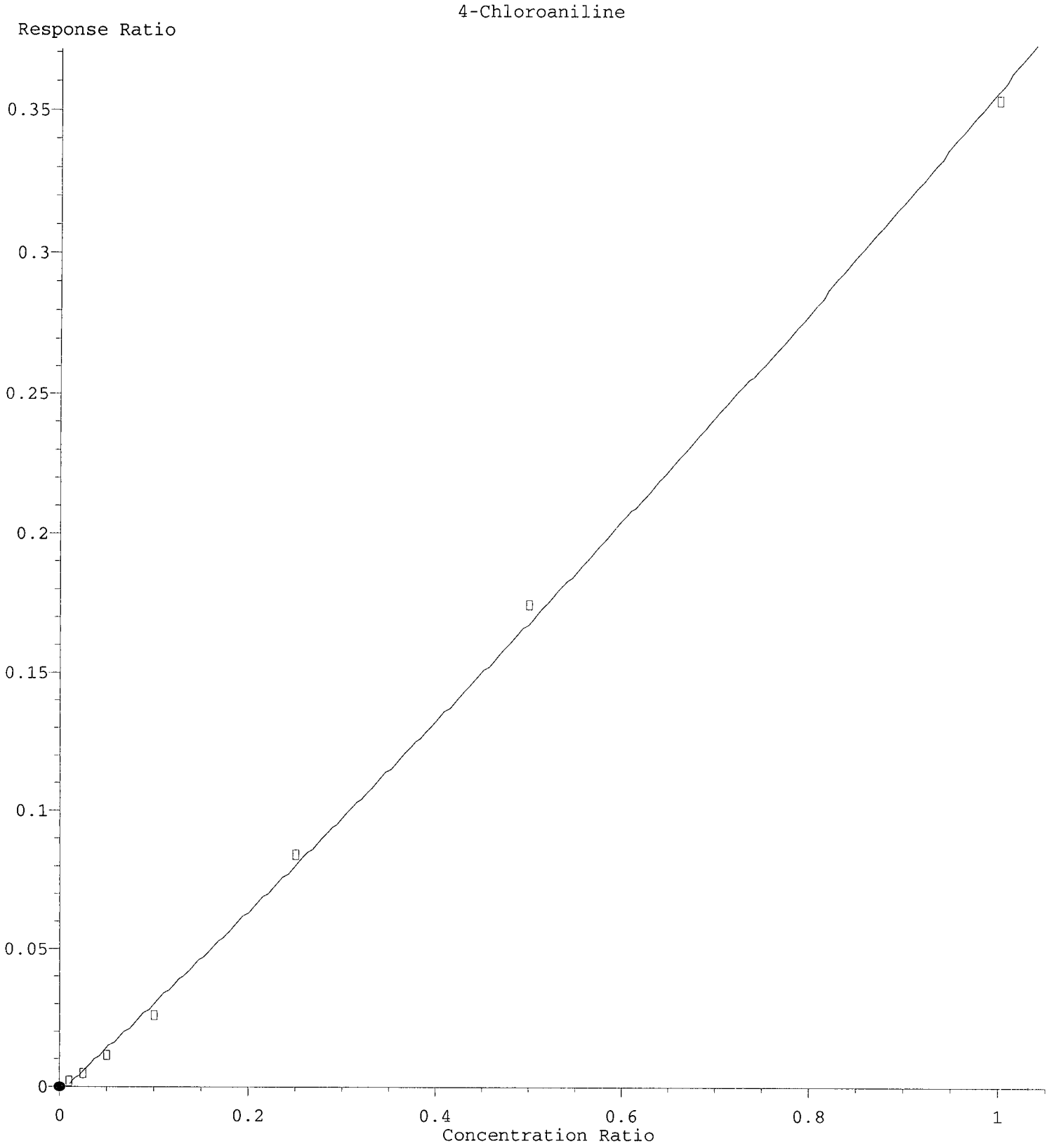
TIC: J04121915.D\data.ms

(27) 2,4-Dichlorophenol (T)

7.932min (+ 0.001) 46.48 ng/ml m

response 172

Ion	Exp%	Act%
162.00	100.00	100.00
164.00	63.60	57.06
98.00	37.40	46.26
0.00	0.00	0.00

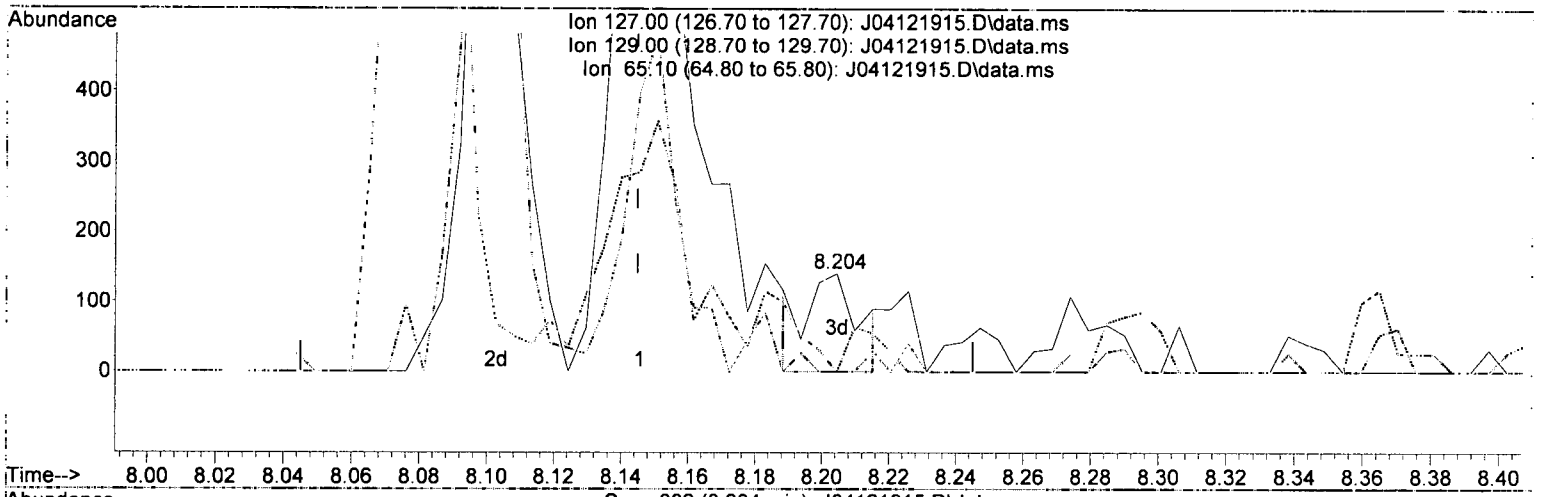


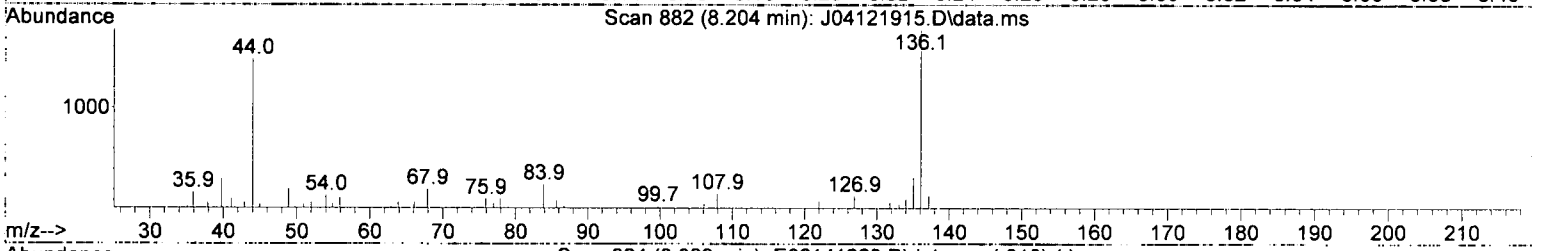
R = 3.85e-002 A*A + 3.21e-001 A - 2.32e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

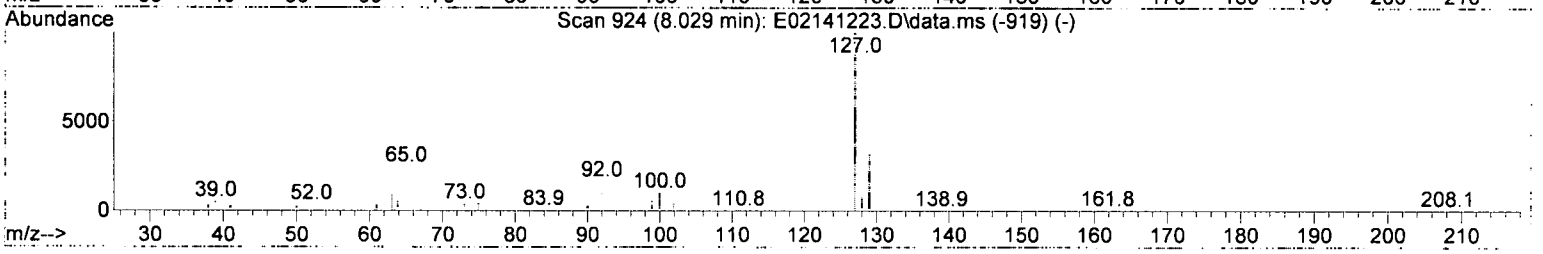
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







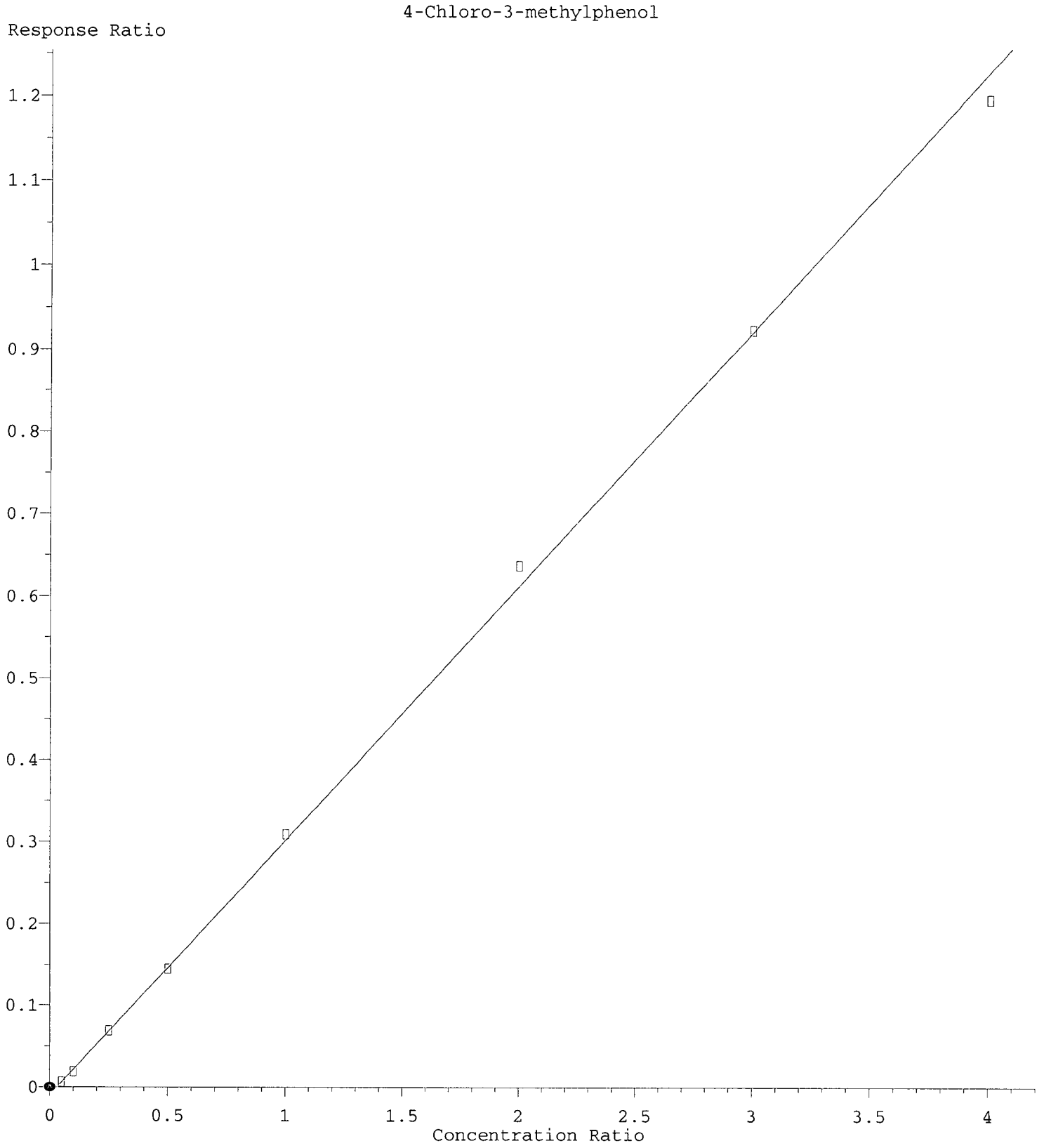
TIC: J04121915.D\data.ms

(30) 4-Chloroaniline (T)

8.204min (+ 0.059) 15.51 ng/ml m

response 148

Ion	Exp%	Act%
127.00	100.00	100.00
129.00	31.20	0.00#
65.10	31.40	0.00#
0.00	0.00	0.00

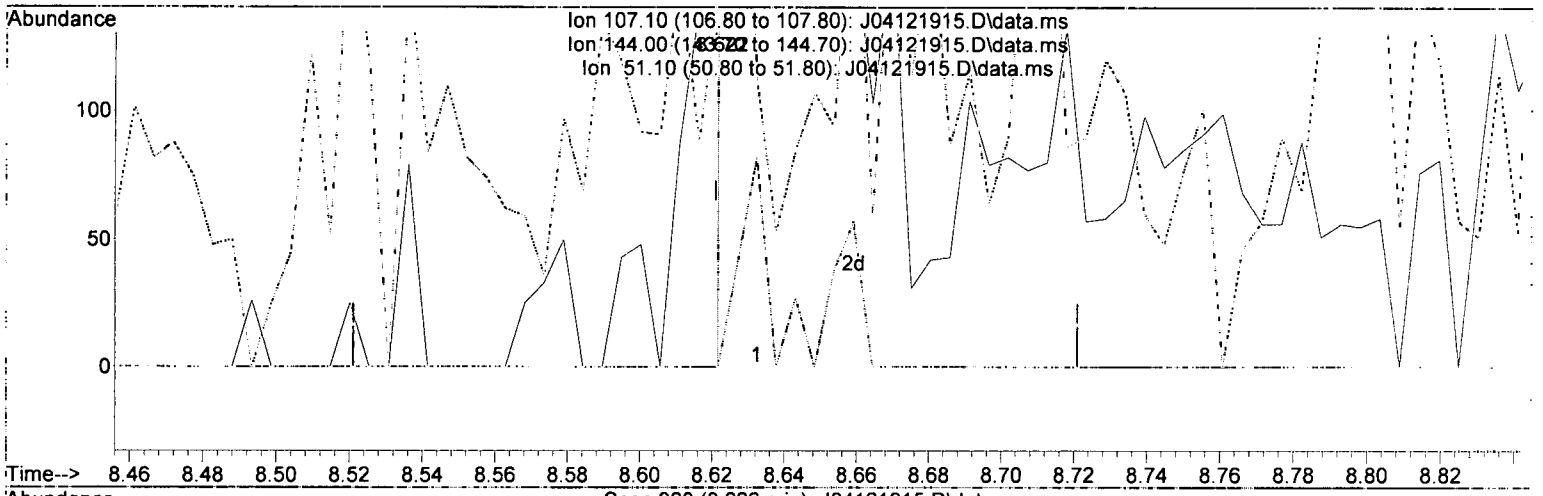


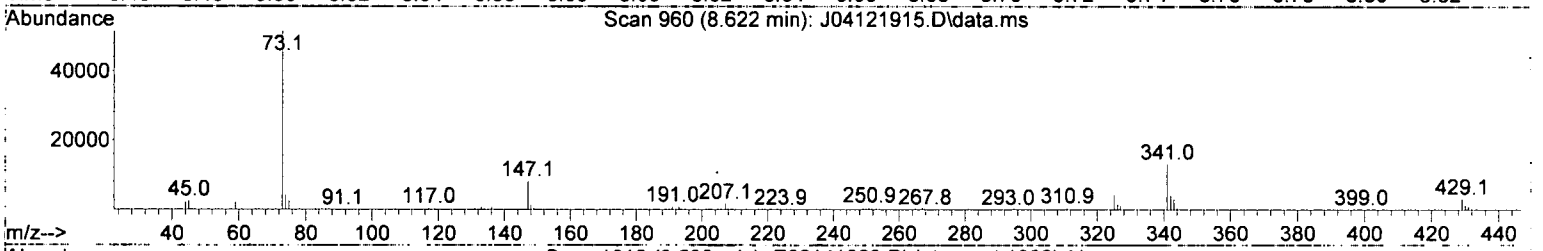
R = -7.81e-004 A*A + 3.12e-001 A - 9.94e-003
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

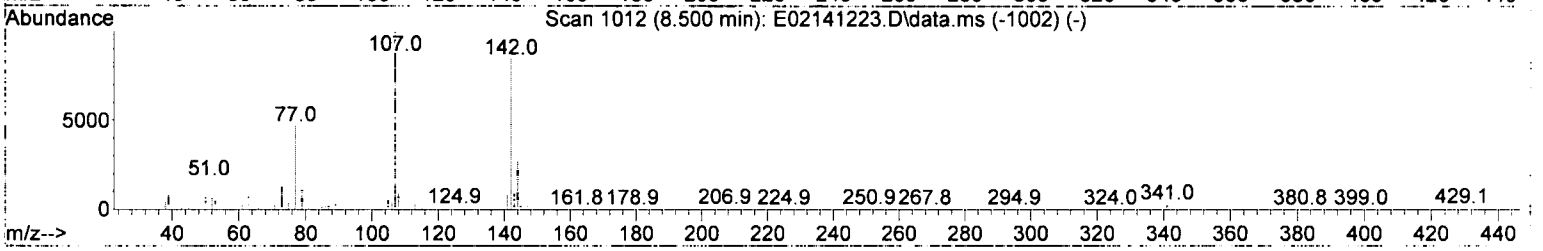
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







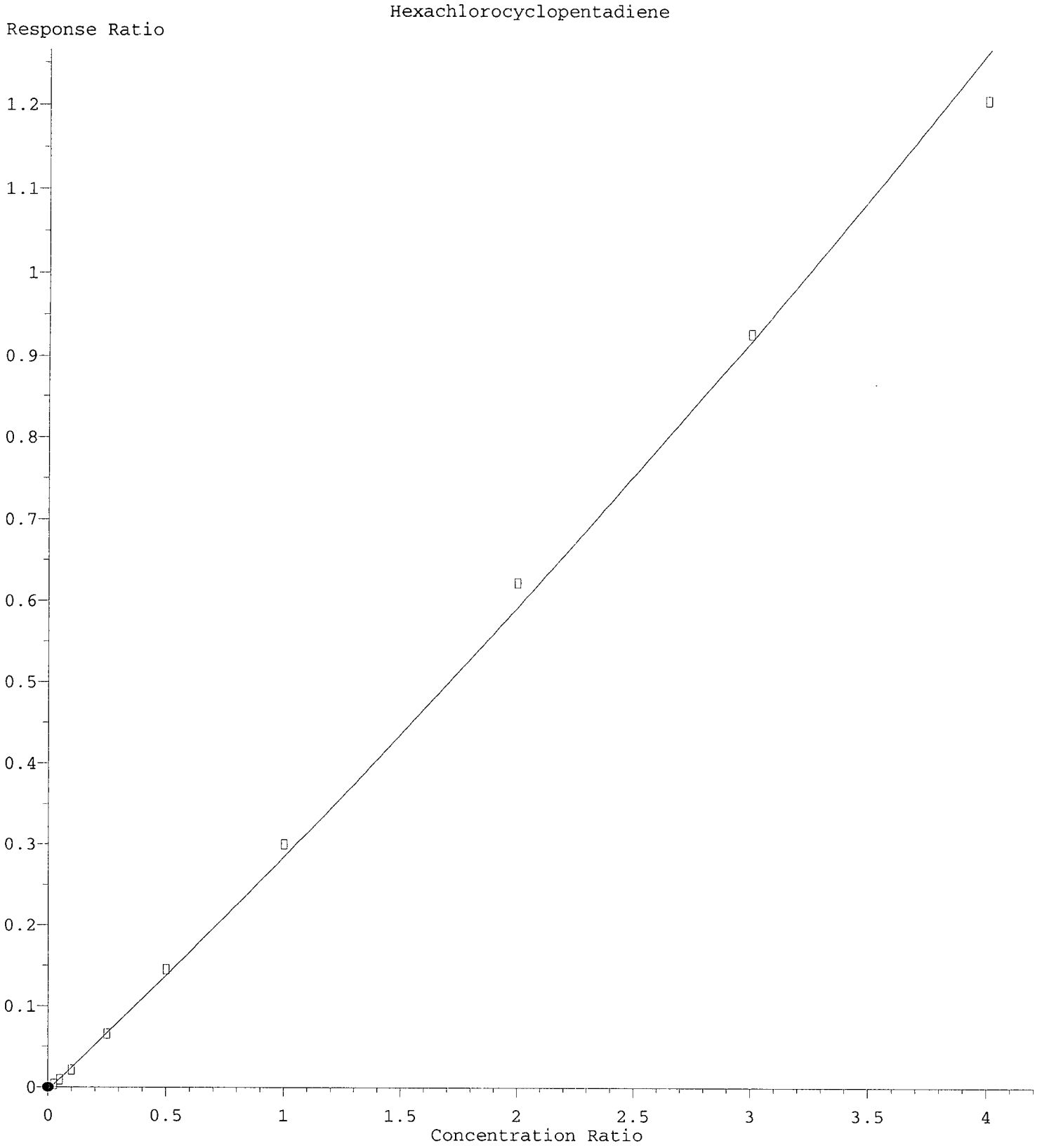
TIC: J04121915.D\data.ms

(32) 4-Chloro-3-methylphenol (T)

8.622min (+ 0.001) 64.93 ng/ml m

response 165

Ion	Exp%	Act%
107.10	100.00	100.00
144.00	26.00	0.00
51.10	19.80	52.30#
0.00	0.00	0.00

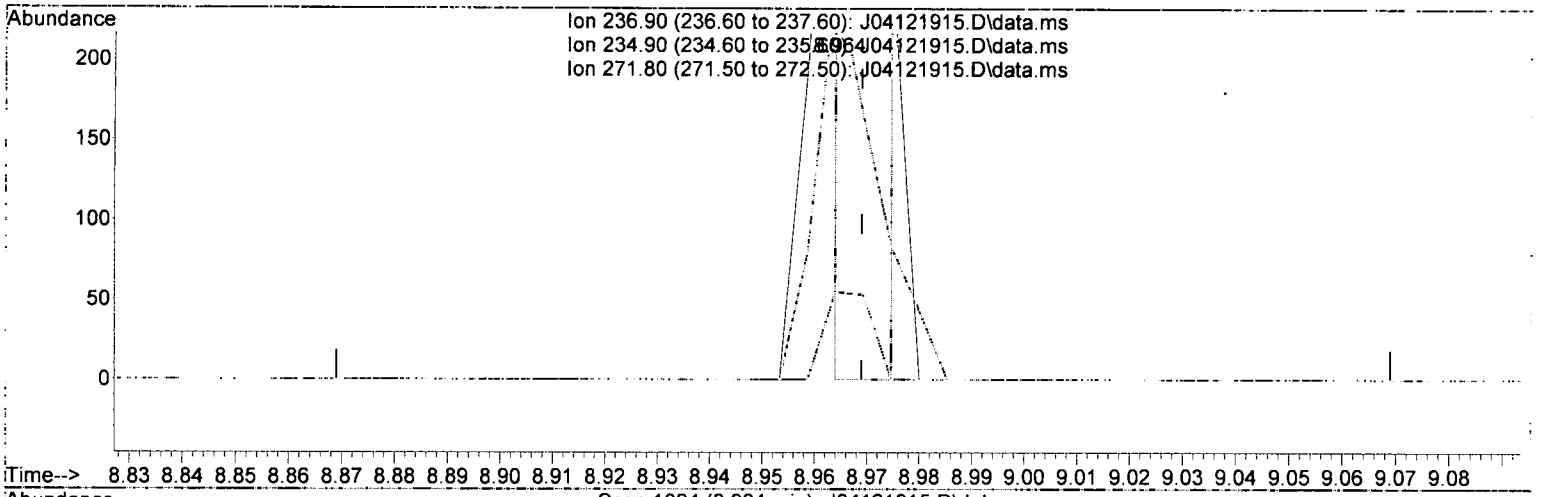


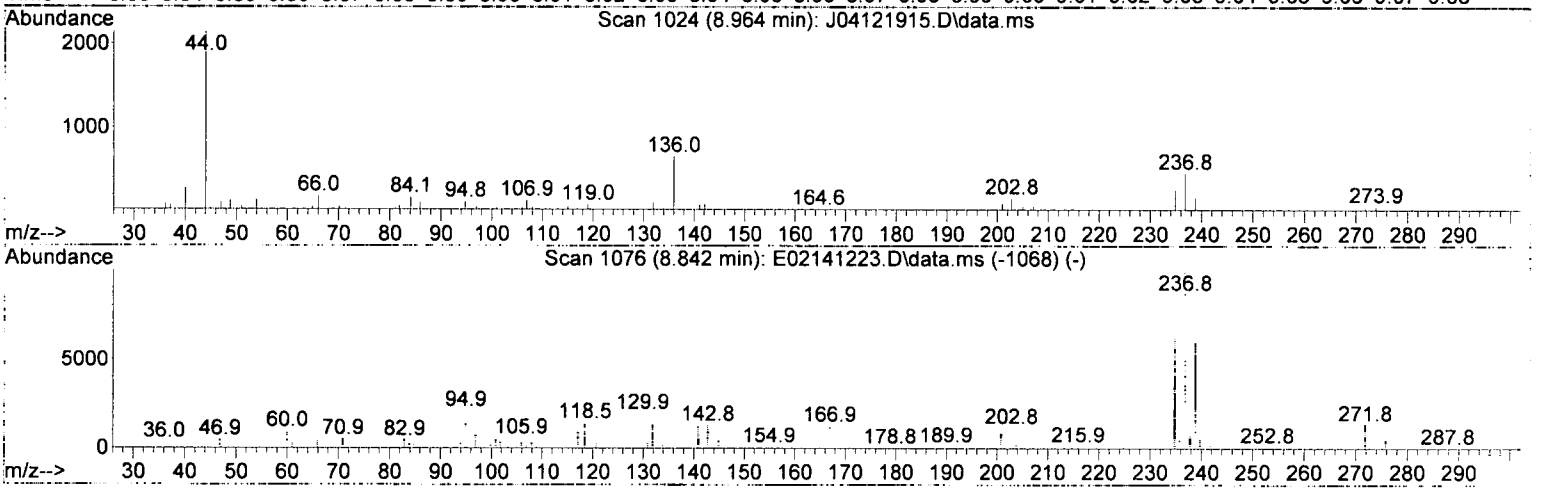
R = 9.35e-003 A*A + 2.79e-001 A - 4.15e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10





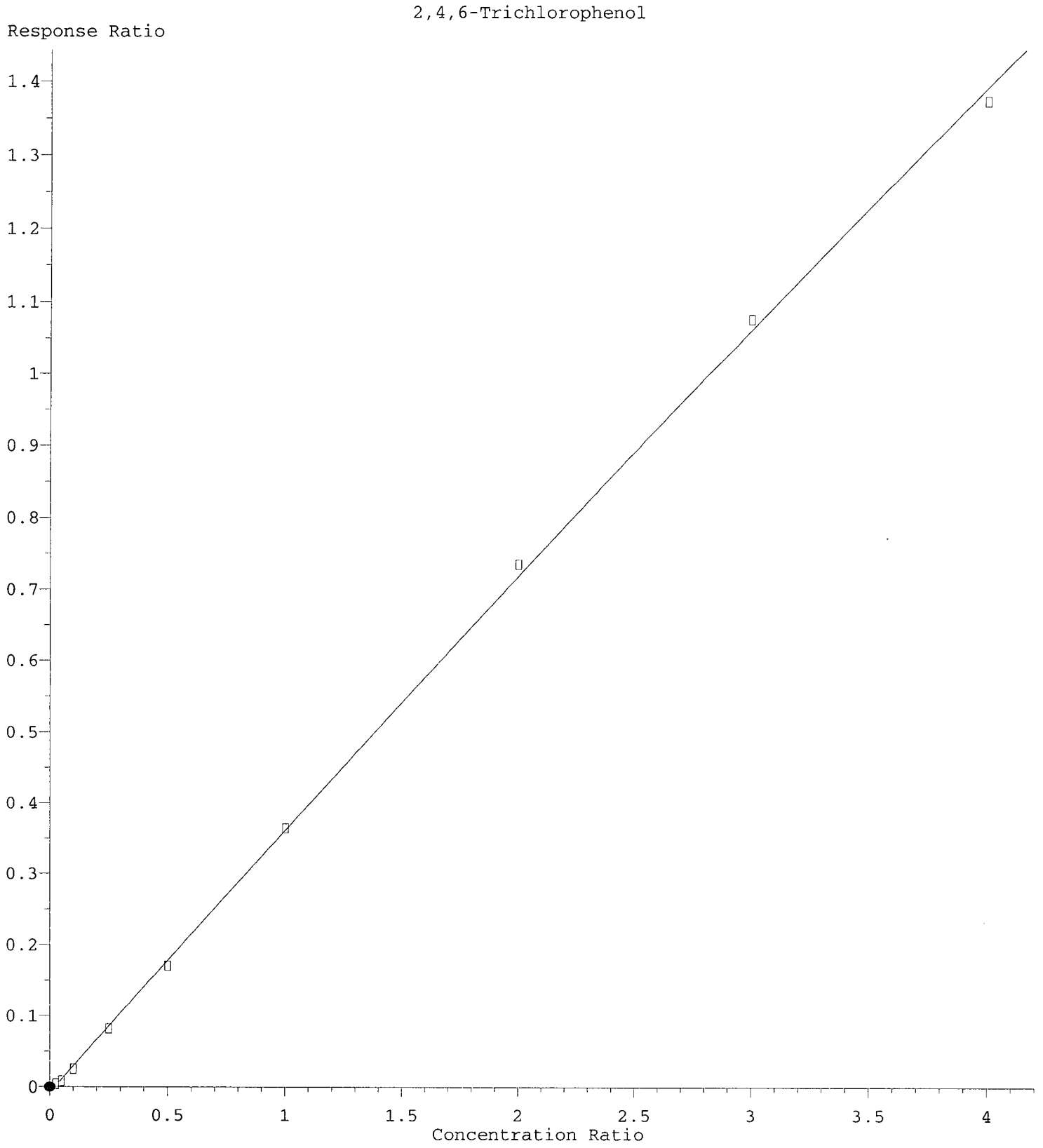
TIC: J04121915.D\data.ms

(36) Hexachlorocyclopentadiene (T)

8.964min (-0.005) 32.87 ng/ml m

response 188

Ion	Exp%	Act%
236.90	100.00	100.00
234.90	62.80	56.48
271.80	12.50	12.09
0.00	0.00	0.00

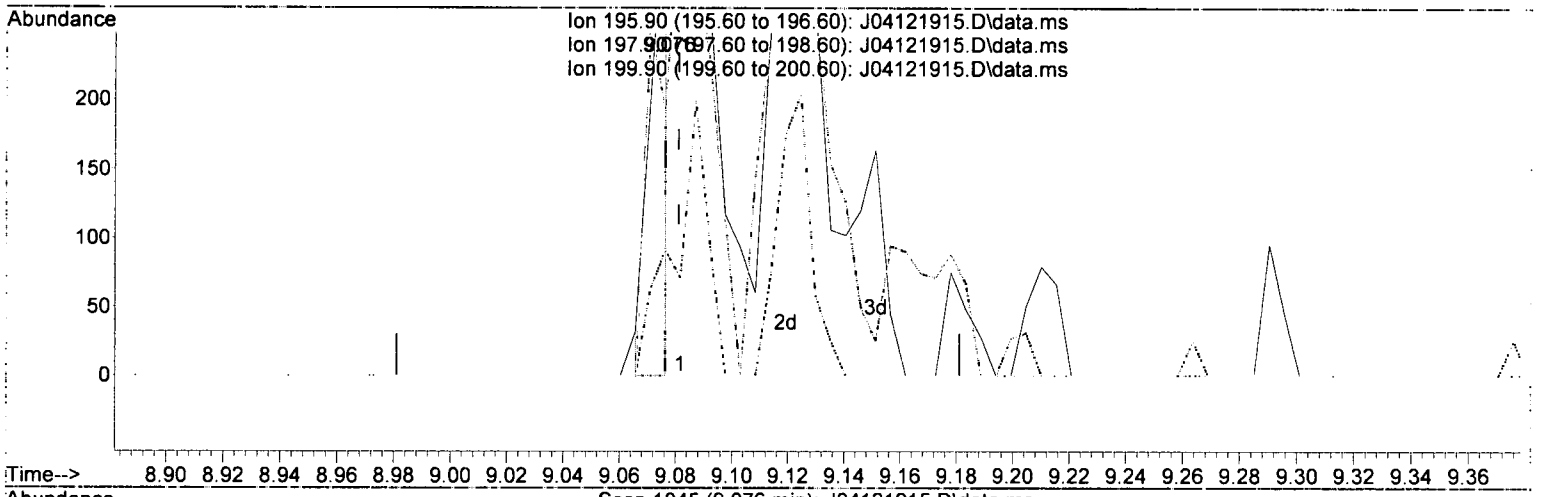


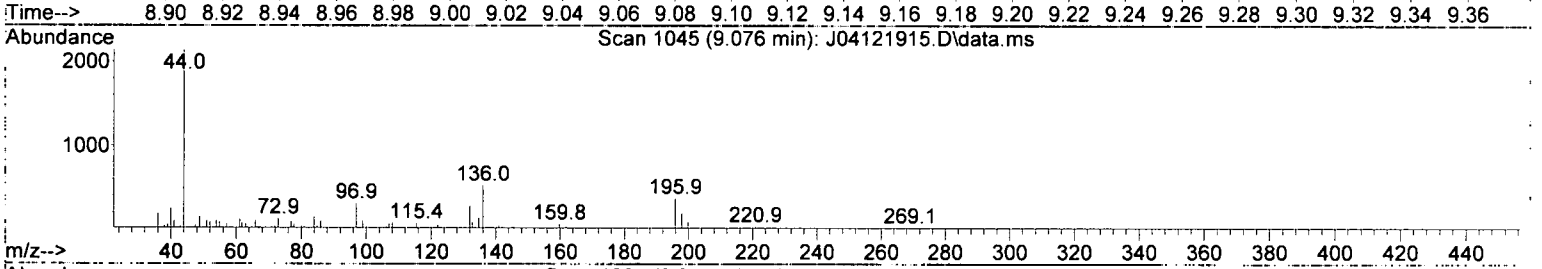
R = -6.54e-003 A*A + 3.76e-001 A - 8.34e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

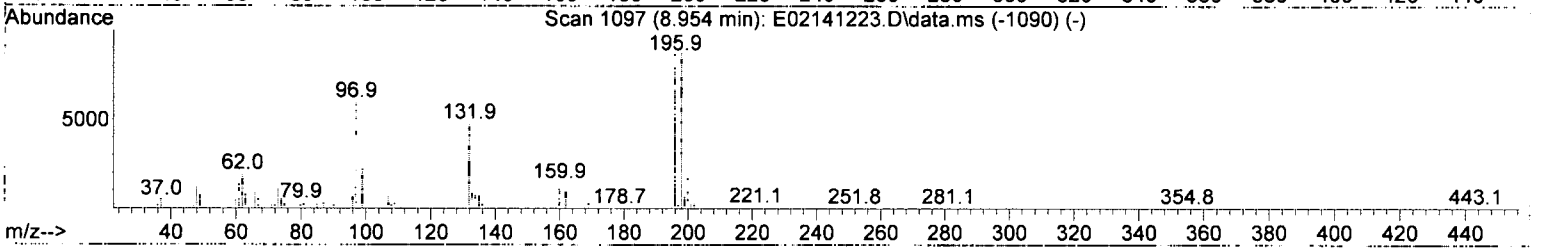
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







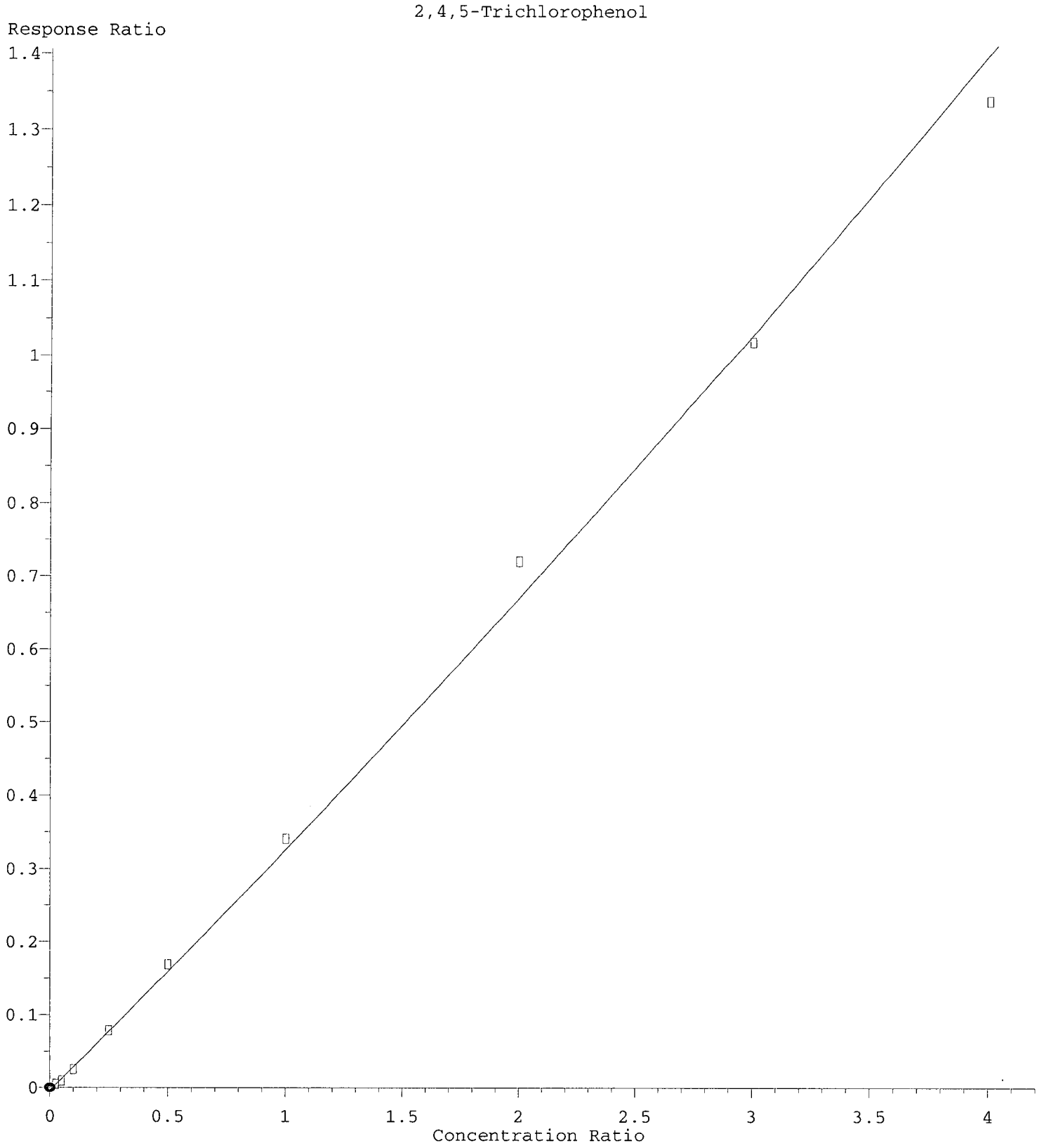
TIC: J04121915.D\data.ms

(37) 2,4,6-Trichlorophenol (T)

9.076min (-0.005) 46.64 ng/ml m

response 184

Ion	Exp%	Act%
195.90	100.00	100.00
197.90	97.50	51.47#
199.90	30.40	24.40
0.00	0.00	0.00

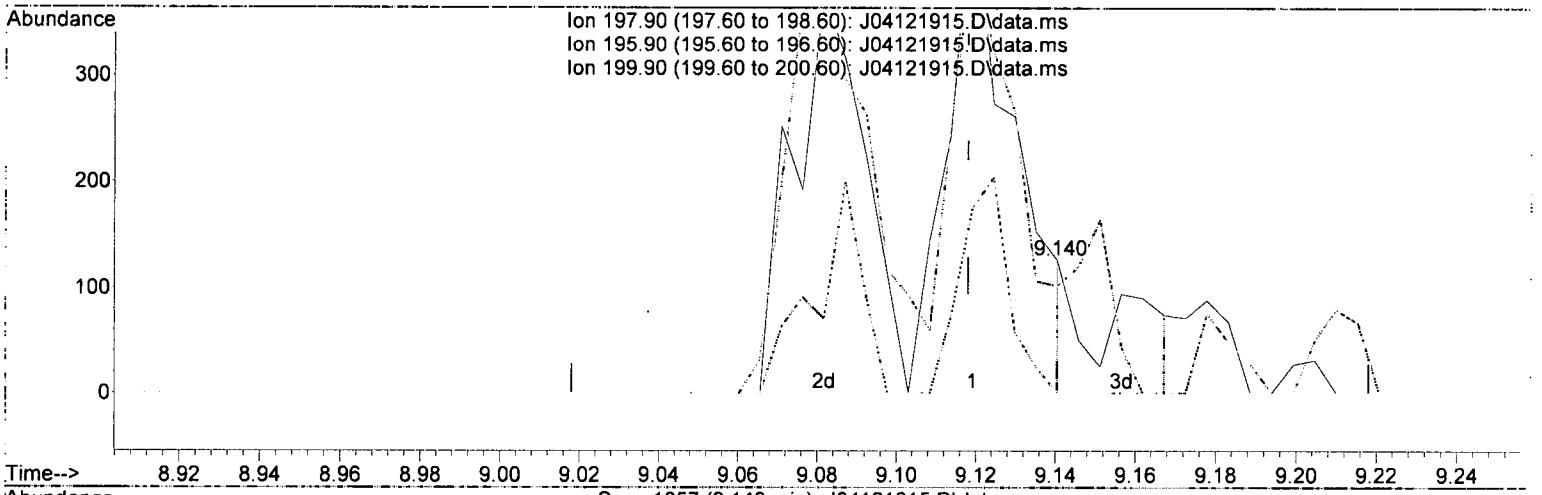


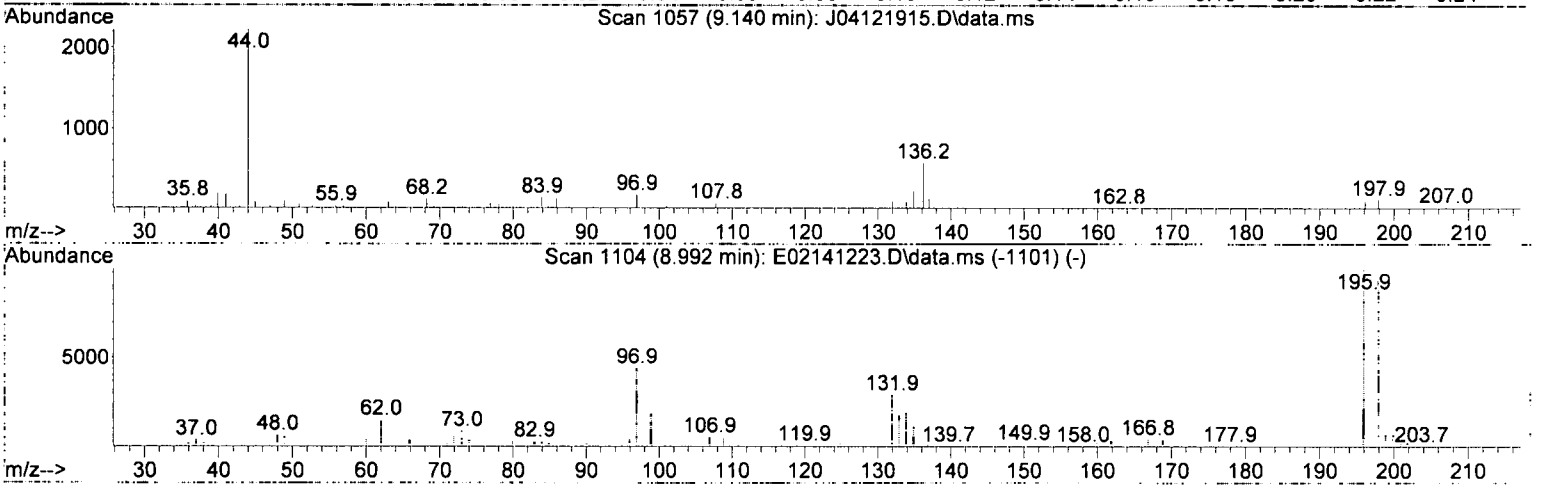
R = 7.07e-003 A*A + 3.23e-001 A - 4.28e-003
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10





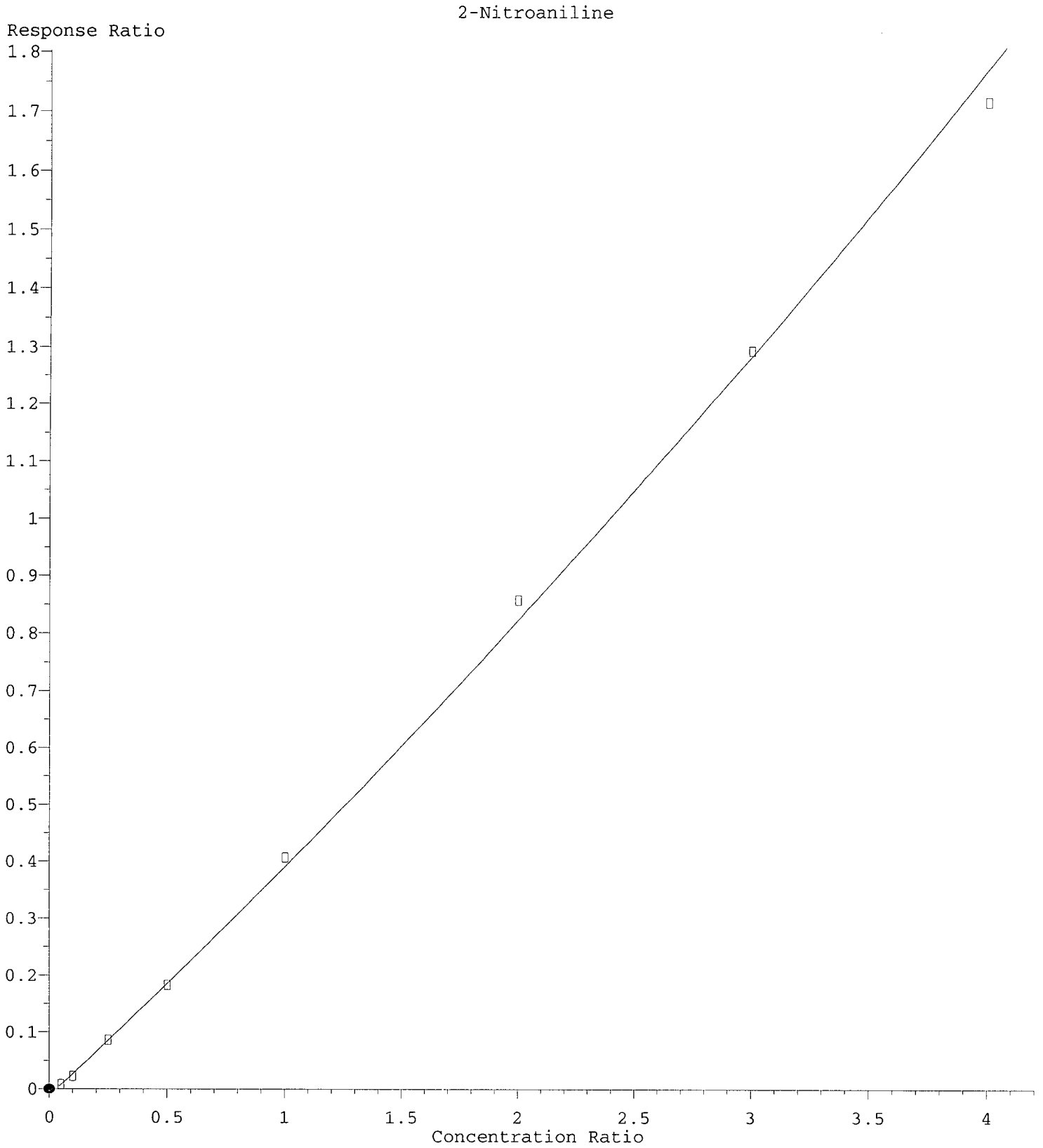
TIC: J04121915.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.140min (+ 0.022) 28.04 ng/ml m

response 107

Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	80.95
199.90	31.10	0.00#
0.00	0.00	0.00

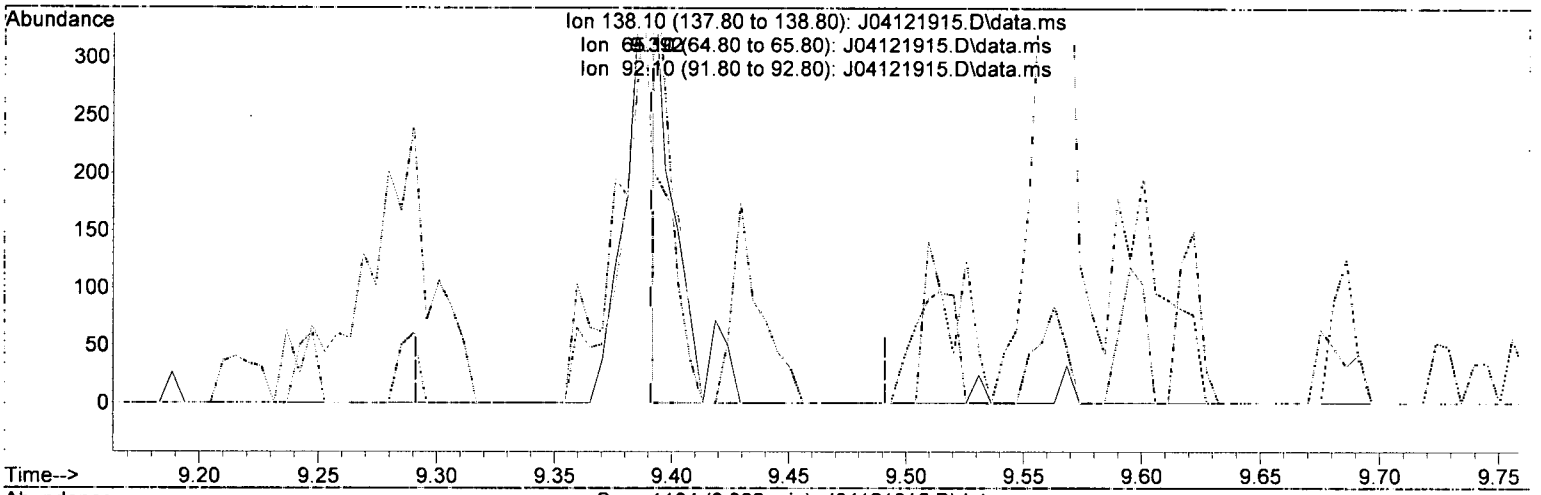


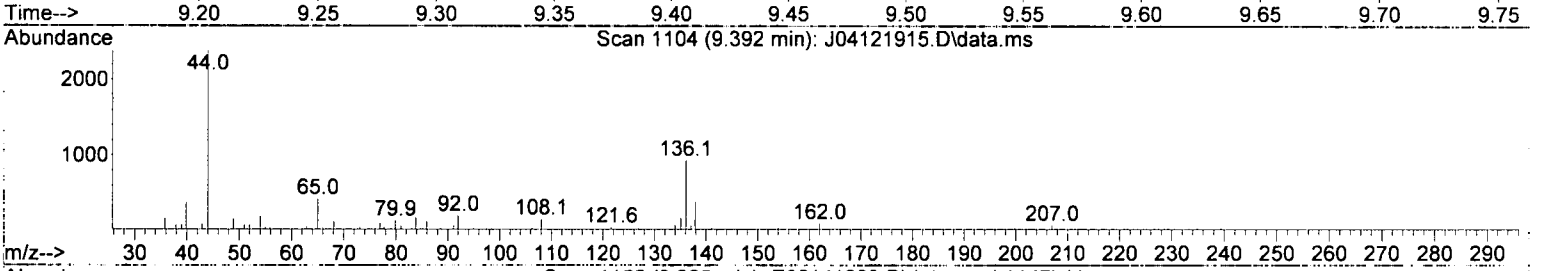
R = 1.42e-002 A*A + 3.89e-001 A - 1.27e-002
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

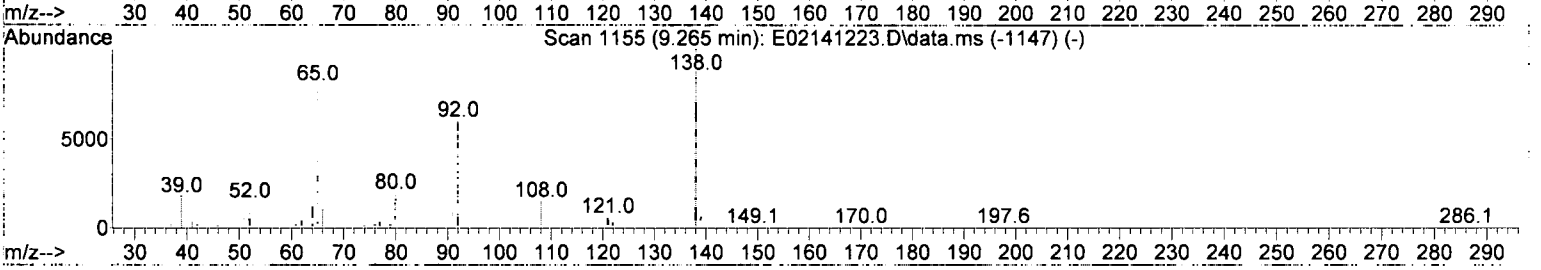
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







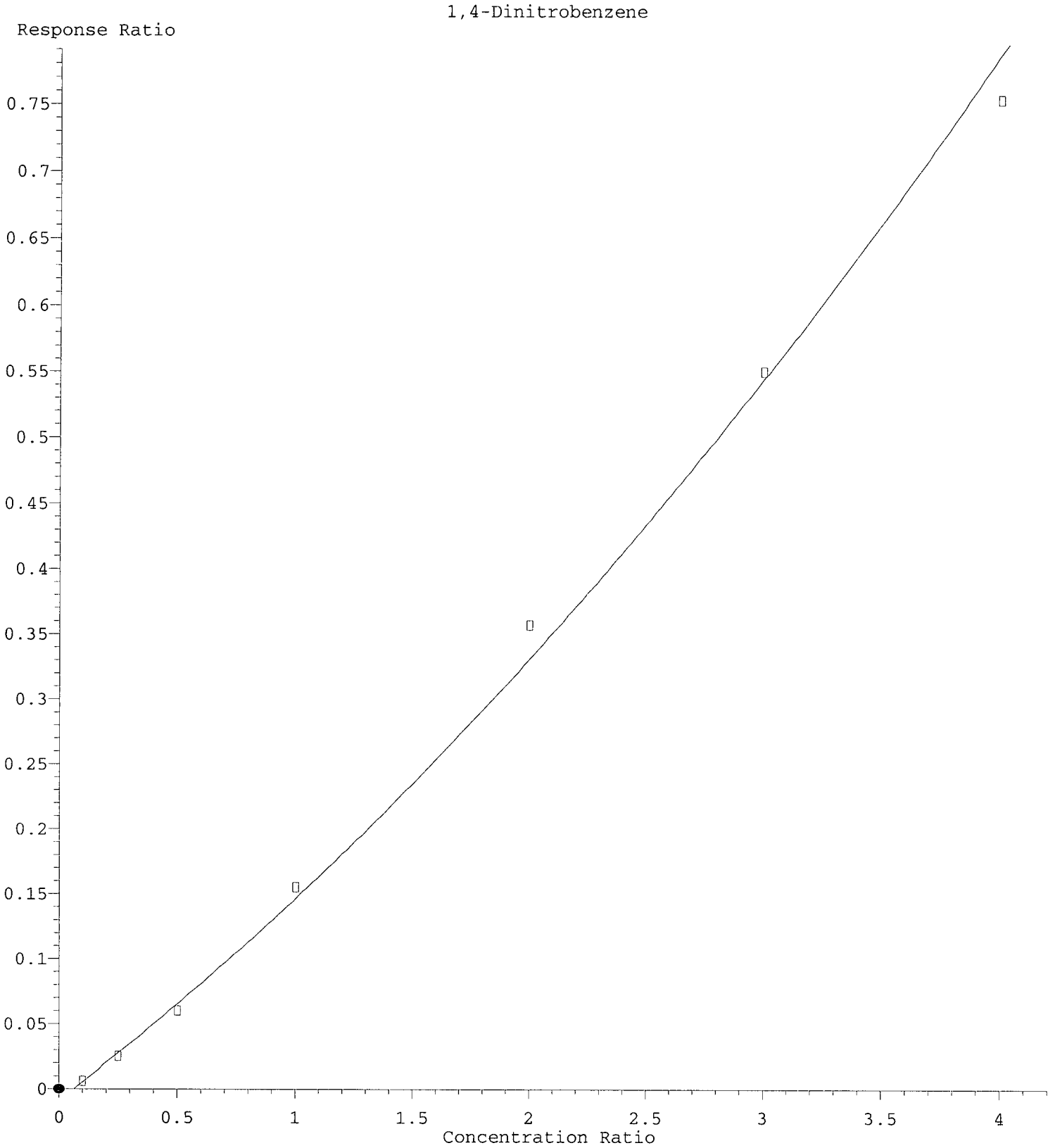
TIC: J04121915.D\data.ms

(42) 2-Nitroaniline (T)

9.392min (+ 0.001) 66.72 ng/ml m

response 138

Ion	Exp%	Act%
138.10	100.00	100.00
65.10	92.00	109.35
92.10	64.50	52.73
0.00	0.00	0.00

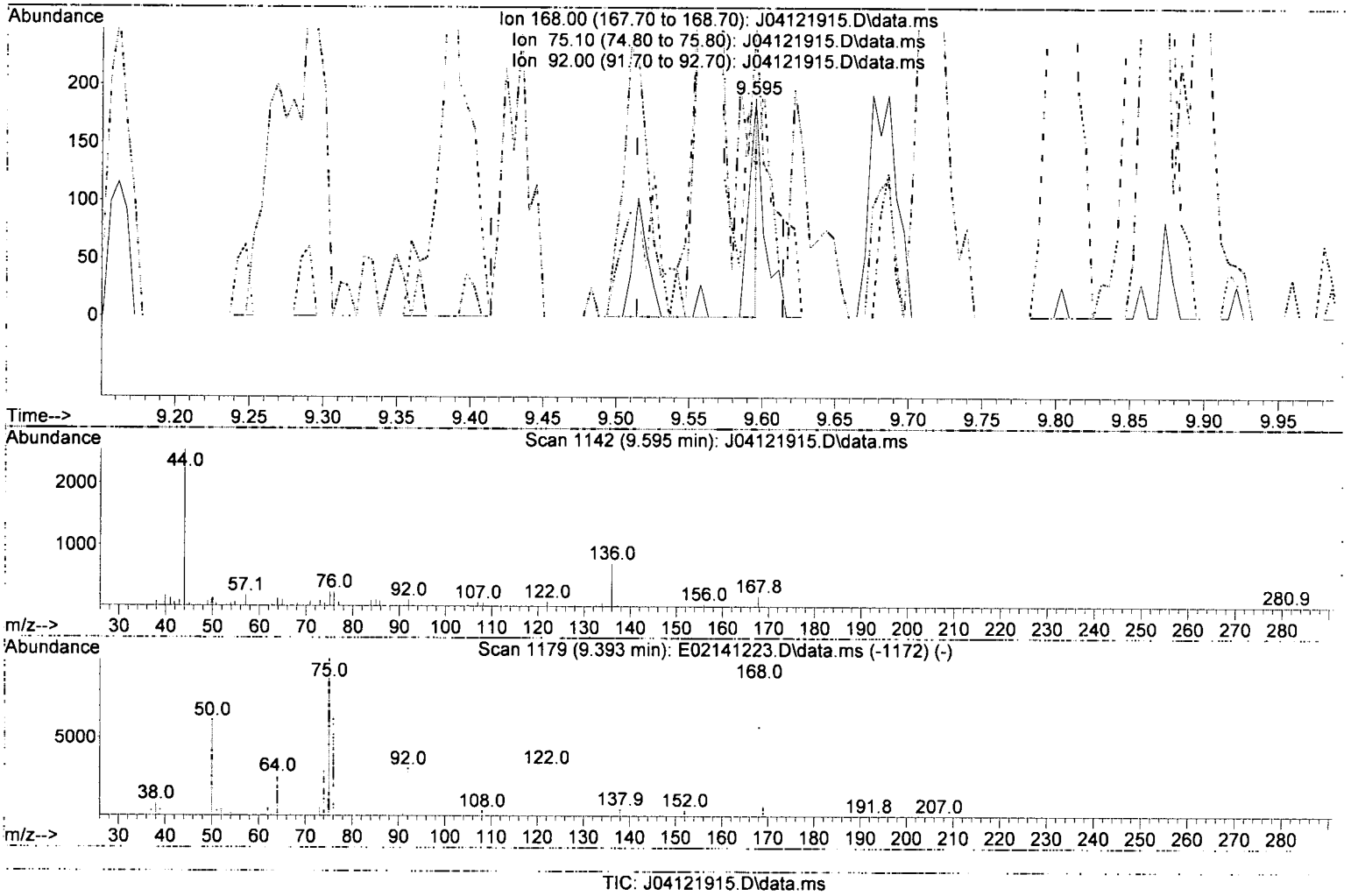


R = 1.45e-002 A*A + 1.41e-001 A - 8.59e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10



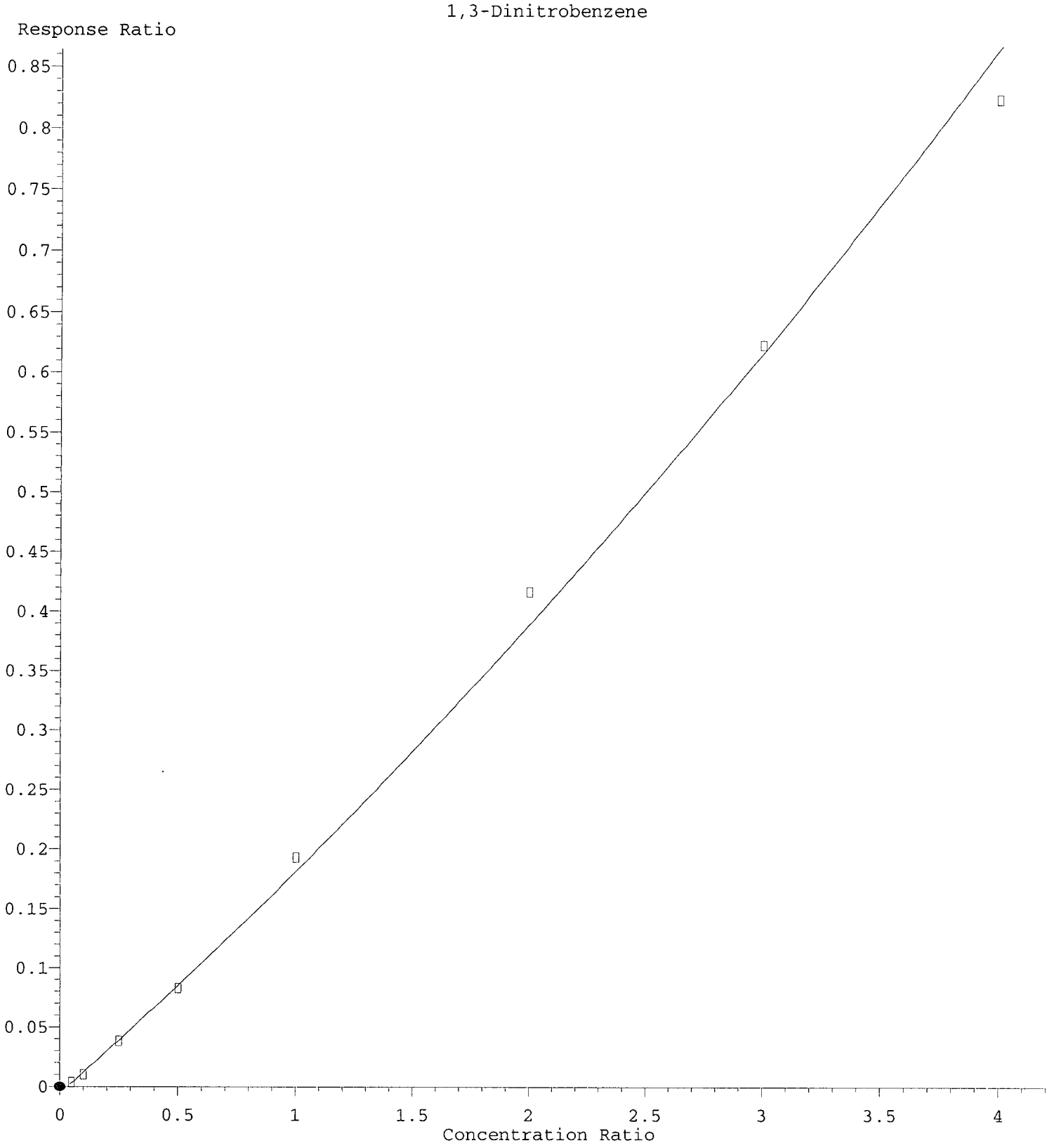
TIC: J04121915.D\data.ms

(44) 1,4-Dinitrobenzene (T)

9.595min (+ 0.081) 127.06 ng/ml m

response 171

Ion	Exp%	Act%
168.00	100.00	100.00
75.10	134.30	131.75
92.00	43.50	66.14
0.00	0.00	0.00

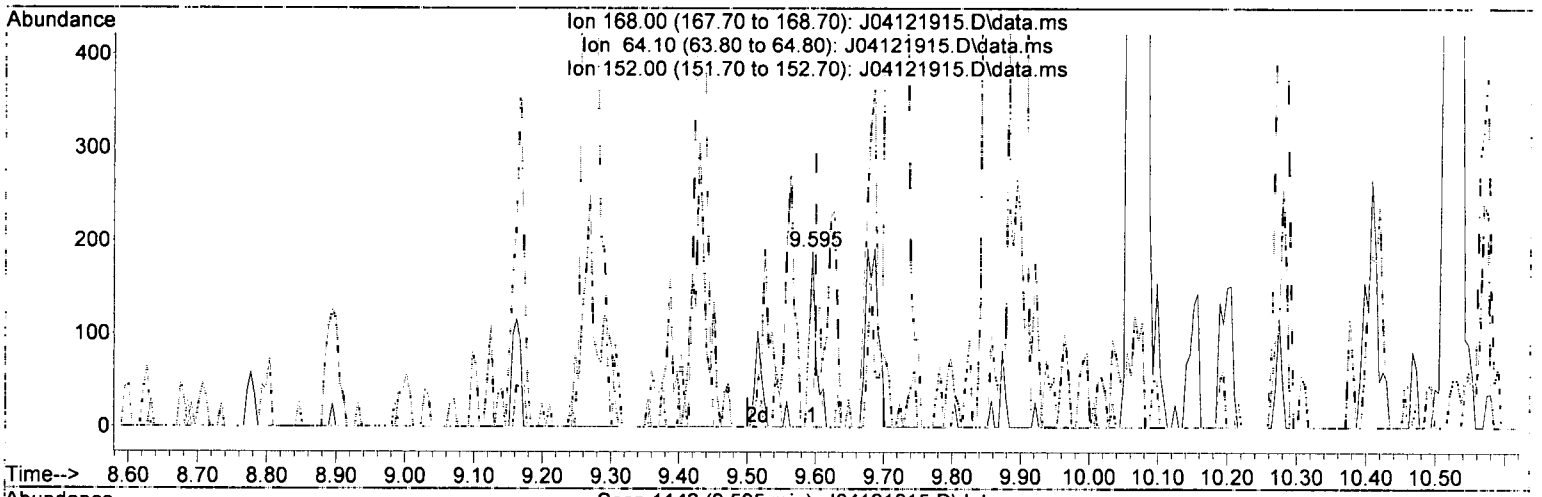


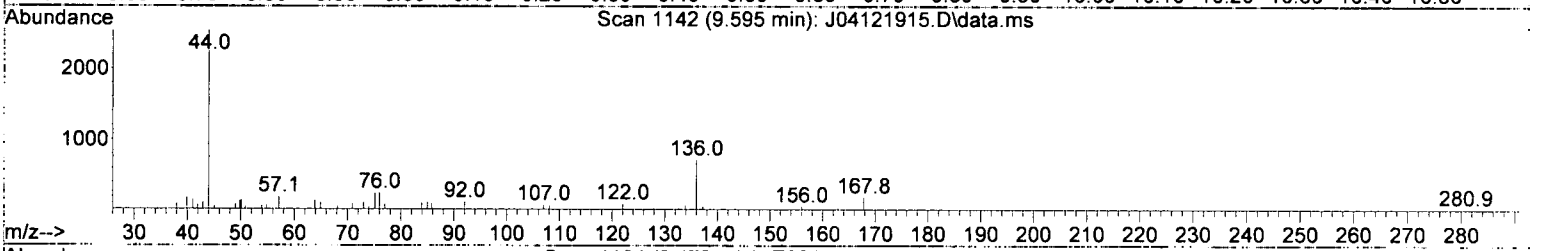
R = 1.02e-002 A*A + 1.77e-001 A - 5.75e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

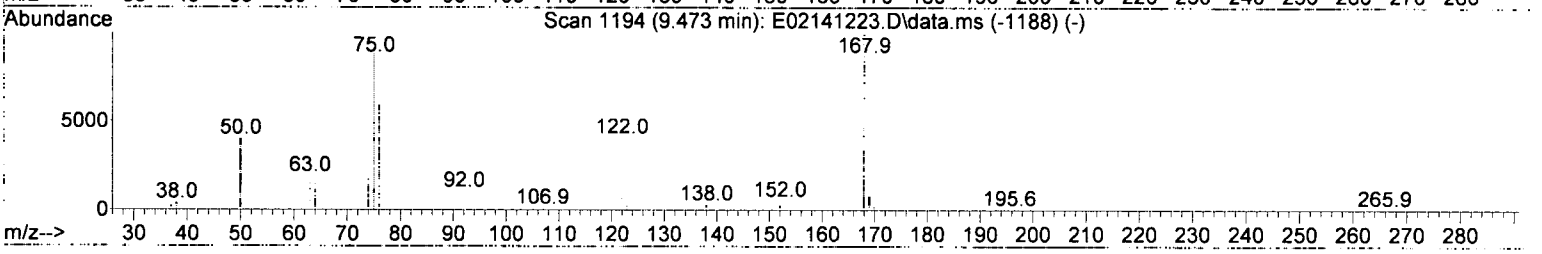
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







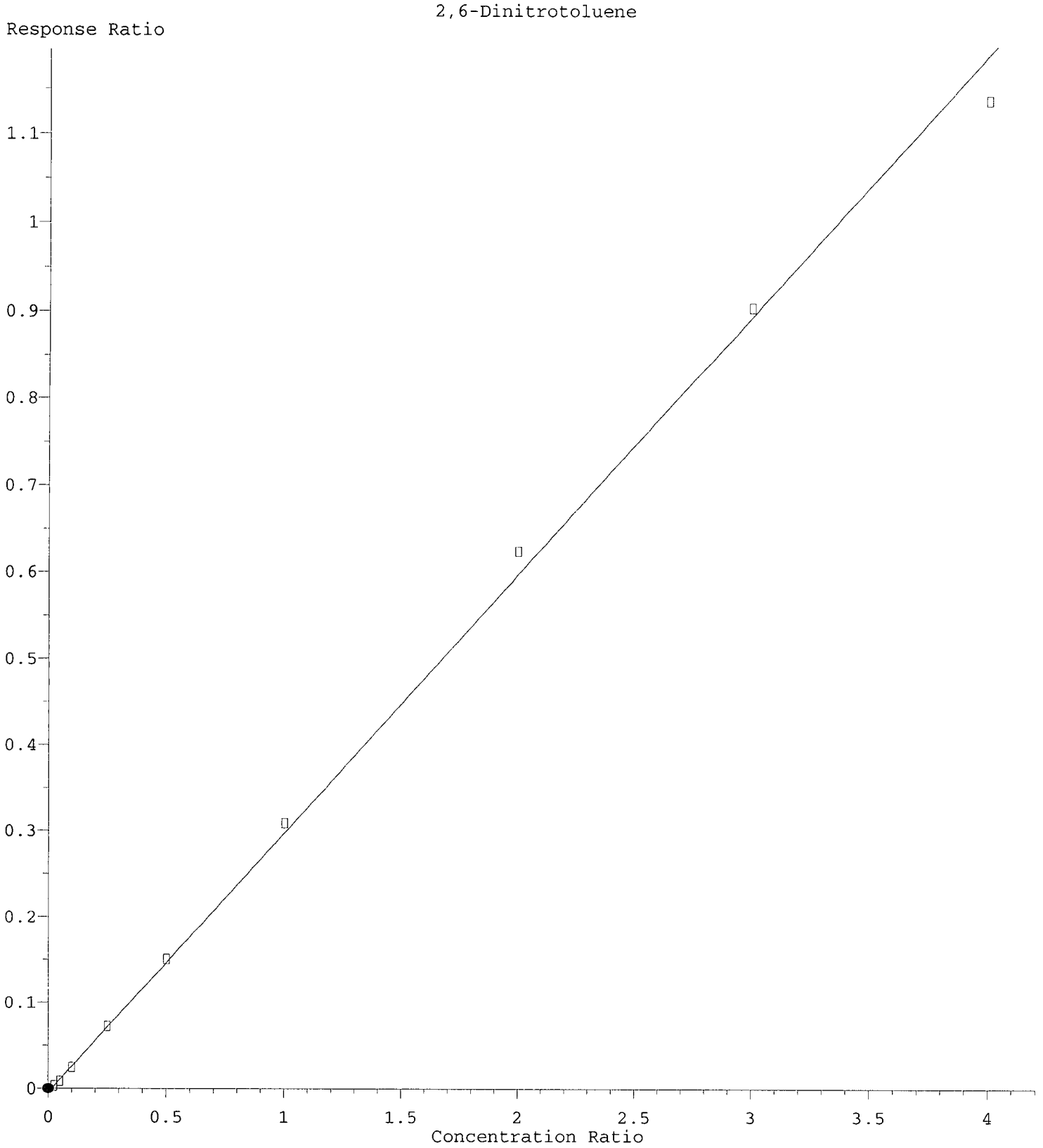
TIC: J04121915.D\data.ms

(46) 1,3-Dinitrobenzene (T)

9.595min (-0.005) 68.48 ng/ml

response 137

Ion	Exp%	Act%
168.00	100.00	100.00
64.10	29.70	80.42#
152.00	7.70	0.00
0.00	0.00	0.00

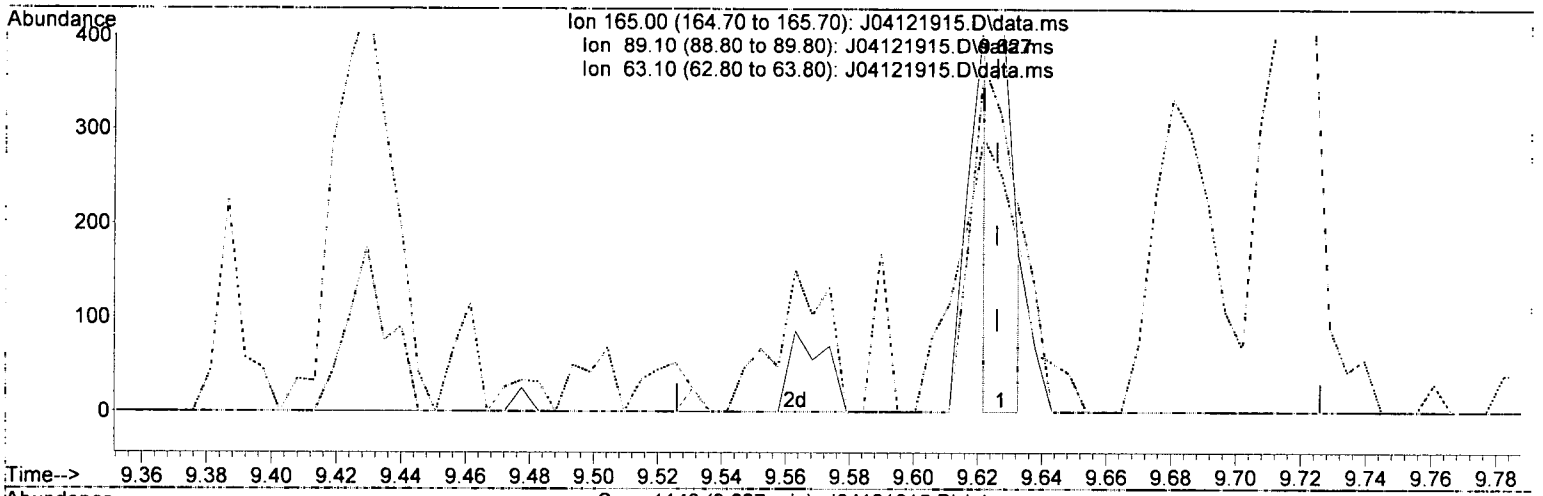


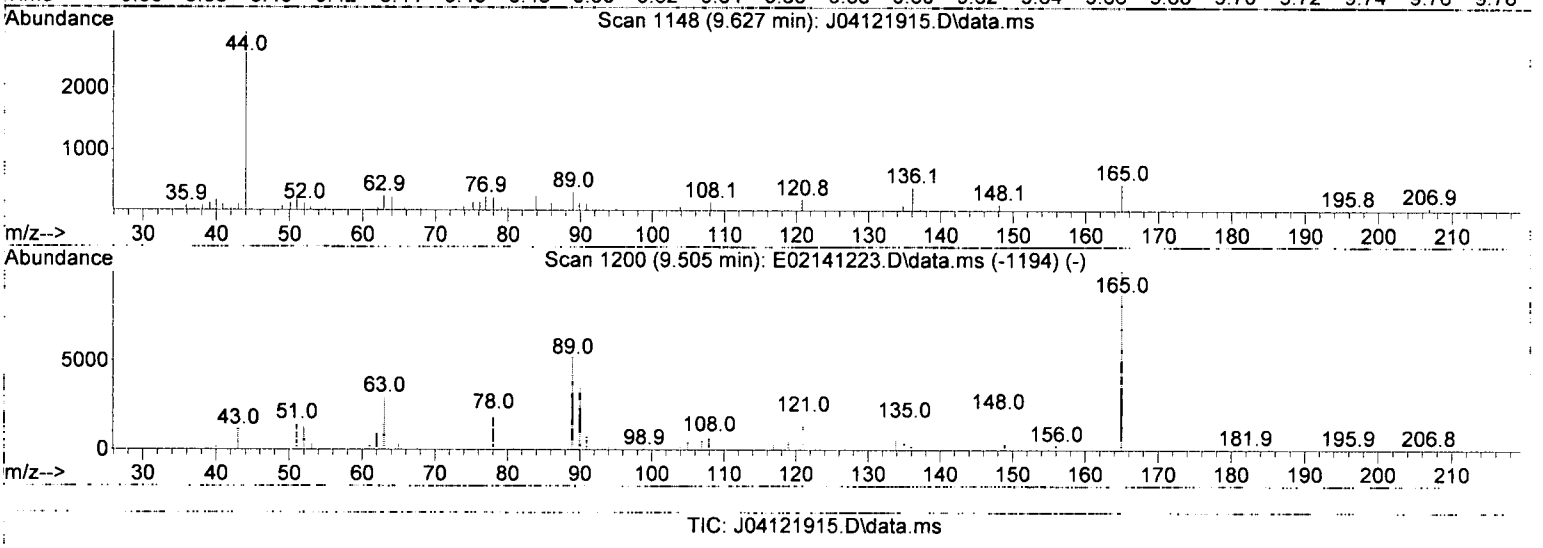
R = -1.37e-003 A*A + 3.04e-001 A - 4.94e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10





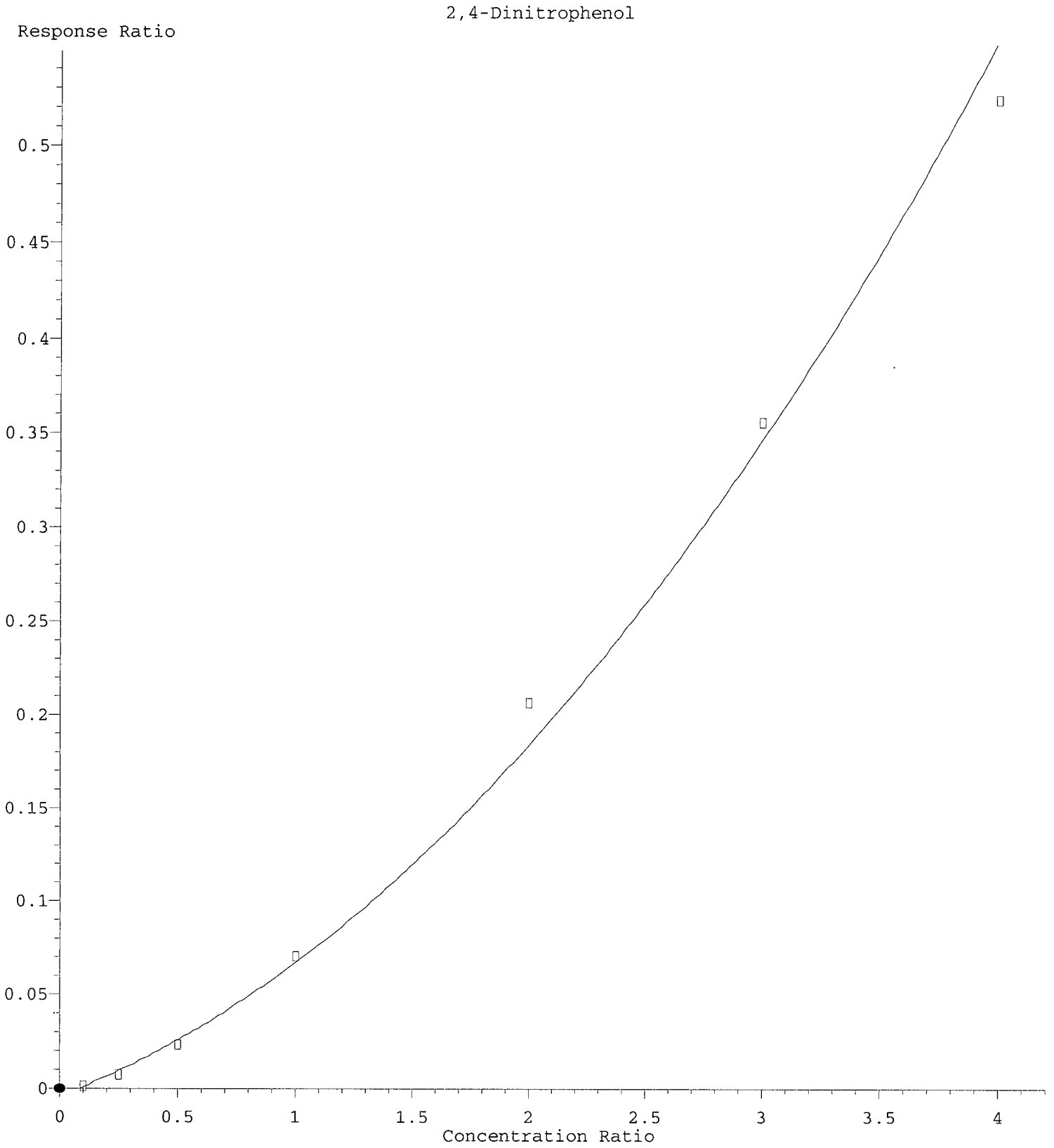
TIC: J04121915.D\data.ms

(47) 2,6-Dinitrotoluene (T)

9.627min (+ 0.001) 35.57 ng/ml m

response 197

Ion	Exp%	Act%
165.00	100.00	100.00
89.10	61.40	71.40
63.10	61.10	57.21
0.00	0.00	0.00

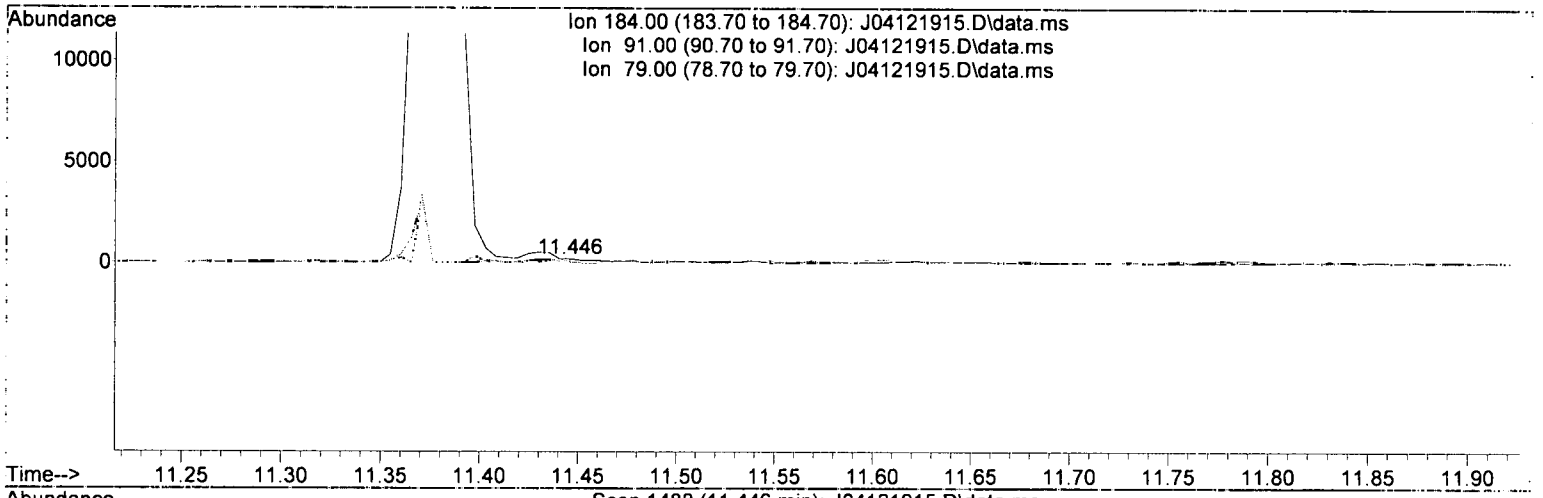


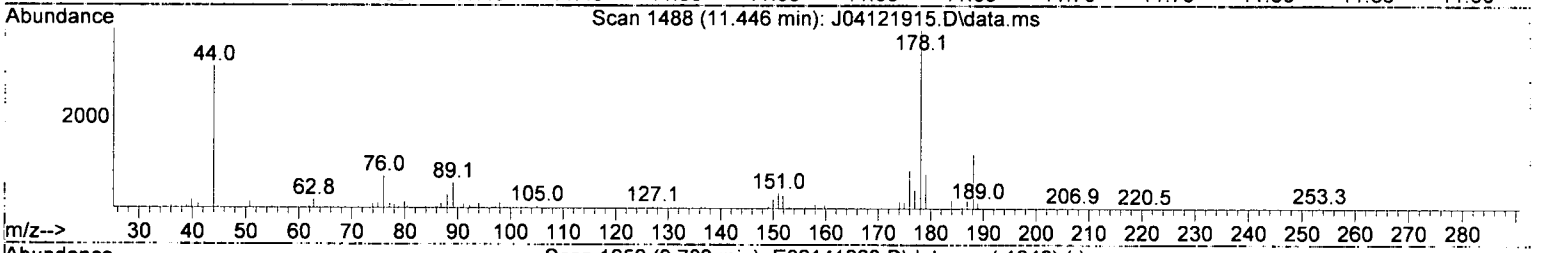
R = 2.28e-002 A*A + 4.83e-002 A - 4.04e-003
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

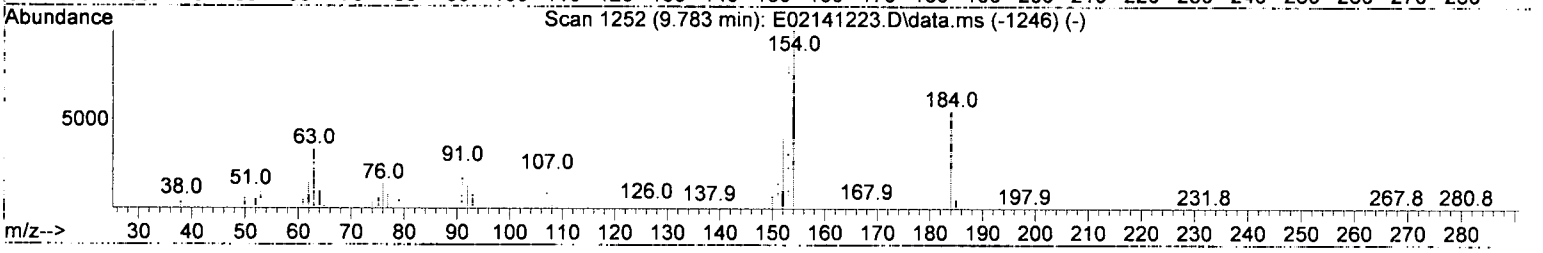
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







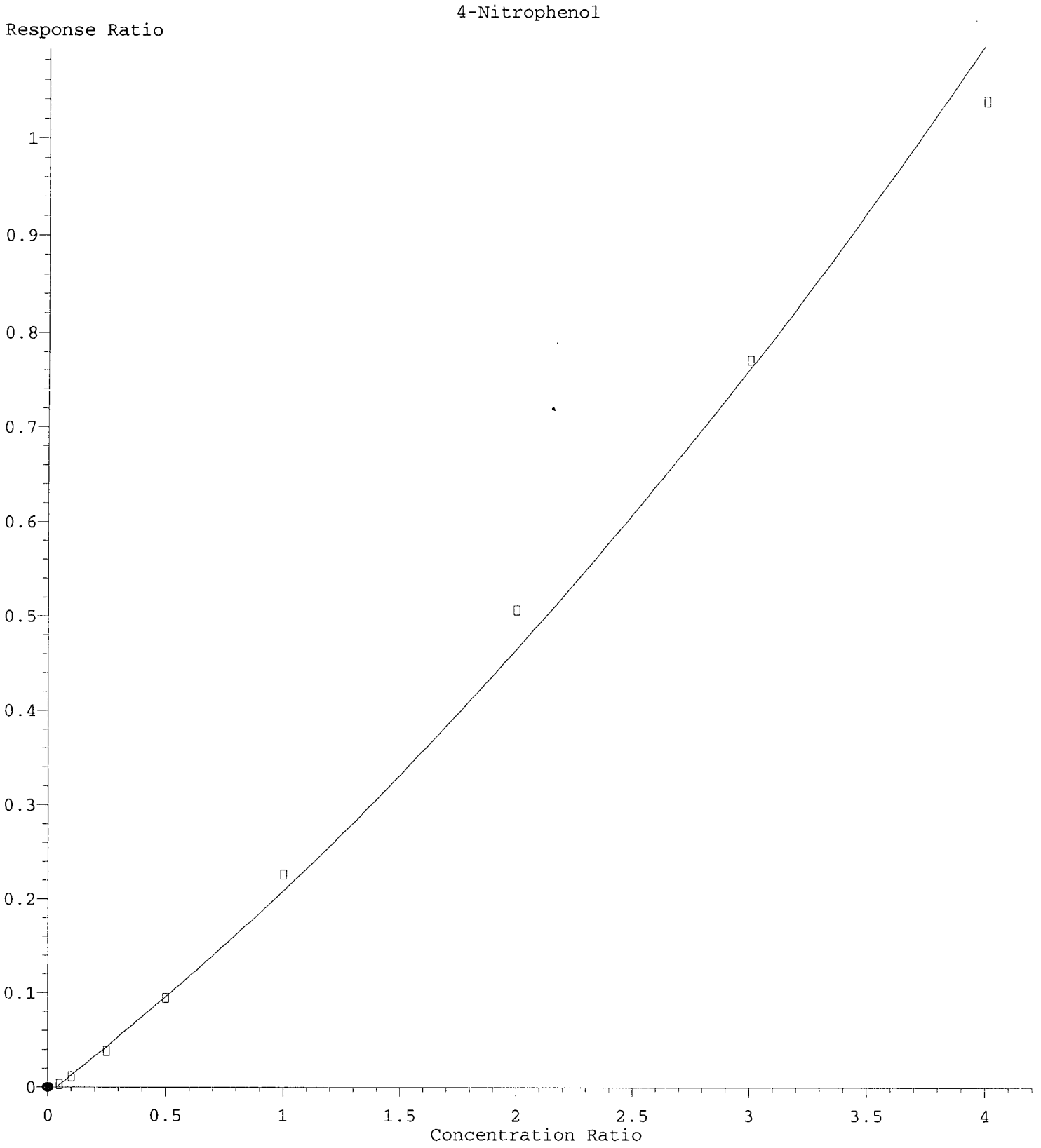
TIC: J04121915.D\data.ms

(52) 2,4-Dinitrophenol (T)

11.446min (+ 1.541) 172.30 ng/ml m

response 122

Ion	Exp%	Act%
184.00	100.00	100.00
91.00	53.50	54.17
79.00	32.30	18.75
0.00	0.00	0.00

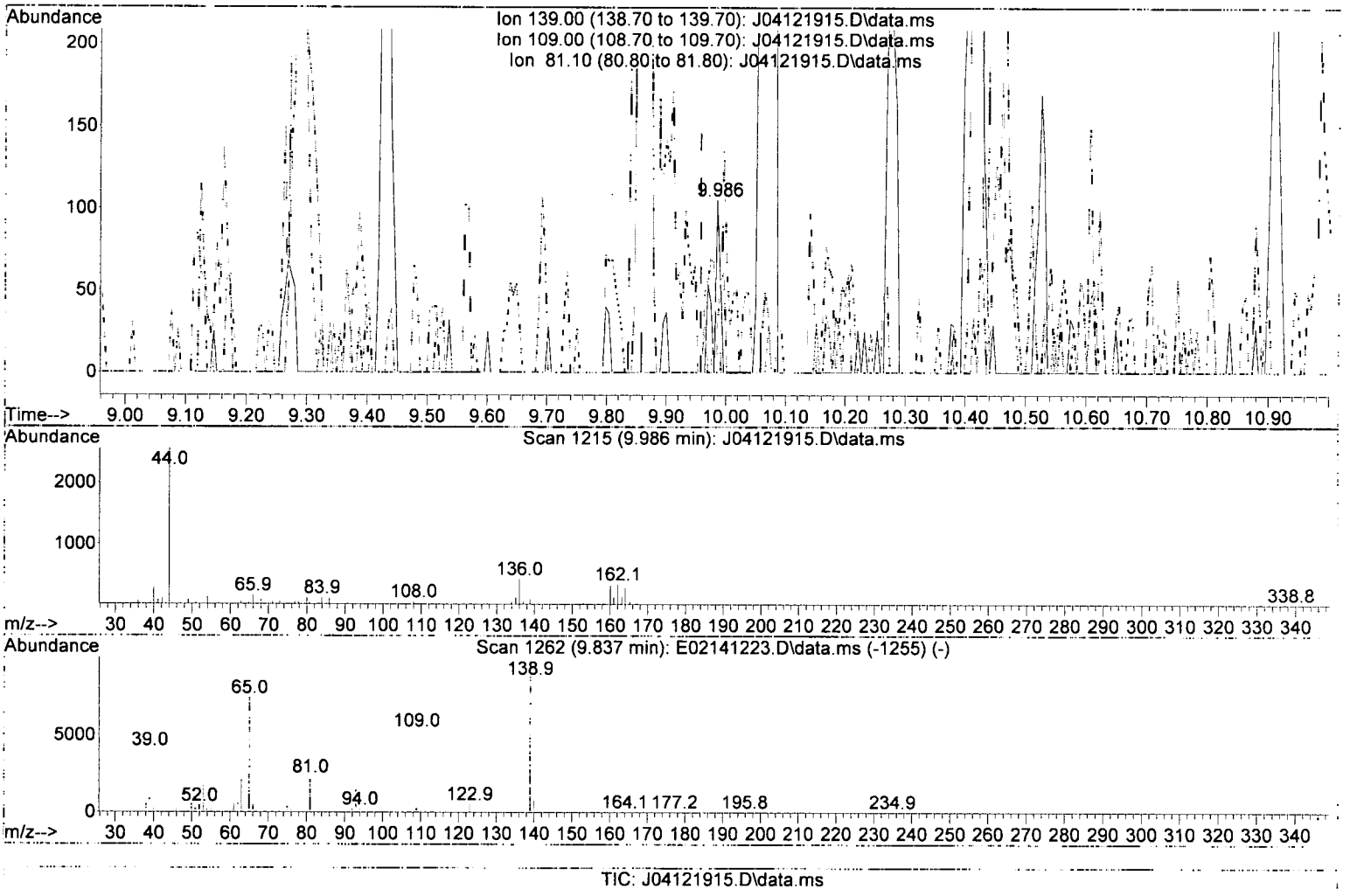


R = 2.02e-002 A*A + 1.96e-001 A - 7.20e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10



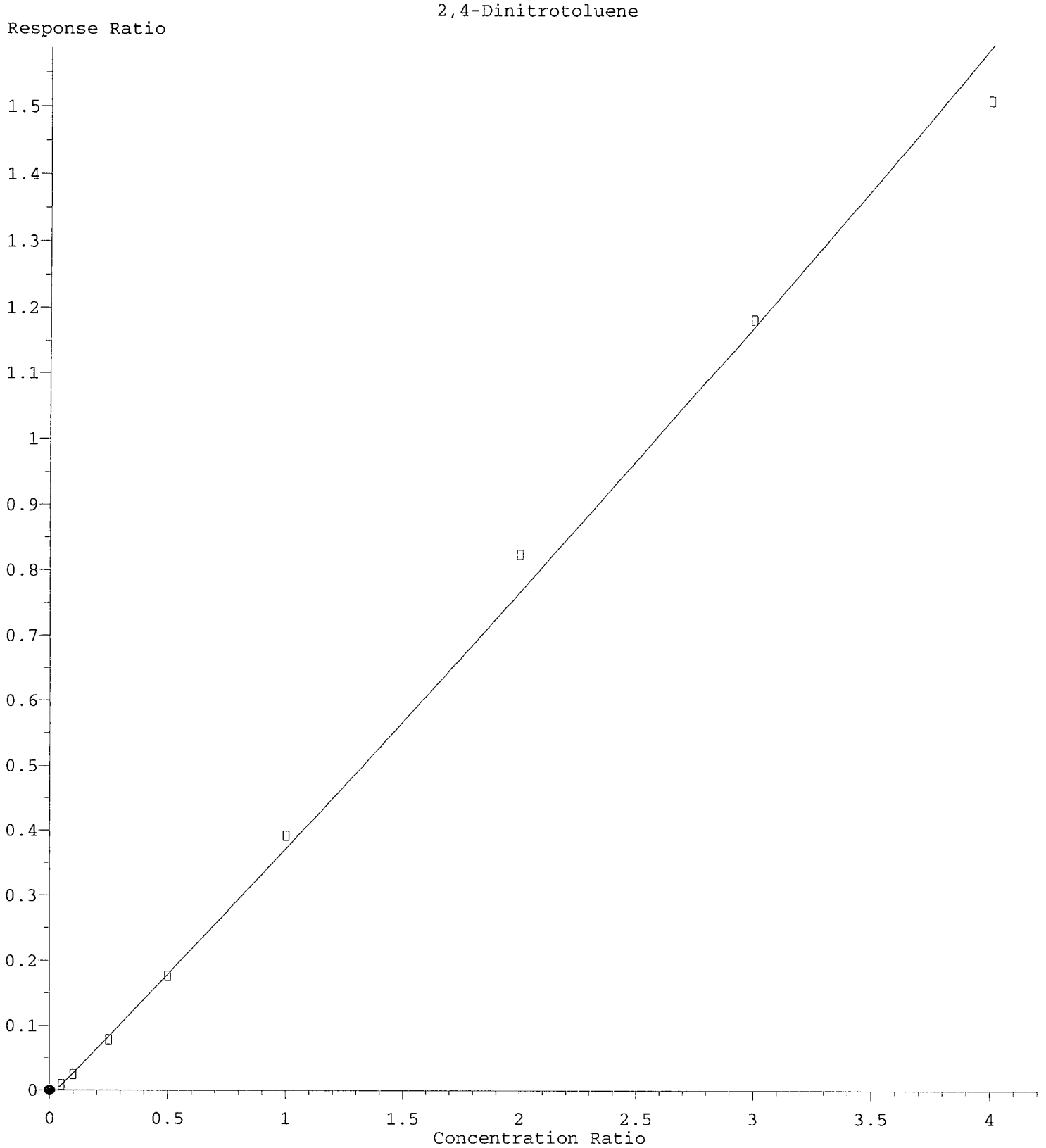
TIC: J04121915.D\data.ms

(53) 4-Nitrophenol (T)

9.986min (+ 0.028) 75.67 ng/ml m

response 103

Ion	Exp%	Act%
139.00	100.00	100.00
109.00	64.20	26.67#
81.10	30.90	0.00#
0.00	0.00	0.00

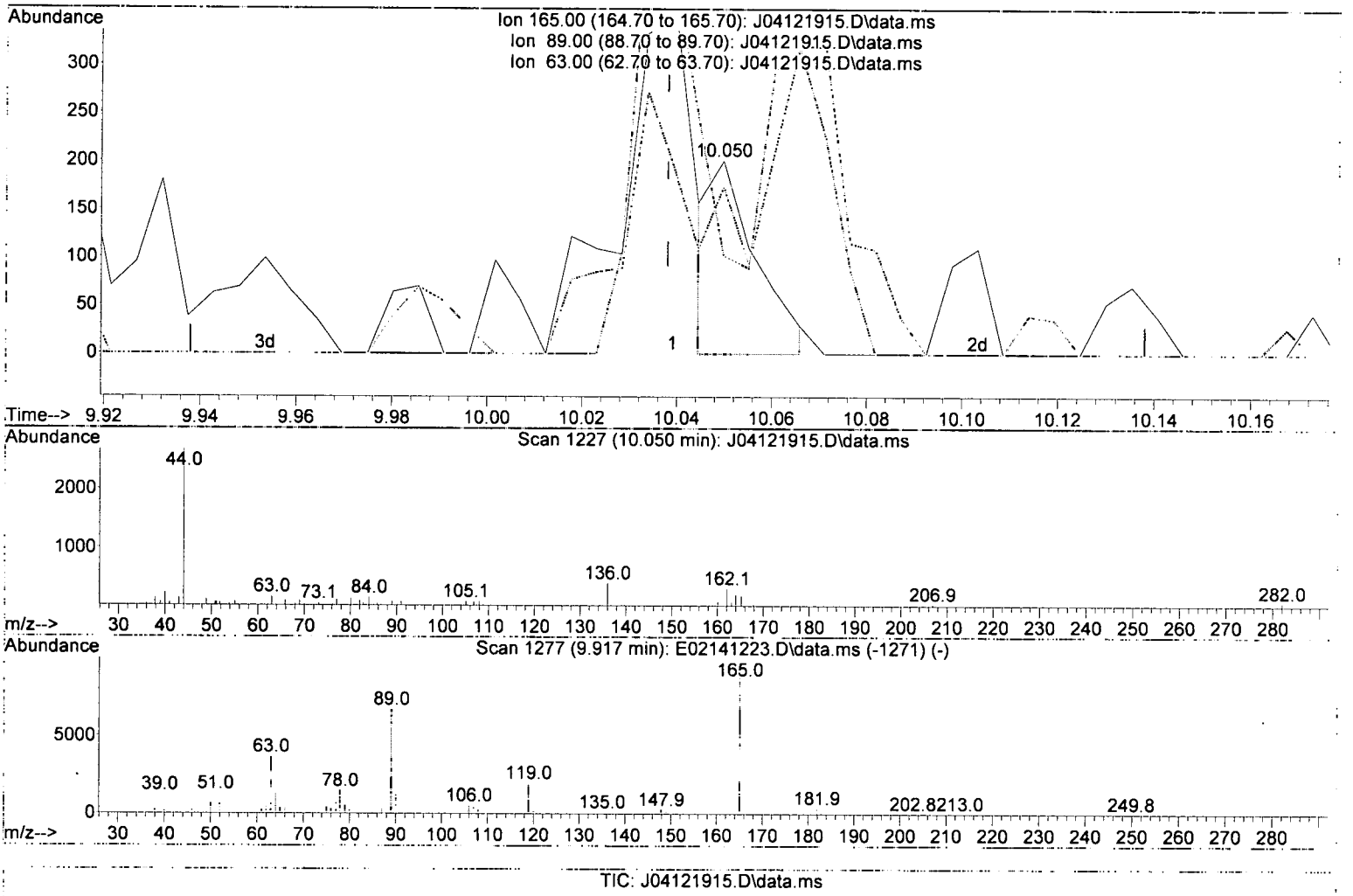


R = 5.63e-003 A*A + 3.78e-001 A - 1.14e-002
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10



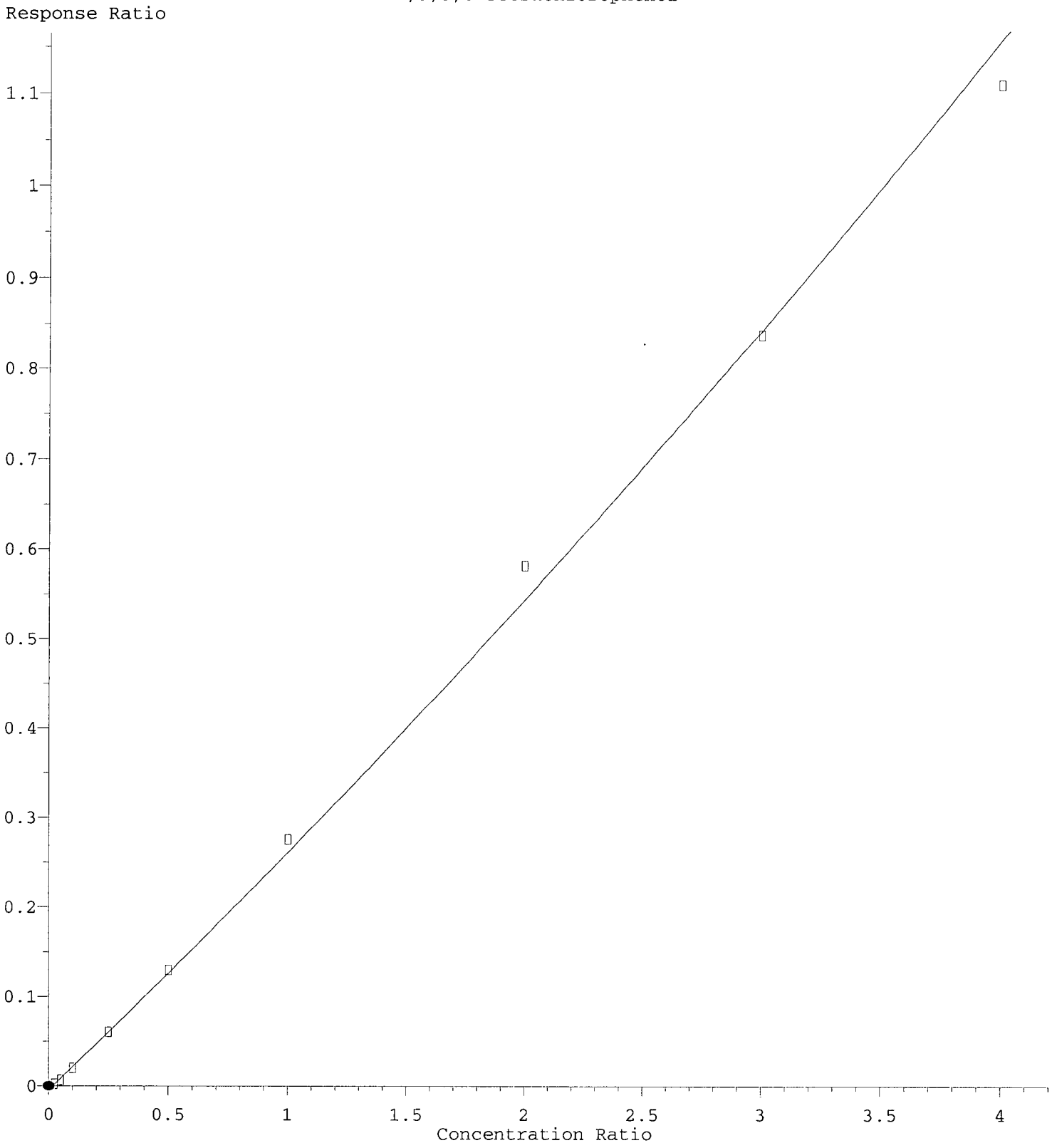
TIC: J04121915.D\data.ms

(54) 2,4-Dinitrotoluene (T)

10.050min (+ 0.012) 61.75 ng/ml m

response 130

Ion	Exp%	Act%
165.00	100.00	100.00
89.00	80.10	50.75
63.00	47.20	86.57#
0.00	0.00	0.00

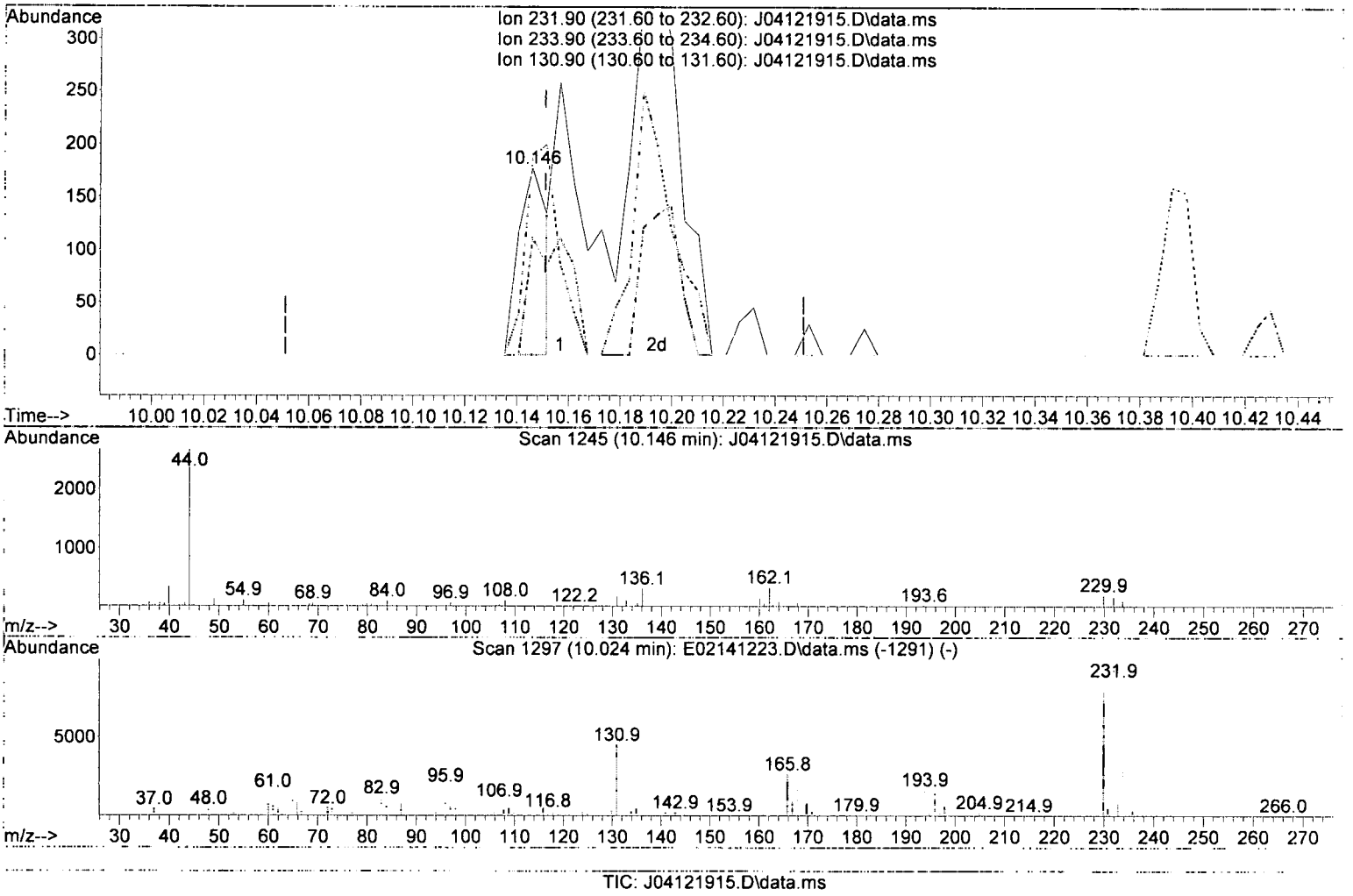


R = 8.29e-003 A*A + 2.57e-001 A - 4.50e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10



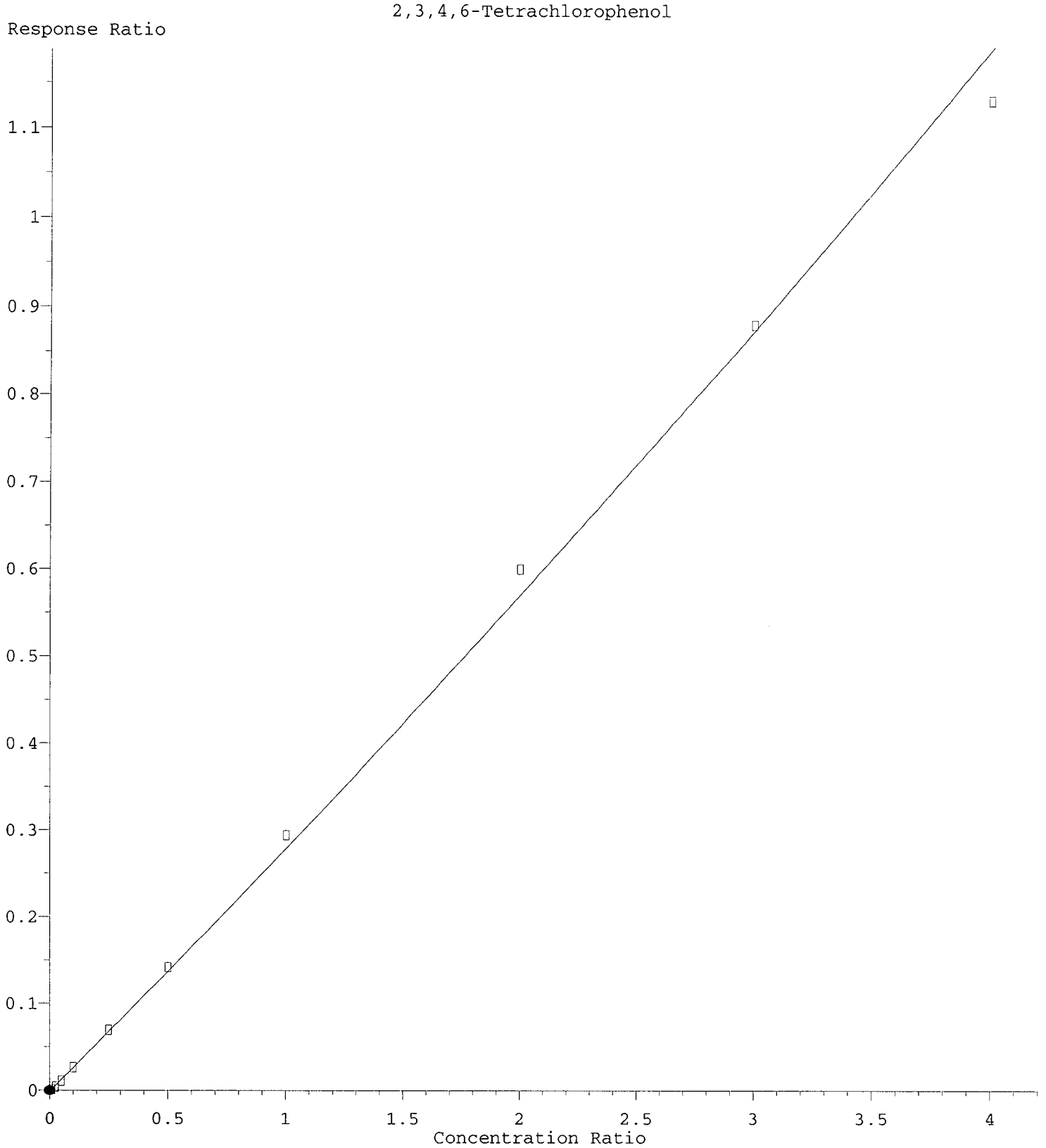
TIC: J04121915.D\data.ms

(56) 2,3,5,6-Tetrachlorophenol (T)

10.146min (-0.005) 37.50 ng/ml m

response 138

Ion	Exp%	Act%
231.90	100.00	100.00
233.90	49.20	62.71
130.90	53.00	106.21#
0.00	0.00	0.00

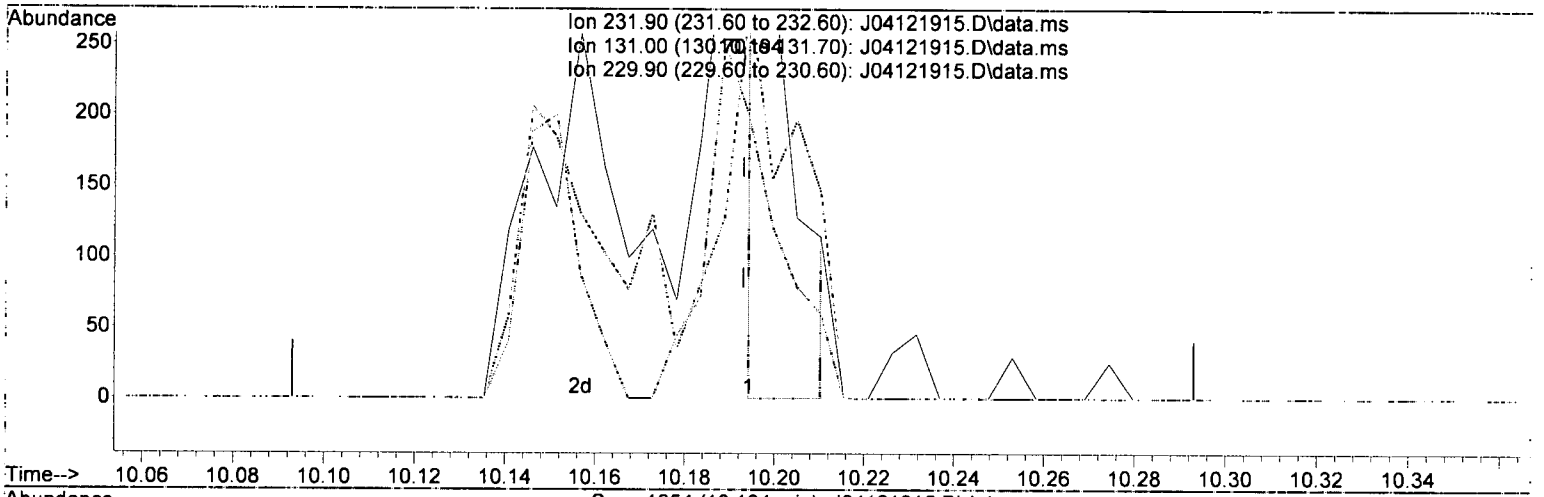


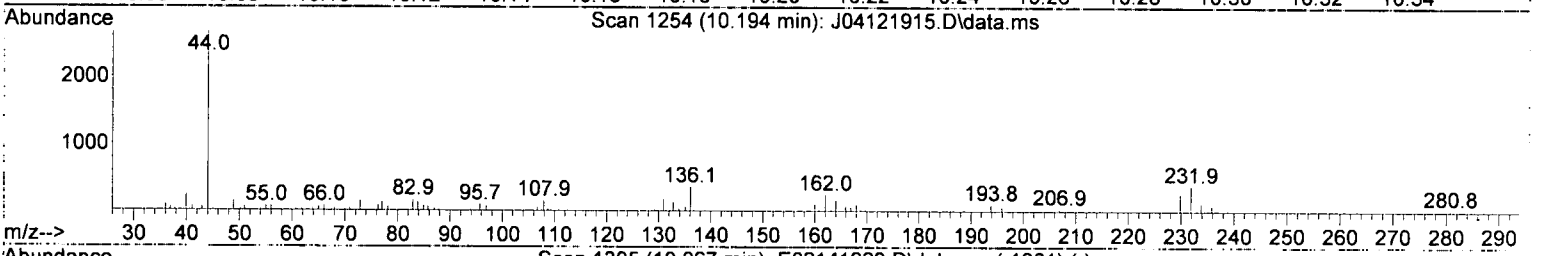
R = 5.62e-003 A*A + 2.75e-001 A - 1.81e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

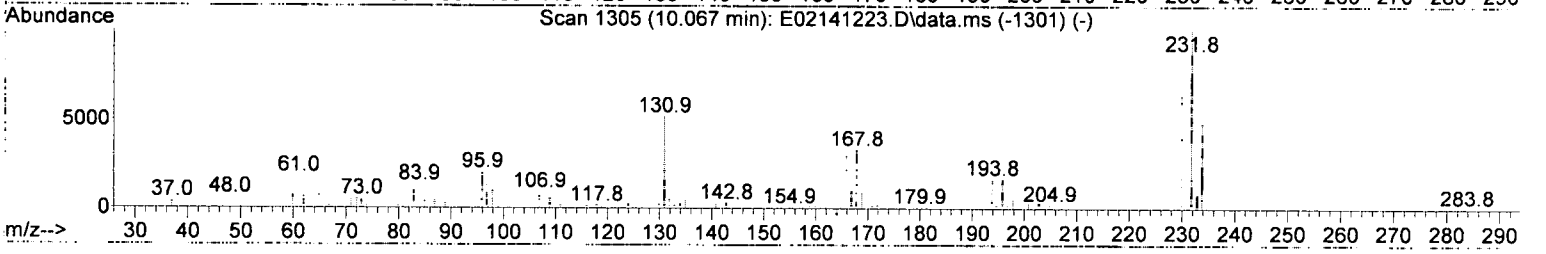
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







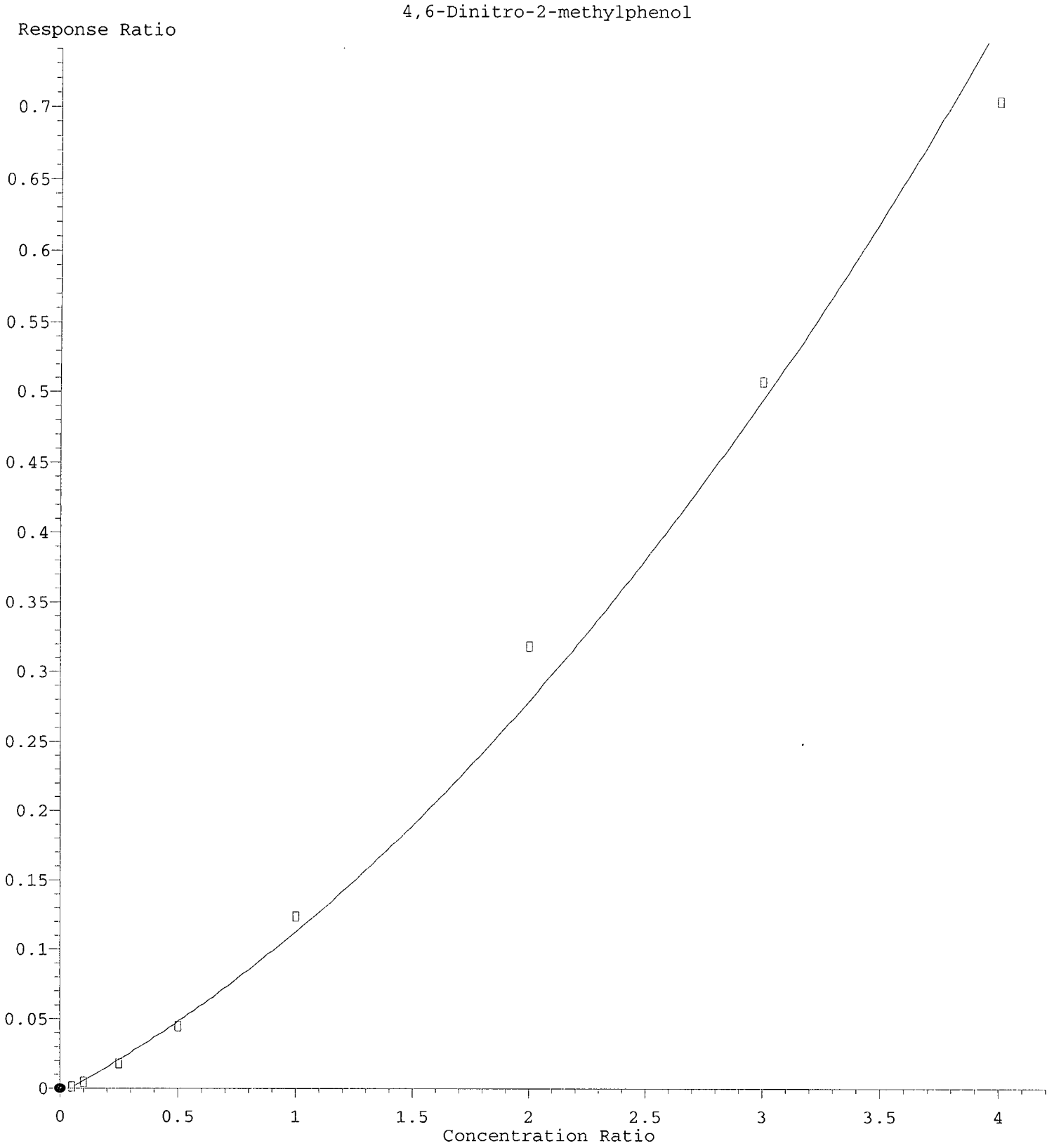
TIC: J04121915.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.194min (+ 0.001) 16.14 ng/ml m

response 173

Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	51.03
229.90	78.40	72.05
0.00	0.00	0.00

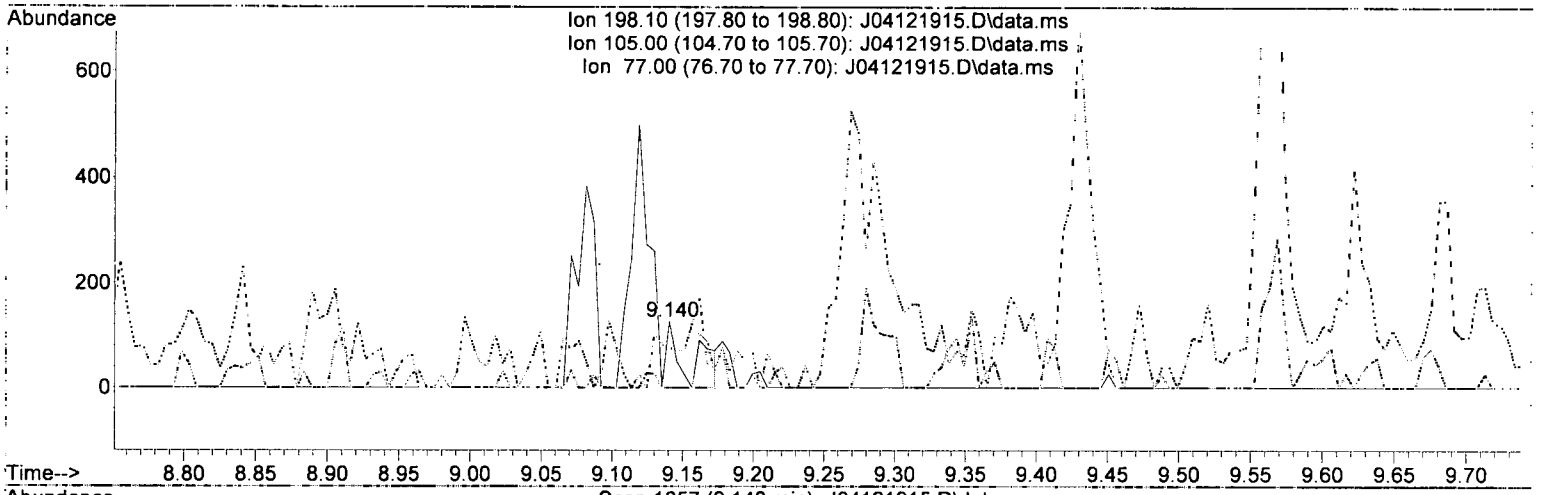


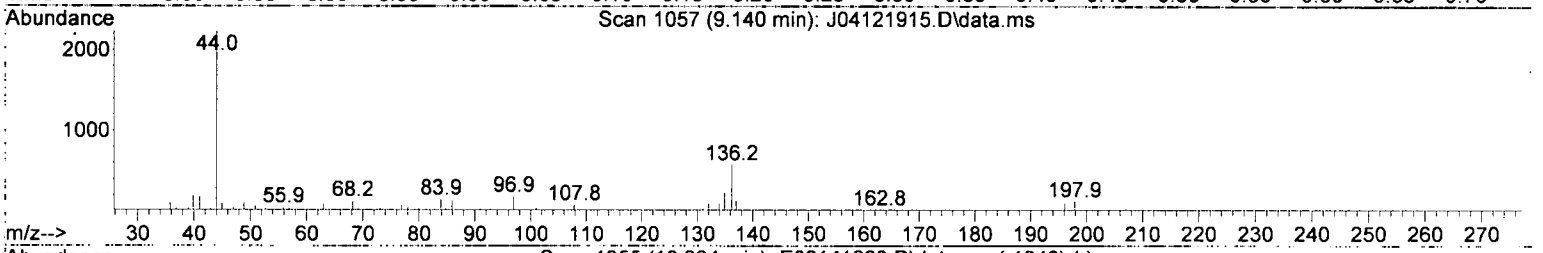
R = 2.48e-002 A*A + 9.20e-002 A - 3.92e-003
Coef of Det (r^2) = 0.991 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\Sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

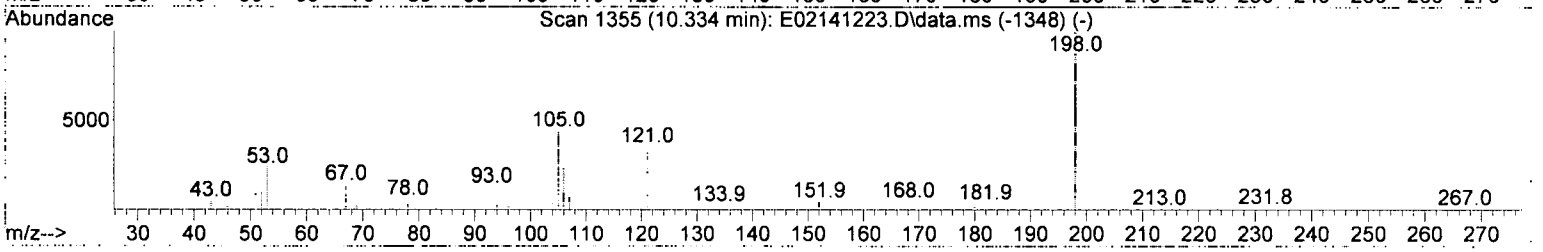
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







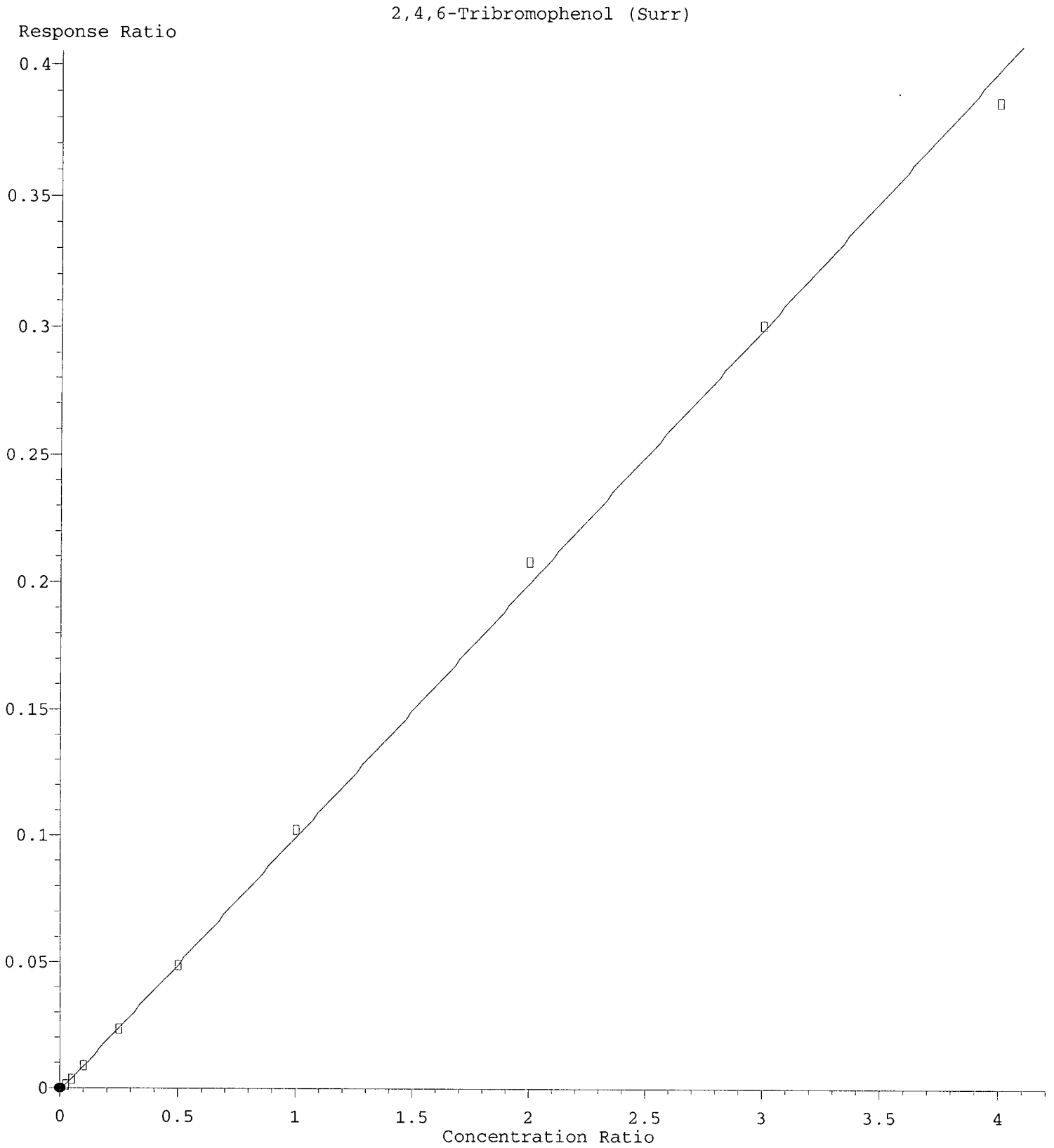
TIC: J04121915.D\data.ms

(63) 4,6-Dinitro-2-methylphenol (T)

9.140min (-1.321) 91.21 ng/ml m ✓

response 140

Ion	Exp%	Act%
198.10	100.00	100.00
105.00	58.40	0.00#
77.00	31.80	61.11
0.00	0.00	0.00

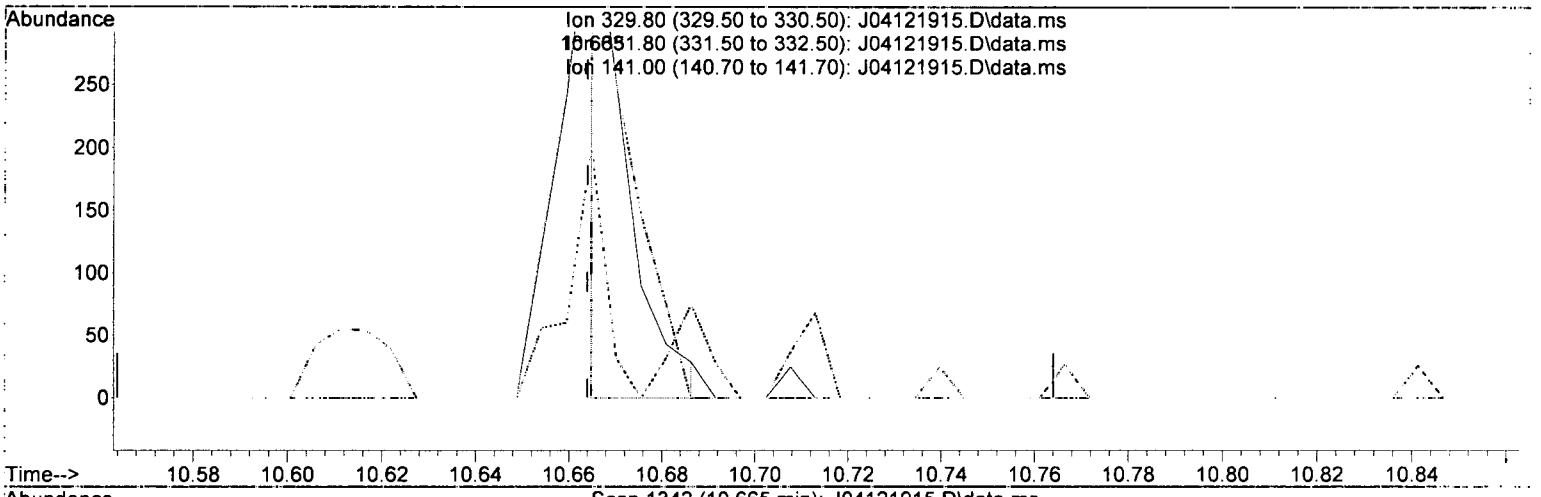


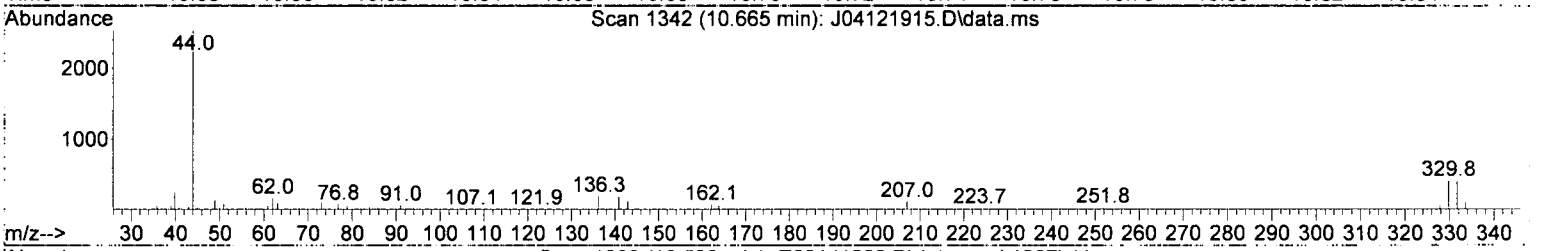
R = -3.14e-004 A*A + 1.01e-001 A - 1.36e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

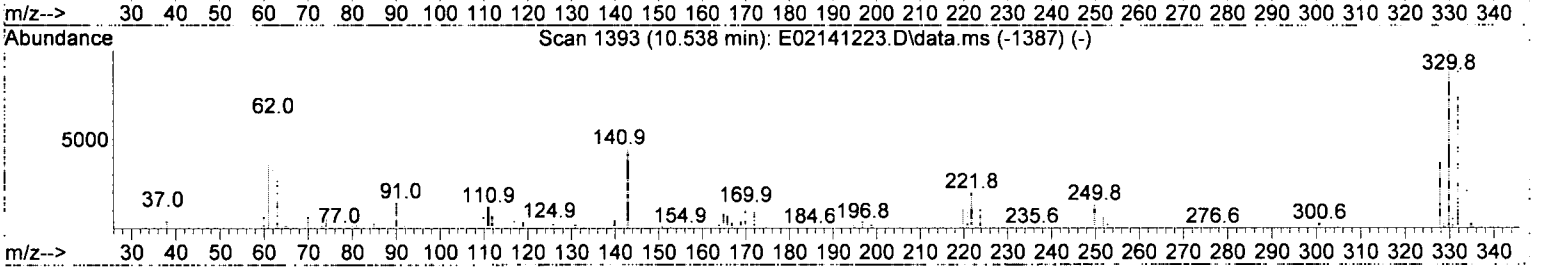
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







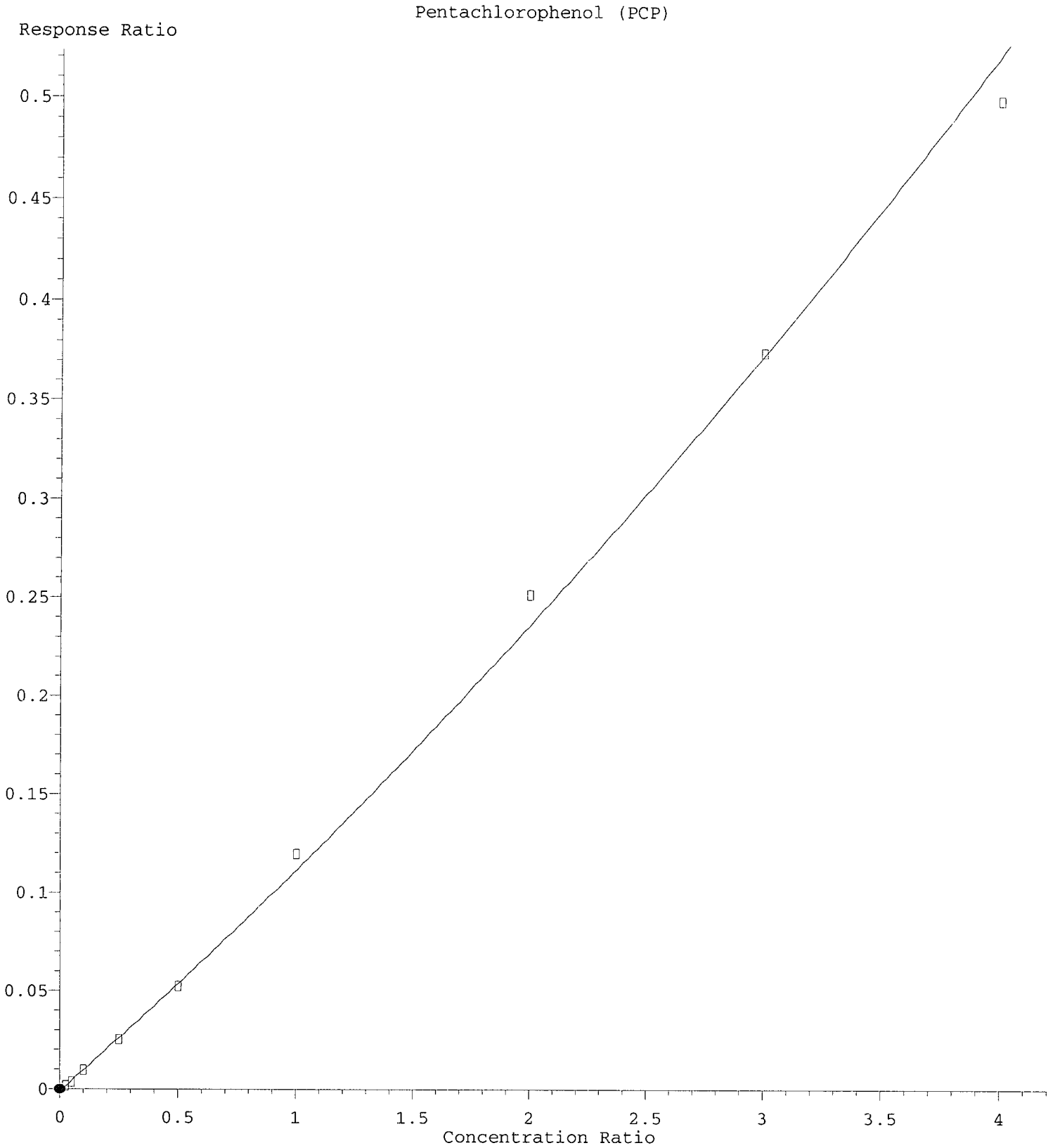
TIC: J04121915.D\data.ms

(67) 2,4,6-Tribromophenol (Surr) (S)

10.665min (+ 0.001) 30.67 ng/ml m

response 132

Ion	Exp%	Act%
329.80	100.00	100.00
331.80	95.30	97.88
141.00	47.50	47.17
0.00	0.00	0.00

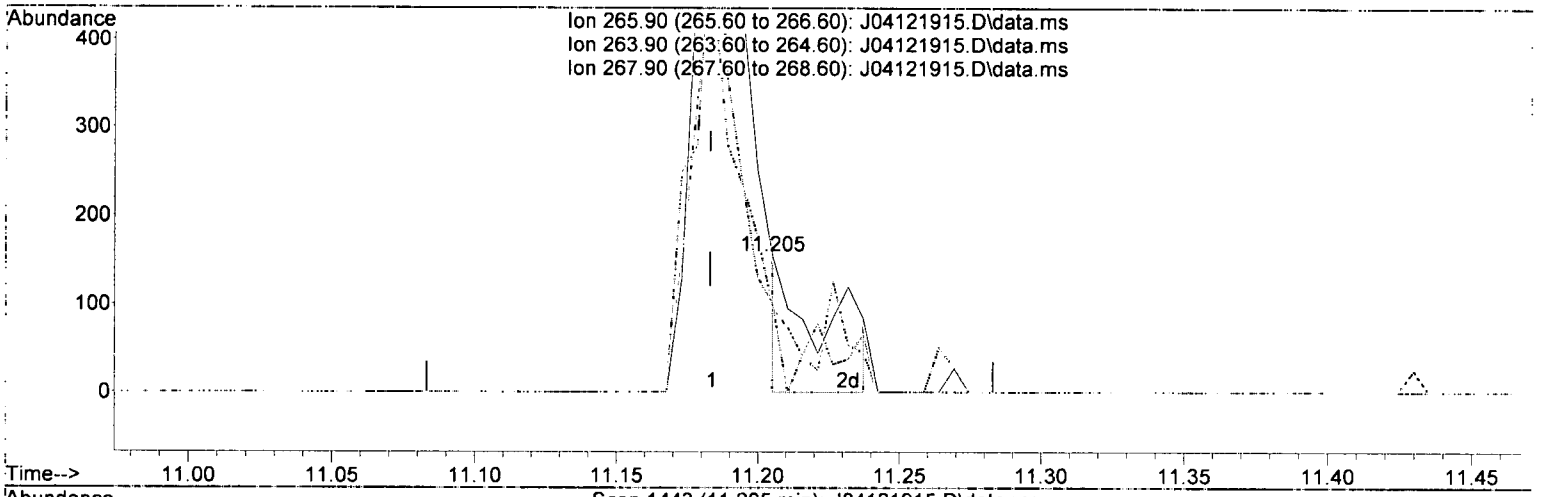


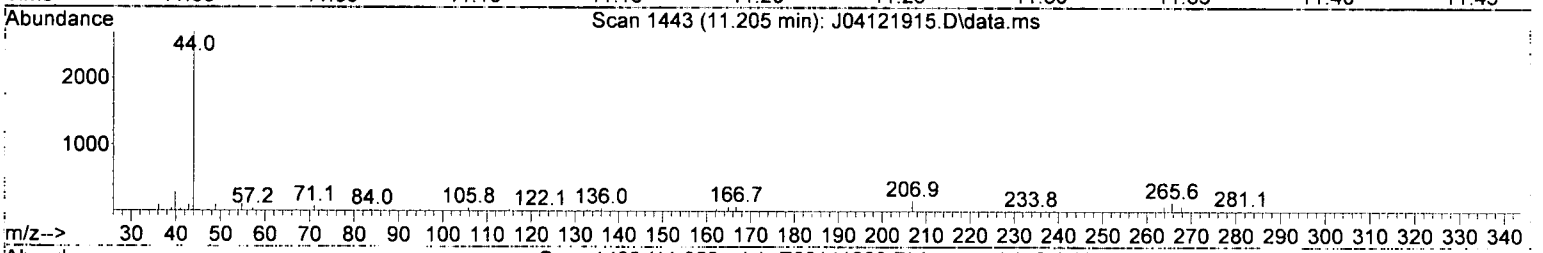
R = 5.98e-003 A*A + 1.07e-001 A - 1.11e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\5v10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

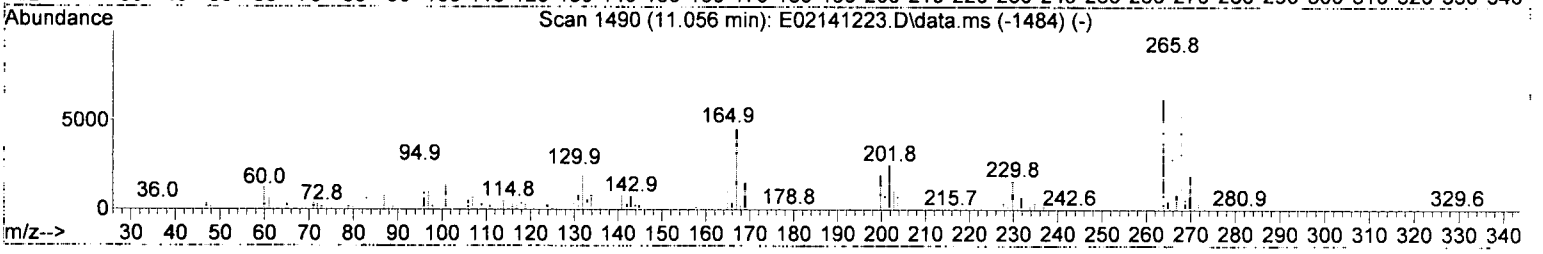
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







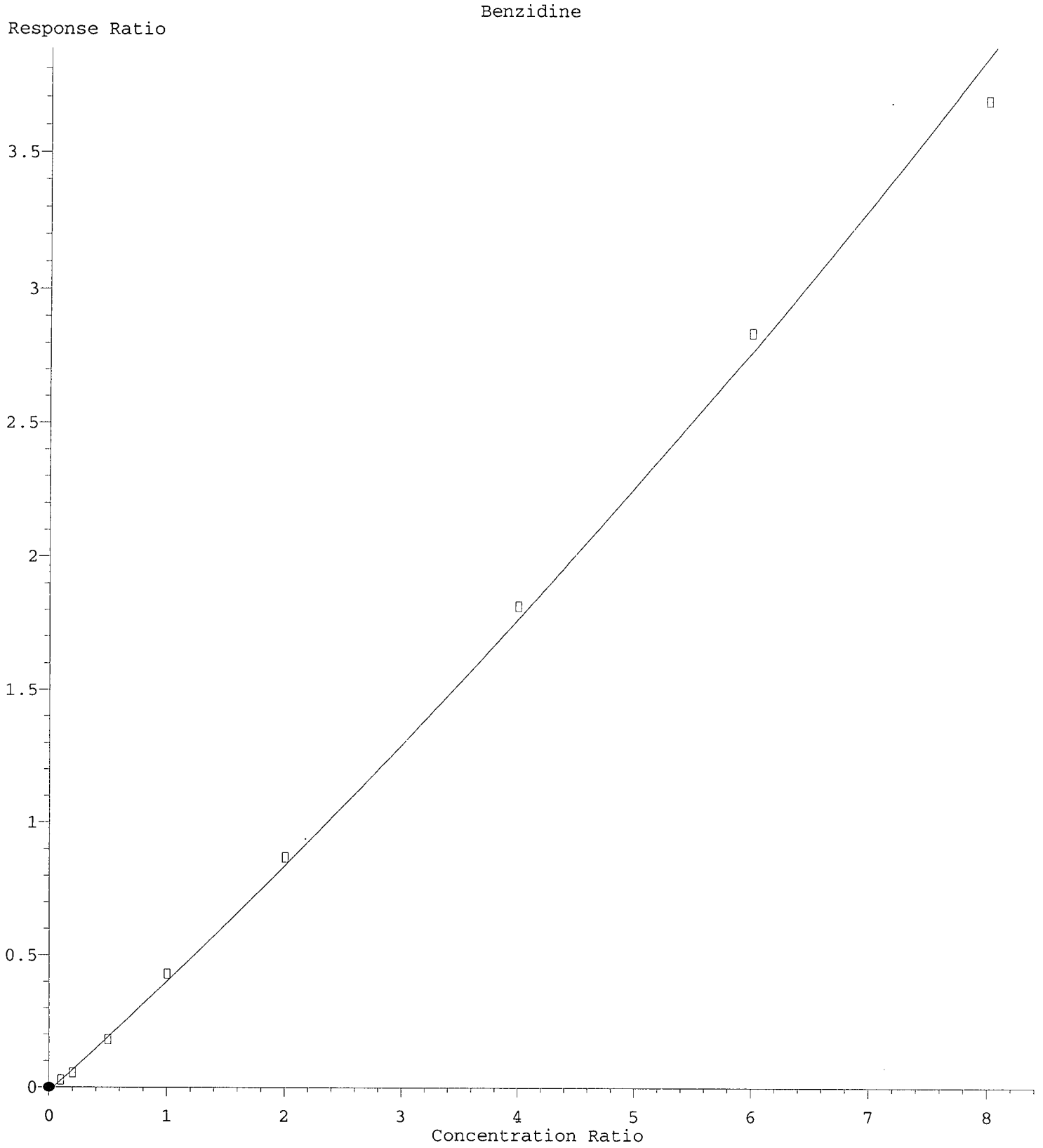
TIC: J04121915.D\data.ms

(70) Pentachlorophenol (PCP) (T)

11.205min (+ 0.022) 25.14 ng/ml m

response 163

Ion	Exp%	Act%
265.90	100.00	100.00
263.90	65.20	65.16
267.90	61.20	61.94
0.00	0.00	0.00

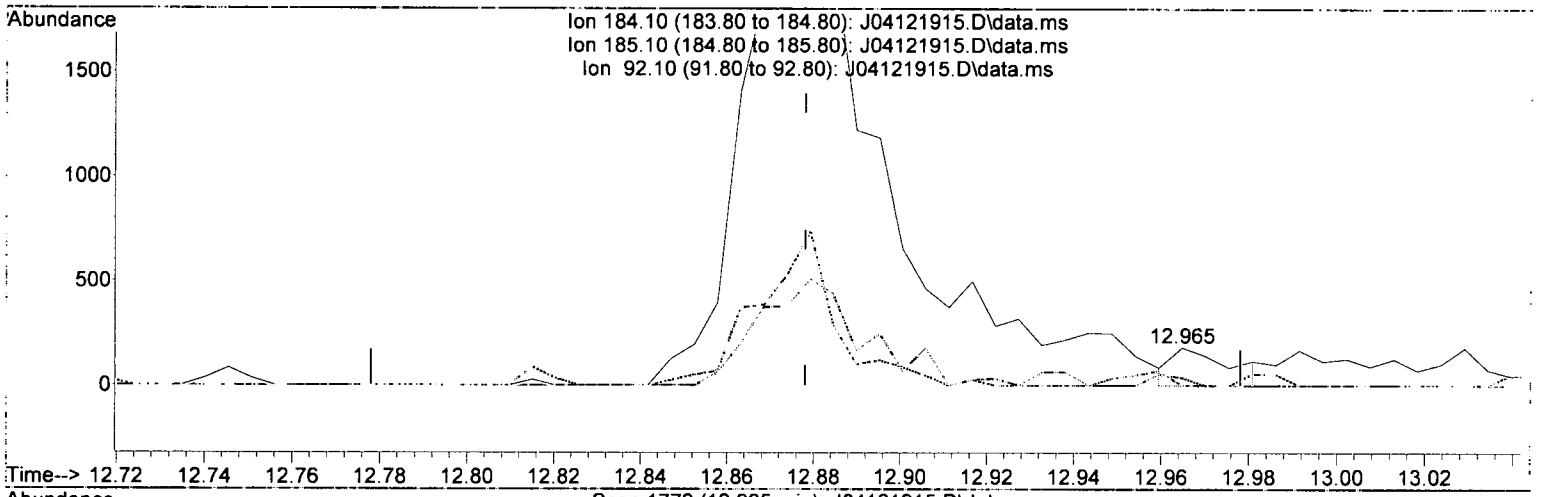


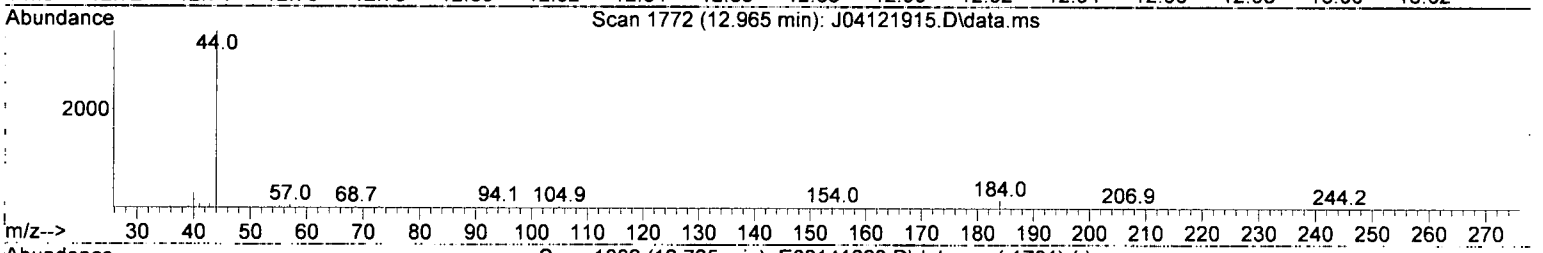
R = 9.30e-003 A*A + 4.09e-001 A - 1.64e-002
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

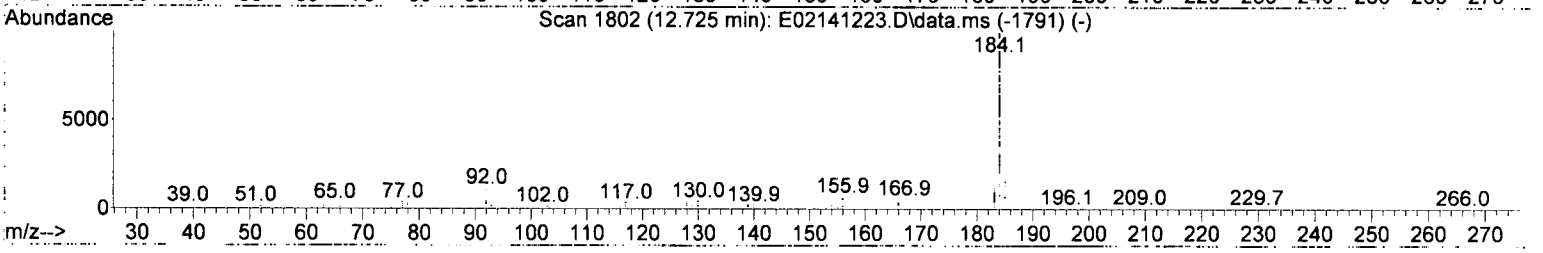
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







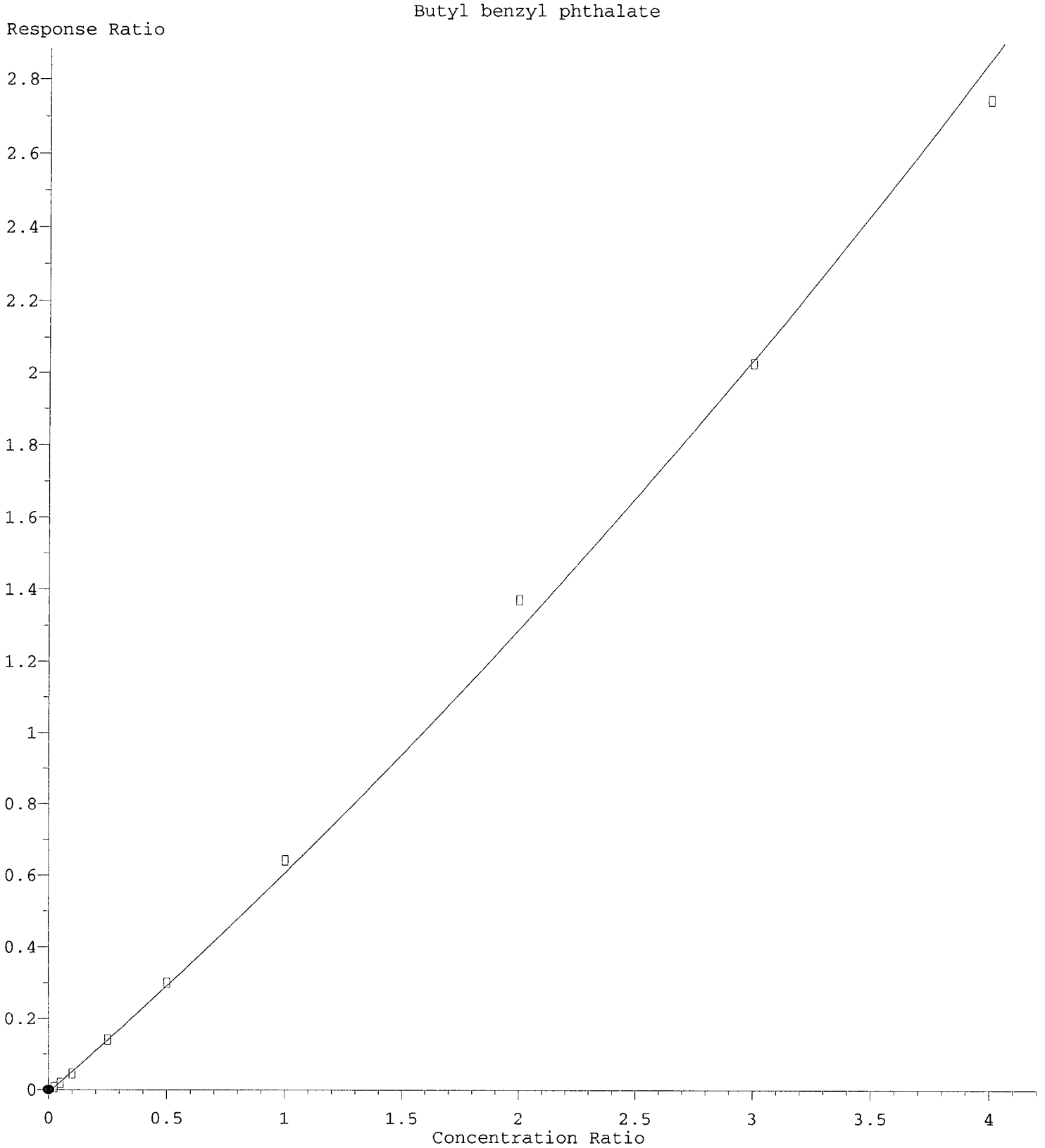
TIC: J04121915.D\data.ms

(76) Benzidine (T)

12.965min (+ 0.087) 81.55 ng/ml m

response 167

Ion	Exp%	Act%
184.10	100.00	100.00
185.10	15.10	20.67
92.10	11.90	0.00
0.00	0.00	0.00

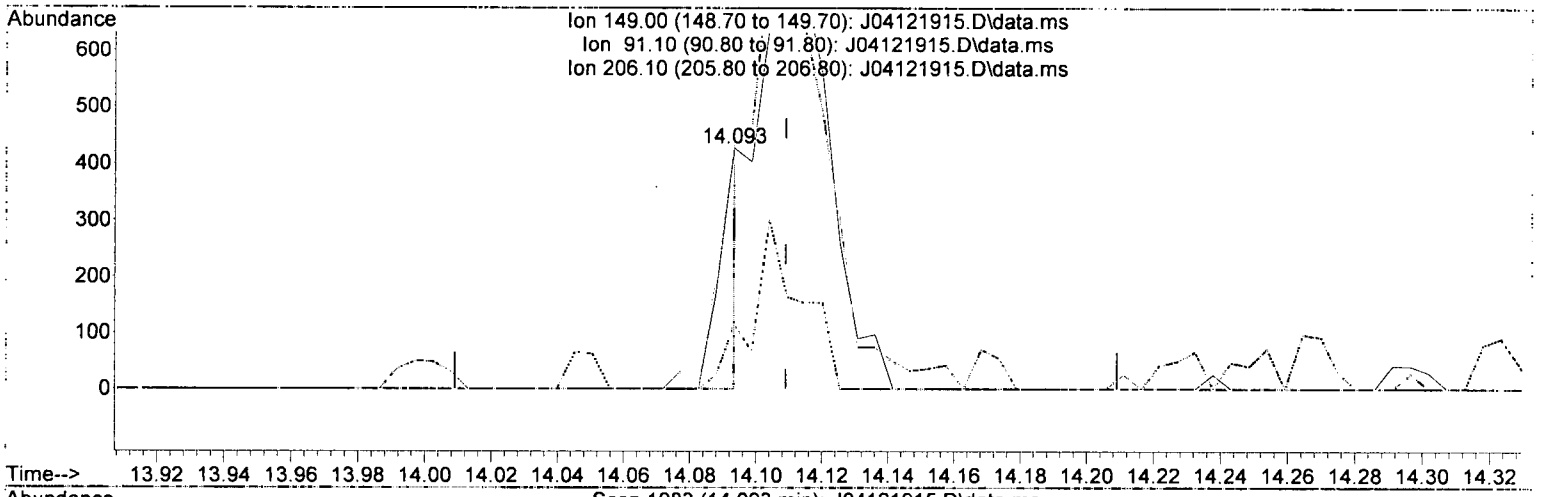


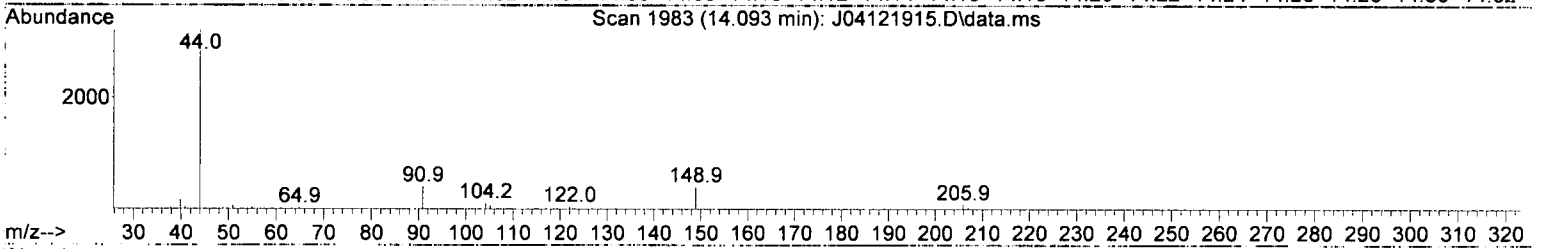
R = 3.32e-002 A*A + 5.83e-001 A - 8.53e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

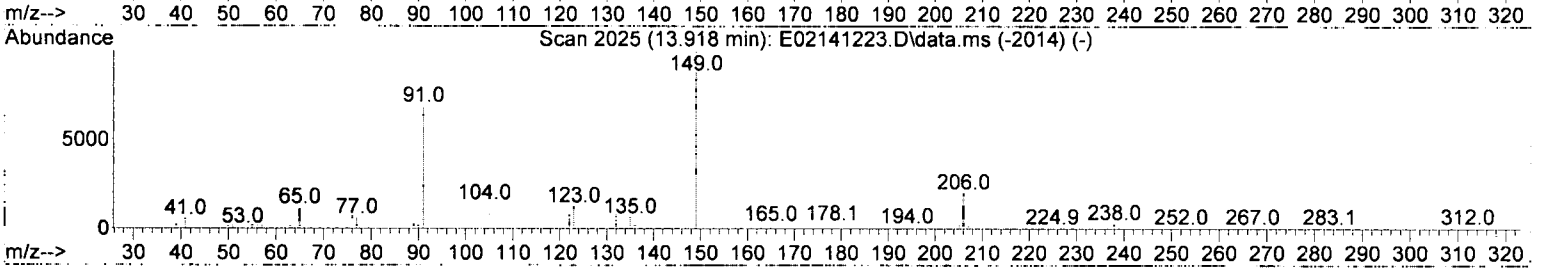
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







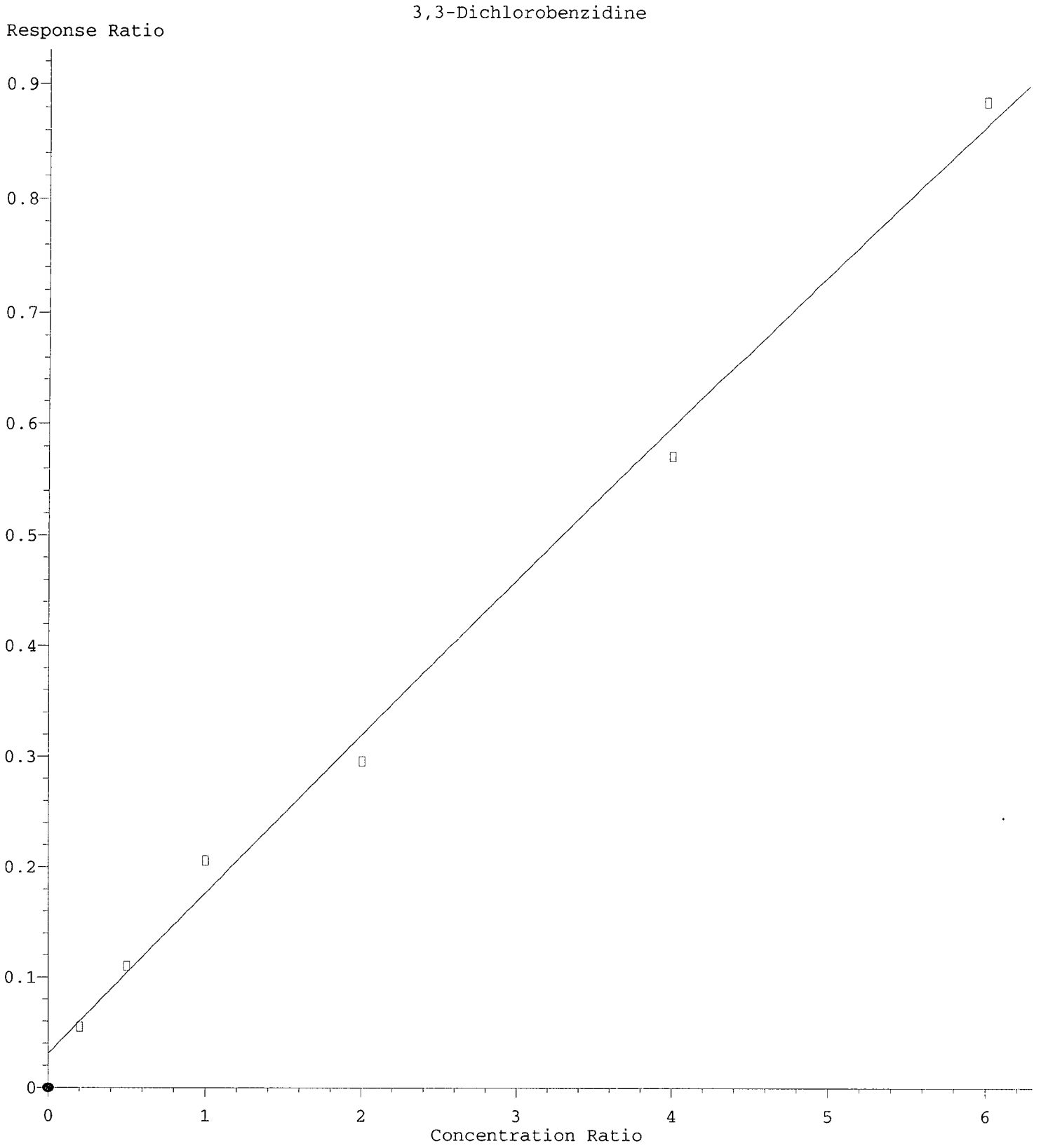
TIC: J04121915.D\data.ms

(80) Butyl benzyl phthalate (T)

14.093min (-0.016) 30.34 ng/ml m

response 192

Ion	Exp%	Act%
149.00	100.00	100.00
91.10	76.30	101.17
206.10	18.00	26.64
0.00	0.00	0.00

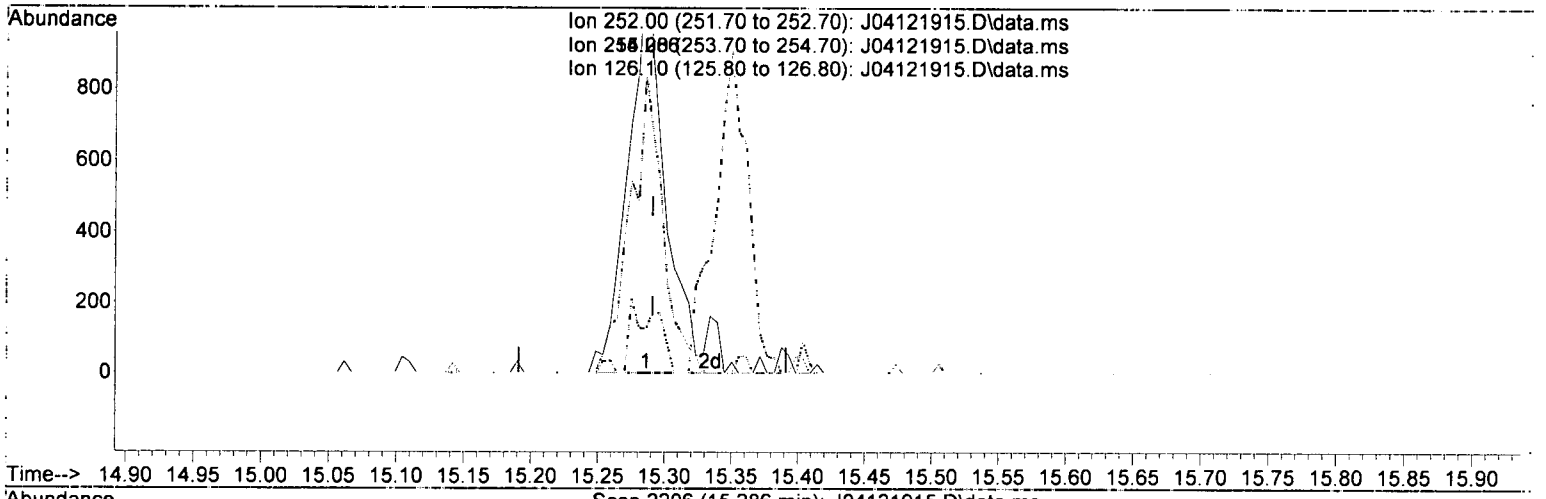


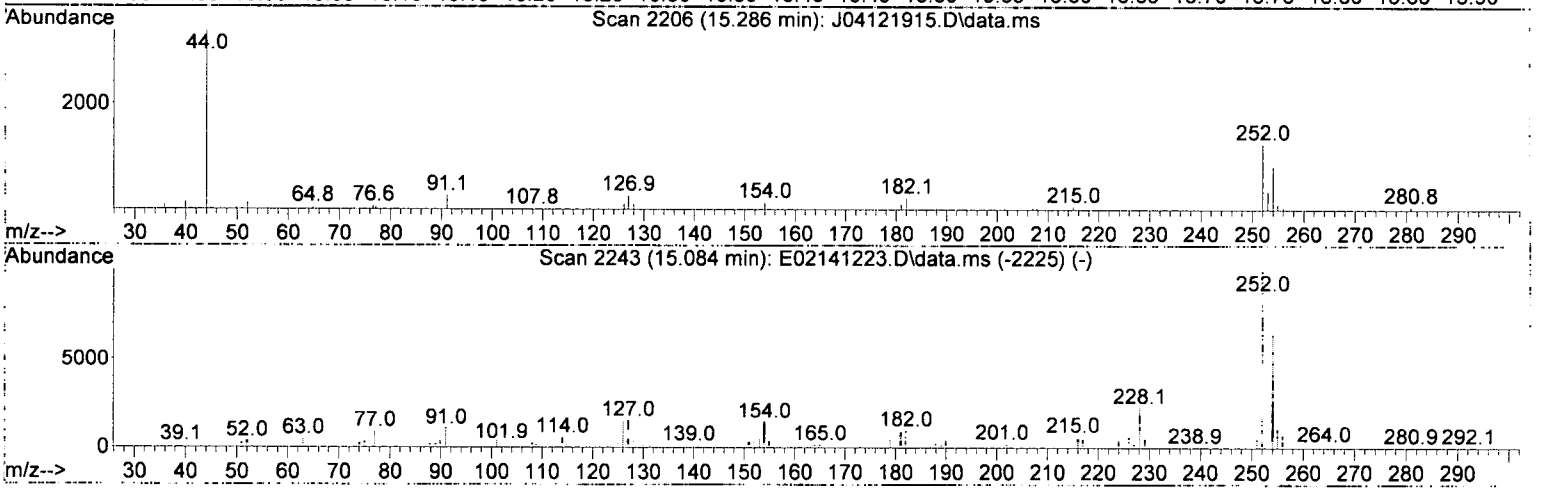
R = -1.36e-003 A*A + 1.47e-001 A + 3.08e-002
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10





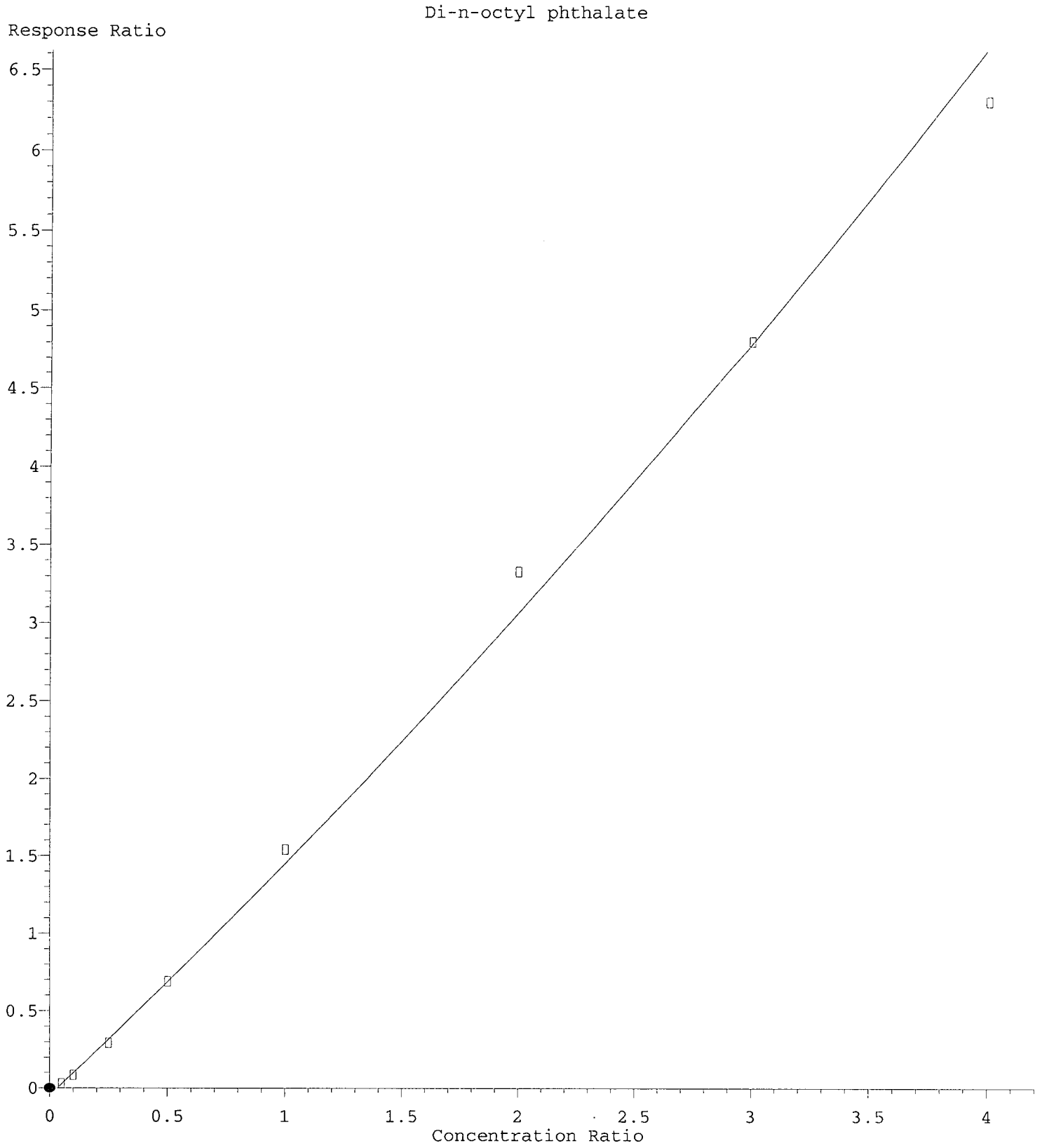
TIC: J04121915.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.286min (-0.005) -1.00 ng/ml m

response 2297

Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	66.27
126.10	16.90	9.84
0.00	0.00	0.00

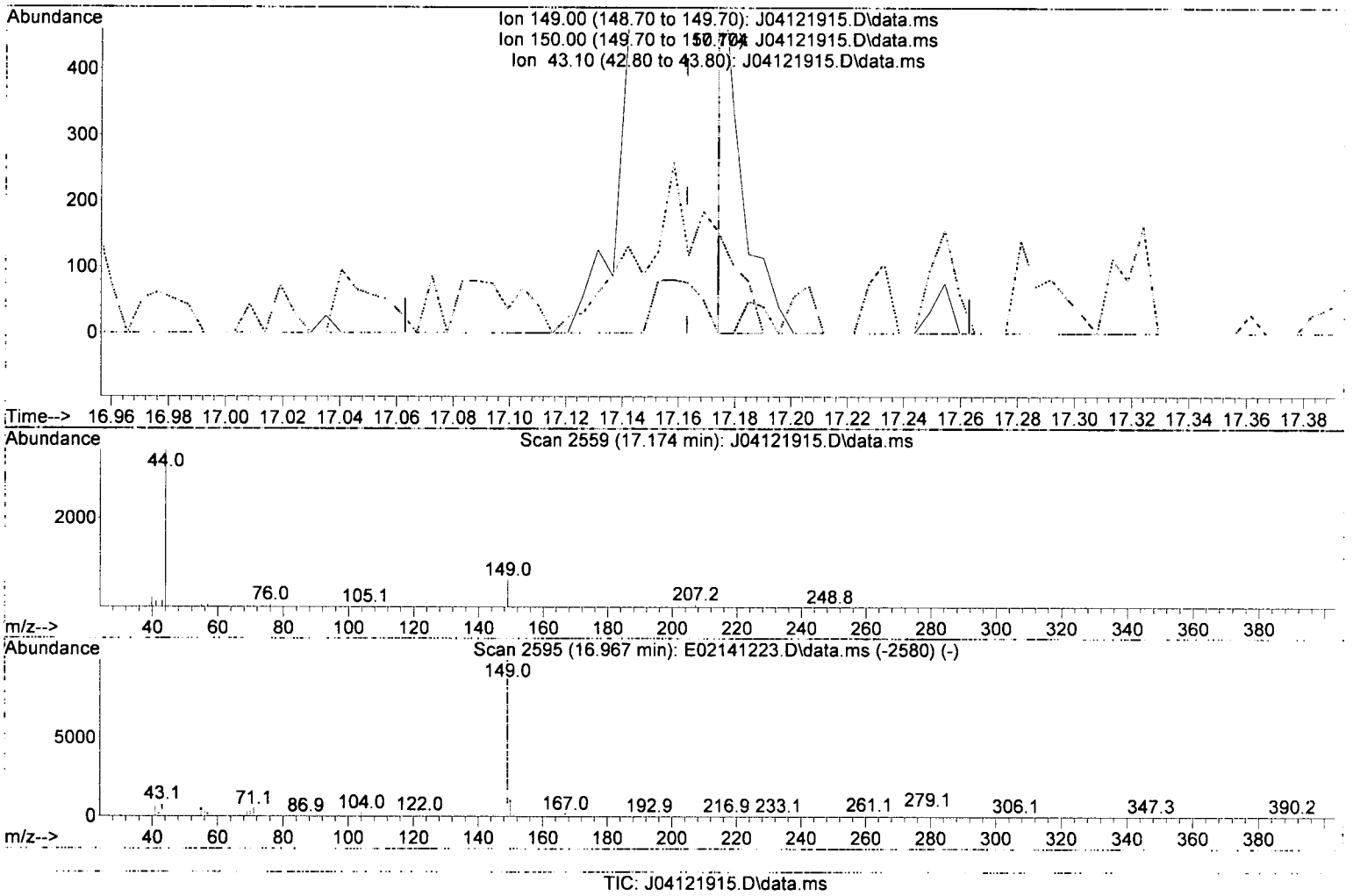


R = 5.80e-002 A*A + 1.44e+000 A - 4.78e-002
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10



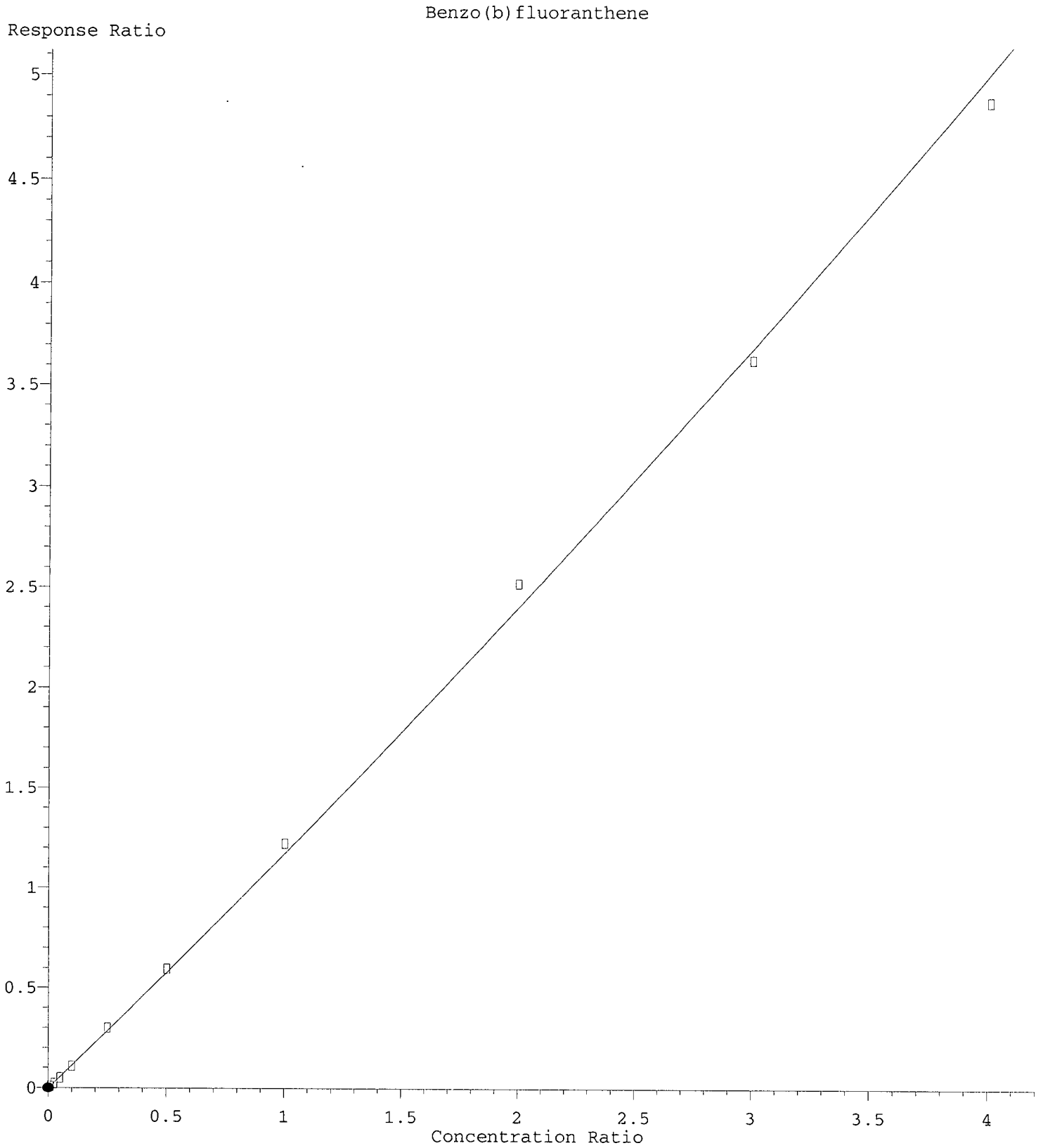
TIC: J04121915.D\data.ms

(87) Di-n-octyl phthalate (T)

17.174min (+ 0.011) 66.72 ng/ml m

response 196

Ion	Exp%	Act%
149.00	100.00	100.00
150.00	9.60	0.00
43.10	10.40	24.44
0.00	0.00	0.00

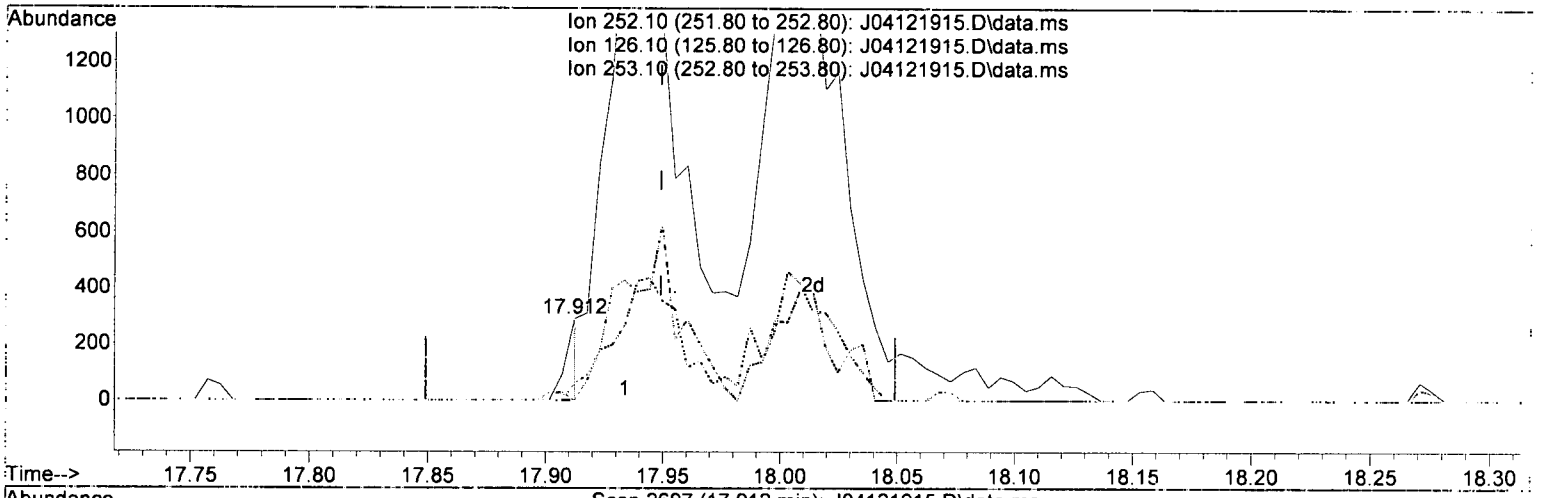


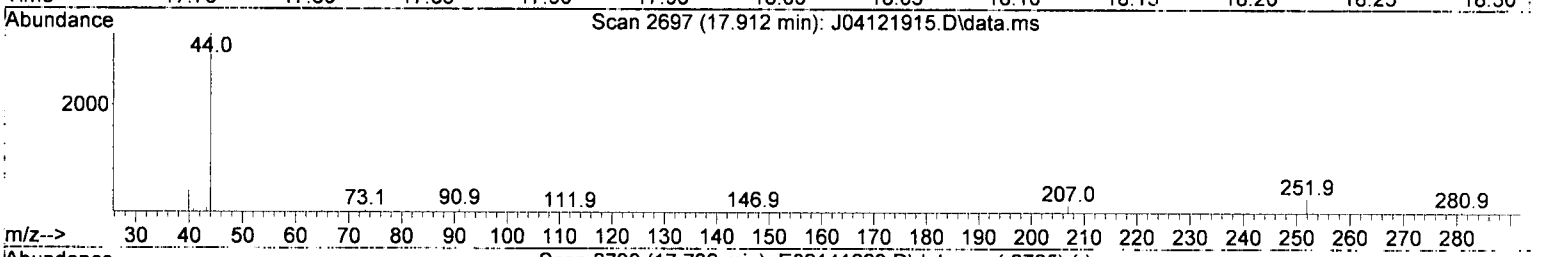
R = 2.59e-002 A*A + 1.15e+000 A - 5.10e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

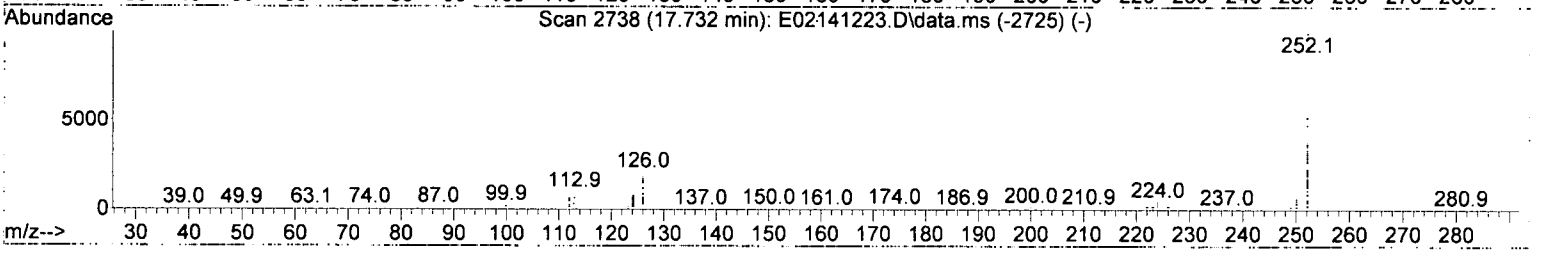
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







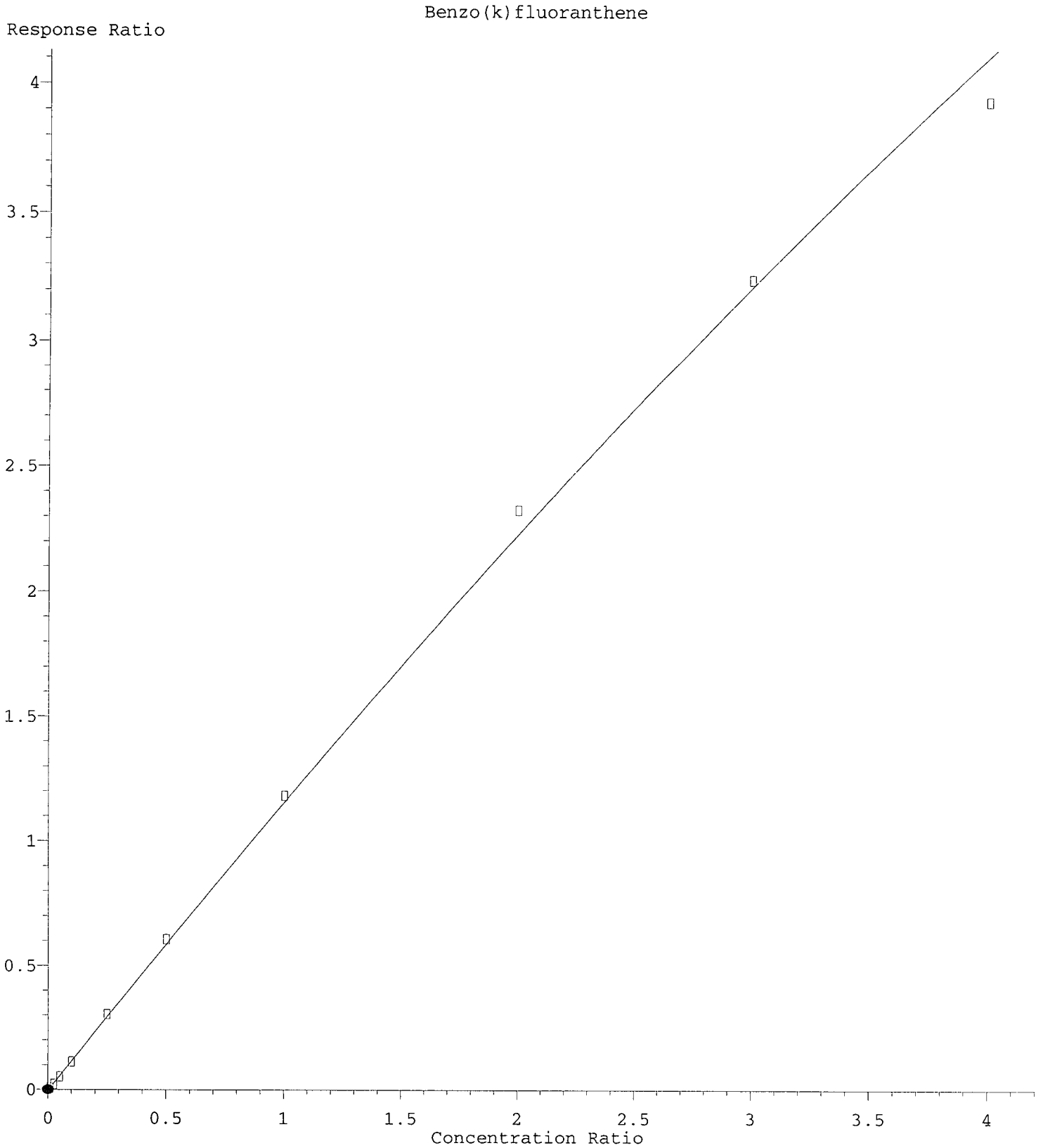
TIC: J04121915.D\data.ms

(88) Benzo(b)fluoranthene (T)

17.912min (-0.037) 9.25 ng/ml m

response 122

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	21.90	0.00
253.10	22.00	21.03
0.00	0.00	0.00

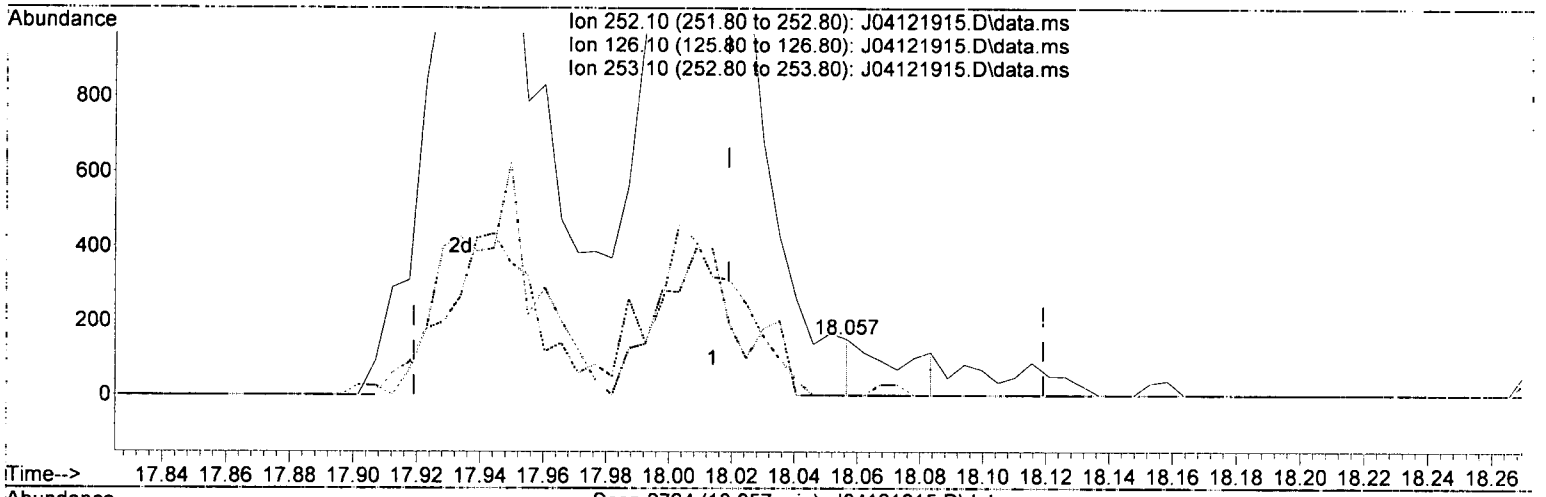


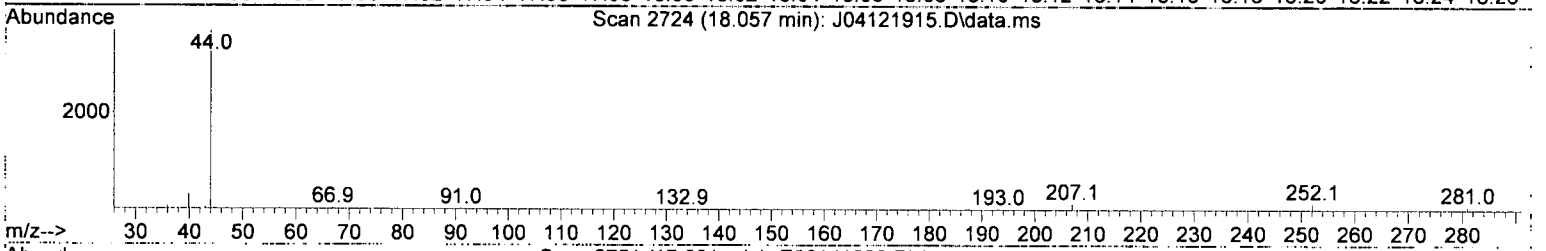
R = -4.47e-002 A*A + 1.21e+000 A - 6.28e-003
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\sv10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

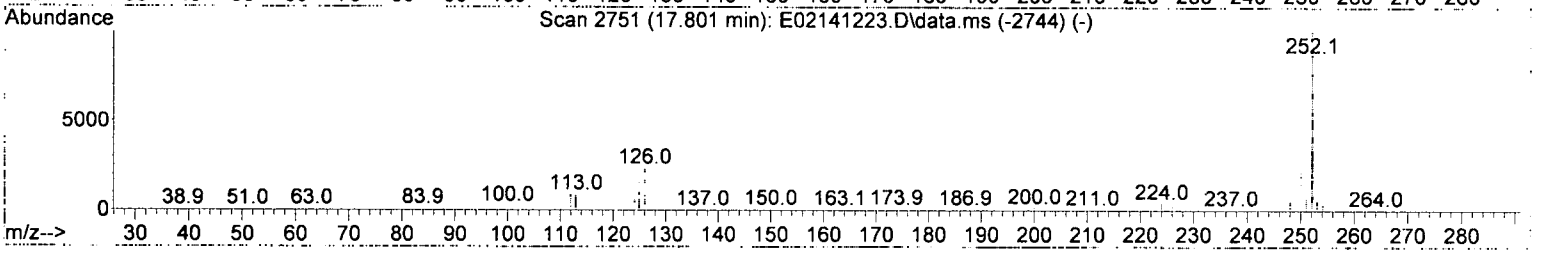
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







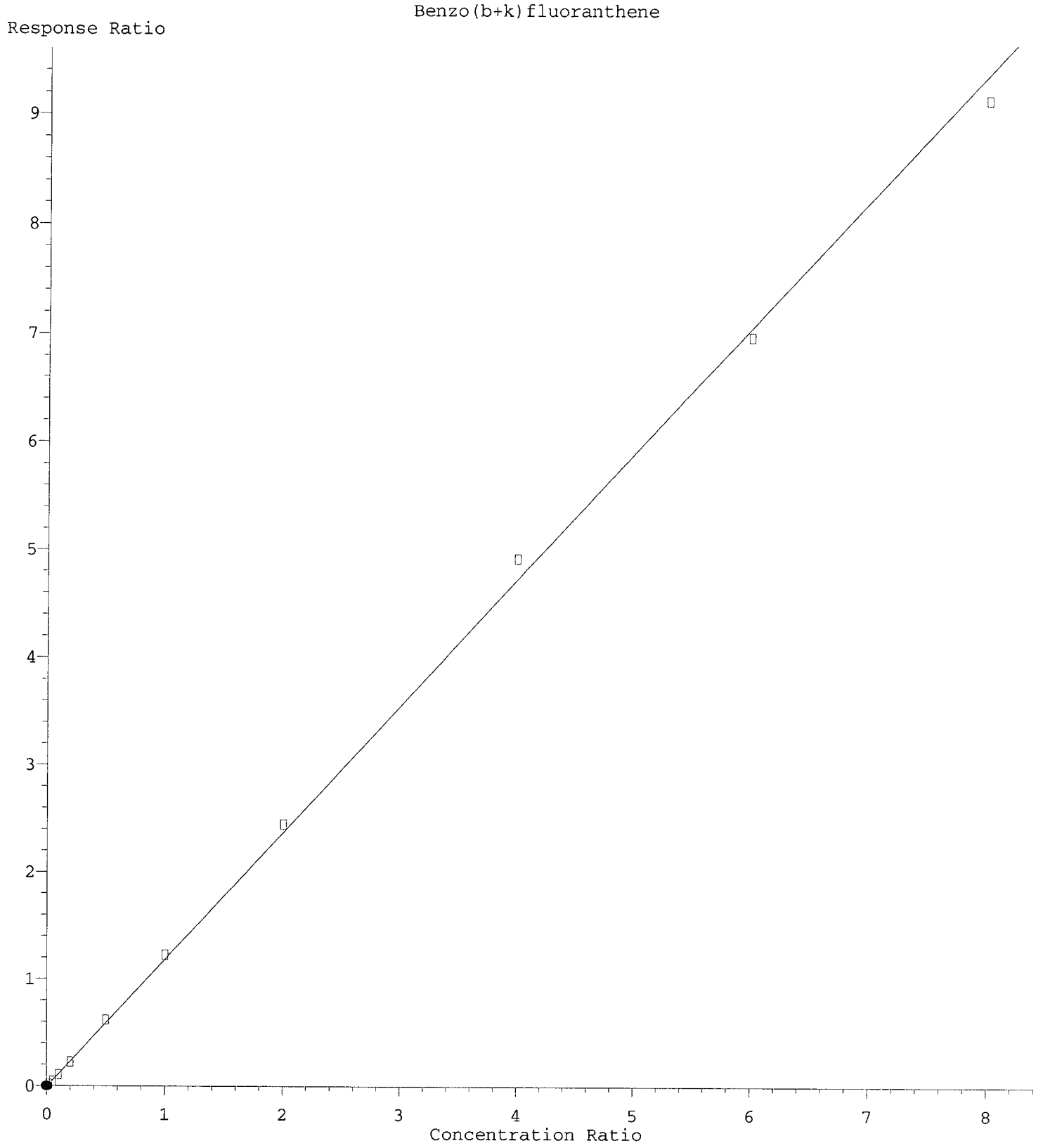
TIC: J04121915.D\data.ms

(89) Benzo(k)fluoranthene (T)

18.057min (+ 0.038) 10.91 ng/ml m

response 159

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	0.00
253.10	21.70	0.00
0.00	0.00	0.00

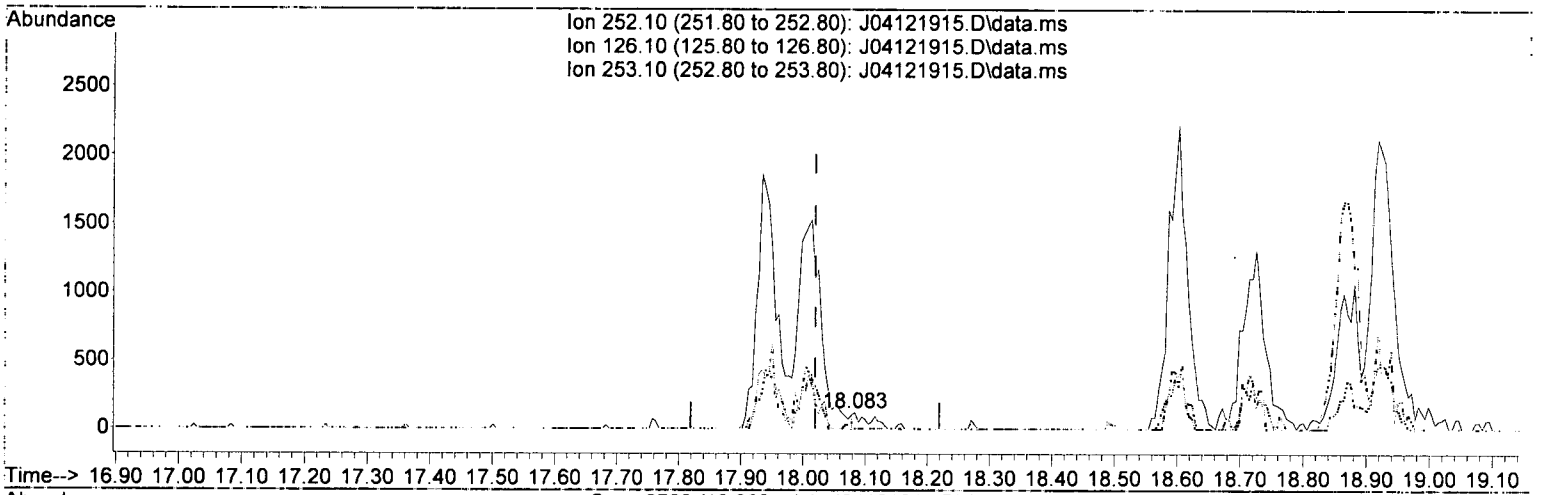


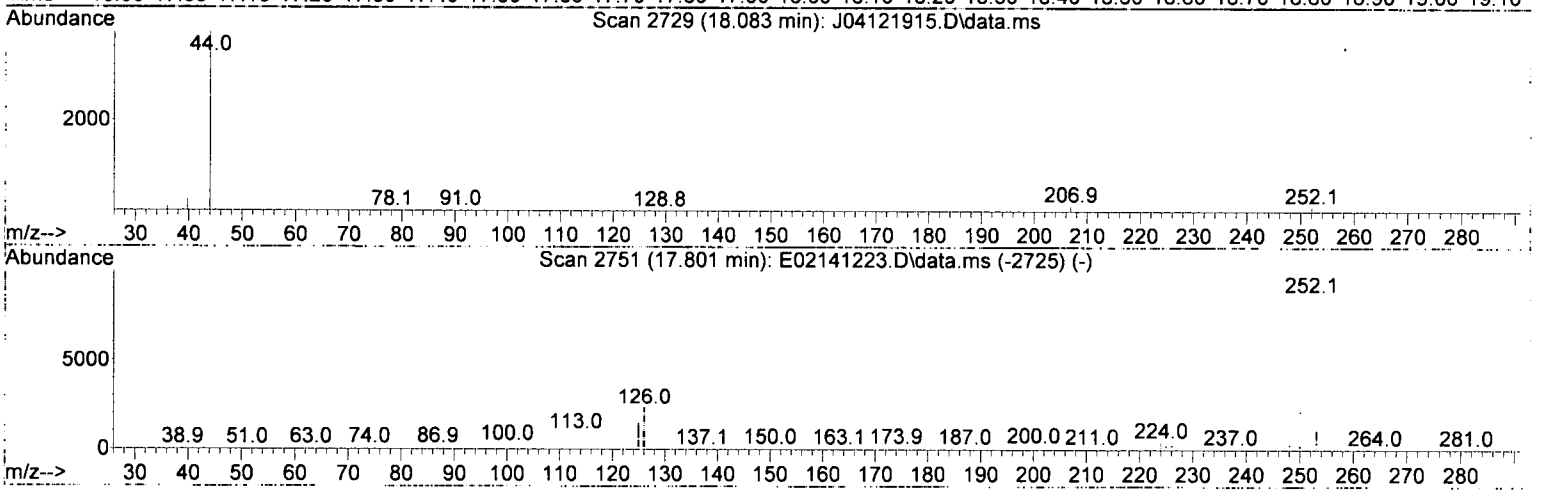
R = -2.85e-003 A*A + 1.20e+000 A - 1.02e-002
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10





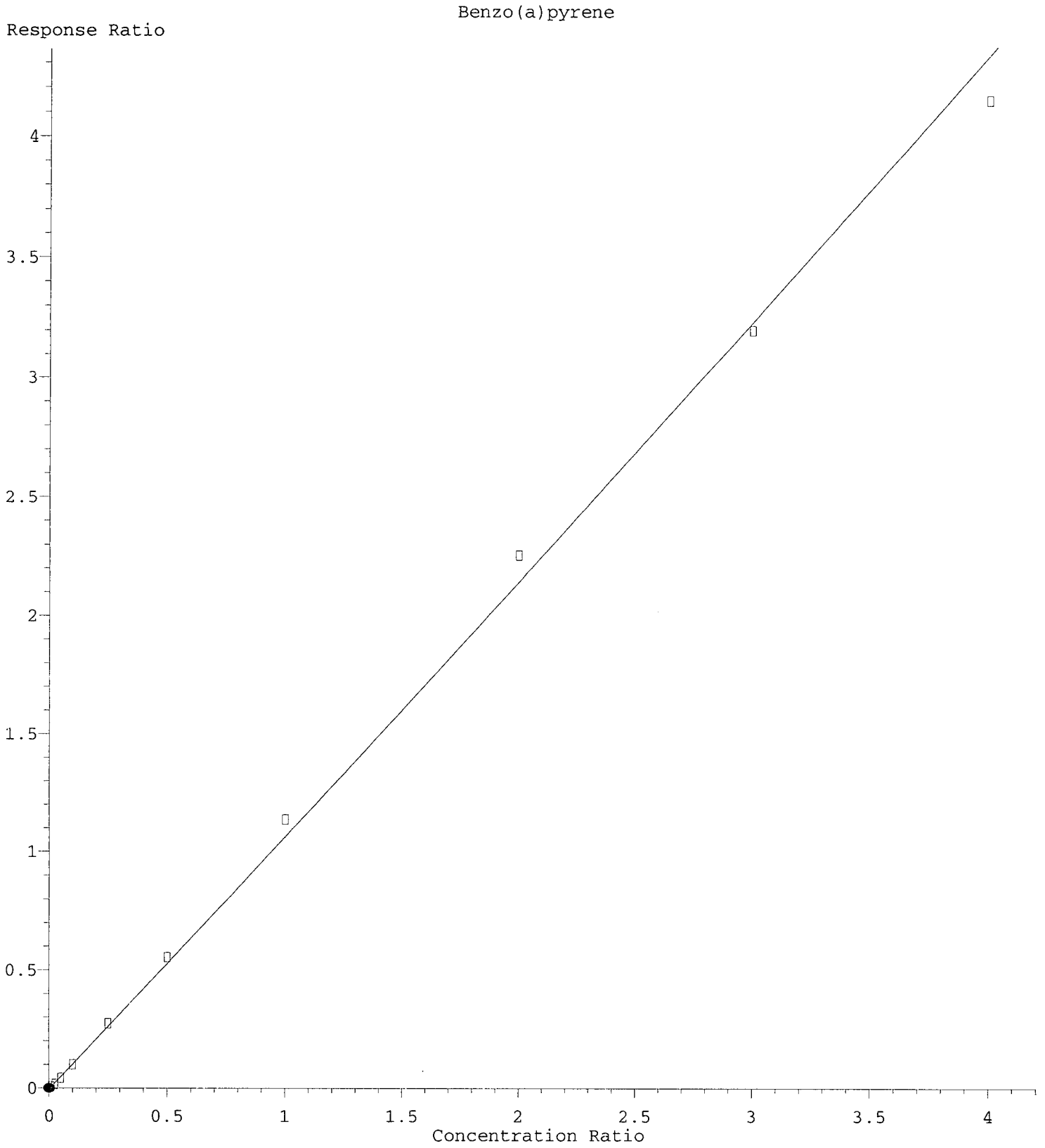
TIC: J04121915.D\data.ms

(90) Benzo(b+k)fluoranthene (T)

18.083min (+ 0.064) 17.72 ng/ml m

response 196

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	0.00
253.10	21.70	0.00
0.00	0.00	0.00

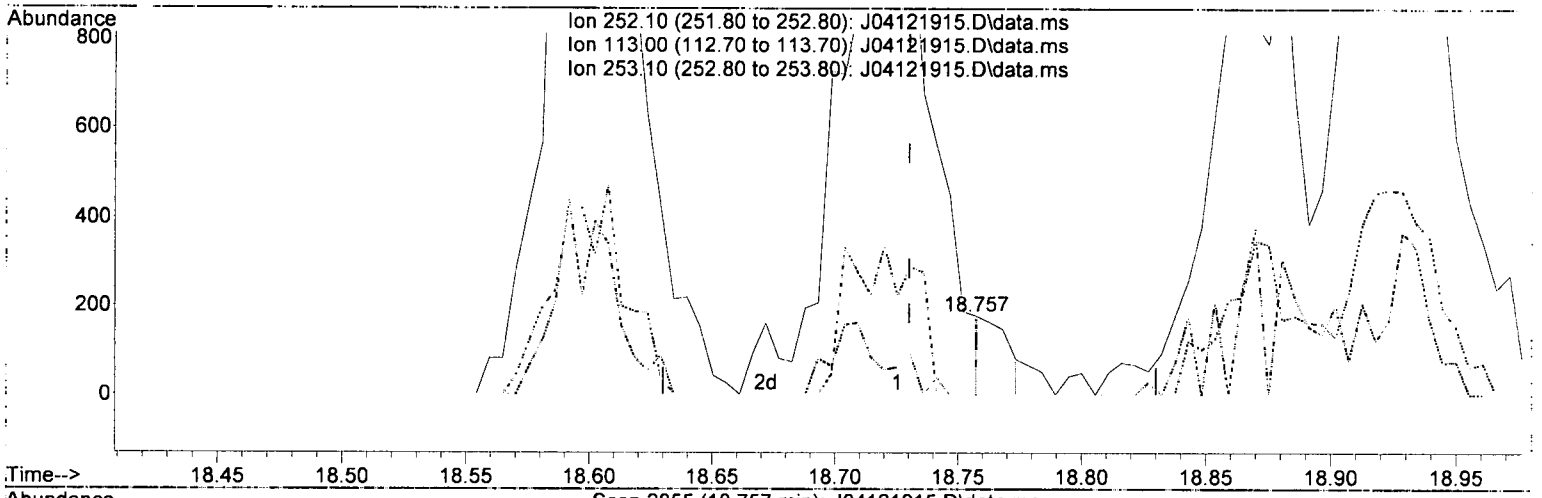


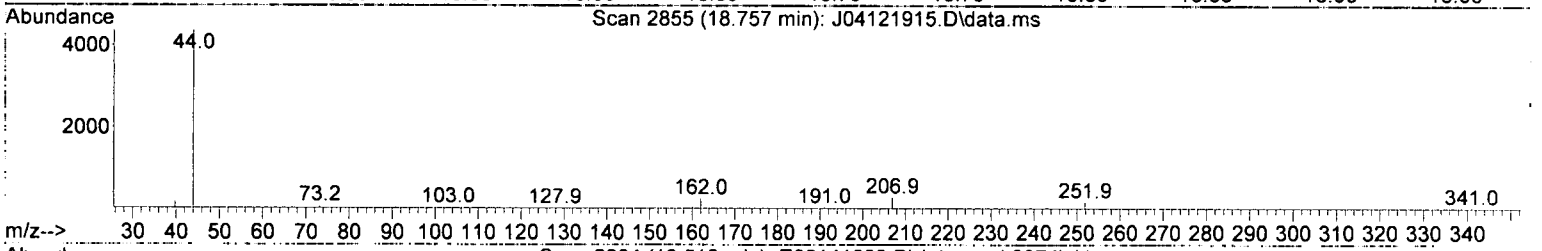
R = 5.46e-003 A*A + 1.06e+000 A - 5.54e-003
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\SV10_041219.M
Calibration Table Last Updated: Mon Apr 15 09:41:18 2019

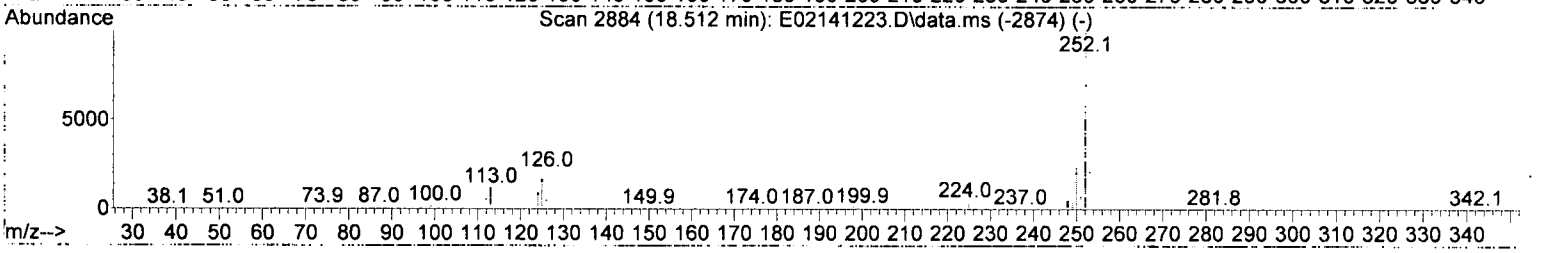
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\REQUANT\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 11:33:28 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121915.D\data.ms

(92) Benzo(a)pyrene (T)

18.757min (+ 0.027) 10.86 ng/ml m

response 124

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	13.40	0.00
253.10	21.60	0.00
0.00	0.00	0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D12042

Analysis Included
8270D LL Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed	
9D12042-TUN1	MS Tune	Soil	A19D089	A19D031	4/12/2019	5:19:00PM
9D12042-TUN2	MS Tune	Soil	A19D089	A19D031	4/12/2019	5:47:00PM
9D12042-ICB1	Initial Cal Blank	Soil		A19D031	4/12/2019	6:15:00PM
9D12042-CAL1	Cal Standard	Soil	A19D053	"	4/12/2019	6:51:00PM
9D12042-CAL2	Cal Standard	Soil	A19D054	"	4/12/2019	7:27:00PM
9D12042-CAL3	Cal Standard	Soil	A19D055	"	4/12/2019	8:03:00PM
9D12042-CAL4	Cal Standard	Soil	A19D056	"	4/12/2019	8:39:00PM
9D12042-CAL5	Cal Standard	Soil	A19D057	"	4/12/2019	9:16:00PM
9D12042-CAL6	Cal Standard	Soil	A19D058	"	4/12/2019	9:52:00PM
9D12042-CAL7	Cal Standard	Soil	A19D059	"	4/12/2019	10:28:00PM
9D12042-CAL8	Cal Standard	Soil	A19D060	"	4/12/2019	11:04:00PM
9D12042-CAL9	Cal Standard	Soil	A19D061	"	4/12/2019	11:40:00PM
9D12042-CALA	Cal Standard	Soil	A19D062	"	4/13/2019	12:15:00AM
9D12042-ICV1	Initial Cal Check	Soil	A19C239	"	4/13/2019	1:26:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9D1505** Instrument: **SV-GCMS10**

8270D LL Full List Sequence: **9D12042** Matrix: **Soil**

9D12042-CAL1	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL2	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL3	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL4	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL5	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL6	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL7	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL8	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL9	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-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: 9D12042

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: **A9D1505** Instrument: **SV-GCMS10**

8270D LL Full List Sequence: **9D12042** Matrix: **Soil**

9D12042-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: 9D12042

Analysis Included
8270D LL Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed	
9D12042-TUN1	MS Tune	Water	A19D089	A19D031	4/12/2019	5:19:00PM
9D12042-TUN2	MS Tune	Water	A19D089	A19D031	4/12/2019	5:47:00PM
9D12042-ICB1	Initial Cal Blank	Water		A19D031	4/12/2019	6:15:00PM
9D12042-CAL1	Cal Standard	Water	A19D053	"	4/12/2019	6:51:00PM
9D12042-CAL2	Cal Standard	Water	A19D054	"	4/12/2019	7:27:00PM
9D12042-CAL3	Cal Standard	Water	A19D055	"	4/12/2019	8:03:00PM
9D12042-CAL4	Cal Standard	Water	A19D056	"	4/12/2019	8:39:00PM
9D12042-CAL5	Cal Standard	Water	A19D057	"	4/12/2019	9:16:00PM
9D12042-CAL6	Cal Standard	Water	A19D058	"	4/12/2019	9:52:00PM
9D12042-CAL7	Cal Standard	Water	A19D059	"	4/12/2019	10:28:00PM
9D12042-CAL8	Cal Standard	Water	A19D060	"	4/12/2019	11:04:00PM
9D12042-CAL9	Cal Standard	Water	A19D061	"	4/12/2019	11:40:00PM
9D12042-CALA	Cal Standard	Water	A19D062	"	4/13/2019	12:15:00AM
9D12042-ICV1	Initial Cal Check	Water	A19C239	"	4/13/2019	1:26:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9D1505** Instrument: **SV-GCMS10**

8270D LL Full List Sequence: **9D12042** Matrix: **Water**

9D12042-CAL1	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL2	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL3	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL4	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL5	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL6	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL7	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL8	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-CAL9	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D12042-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: 9D12042

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: **A9D1505** Instrument: **SV-GCMS10**

8270D LL Full List Sequence: **9D12042** Matrix: **Water**

9D12042-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\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 12:07:14 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

4/15/19

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	108	0.00
2	TG	N-Nitrosodimethylamine	1000.000	965.906	3.4	102	0.00
3	TG	Pyridine	1000.000	927.959	7.2	95	0.00
4	S	2-Fluorophenol (Surr)	1000.000	1025.320	-2.5	106	0.00
5	S	Phenol-d6(Surr)	1000.000	1017.562	-1.8	105	0.00
6	T	Phenol	1000.000	1050.648	-5.1	121	0.00
7	T	Aniline	1000.000	1014.189	-1.4	100	0.00
8	T	Bis(2-chloroethyl) ether	1000.000	1016.599	-1.7	110	0.00
9	T	2-Chlorophenol	1000.000	1073.697	-7.4	107	0.00
10	T	1,3-Dichlorobenzene	1000.000	1024.137	-2.4	109	0.00
11	T	1,4-Dichlorobenzene	1000.000	1015.395	-1.5	110	0.00
12	T	Benzyl alcohol	1000.000	990.848	0.9	103	0.00
13	T	1,2-Dichlorobenzene	1000.000	1027.383	-2.7	108	0.00
14	T	2-Methylphenol	1000.000	1077.700	-7.8	104	0.00
15	T	2,2'-Oxybis(1-Chloropropane	1000.000	993.420	0.7	103	0.00
16	T	N-Nitrosodi-n-propylamine	1000.000	1060.937	-6.1	105	0.00
17	T	3+4-Methylphenol	1000.000	1052.775	-5.3	107	0.00
18	T	Hexachloroethane	1000.000	1019.949	-2.0	111	0.00
19	S	Nitrobenzene-d5 (Surr)	1000.000	1010.052	-1.0	110	0.00
20	T	Nitrobenzene	1000.000	1058.295	-5.8	106	0.00
21	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	108	0.00
22	T	Isophorone	1000.000	1028.661	-2.9	107	0.00
23	T	2-Nitrophenol	1000.000	1121.760	-12.2	118	0.00
24	T	2,4-Dimethylphenol	1000.000	987.262	1.3	104	0.00
25	T	Bis(2-chloroethoxy) methane	1000.000	1113.781	-11.4	109	0.00
26	T	Benzoic acid	2000.000	1817.644	9.1	103	0.00
27	T	2,4-Dichlorophenol	1000.000	1020.661	-2.1	111	0.00
28	T	1,2,4-Trichlorobenzene	1000.000	1022.098	-2.2	106	0.00
29	T	Naphthalene	1000.000	1048.621	-4.9	107	0.00
30	T	4-Chloroaniline	1000.000	1033.027	-3.3	108	0.00
31	T	Hexachlorobutadiene	1000.000	995.324	0.5	106	0.00
32	T	4-Chloro-3-methylphenol	1000.000	992.952	0.7	108	0.00
33	T	2-Methylnaphthalene	1000.000	1085.222	-8.5	108	0.00
34	T	1-Methylnaphthalene	1000.000	1049.763	-5.0	107	0.00
35	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	111	0.00
36	T	Hexachlorocyclopentadiene	1000.000	1089.803	-9.0	115	0.00
37	T	2,4,6-Trichlorophenol	1000.000	963.902	3.6	112	0.00
38	T	2,4,5-Trichlorophenol	1000.000	1081.649	-8.2	114	0.00
39	T	1,1'-Biphenyl	1000.000	1089.764	-9.0	110	0.00
40	S	2-Fluorobiphenyl (Surr)	1000.000	1095.248	-9.5	110	0.00
41	T	2-Chloronaphthalene	1000.000	1107.028	-10.7	112	0.00
42	T	2-Nitroaniline	1000.000	1054.080	-5.4	119	0.00
43	T	2,6-Dimethylnaphthalene	1000.000	1071.651	-7.2	108	0.00
44	T	1,4-Dinitrobenzene	1000.000	1067.403	-6.7	131	0.00
45	T	Dimethyl phthalate	1000.000	1048.390	-4.8	113	0.00
46	T	1,3-Dinitrobenzene	1000.000	1080.548	-8.1	125	0.00
47	T	2,6-Dinitrotoluene	1000.000	1065.260	-6.5	115	0.00
48	T	1,2-Dinitrobenzene	1000.000	1016.448	-1.6	112	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 12:07:14 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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)
49	T	Acenaphthylene	1000.000	1077.323	-7.7	112	0.00
50	T	3-Nitroaniline	1000.000	1139.377	-13.9	115	0.00
51	T	Acenaphthene	1000.000	1029.641	-3.0	110	0.00
52	T	2,4-Dinitrophenol	1000.000	962.195	3.8	117	0.00
53	T	4-Nitrophenol	1000.000	1076.922	-7.7	122	0.00
54	T	2,4-Dinitrotoluene	1000.000	1054.717	-5.5	119	0.00
55	T	Dibenzofuran	1000.000	1058.399	-5.8	113	0.00
56	T	2,3,5,6-Tetrachlorophenol	1000.000	1034.556	-3.5	112	0.00
57	T	2,3,4,6-Tetrachlorophenol	1000.000	1042.775	-4.3	112	0.00
58	T	Diethyl phthalate	1000.000	1068.746	-6.9	111	0.00
59	T	2,3,5-Trimethylnaphthalene	1000.000	1051.392	-5.1	111	0.00
60	T	Fluorene	1000.000	1070.707	-7.1	113	0.00
61	T	4-Chlorophenyl phenyl ether	1000.000	1046.868	-4.7	113	0.00
62	T	4-Nitroaniline	1000.000	1186.320	-18.6	123	0.00
63	T	4,6-Dinitro-2-methylphenol	1000.000	1185.979	-18.6	147	0.00
64	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	113	0.00
65	T	N-Nitrosodiphenylamine	1000.000	1079.662	-8.0	113	0.00
66	T	Azobenzene (1,2-DPH)	1000.000	1060.338	-6.0	110	0.00
67	S	2,4,6-Tribromophenol (Surr)	1000.000	1004.377	-0.4	114	0.00
68	T	4-Bromophenyl phenyl ether	1000.000	1092.310	-9.2	115	0.00
69	T	Hexachlorobenzene	1000.000	987.469	1.3	110	0.00
70	T	Pentachlorophenol (PCP)	1000.000	1050.075	-5.0	122	0.00
71	T	Phenanthrene	1000.000	1037.406	-3.7	112	0.00
72	T	Anthracene	1000.000	1053.610	-5.4	111	0.00
73	T	Carbazole	1000.000	1064.803	-6.5	110	0.00
74	T	Di-n-butyl phthalate	1000.000	1089.305	-8.9	113	0.00
75	T	Fluoranthene	1000.000	1098.536	-9.9	114	0.00
76	T	Benzidine	2000.000	1975.912	1.2	104	0.00
77	T	Pyrene	1000.000	1092.930	-9.3	114	0.00
78	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	116	0.00
79	S	Terphenyl-d14 (Surr)	1000.000	1045.592	-4.6	115	0.00
80	T	Butyl benzyl phthalate	1000.000	1011.767	-1.2	114	0.00
81	T	Bis(2-ethylhexyl) adipate	1000.000	980.779	1.9	115	0.00
82	T	3,3-Dichlorobenzidine	2000.000	2025.163	-1.3	101	0.00
83	T	Benz(a)anthracene	1000.000	1039.863	-4.0	118	0.00
84	T	Chrysene	1000.000	1020.998	-2.1	116	0.00
85	T	Bis(2-ethylhexyl) phthalate	1000.000	1007.488	-0.7	114	0.00
86	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	119	0.00
87	T	Di-n-octyl phthalate	1000.000	993.336	0.7	118	0.00
88	T	Benzo(b)fluoranthene	1000.000	1030.121	-3.0	119	0.00
89	T	Benzo(k)fluoranthene	1000.000	1016.408	-1.6	117	0.00
90	T	Benzo(b+k)fluoranthene	2000.000	2049.178	-2.5	118	0.00
91	T	Benzo(e)pyrene	1000.000	1058.645	-5.9	115	0.00
92	T	Benzo(a)pyrene	1000.000	1035.112	-3.5	118	0.00
93	T	Perylene	1000.000	1170.703	-17.1	135	0.00
94	I	Dibenz(a,h)Anthrcene-d14 (I	2000.000	2000.000	0.0	119	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 12:07:14 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

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)
95 T	Indeno(1,2,3-cd)pyrene	1000.000	956.675	4.3	117	0.00
96 T	Dibenz(a,h)anthracene	1000.000	1019.034	-1.9	118	0.00
97 T	Benzo(g,h,i)perylene	1000.000	1063.811	-6.4	116	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121912.D
Acq On : 12 Apr 2019 5:19 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN1
Misc : 1x, A19D089 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

T-01

Quant Time: Apr 15 08:50:09 2019
Quant Method : C:\msdchem\1\methods\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Mon Apr 15 08:49:58 2019
Response via : Initial Calibration
InstName : SV-GCMS10

4/15/19

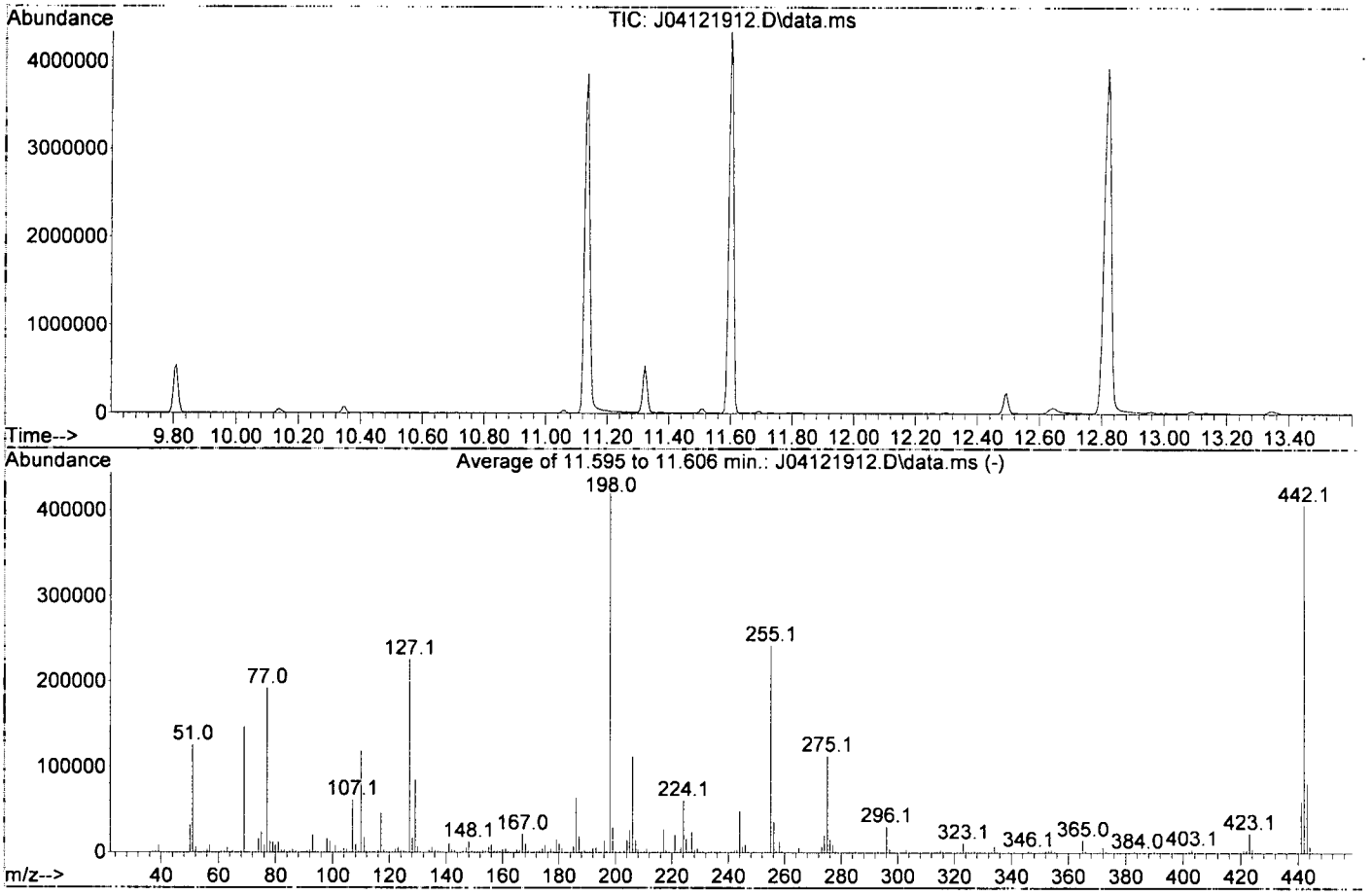
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	6.749	150	105364	2.00	ug/mL		0.00
2) Naphthalene-d8	8.022	136	259999	2.00	ug/mL		0.00
3) Acenaphthene-d10	9.809	162	118988	2.00	ug/mL		0.00
5) Phenanthrene-d10	11.323	188	190047	2.00	ug/mL		0.00
11) Chrysene-d12	15.104	240	146844	2.00	ug/mL		0.00
12) Perylene-d12	17.072	264	128559	2.00	ug/mL		0.00
13) Dibenz(a,h)anthracene-...	18.361	292	108852	2.00	ug/mL	#	0.00
Target Compounds							Qvalue
4) Pentachlorophenol	11.135	266	496307	43.01	ug/mL		97
6) DFTPP	11.606	442	509644	48.91	ug/mL	#	69
7) Benzidine	12.820	184	2327418	37.28	ug/mL		95
8) 4,4-DDE	13.088	TIC	24696	No Calib			
9) 4,4-DDD	13.628	TIC	31921	No Calib			
10) 4,4-DDT	14.232	TIC	7317139	41.59	ug/mL		98

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

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121912.D
Acq On : 12 Apr 2019 5:19 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN1
Misc : 1x, A19D089 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 : Mon Apr 15 08:49:58 2019



AutoFind: Scans 1516, 1517, 1518; Background Corrected with Scan 1511

T-01

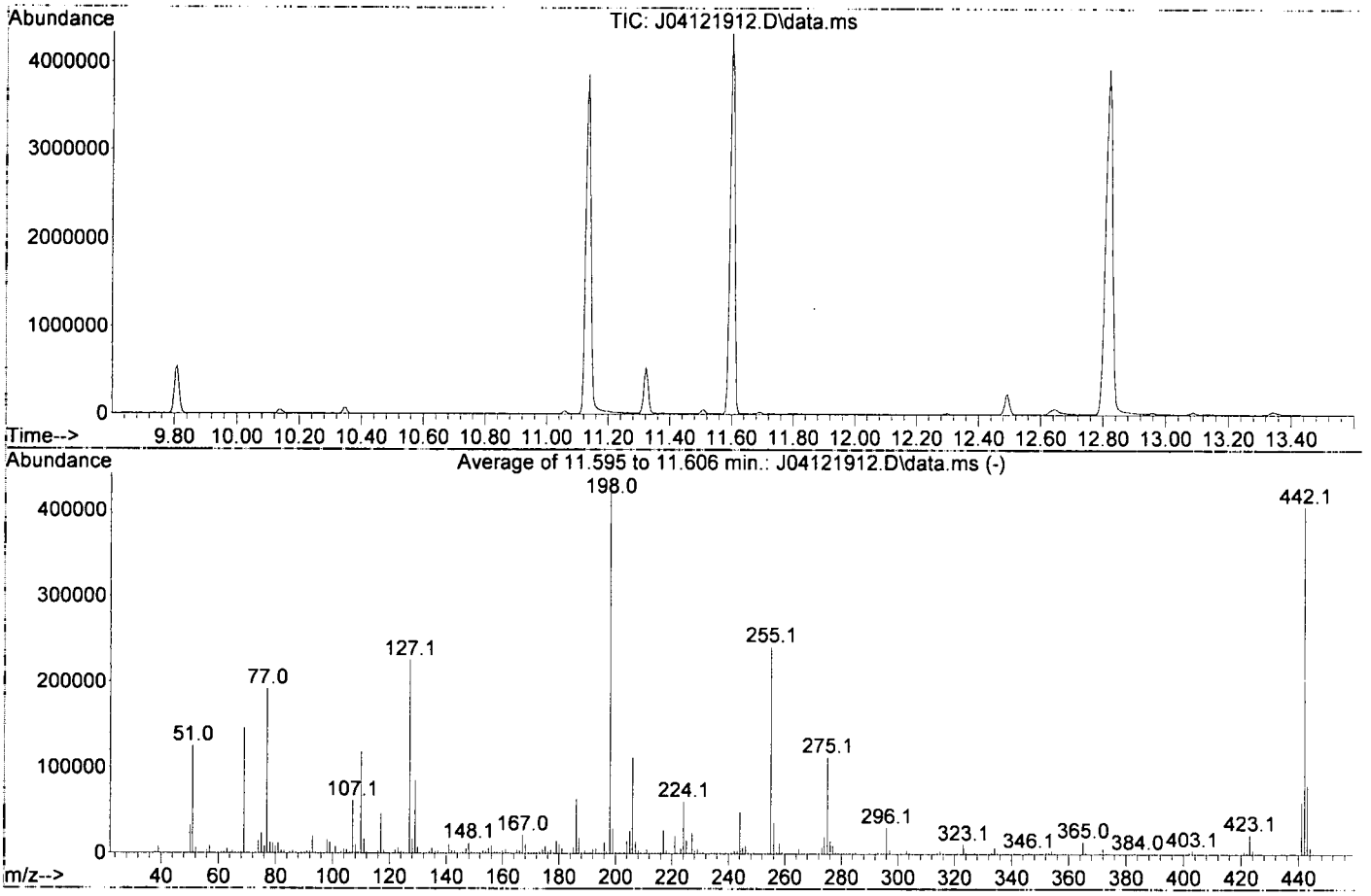
4/15/19

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	29.7	125636	FAIL*
68	69	0.00	2	1.4	2103	PASS
69	198	0.00	100	34.7	146789	PASS
70	69	0.00	2	0.5	756	PASS
127	198	40	60	53.5	226005	PASS
197	198	0.00	1	0.5	2241	PASS
198	198	100	100	100.0	422549	PASS
199	198	5	9	6.9	29192	PASS
275	198	10	30	26.8	113115	PASS
365	198	1	100	3.4	14380	PASS
441	443	0.01	100	75.1	60699	PASS
442	198	40	100	96.1	406187	PASS
443	442	17	23	19.9	80771	PASS

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121912.D
Acq On : 12 Apr 2019 5:19 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN1
Misc : 1x, A19D089 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 : Wed Apr 10 09:20:15 2019



AutoFind: Scans 1516, 1517, 1518; Background Corrected with Scan 1511

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	29.7	125636	PASS
68	69	0.00	2	1.4	2103	PASS
69	198	0.00	100	34.7	146789	PASS
70	69	0.00	2	0.5	756	PASS
127	198	10	80	53.5	226005	PASS
197	198	0.00	2	0.5	2241	PASS
198	198	100	100	100.0	422549	PASS
199	198	5	9	6.9	29192	PASS
275	198	10	60	26.8	113115	PASS
365	198	1	100	3.4	14380	PASS
441	442	0.01	24	14.9	60699	PASS
442	198	50	200	96.1	406187	PASS
443	442	15	24	19.9	80771	PASS

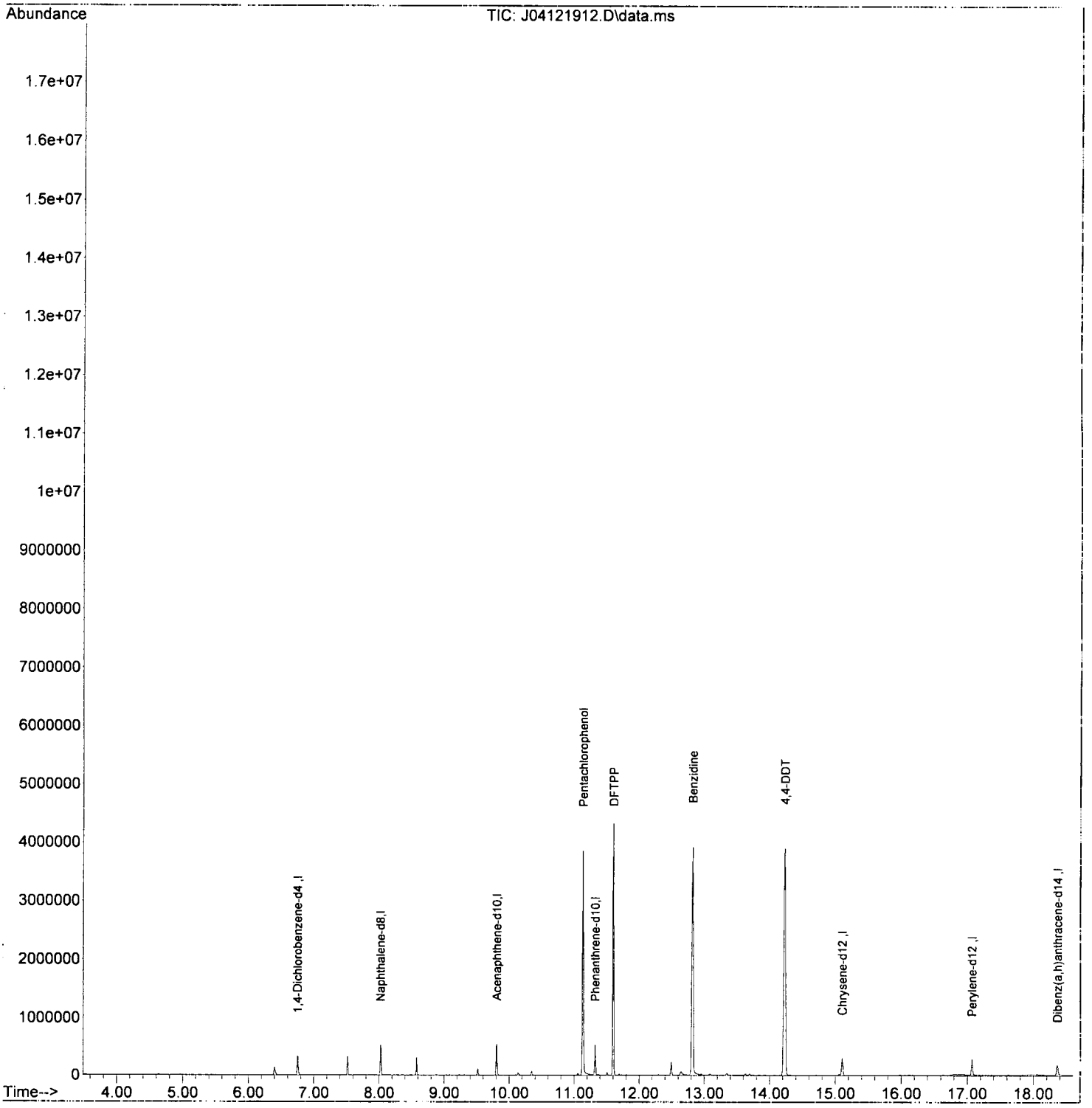
T-01

JK 4/15/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121912.D
Acq On : 12 Apr 2019 5:19 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN1
Misc : 1x, A19D089 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Apr 15 08:50:09 2019
Quant Method : C:\msdchem\1\methods\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Mon Apr 15 08:49:58 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121913.D
Acq On : 12 Apr 2019 5:47 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN2
Misc : 1x, A19D089 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Apr 15 08:50:50 2019
Quant Method : C:\msdchem\1\methods\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Mon Apr 15 08:49:58 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JK 4/15/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	6.755	150	96555	2.00	ug/mL		0.00
2) Naphthalene-d8	8.023	136	242638	2.00	ug/mL		0.00
3) Acenaphthene-d10	9.809	162	107879	2.00	ug/mL		0.00
5) Phenanthrene-d10	11.323	188	174337	2.00	ug/mL		0.00
11) Chrysene-d12	15.104	240	131592	2.00	ug/mL		0.00
12) Perylene-d12	17.072	264	108112	2.00	ug/mL		0.00
13) Dibenz(a,h)anthracene-...	18.361	292	98890	2.00	ug/mL	#	0.00
Target Compounds							Qvalue
4) Pentachlorophenol	11.135	266	464648	44.41	ug/mL		97
6) DFTPP	11.606	442	460400	48.17	ug/mL	#	66
7) Benzidine	12.820	184	2222430	38.81	ug/mL		95
8) 4,4-DDE	13.088	TIC	21833	No Calib			
9) 4,4-DDD	13.628	TIC	21085	No Calib			
10) 4,4-DDT	14.227	TIC	6698933	41.51	ug/mL		99

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

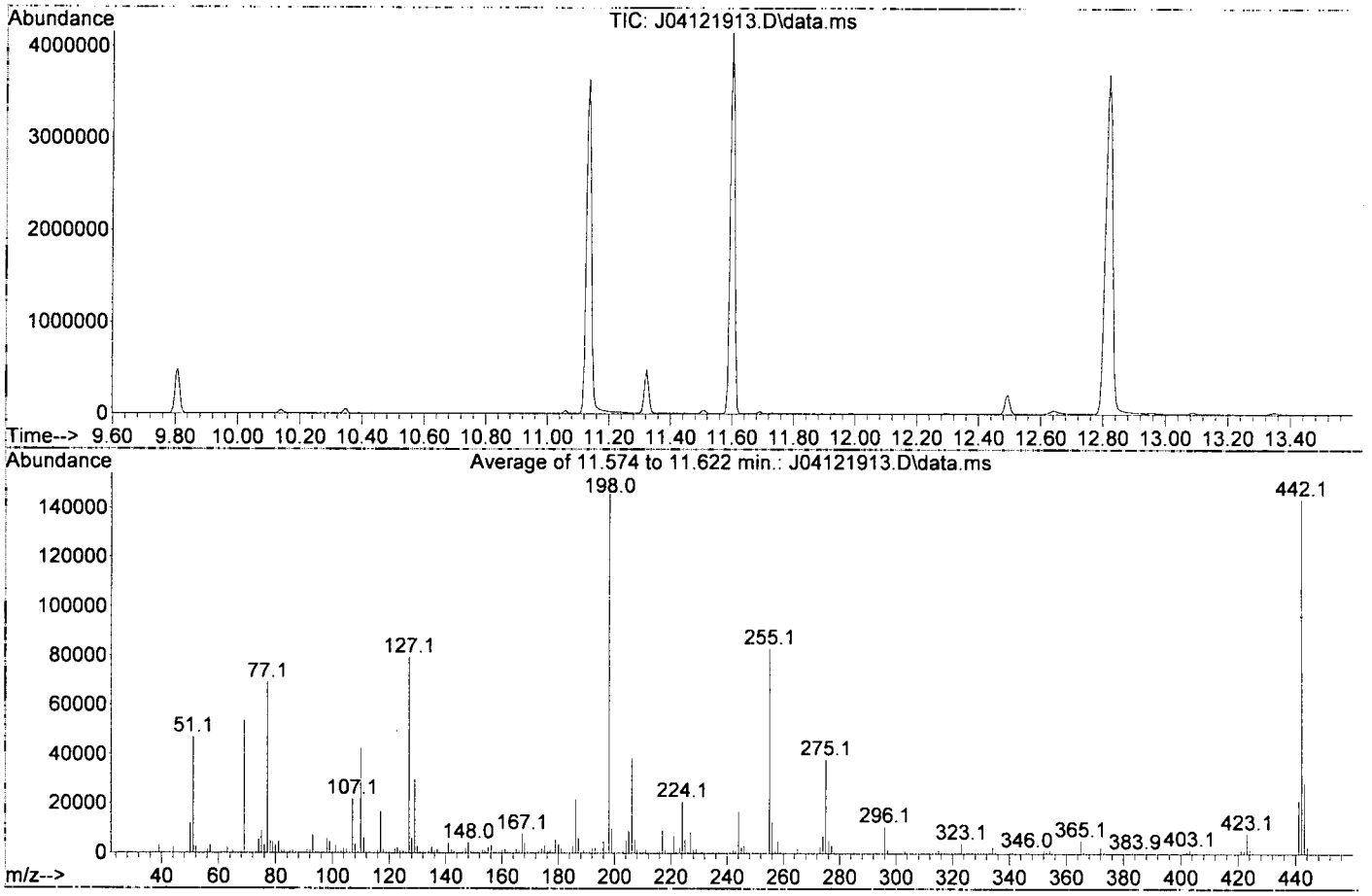
DFTPP

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121913.D
Acq On : 12 Apr 2019 5:47 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN2
Misc : 1x, A19D089 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 : Mon Apr 15 08:49:58 2019

JK 4/15/19



Spectrum Information: Average of 11.574 to 11.622 min.

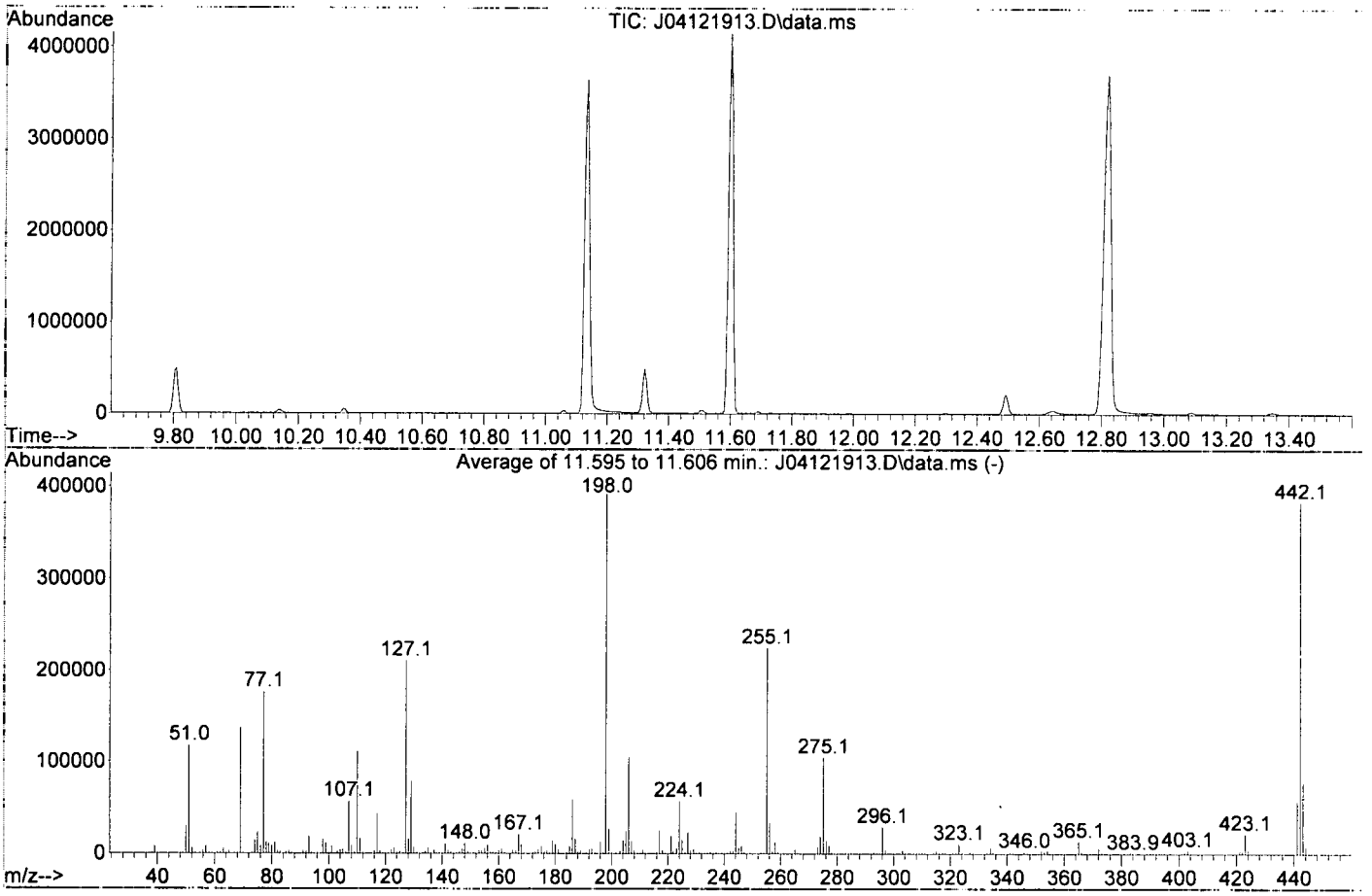
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	32.1	47075	PASS
68	69	0.00	2	1.4	739	PASS
69	198	0.00	100	36.8	53963	PASS
70	69	0.00	2	0.6	303	PASS
127	198	40	60	54.1	79320	PASS
197	198	0.00	1	0.3	412	PASS
198	198	100	100	100.0	146603	PASS
199	198	5	9	6.8	9971	PASS
275	198	10	30	26.0	38183	PASS
365	198	1	100	3.5	5166	PASS
441	443	0.01	100	75.0	21528	PASS
442	198	40	100	98.1	143756	PASS
443	442	17	23	20.0	28722	PASS

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121913.D
Acq On : 12 Apr 2019 5:47 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN2
Misc : 1x, A19D089 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 : Wed Apr 10 09:20:15 2019

JD 4/19/19



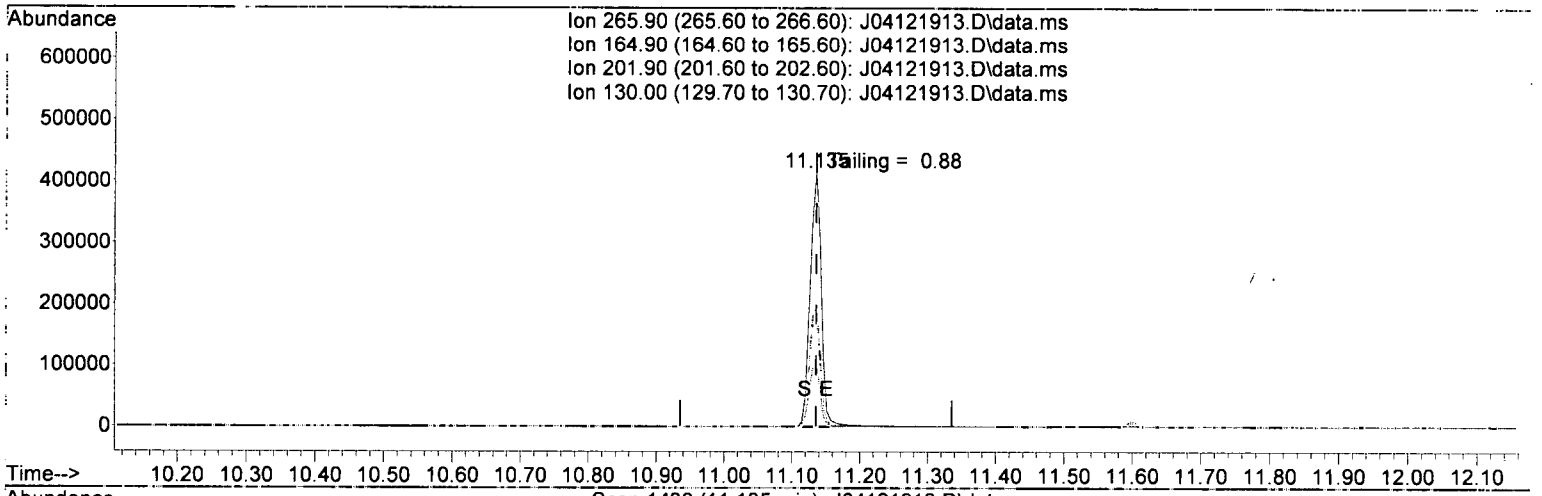
AutoFind: Scans 1516, 1517, 1518; Background Corrected with Scan 1511

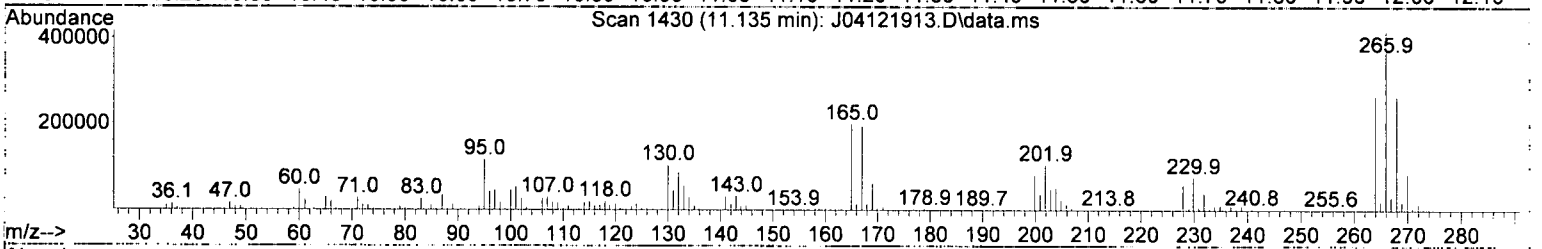
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	29.9	117992	PASS
68	69	0.00	2	1.4	1916	PASS
69	198	0.00	100	34.8	137277	PASS
70	69	0.00	2	0.5	700	PASS
127	198	10	80	53.5	211115	PASS
197	198	0.00	2	0.3	1356	PASS
198	198	100	100	100.0	394773	PASS
199	198	5	9	6.9	27253	PASS
275	198	10	60	26.5	104576	PASS
365	198	1	100	3.4	13573	PASS
441	442	0.01	24	14.9	57208	PASS
442	198	50	200	97.2	383808	PASS
443	442	15	24	20.2	77488	PASS

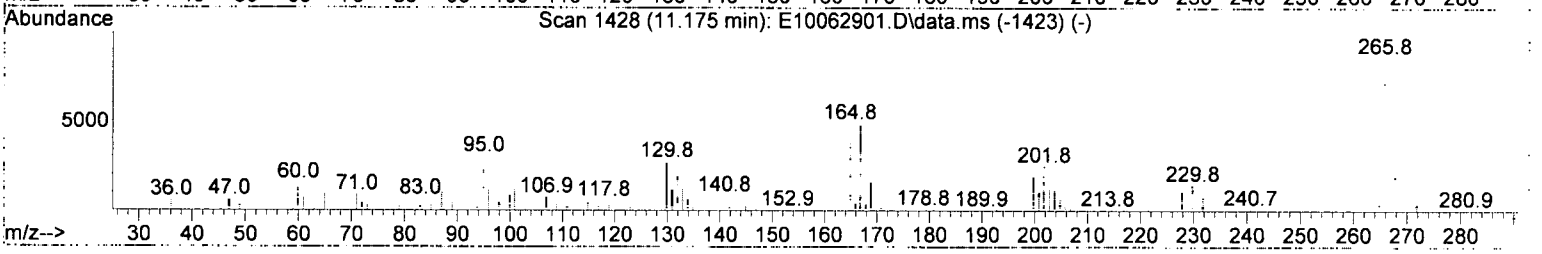
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121913.D
Acq On : 12 Apr 2019 5:47 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN2
Misc : 1x, A19D089 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Apr 15 08:50:50 2019
Quant Method : C:\msdchem\1\methods\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Mon Apr 15 08:49:58 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121913.D\data.ms

(4) Pentachlorophenol

11.135min (+ 0.000) 44.41 ug/mL

response 464648

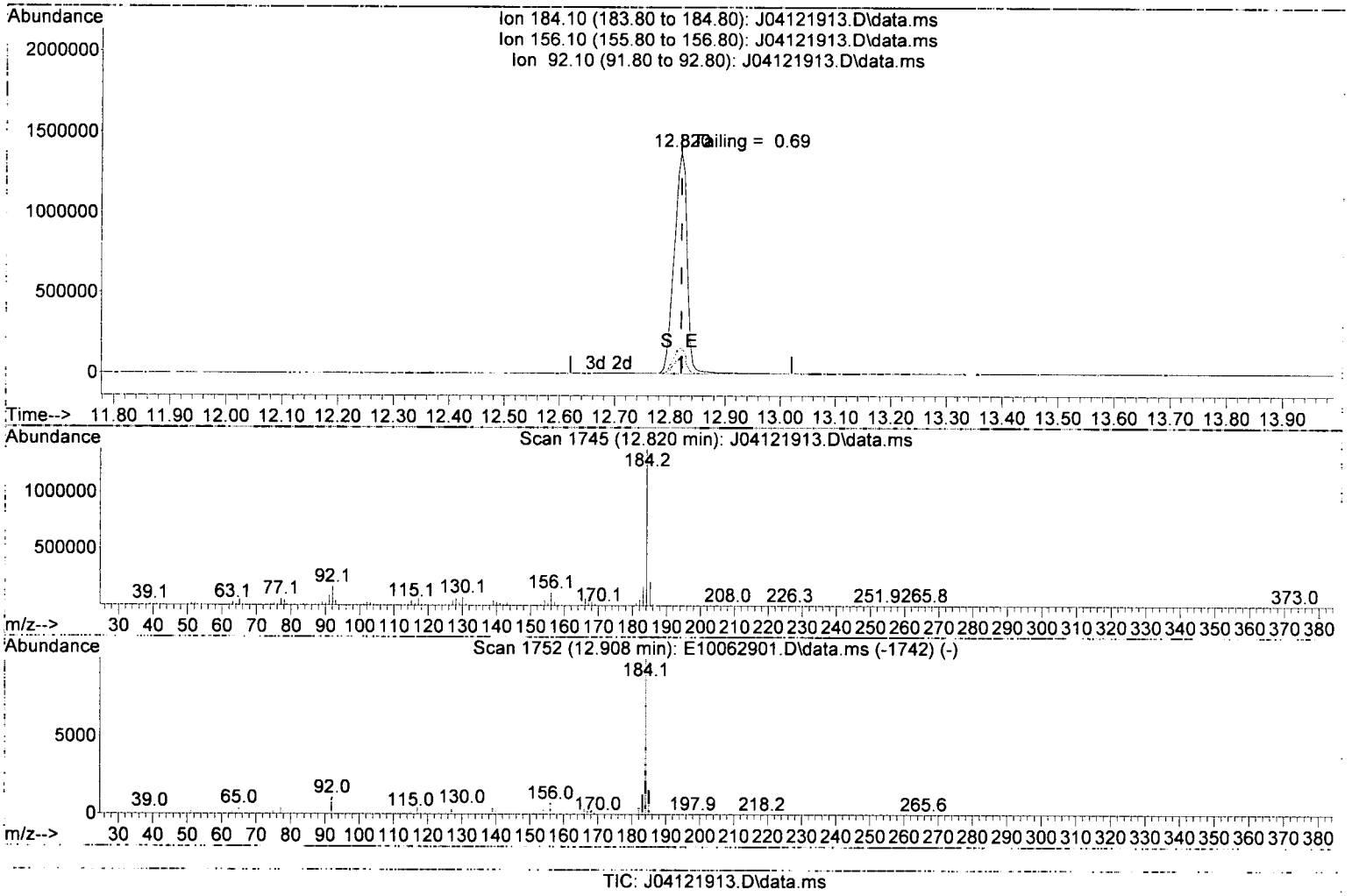
Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.80	47.90
201.90	25.10	25.27
130.00	27.20	25.16

4/15/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121913.D
Acq On : 12 Apr 2019 5:47 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN2
Misc : 1x, A19D089 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Apr 15 08:50:50 2019
Quant Method : C:\msdchem\1\methods\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Mon Apr 15 08:49:58 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J04121913.D\data.ms

(7) Benzidine

12.820min (+ 0.000) 38.81 ug/mL

response 2222430

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.40	8.11
92.10	8.40	11.75
0.00	0.00	0.00

4/15/19

DDT Breakdown Check (Validated 5/1/2013)

From:
9D12042-TUN2
SV-GCMS10

First Column Area Counts		Percent Breakdown	
DDE	21833		
DDD	21085		
DDT	6698933	0.64	PASS

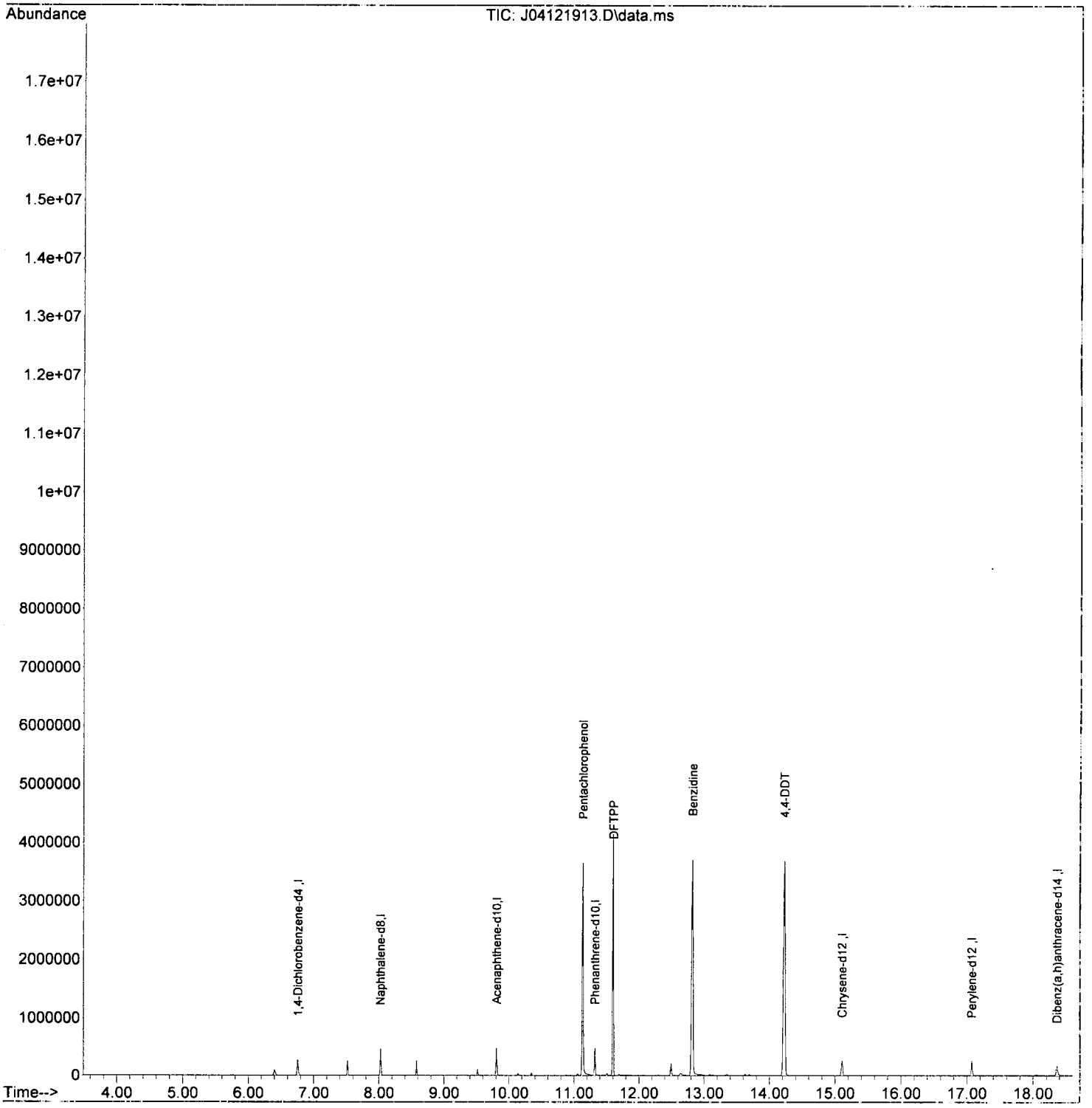
Breakdown must be less than 20% to accept sample data.

9/15/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121913.D
Acq On : 12 Apr 2019 5:47 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-TUN2
Misc : 1x, A19D089 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Apr 15 08:50:50 2019
Quant Method : C:\msdchem\1\methods\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Mon Apr 15 08:49:58 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121914.D
Acq On : 12 Apr 2019 6:15 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:54:51 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JD 4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	191647	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	826553	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.863	162	414672	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.376	188	690915	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.350	240	599238	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.870	264	535993	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.261	292	488117	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.632	112	56	0.42	ng/ml	0.10
5) Phenol-d6(Surr)	0.000	99	0	0.00	ng/ml	
19) Nitrobenzene-d5 (Surr)	0.000	82	0	0.00	ng/ml	
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	0.000		0	N.D.		
3) Pyridine	0.000		0	N.D.		
6) Phenol	0.000		0	N.D.		
7) Aniline	6.520	93	66	N.D.		
8) Bis(2-chloroethyl) ether	6.520	93	66	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	6.953	108	54	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	0.000		0	N.D.		
17) 3+4-Methylphenol	7.231	107	56	N.D.		
18) Hexachloroethane	0.000		0	N.D.		
20) Nitrobenzene	7.365	77	53	N.D.		
22) Isophorone	0.000		0	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	7.809	105	64	535.50	ng/ml#	65
27) 2,4-Dichlorophenol	0.000		0	N.D.		
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
29) Naphthalene	0.000		0	N.D.		
30) 4-Chloroaniline	0.000		0	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	8.638	107	83	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.		
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121914.D
Acq On : 12 Apr 2019 6:15 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:54:51 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

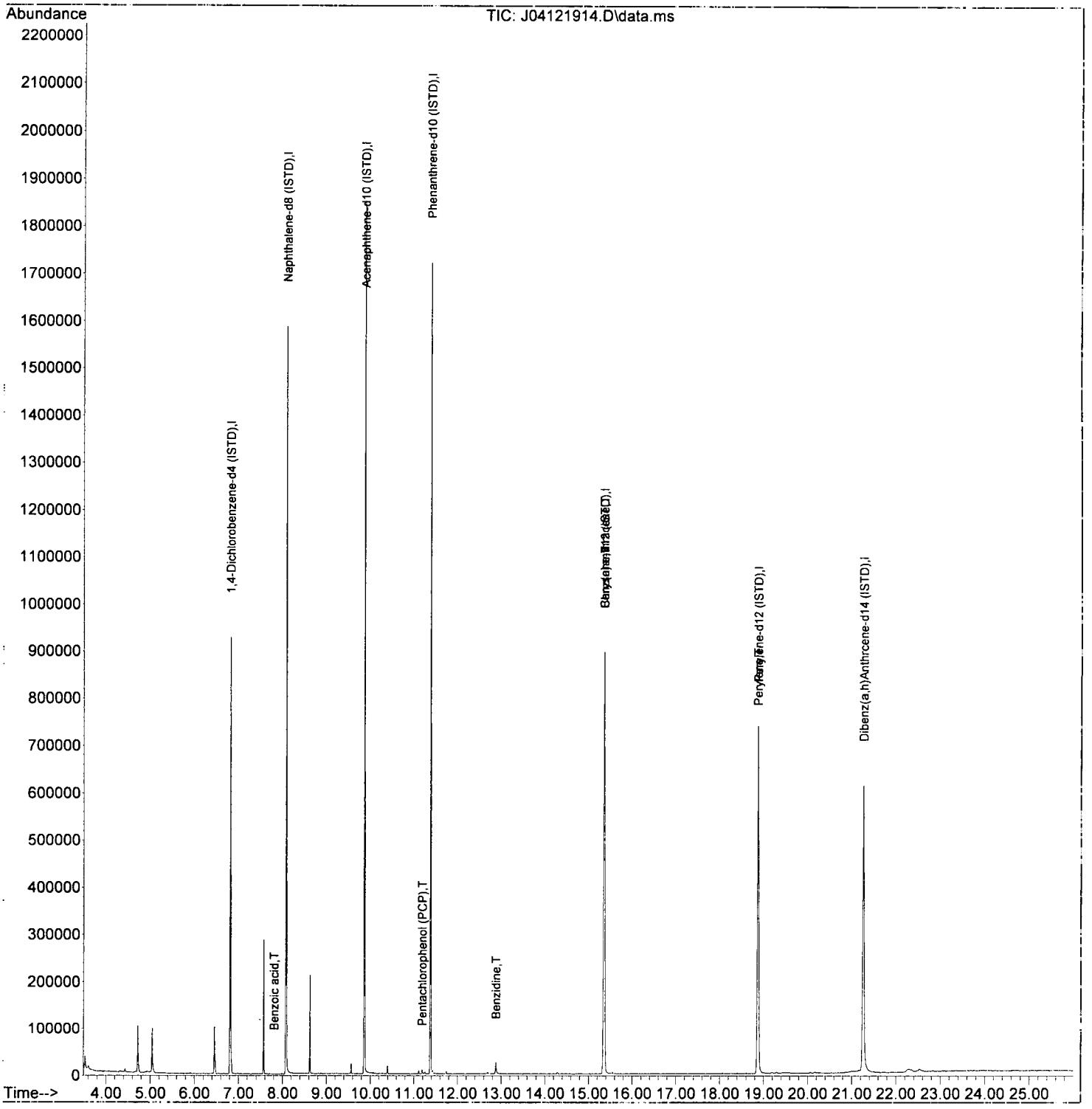
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	0.000		0	N.D.		
45) Dimethyl phthalate	0.000		0	N.D.		
46) 1,3-Dinitrobenzene	0.000		0	N.D.		
47) 2,6-Dinitrotoluene	0.000		0	N.D.		
48) 1,2-Dinitrobenzene	0.000		0	N.D.		
49) Acenaphthylene	0.000		0	N.D.		
50) 3-Nitroaniline	0.000		0	N.D.		
51) Acenaphthene	9.863	153	128	N.D.		
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	0.000		0	N.D.		
54) 2,4-Dinitrotoluene	10.018	165	104	N.D.		
55) Dibenzofuran	0.000		0	N.D.		
56) 2,3,5,6-Tetrachlorophenol	10.205	232	90	N.D.		
57) 2,3,4,6-Tetrachlorophenol	10.205	232	90	N.D.		
58) Diethyl phthalate	10.280	149	73	N.D.		
59) 2,3,5-Trimethylnaphtha...	0.000		0	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)	10.569	77	73	N.D.		
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
69) Hexachlorobenzene	0.000		0	N.D.		
70) Pentachlorophenol (PCP)	11.184	266	1392	81.96	ng/ml	81
71) Phenanthrene	11.376	178	277	N.D.		
72) Anthracene	11.376	178	277	N.D.		
73) Carbazole	0.000		0	N.D.		
74) Di-n-butyl phthalate	11.949	149	56	Below Cal		78
75) Fluoranthene	0.000		0	N.D.		
76) Benzidine	12.874	184	15679	203.41	ng/ml	97
77) Pyrene	0.000		0	N.D.		
80) Butyl benzyl phthalate	0.000		0	N.D.		
81) Bis(2-ethylhexyl) adipate	14.291	129	1022	Below Cal		93
82) 3,3-Dichlorobenzidine	15.281	252	236	Below Cal		83
83) Benz(a)anthracene	15.350	228	1625	4.71	ng/ml	66
84) Chrysene	15.350	228	1600	4.92	ng/ml	63
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	18.581	252	72	N.D.		
92) Benzo(a)pyrene	0.000		0	N.D.		
93) Perylene	18.864	252	1719	6.02	ng/ml	69
95) Indeno(1,2,3-cd)pyrene	21.255	276	344	N.D.		
96) Dibenz(a,h)anthracene	21.325	278	129	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\2019-04\9D12042\
Data File : J04121914.D
Acq On : 12 Apr 2019 6:15 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:54:51 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121914.D
Acq On : 12 Apr 2019 6:15 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Final Requant
JD 4/15/19

Quant Time: Apr 15 12:07:03 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	191647	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	826553	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.863	162	414672	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.376	188	690915	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.350	240	599238	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.870	264	535993	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.261	292	488117	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.632	112	56	0.45	ng/ml	0.10
5) Phenol-d6(Surr)	0.000	99	0	0.00	ng/ml	
19) Nitrobenzene-d5 (Surr)	0.000	82	0	0.00	ng/ml	
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	0.000		0	N.D.		
3) Pyridine	0.000		0	N.D.		
6) Phenol	0.000		0	N.D.		
7) Aniline	6.520	93	66	N.D.		
8) Bis(2-chloroethyl) ether	6.520	93	66	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	6.953	108	54	32.86	ng/ml#	74
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	0.000		0	N.D.		
17) 3+4-Methylphenol	7.231	107	56	9.40	ng/ml#	14
18) Hexachloroethane	0.000		0	N.D.		
20) Nitrobenzene	7.365	77	53	N.D.		
22) Isophorone	0.000		0	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	7.809	105	64	752.88	ng/ml#	65
27) 2,4-Dichlorophenol	0.000		0	N.D.		
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
29) Naphthalene	0.000		0	N.D.		
30) 4-Chloroaniline	0.000		0	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	8.638	107	83	64.31	ng/ml#	1
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.		
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121914.D
Acq On : 12 Apr 2019 6:15 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 12:07:03 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

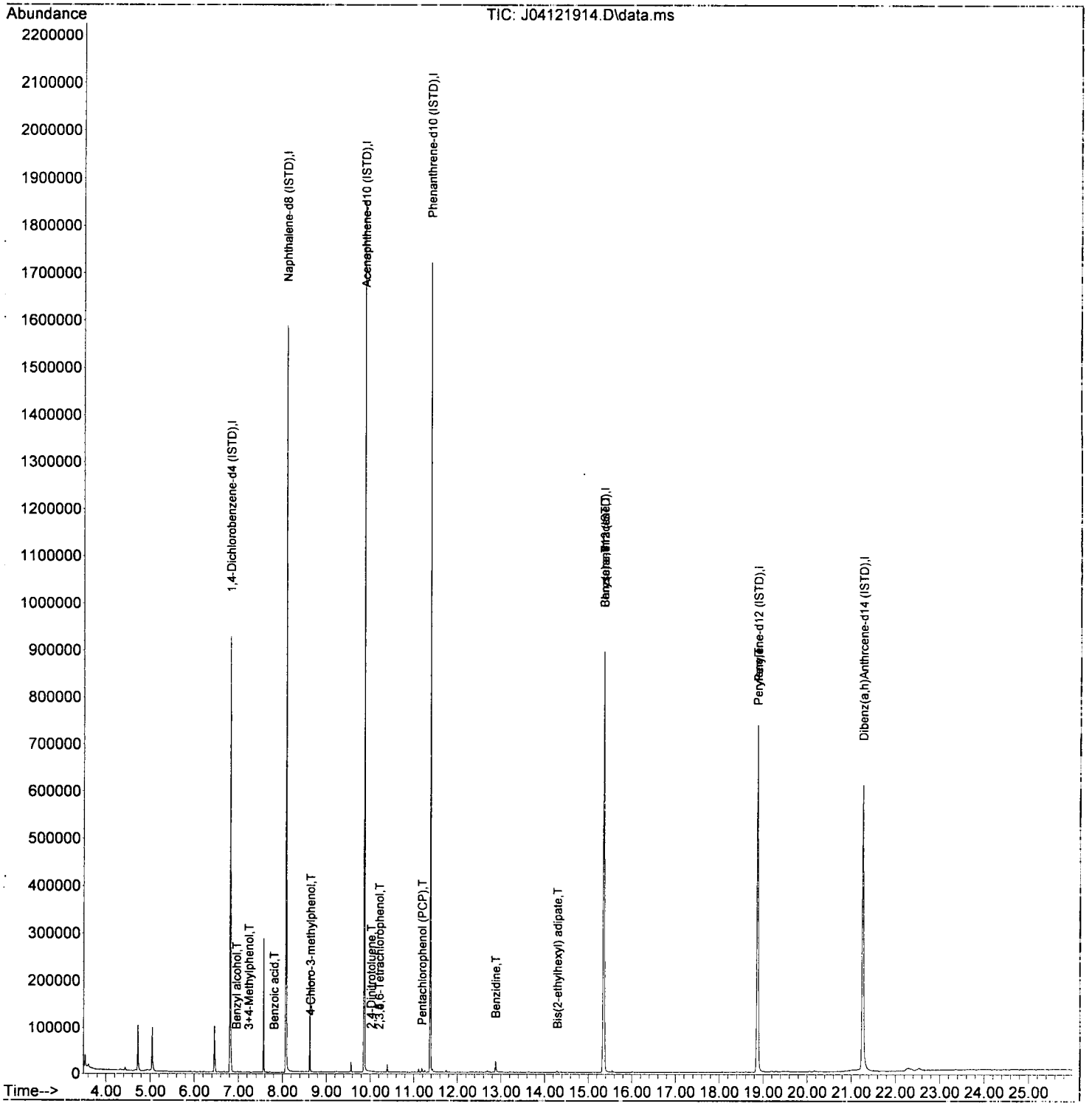
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	0.000		0	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	0.000		0	N.D.	
50) 3-Nitroaniline	0.000		0	N.D.	
51) Acenaphthene	9.863	153	128	N.D.	
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	0.000		0	N.D.	
54) 2,4-Dinitrotoluene	10.018	165	104	61.45 ng/ml#	17
55) Dibenzofuran	0.000		0	N.D.	
56) 2,3,5,6-Tetrachlorophenol	10.205	232	90	36.65 ng/ml#	54
57) 2,3,4,6-Tetrachlorophenol	10.205	232	90	14.74 ng/ml#	36
58) Diethyl phthalate	10.280	149	73	N.D.	
59) 2,3,5-Trimethylnaphtha...	0.000		0	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)	10.569	77	73	N.D.	
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	11.184	266	1392	58.47 ng/ml	81
71) Phenanthrene	11.376	178	277	N.D.	
72) Anthracene	11.376	178	277	N.D.	
73) Carbazole	0.000		0	N.D.	
74) Di-n-butyl phthalate	11.949	149	56	N.D.	
75) Fluoranthene	0.000		0	N.D.	
76) Benzidine	12.874	184	15679	191.05 ng/ml	97
77) Pyrene	0.000		0	N.D.	
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.291	129	1022	5.99 ng/ml	93
82) 3,3-Dichlorobenzidine	15.281	252	236	Below Cal	83
83) Benz(a)anthracene	15.350	228	1625	4.97 ng/ml	66
84) Chrysene	15.350	228	1600	5.04 ng/ml	63
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	18.581	252	72	N.D.	
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.864	252	1719	6.32 ng/ml	69
95) Indeno(1,2,3-cd)pyrene	21.255	276	344	N.D.	
96) Dibenz(a,h)anthracene	21.325	278	129	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\2019-04\9D12042\
Data File : J04121914.D
Acq On : 12 Apr 2019 6:15 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 12:07:03 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:54:57 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	205604	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	838248	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.863	162	422298	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.376	188	695574	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.350	240	610059	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.870	264	540507	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.260	292	486802	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	2233	15.43	ng/ml	0.00
5) Phenol-d6(Surr)	6.439	99	2259	11.76	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.359	82	2134	12.91	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	4958	15.77	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	384	9.61	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	4983	16.49	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.161	74	1826m	17.13	ng/ml	
3) Pyridine	4.230	79	2498	14.70	ng/ml	81
6) Phenol	6.450	94	2105	9.75	ng/ml	94
7) Aniline	6.488	93	3702	19.64	ng/ml	99
8) Bis(2-chloroethyl) ether	6.541	93	3544	22.18	ng/ml	94
9) 2-Chlorophenol	6.605	128	2212	14.62	ng/ml	94
10) 1,3-Dichlorobenzene	6.760	146	3006	18.87	ng/ml	99
11) 1,4-Dichlorobenzene	6.824	146	3174	20.45	ng/ml	85
12) Benzyl alcohol	6.948	108	527	5.19	ng/ml	87
13) 1,2-Dichlorobenzene	6.985	146	2889	18.96	ng/ml	98
14) 2-Methylphenol	7.044	107	1724	14.50	ng/ml	91
15) 2,2'-Oxybis(1-Chloropr...	7.071	45	4404	21.04	ng/ml	89
16) N-Nitrosodi-n-propylamine	7.199	70	2080	17.68	ng/ml	91
17) 3+4-Methylphenol	7.194	107	1519	10.39	ng/ml	89
18) Hexachloroethane	7.322	201	711	16.28	ng/ml	77
20) Nitrobenzene	7.375	77	2275	14.10	ng/ml	99
22) Isophorone	7.605	82	5760	18.13	ng/ml	94
23) 2-Nitrophenol	7.696	139	482	5.84	ng/ml	62
24) 2,4-Dimethylphenol	7.728	122	1331	10.24	ng/ml	87
25) Bis(2-chloroethoxy) me...	7.814	93	2366	13.19	ng/ml	72
26) Benzoic acid	7.766	105	55	535.38	ng/ml#	71
27) 2,4-Dichlorophenol	7.937	162	425	4.07	ng/ml	67
28) 1,2,4-Trichlorobenzene	8.023	180	2246	17.81	ng/ml	96
29) Naphthalene	8.103	128	8711	19.48	ng/ml	99
30) 4-Chloroaniline	8.146	127	1652	15.32	ng/ml	91
31) Hexachlorobutadiene	8.231	225	1492	22.43	ng/ml	77
32) 4-Chloro-3-methylphenol	8.632	107	606	4.80	ng/ml#	68
33) 2-Methylnaphthalene	8.798	142	4843	16.21	ng/ml	92
34) 1-Methylnaphthalene	8.900	142	5287	18.44	ng/ml	95
36) Hexachlorocyclopentadiene	8.964	237	396	6.01	ng/ml	93
37) 2,4,6-Trichlorophenol	9.082	196	637	8.54	ng/ml	71
38) 2,4,5-Trichlorophenol	9.119	198	570	7.78	ng/ml	83
39) 1,1'-Biphenyl	9.269	154	5440	15.36	ng/ml	88
41) 2-Chloronaphthalene	9.296	162	4110	16.40	ng/ml	91
42) 2-Nitroaniline	9.392	138	491	5.67	ng/ml	83
43) 2,6-Dimethylnaphthalene	9.429	156	4471	17.28	ng/ml	98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:54:57 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

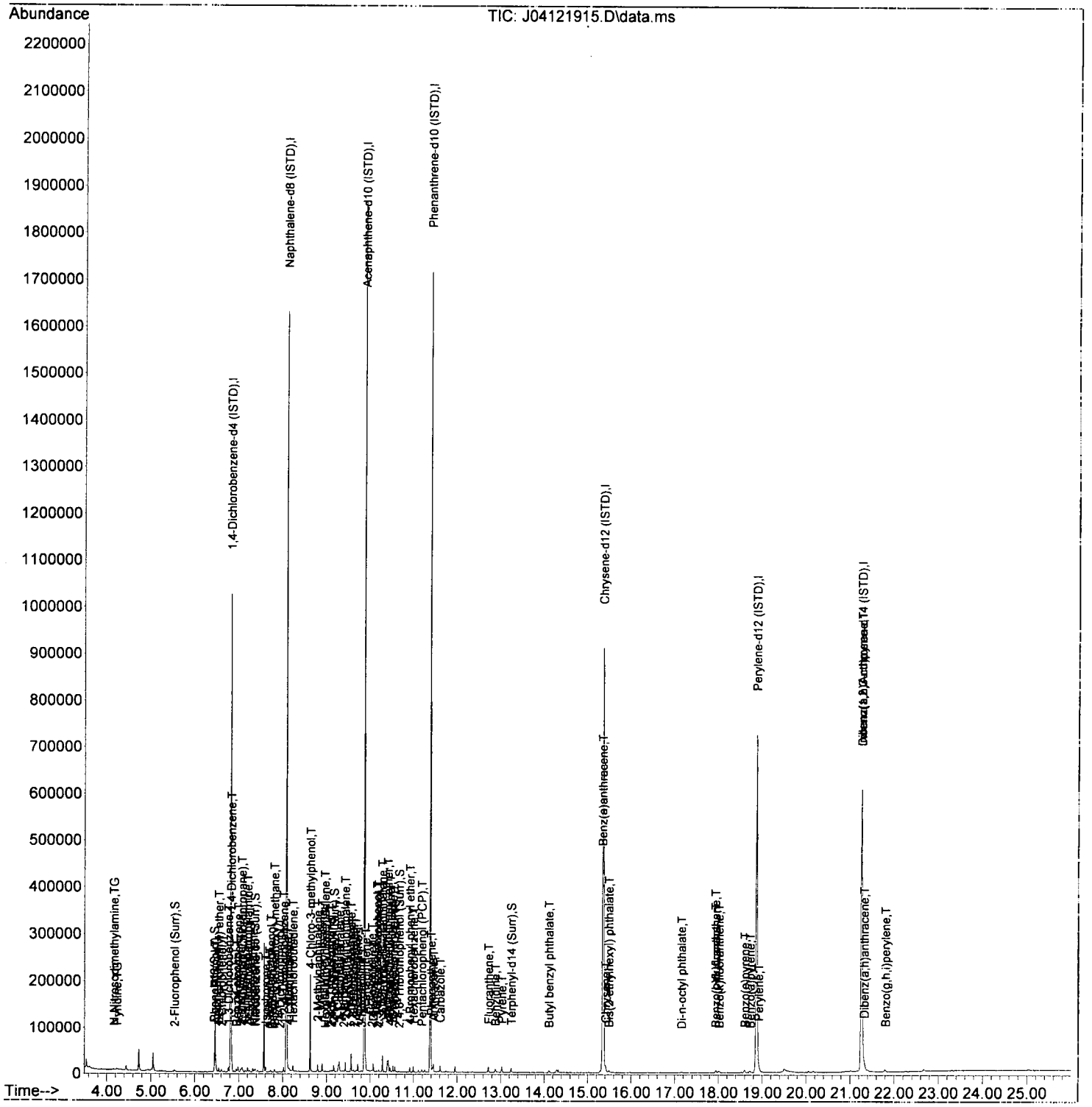
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	1,4-Dinitrobenzene	9.515	168	72	N.D.		
45)	Dimethyl phthalate	9.563	163	5716	18.78	ng/ml	93
46)	1,3-Dinitrobenzene	9.595	168	137	3.07	ng/ml#	21
47)	2,6-Dinitrotoluene	9.627	165	429	6.50	ng/ml	91
48)	1,2-Dinitrobenzene	9.675	168	247	8.02	ng/ml#	68
49)	Acenaphthylene	9.718	152	8037	17.73	ng/ml	91
50)	3-Nitroaniline	9.804	138	533	16.13	ng/ml#	76
51)	Acenaphthene	9.895	153	5944	20.76	ng/ml	93
52)	2,4-Dinitrophenol	0.000		0	N.D.		
53)	4-Nitrophenol	9.986	139	81	N.D.		
54)	2,4-Dinitrotoluene	10.039	165	516	6.23	ng/ml	79
55)	Dibenzofuran	10.071	168	7180	19.60	ng/ml	94
56)	2,3,5,6-Tetrachlorophenol	10.157	232	365	6.25	ng/ml	82
57)	2,3,4,6-Tetrachlorophenol	10.194	232	466	7.68	ng/ml	89
58)	Diethyl phthalate	10.280	149	5489	18.31	ng/ml	96
59)	2,3,5-Trimethylnaphtha...	10.274	170	4447	18.62	ng/ml	85
60)	Fluorene	10.419	166	5519	19.07	ng/ml	98
61)	4-Chlorophenyl phenyl ...	10.408	204	2599	19.74	ng/ml	95
62)	4-Nitroaniline	10.424	138	410	7.27	ng/ml	75
63)	4,6-Dinitro-2-methylph...	10.462	198	66	63.96	ng/ml#	1
65)	N-Nitrosodiphenylamine	10.526	169	3694	15.82	ng/ml	83
66)	Azobenzene (1,2-DPH)	10.569	77	5526	17.81	ng/ml	89
68)	4-Bromophenyl phenyl e...	10.911	248	1143	14.80	ng/ml	91
69)	Hexachlorobenzene	10.991	284	2003	22.87	ng/ml	87
70)	Pentachlorophenol (PCP)	11.184	266	966	71.99	ng/ml	81
71)	Phenanthrene	11.403	178	8041	20.71	ng/ml	93
72)	Anthracene	11.451	178	6943	17.74	ng/ml	90
73)	Carbazole	11.606	167	5247	7.28	ng/ml	92
74)	Di-n-butyl phthalate	11.948	149	6378	Below Cal		96
75)	Fluoranthene	12.719	202	6550	15.31	ng/ml	91
76)	Benzidine	12.874	184	5651	67.75	ng/ml	90
77)	Pyrene	13.029	202	7061	16.03	ng/ml	96
80)	Butyl benzyl phthalate	14.109	149	1437	6.93	ng/ml	91
81)	Bis(2-ethylhexyl) adipate	14.291	129	2012	Below Cal		92
82)	3,3-Dichlorobenzidine	15.286	252	2133	Below Cal		97
83)	Benz(a)anthracene	15.334	228	6716	19.13	ng/ml	88
84)	Chrysene	15.409	228	6300	19.02	ng/ml	96
85)	Bis(2-ethylhexyl) phth...	15.484	149	1961	7.18	ng/ml	82
87)	Di-n-octyl phthalate	17.153	149	1918	4.78	ng/ml	95
88)	Benzo(b)fluoranthene	17.934	252	3779	12.19	ng/ml	91
89)	Benzo(k)fluoranthene	18.014	252	3388	11.63	ng/ml	97
90)	Benzo(b+k)fluoranthene	17.934	252	8014	26.11	ng/ml	92
91)	Benzo(e)pyrene	18.602	252	4564	15.02	ng/ml	97
92)	Benzo(a)pyrene	18.725	252	3153	11.14	ng/ml	86
93)	Perylene	18.918	252	5247	18.21	ng/ml	97
95)	Indeno(1,2,3-cd)pyrene	21.260	276	5842	21.89	ng/ml	84
96)	Dibenz(a,h)anthracene	21.319	278	4686	18.52	ng/ml	89
97)	Benzo(g,h,i)perylene	21.806	276	4399	15.81	ng/ml	91

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121915.D
Acq On : 12 Apr 2019 6:51 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:54:57 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121916.D
Acq On : 12 Apr 2019 7:27 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:01 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JK 4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	209444	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	855155	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.863	162	428361	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.376	188	701109	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.350	240	611518	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.870	264	543287	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.260	292	498877	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	5365	36.39	ng/ml	0.00
5) Phenol-d6(Surr)	6.439	99	6263	32.01	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	4963	29.48	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	14620	45.83	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	864	21.44	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	13758	45.43	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.150	74	5209	47.98	ng/ml	96
3) Pyridine	4.204	79	7142	41.27	ng/ml	96
6) Phenol	6.450	94	7594	34.52	ng/ml	97
7) Aniline	6.487	93	10528	54.83	ng/ml	96
8) Bis(2-chloroethyl) ether	6.541	93	8634	53.05	ng/ml	96
9) 2-Chlorophenol	6.605	128	5987	38.86	ng/ml	79
10) 1,3-Dichlorobenzene	6.755	146	8063	49.68	ng/ml	98
11) 1,4-Dichlorobenzene	6.824	146	8325	52.66	ng/ml	93
12) Benzyl alcohol	6.953	108	1873	18.11	ng/ml#	74
13) 1,2-Dichlorobenzene	6.980	146	8131	52.40	ng/ml	94
14) 2-Methylphenol	7.044	107	4259	35.18	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.071	45	10826	50.78	ng/ml	95
16) N-Nitrosodi-n-propylamine	7.199	70	5246	43.78	ng/ml	91
17) 3+4-Methylphenol	7.194	107	4279	28.73	ng/ml	96
18) Hexachloroethane	7.322	201	2137	48.05	ng/ml	78
20) Nitrobenzene	7.370	77	5793	35.25	ng/ml	97
22) Isophorone	7.605	82	15037	46.39	ng/ml	99
23) 2-Nitrophenol	7.691	139	1610	19.13	ng/ml	94
24) 2,4-Dimethylphenol	7.723	122	3681	27.77	ng/ml	94
25) Bis(2-chloroethoxy) me...	7.814	93	7058	38.57	ng/ml	93
26) Benzoic acid	7.894	105	106	535.95	ng/ml#	53
27) 2,4-Dichlorophenol	7.937	162	2177	20.43	ng/ml	93
28) 1,2,4-Trichlorobenzene	8.023	180	6141	47.73	ng/ml	95
29) Naphthalene	8.103	128	23251	50.97	ng/ml	98
30) 4-Chloroaniline	8.146	127	4055	36.85	ng/ml	80
31) Hexachlorobutadiene	8.231	225	3496	51.51	ng/ml	93
32) 4-Chloro-3-methylphenol	8.627	107	2641	20.50	ng/ml	93
33) 2-Methylnaphthalene	8.798	142	12740	41.81	ng/ml	95
34) 1-Methylnaphthalene	8.900	142	13733	46.94	ng/ml	98
36) Hexachlorocyclopentadiene	8.969	237	1375	20.57	ng/ml	83
37) 2,4,6-Trichlorophenol	9.082	196	1647	21.77	ng/ml	84
38) 2,4,5-Trichlorophenol	9.119	198	1719	23.12	ng/ml	83
39) 1,1'-Biphenyl	9.269	154	16008	44.55	ng/ml	98
41) 2-Chloronaphthalene	9.296	162	11226	44.17	ng/ml	98
42) 2-Nitroaniline	9.386	138	1501	17.10	ng/ml	88
43) 2,6-Dimethylnaphthalene	9.429	156	12930	49.27	ng/ml	98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121916.D
Acq On : 12 Apr 2019 7:27 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:01 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

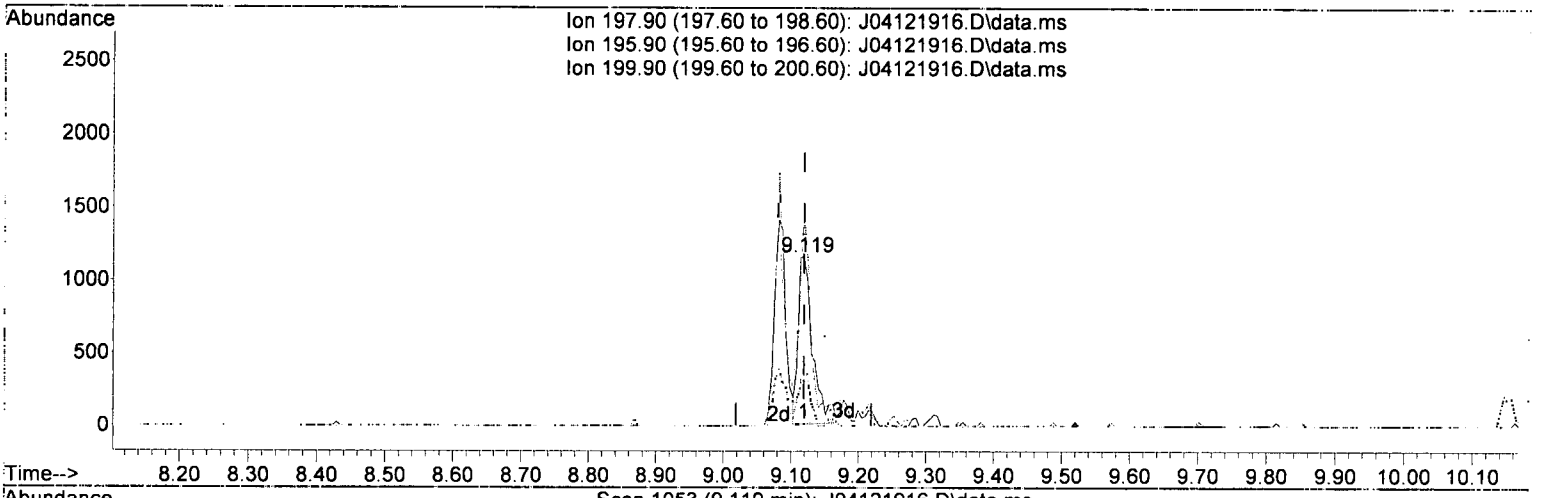
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.520	168	512	12.64	ng/ml#	61
45) Dimethyl phthalate	9.563	163	14804	47.96	ng/ml	98
46) 1,3-Dinitrobenzene	9.595	168	496	10.98	ng/ml#	1
47) 2,6-Dinitrotoluene	9.627	165	1360	20.32	ng/ml	91
48) 1,2-Dinitrobenzene	9.681	168	594	19.02	ng/ml#	57
49) Acenaphthylene	9.718	152	20809	45.26	ng/ml	98
50) 3-Nitroaniline	9.798	138	1478	30.29	ng/ml	83
51) Acenaphthene	9.895	153	14121	48.61	ng/ml	93
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	9.964	139	479	9.21	ng/ml#	64
54) 2,4-Dinitrotoluene	10.039	165	1414	16.84	ng/ml	78
55) Dibenzofuran	10.066	168	18996	51.13	ng/ml	99
56) 2,3,5,6-Tetrachlorophenol	10.151	232	1033	17.43	ng/ml	83
57) 2,3,4,6-Tetrachlorophenol	10.194	232	1586	25.75	ng/ml	70
58) Diethyl phthalate	10.280	149	14203	46.71	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.280	170	12035	49.68	ng/ml	96
60) Fluorene	10.419	166	14499	49.39	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.408	204	6570	49.20	ng/ml	96
62) 4-Nitroaniline	10.419	138	1321	23.09	ng/ml#	60
63) 4,6-Dinitro-2-methylph...	10.456	198	144	66.03	ng/ml#	1
65) N-Nitrosodiphenylamine	10.526	169	11052	46.96	ng/ml	98
66) Azobenzene (1,2-DPH)	10.569	77	14382	45.98	ng/ml	92
68) 4-Bromophenyl phenyl e...	10.905	248	3328	42.75	ng/ml	95
69) Hexachlorobenzene	10.991	284	4727	53.54	ng/ml	92
70) Pentachlorophenol (PCP)	11.184	266	1190	76.90	ng/ml	94
71) Phenanthrene	11.403	178	20614	52.67	ng/ml	98
72) Anthracene	11.451	178	18968	48.08	ng/ml	96
73) Carbazole	11.606	167	14600	35.92	ng/ml	98
74) Di-n-butyl phthalate	11.948	149	17235	20.46	ng/ml	99
75) Fluoranthene	12.719	202	16870	39.11	ng/ml	97
76) Benzidine	12.874	184	8239	101.83	ng/ml	98
77) Pyrene	13.029	202	18258	41.11	ng/ml	97
80) Butyl benzyl phthalate	14.109	149	4216	20.28	ng/ml	92
81) Bis(2-ethylhexyl) adipate	14.291	129	4520	Below Cal		94
82) 3,3-Dichlorobenzidine	15.291	252	6271	Below Cal		91
83) Benz(a)anthracene	15.329	228	15643	44.45	ng/ml	92
84) Chrysene	15.409	228	15517	46.74	ng/ml	100
85) Bis(2-ethylhexyl) phth...	15.489	149	5834	21.30	ng/ml	84
87) Di-n-octyl phthalate	17.169	149	5426	13.45	ng/ml	91
88) Benzo(b)fluoranthene	17.944	252	11314	36.32	ng/ml	91
89) Benzo(k)fluoranthene	18.014	252	11590	39.56	ng/ml	93
90) Benzo(b+k)fluoranthene	18.014	252	23691	76.79	ng/ml	93
91) Benzo(e)pyrene	18.597	252	12166	39.84	ng/ml	93
92) Benzo(a)pyrene	18.725	252	9489	33.36	ng/ml	95
93) Perylene	18.923	252	12964	44.76	ng/ml	100
95) Indeno(1,2,3-cd)pyrene	21.255	276	13136	48.03	ng/ml	84
96) Dibenz(a,h)anthracene	21.325	278	11403	43.98	ng/ml	91
97) Benzo(g,h,i)perylene	21.795	276	12250	42.97	ng/ml	90

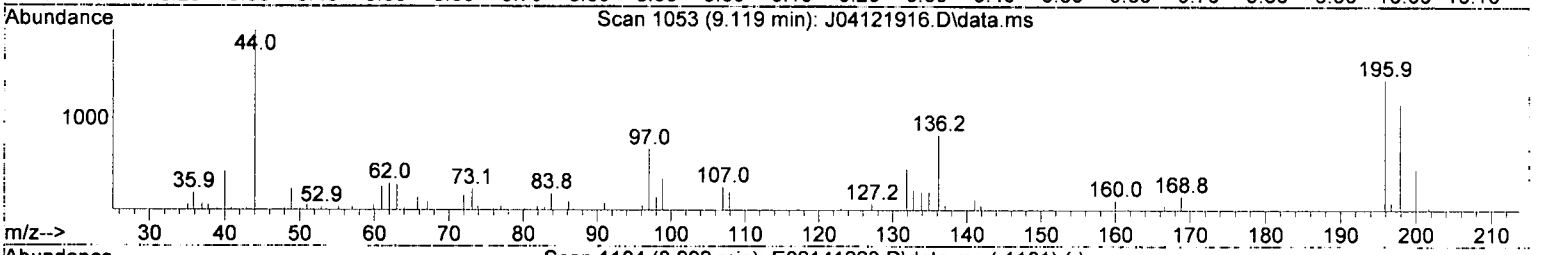
(#) = qualifier out of range (m) = manual integration (+) = signals summed

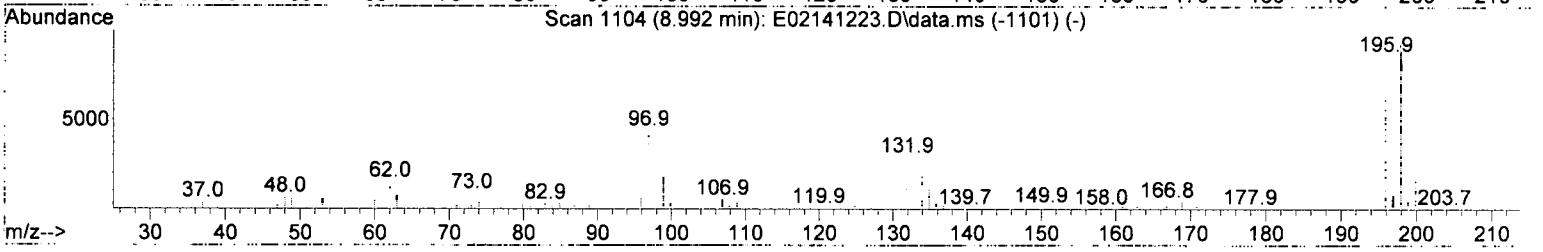
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121916.D
Acq On : 12 Apr 2019 7:27 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:01 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121916.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.119min (+ 0.000) 23.12 ng/ml

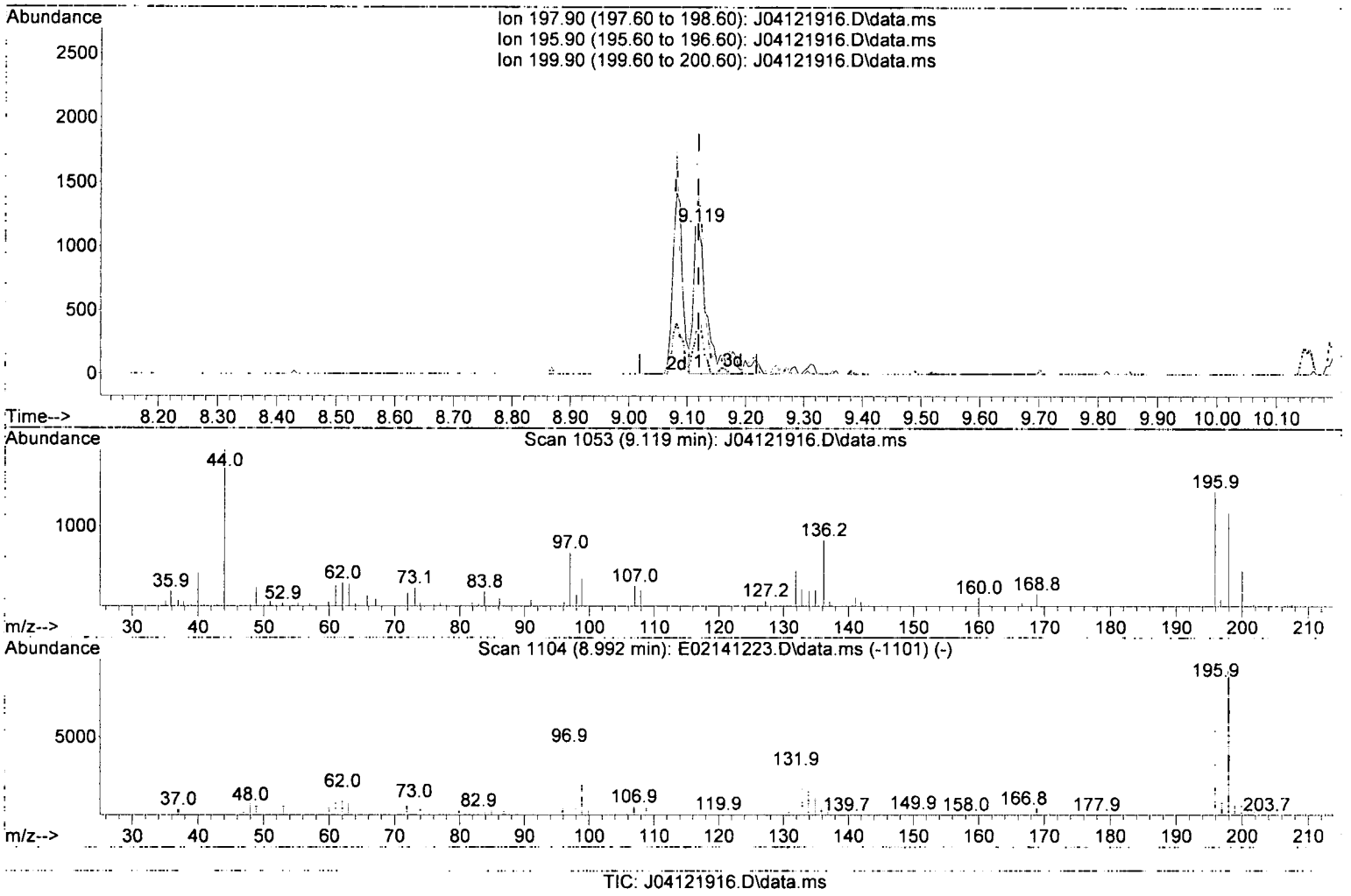
response 1719

Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	122.31
199.90	31.10	39.71
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121916.D
Acq On : 12 Apr 2019 7:27 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:01 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J04121916.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.119min (+ 0.000) 26.05 ng/ml m

4/15/19

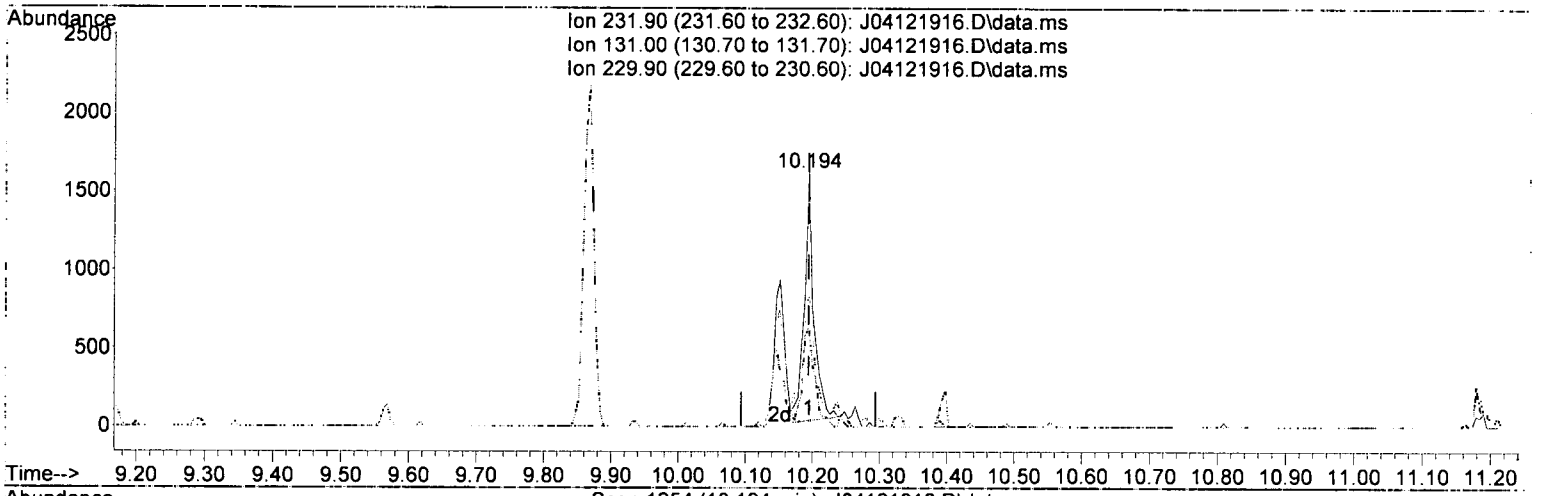
response 1937

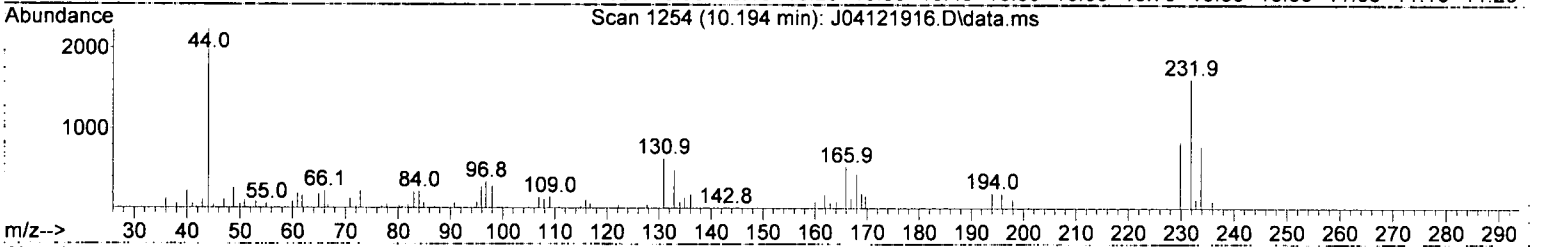
Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	122.31
199.90	31.10	39.71
0.00	0.00	0.00

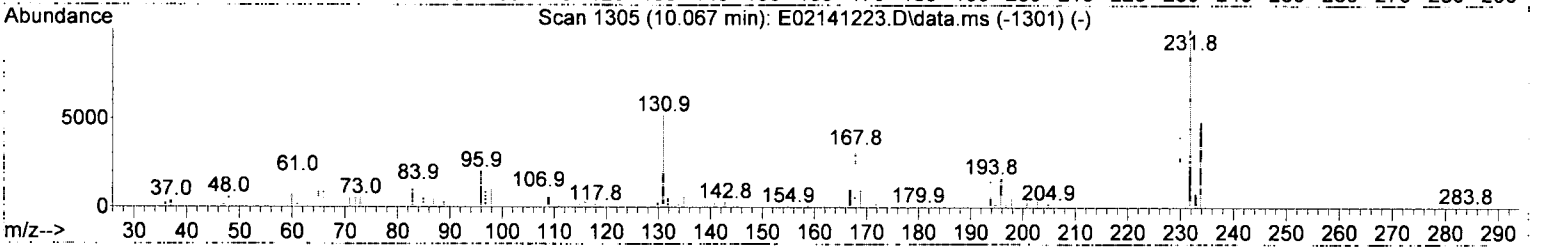
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121916.D
Acq On : 12 Apr 2019 7:27 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:01 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121916.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.194min (+ 0.000) 25.75 ng/ml

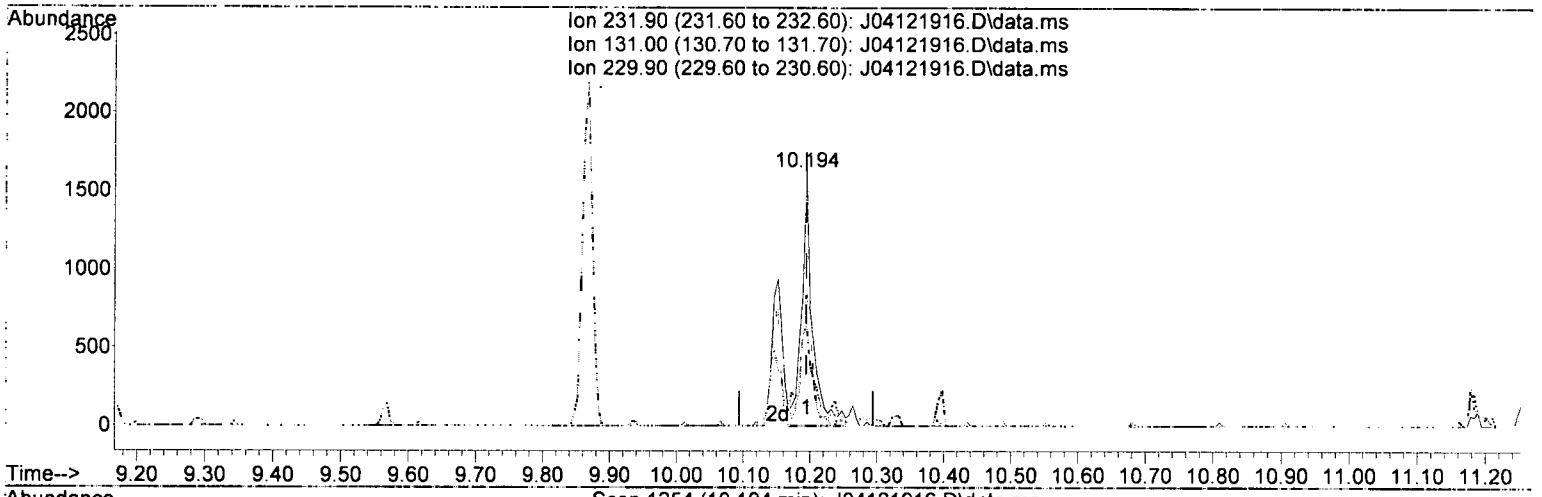
response 1586

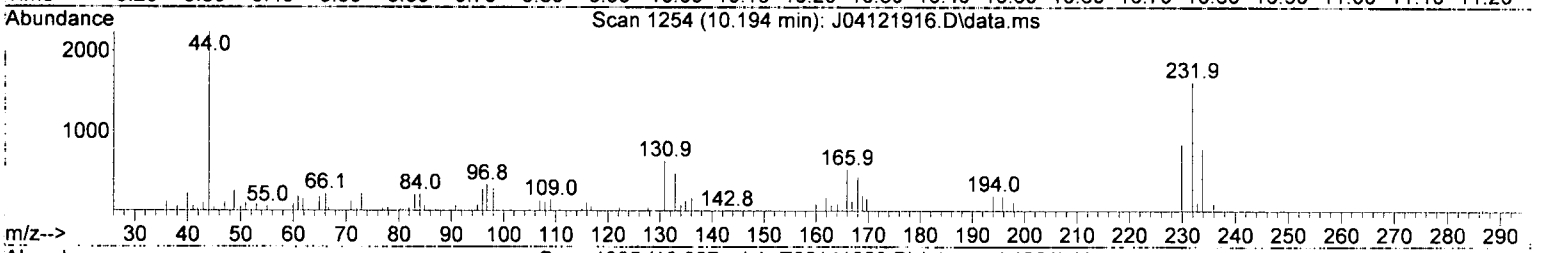
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	39.31
229.90	78.40	52.19
0.00	0.00	0.00

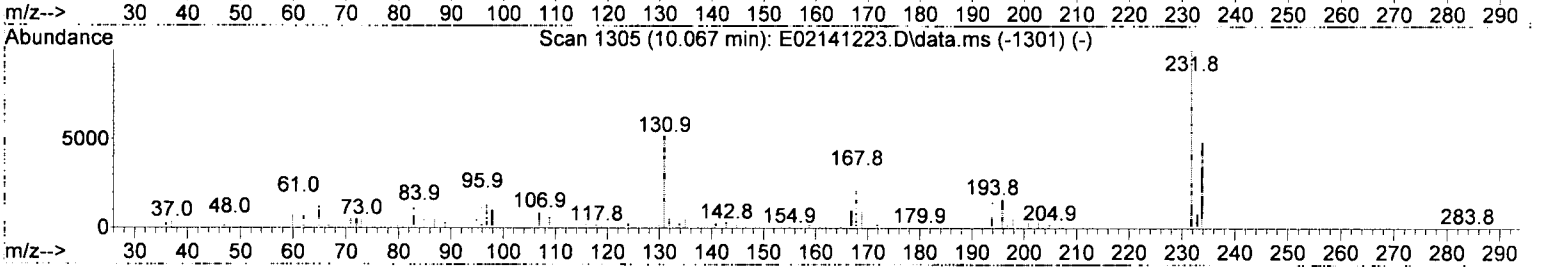
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121916.D
Acq On : 12 Apr 2019 7:27 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:01 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121916.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.194min (+ 0.000) 29.63 ng/ml (m)

response 1825

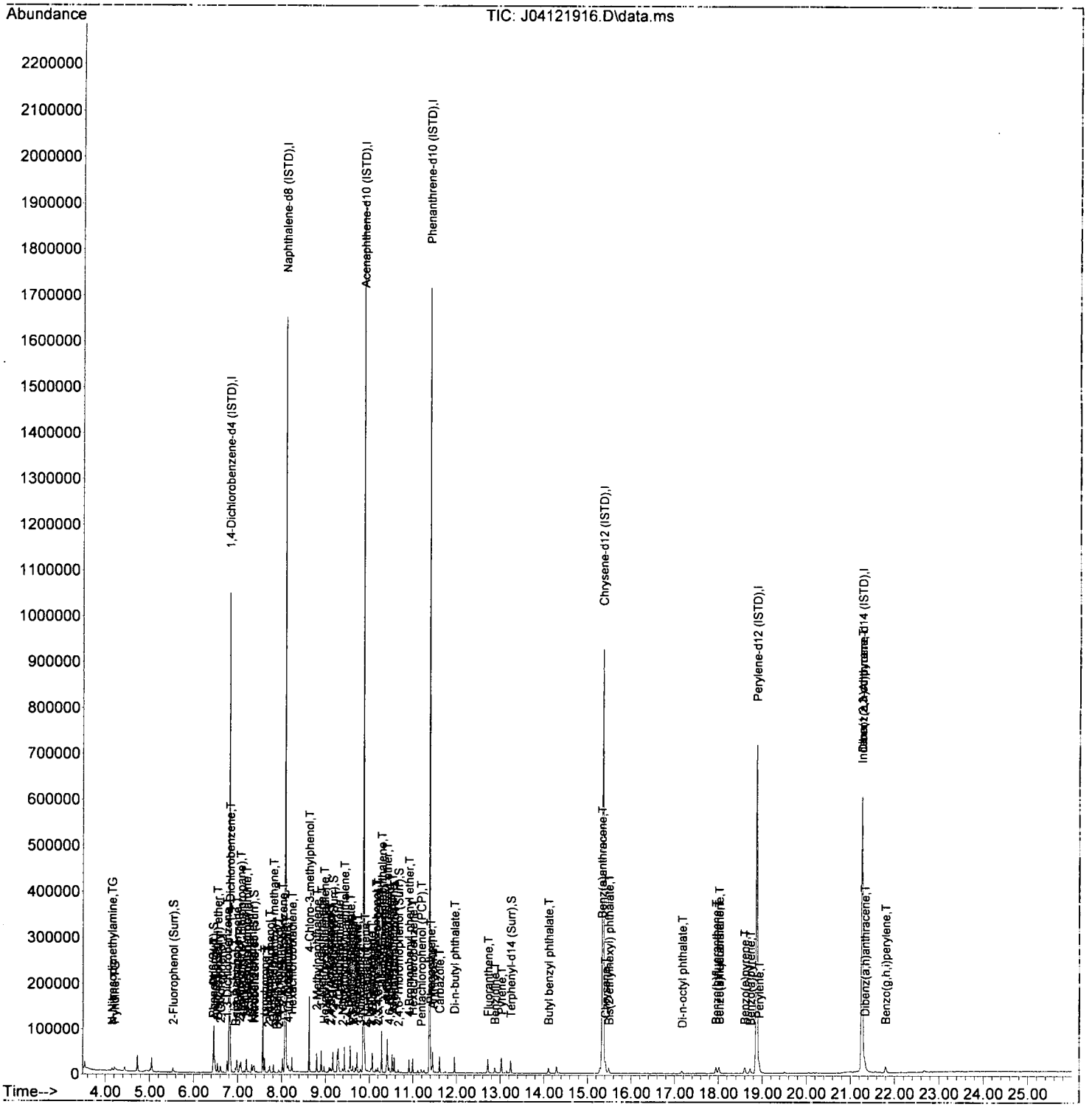
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	39.31
229.90	78.40	52.19
0.00	0.00	0.00

JK 4/19/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121916.D
Acq On : 12 Apr 2019 7:27 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:01 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121917.D
Acq On : 12 Apr 2019 8:03 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:06 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JK 4/19/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.814	152	217345	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	867816	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.863	162	441746	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.376	188	754332	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.356	240	677420	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.870	264	613080	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.261	292	548377	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.541	112	12560	82.09	ng/ml	0.00
5) Phenol-d6(Surr)	6.439	99	15186	74.79	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	13960	79.90	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	29847	90.73	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	2582	59.56	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	32507	96.90	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.193	74	10206	90.58	ng/ml	97
3) Pyridine	4.225	79	16277	90.63	ng/ml	96
6) Phenol	6.450	94	16356	71.64	ng/ml	96
7) Aniline	6.493	93	21433	107.56	ng/ml	97
8) Bis(2-chloroethyl) ether	6.546	93	17852	105.70	ng/ml	95
9) 2-Chlorophenol	6.611	128	14013	87.64	ng/ml	96
10) 1,3-Dichlorobenzene	6.760	146	16517	98.07	ng/ml	92
11) 1,4-Dichlorobenzene	6.830	146	17508	106.73	ng/ml	99
12) Benzyl alcohol	6.942	108	4432	41.29	ng/ml	94
13) 1,2-Dichlorobenzene	6.985	146	16678	103.56	ng/ml	97
14) 2-Methylphenol	7.044	107	9962	79.29	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.071	45	22045	99.64	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.199	70	11467	92.22	ng/ml	96
17) 3+4-Methylphenol	7.194	107	11154	72.16	ng/ml	95
18) Hexachloroethane	7.322	201	4477	97.00	ng/ml	96
20) Nitrobenzene	7.375	77	14380	84.32	ng/ml	97
22) Isophorone	7.611	82	31645	96.20	ng/ml	98
23) 2-Nitrophenol	7.696	139	3262	38.18	ng/ml	86
24) 2,4-Dimethylphenol	7.723	122	9305	69.17	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.814	93	18067	97.30	ng/ml	97
26) Benzoic acid	7.782	105	212	537.11	ng/ml#	38
27) 2,4-Dichlorophenol	7.932	162	5136	47.50	ng/ml	90
28) 1,2,4-Trichlorobenzene	8.023	180	13568	103.91	ng/ml	96
29) Naphthalene	8.103	128	49024	105.91	ng/ml	99
30) 4-Chloroaniline	8.146	127	9860	88.31	ng/ml	88
31) Hexachlorobutadiene	8.231	225	7405	107.51	ng/ml	98
32) 4-Chloro-3-methylphenol	8.627	107	5402	41.32	ng/ml	92
33) 2-Methylnaphthalene	8.798	142	27918	90.28	ng/ml	95
34) 1-Methylnaphthalene	8.900	142	29703	100.04	ng/ml	95
36) Hexachlorocyclopentadiene	8.969	237	3968	57.55	ng/ml	92
37) 2,4,6-Trichlorophenol	9.082	196	3552	45.53	ng/ml	97
38) 2,4,5-Trichlorophenol	9.119	198	3524	45.96	ng/ml	90
39) 1,1'-Biphenyl	9.269	154	33353	90.00	ng/ml	99
41) 2-Chloronaphthalene	9.296	162	23833	90.94	ng/ml	99
42) 2-Nitroaniline	9.387	138	3408	37.65	ng/ml	73
43) 2,6-Dimethylnaphthalene	9.429	156	27574	101.89	ng/ml	95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121917.D
Acq On : 12 Apr 2019 8:03 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:06 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

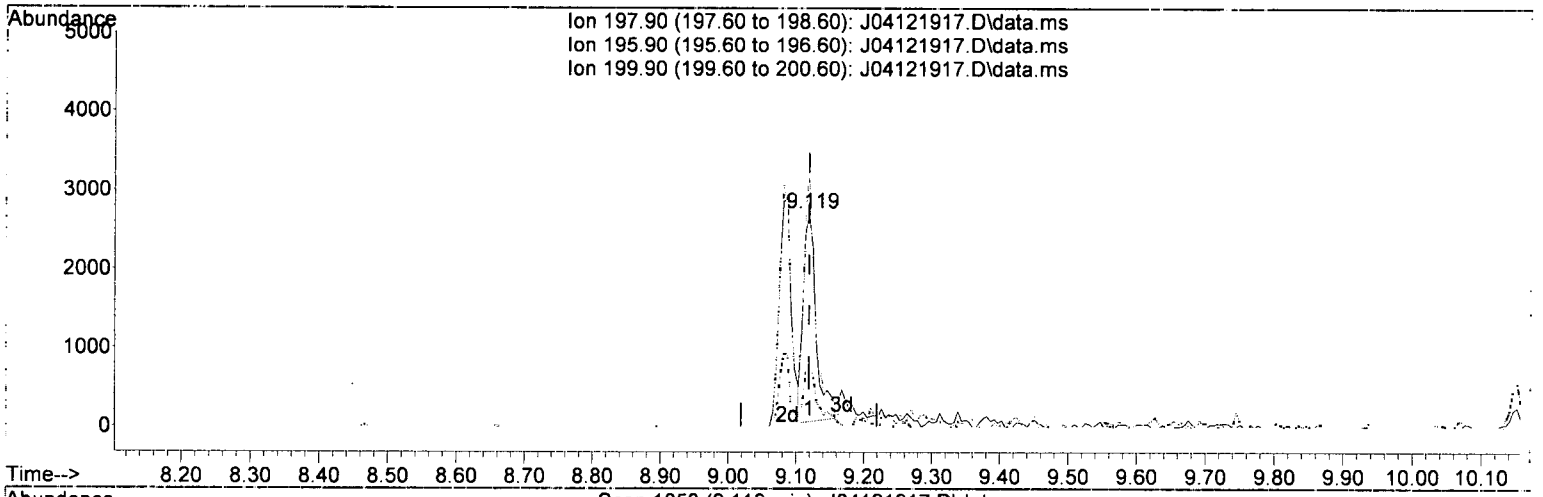
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.515	168	1082	25.89	ng/ml	93
45) Dimethyl phthalate	9.563	163	32685	102.69	ng/ml	98
46) 1,3-Dinitrobenzene	9.600	168	1592	34.16	ng/ml	78
47) 2,6-Dinitrotoluene	9.627	165	3662	53.05	ng/ml	85
48) 1,2-Dinitrobenzene	9.686	168	1685	52.32	ng/ml	89
49) Acenaphthylene	9.718	152	47235	99.63	ng/ml	97
50) 3-Nitroaniline	9.804	138	4053	67.56	ng/ml	90
51) Acenaphthene	9.895	153	30980	103.42	ng/ml	99
52) 2,4-Dinitrophenol	9.911	184	95	144.12	ng/ml#	1
53) 4-Nitrophenol	9.959	139	1391	25.93	ng/ml#	66
54) 2,4-Dinitrotoluene	10.039	165	3628	41.90	ng/ml	92
55) Dibenzofuran	10.066	168	39453	102.98	ng/ml	94
56) 2,3,5,6-Tetrachlorophenol	10.151	232	2960	48.42	ng/ml	97
57) 2,3,4,6-Tetrachlorophenol	10.194	232	4469	70.37	ng/ml	92
58) Diethyl phthalate	10.280	149	33503	106.85	ng/ml	100
59) 2,3,5-Trimethylnaphtha...	10.280	170	26553	106.29	ng/ml	99
60) Fluorene	10.419	166	32507	107.38	ng/ml	96
61) 4-Chlorophenyl phenyl ...	10.408	204	14524	105.47	ng/ml	97
62) 4-Nitroaniline	10.419	138	3975	67.37	ng/ml	79
63) 4,6-Dinitro-2-methylph...	10.456	198	481	74.66	ng/ml#	51
65) N-Nitrosodiphenylamine	10.526	169	26271	103.75	ng/ml	97
66) Azobenzene (1,2-DPH)	10.569	77	34700	103.12	ng/ml	93
68) 4-Bromophenyl phenyl e...	10.911	248	7754	92.57	ng/ml	97
69) Hexachlorobenzene	10.991	284	9841	103.60	ng/ml	94
70) Pentachlorophenol (PCP)	11.184	266	2796	108.89	ng/ml	89
71) Phenanthrene	11.403	178	45844	108.87	ng/ml	98
72) Anthracene	11.451	178	44636	105.16	ng/ml	98
73) Carbazole	11.606	167	36766	96.87	ng/ml	99
74) Di-n-butyl phthalate	11.949	149	42155	64.03	ng/ml	97
75) Fluoranthene	12.719	202	42585	91.77	ng/ml	98
76) Benzidine	12.874	184	20642	246.24	ng/ml	96
77) Pyrene	13.029	202	44554	93.25	ng/ml	99
80) Butyl benzyl phthalate	14.109	149	12505	54.30	ng/ml	93
81) Bis(2-ethylhexyl) adipate	14.291	129	13416	2.92	ng/ml	95
82) 3,3-Dichlorobenzidine	15.286	252	17285	30.85	ng/ml	93
83) Benz(a)anthracene	15.329	228	36438	93.47	ng/ml	98
84) Chrysene	15.409	228	36836	100.15	ng/ml	95
85) Bis(2-ethylhexyl) phth...	15.489	149	17462	57.56	ng/ml	99
87) Di-n-octyl phthalate	17.158	149	17362	38.13	ng/ml	98
88) Benzo(b)fluoranthene	17.944	252	30164	85.81	ng/ml	91
89) Benzo(k)fluoranthene	18.009	252	31556	95.46	ng/ml	97
90) Benzo(b+k)fluoranthene	18.009	252	63641	182.80	ng/ml	97
91) Benzo(e)pyrene	18.602	252	32260	93.62	ng/ml	98
92) Benzo(a)pyrene	18.720	252	26020	81.05	ng/ml	94
93) Perylene	18.923	252	31514	96.43	ng/ml	100
95) Indeno(1,2,3-cd)pyrene	21.261	276	29860	99.33	ng/ml	97
96) Dibenz(a,h)anthracene	21.325	278	27470	96.38	ng/ml	89
97) Benzo(g,h,i)perylene	21.801	276	27580	88.00	ng/ml	91

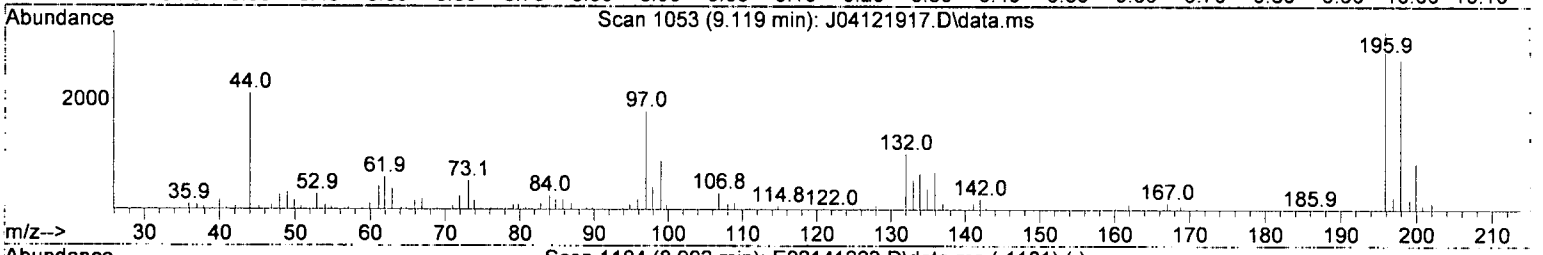
(#) = qualifier out of range (m) = manual integration (+) = signals summed

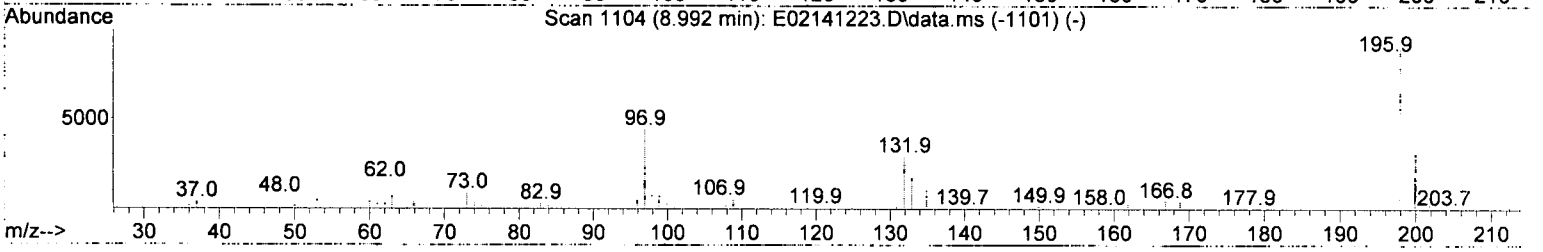
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121917.D
Acq On : 12 Apr 2019 8:03 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:06 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121917.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.119min (+ 0.000) 45.96 ng/ml

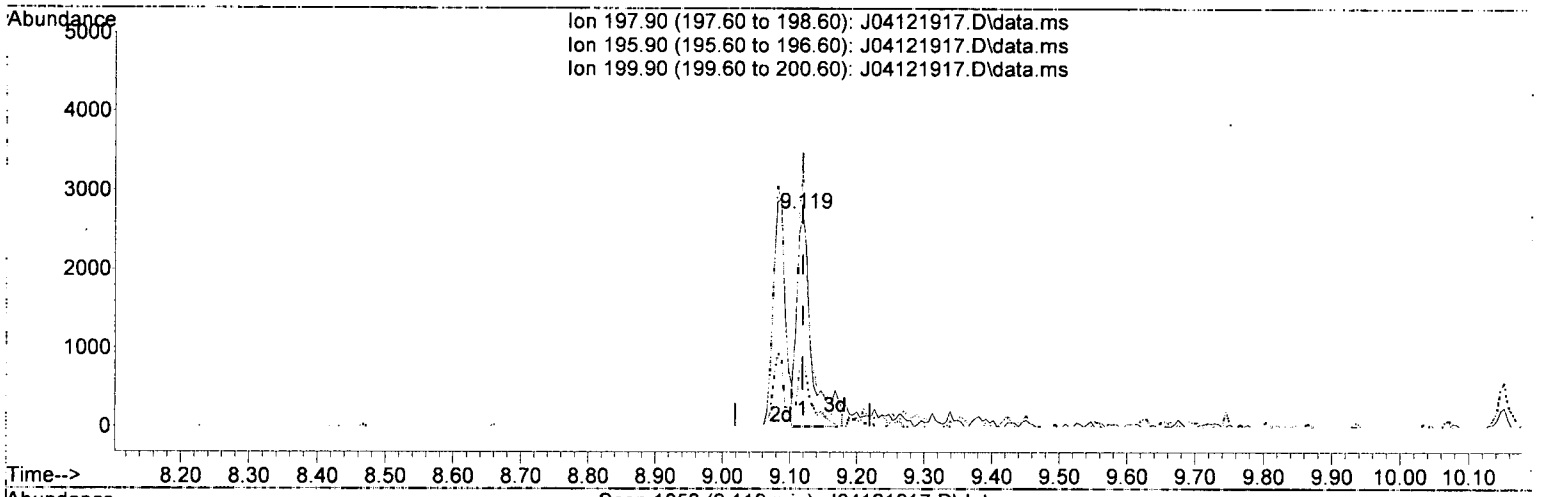
response 3524

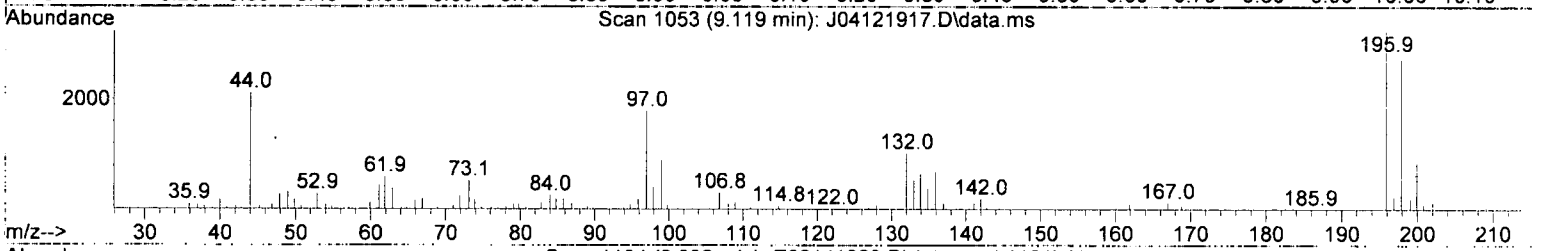
Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	118.77
199.90	31.10	31.51
0.00	0.00	0.00

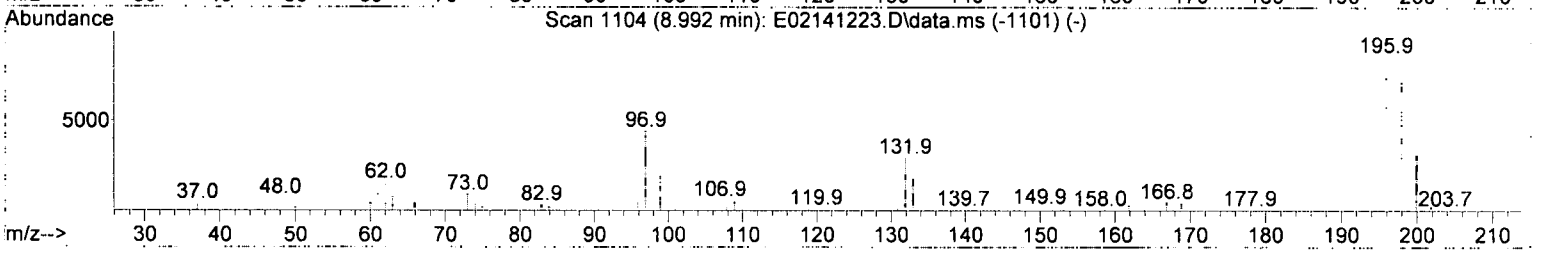
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121917.D
Acq On : 12 Apr 2019 8:03 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:06 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121917.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.119min (+ 0.000) 54.87 ng/ml (m)

response 4207

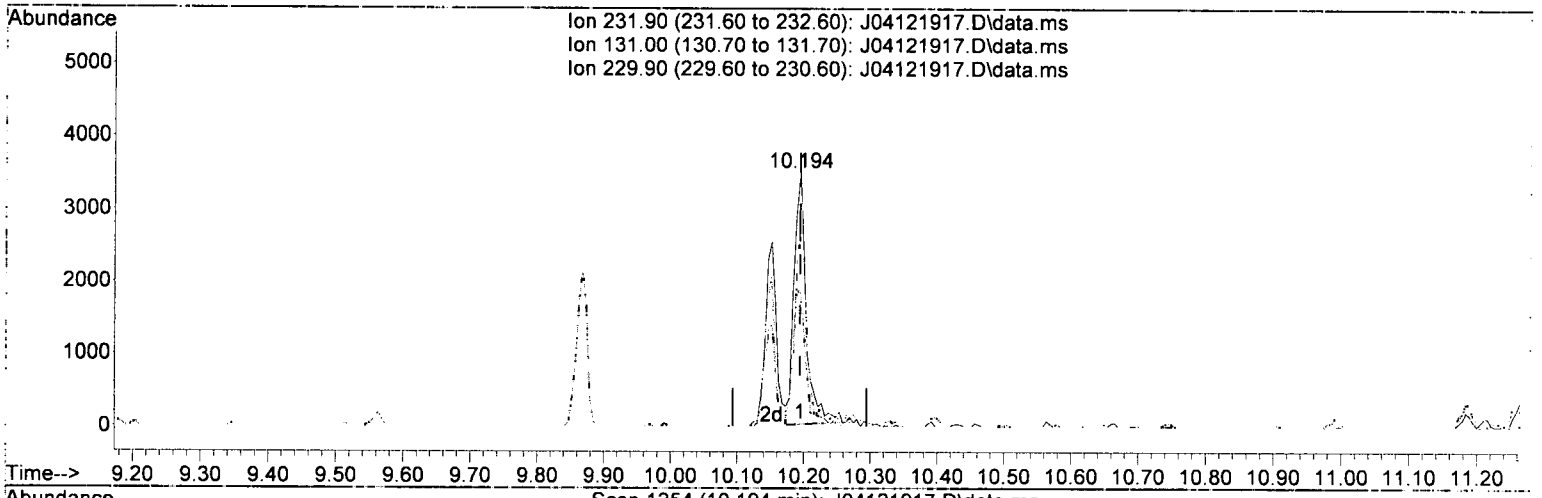
Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	118.77
199.90	31.10	31.51
0.00	0.00	0.00

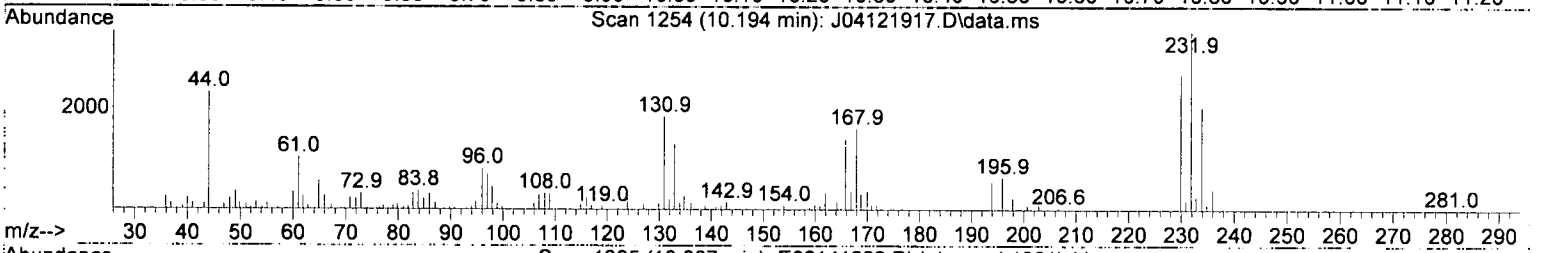
4/15/19

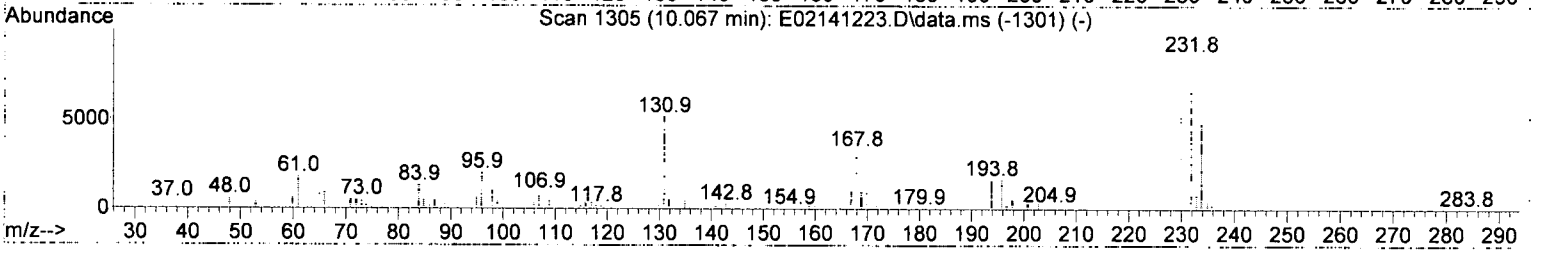
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121917.D
Acq On : 12 Apr 2019 8:03 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:06 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121917.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.194min (+ 0.000) 70.37 ng/ml

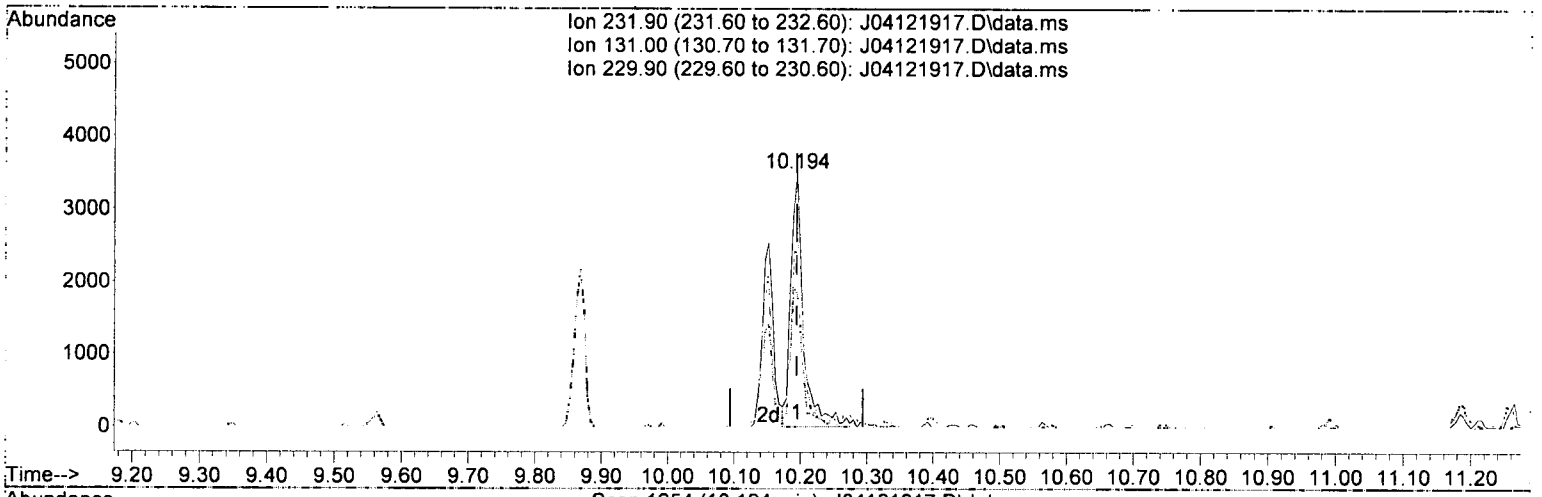
response 4469

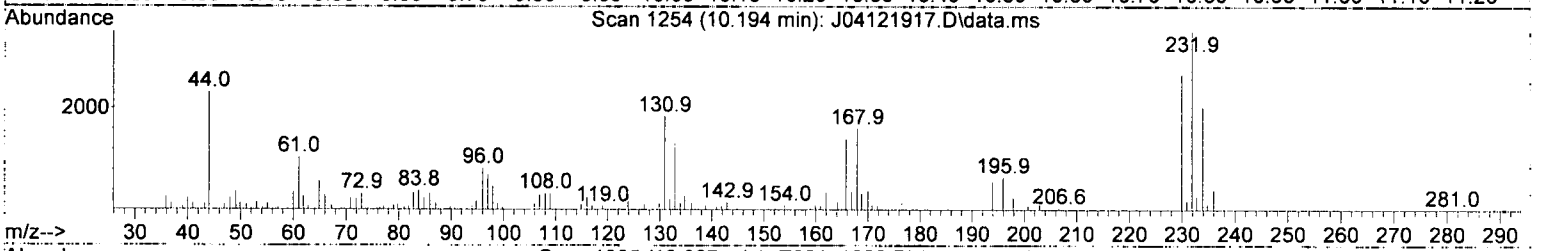
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	52.42
229.90	78.40	76.01
0.00	0.00	0.00

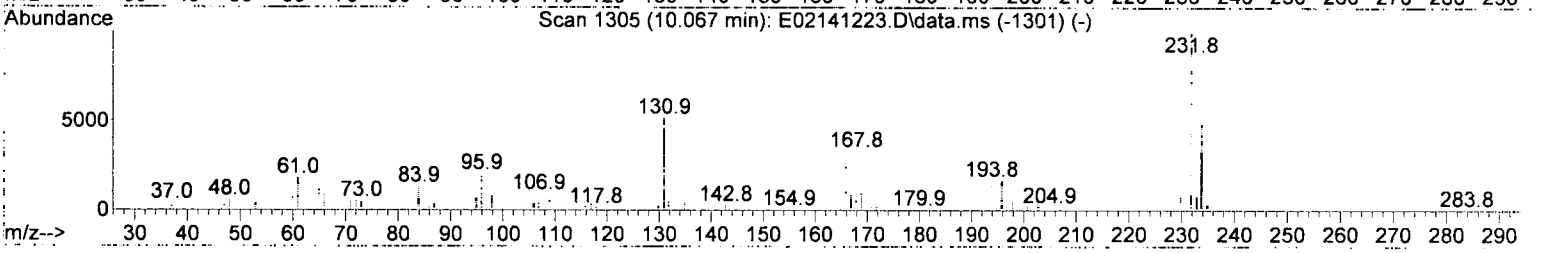
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121917.D
Acq On : 12 Apr 2019 8:03 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:06 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121917.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.194min (+ 0.000) 74.97 ng/ml m

response 4761

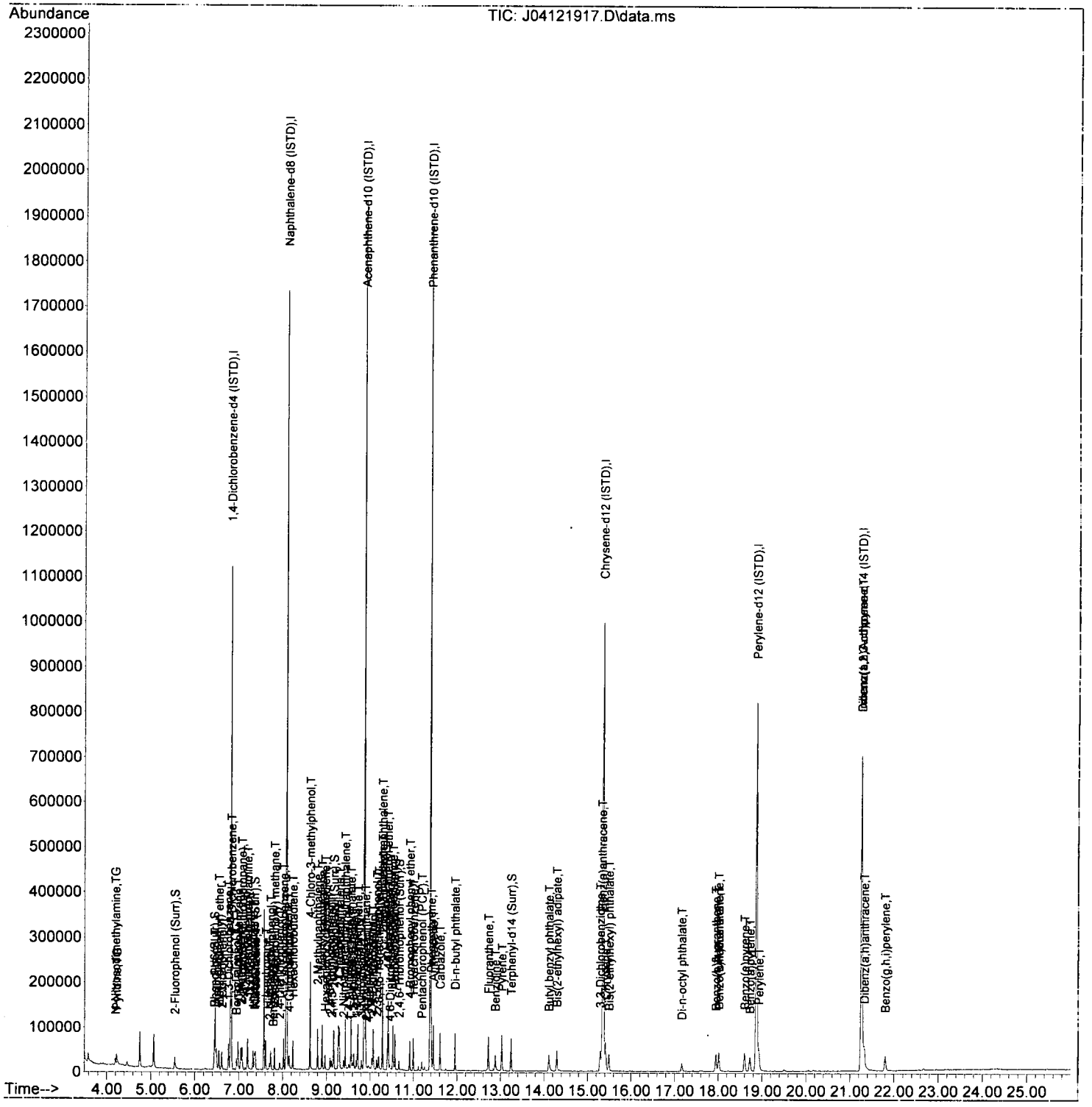
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	52.42
229.90	78.40	76.01
0.00	0.00	0.00

4/19/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121917.D
Acq On : 12 Apr 2019 8:03 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:06 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JJ 9/19/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.814	152	222946	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	907511	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.862	162	458269	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.381	188	795971	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.355	240	745877	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.875	264	691727	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.266	292	629435	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	28367	180.74	ng/ml	0.00
5) Phenol-d6(Surr)	6.439	99	34950	167.79	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	29144	162.62	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	71986	210.94	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	7004	153.11	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	72239	195.58	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.198	74	18590	160.85	ng/ml	92
3) Pyridine	4.209	79	35631	193.42	ng/ml	92
6) Phenol	6.450	94	40326	172.18	ng/ml	98
7) Aniline	6.493	93	41636	203.70	ng/ml	93
8) Bis(2-chloroethyl) ether	6.546	93	38143	220.16	ng/ml	99
9) 2-Chlorophenol	6.605	128	29959	182.66	ng/ml	96
10) 1,3-Dichlorobenzene	6.760	146	36684	212.34	ng/ml	98
11) 1,4-Dichlorobenzene	6.824	146	35701	212.17	ng/ml	96
12) Benzyl alcohol	6.942	108	14374	130.54	ng/ml	95
13) 1,2-Dichlorobenzene	6.985	146	36123	218.68	ng/ml	95
14) 2-Methylphenol	7.044	107	22860	177.37	ng/ml	97
15) 2,2'-Oxybis(1-Chloropr...	7.070	45	44983	198.21	ng/ml	92
16) N-Nitrosodi-n-propylamine	7.199	70	25133	197.05	ng/ml	96
17) 3+4-Methylphenol	7.193	107	26267	165.67	ng/ml	97
18) Hexachloroethane	7.322	201	9240	195.16	ng/ml	84
20) Nitrobenzene	7.375	77	31068	177.59	ng/ml	99
22) Isophorone	7.611	82	70389	204.63	ng/ml	98
23) 2-Nitrophenol	7.696	139	10018	112.14	ng/ml	88
24) 2,4-Dimethylphenol	7.723	122	23349	165.99	ng/ml	98
25) Bis(2-chloroethoxy) me...	7.814	93	39106	201.39	ng/ml	96
26) Benzoic acid	7.814	105	384	538.84	ng/ml	93
27) 2,4-Dichlorophenol	7.932	162	14168	125.31	ng/ml	92
28) 1,2,4-Trichlorobenzene	8.023	180	27382	200.53	ng/ml	95
29) Naphthalene	8.103	128	102649	212.05	ng/ml	100
30) 4-Chloroaniline	8.146	127	23535	201.56	ng/ml	98
31) Hexachlorobutadiene	8.231	225	14260	197.98	ng/ml	96
32) 4-Chloro-3-methylphenol	8.622	107	17148	125.44	ng/ml	98
33) 2-Methylnaphthalene	8.798	142	67852	209.83	ng/ml	97
34) 1-Methylnaphthalene	8.900	142	66438	213.99	ng/ml	97
36) Hexachlorocyclopentadiene	8.969	237	9648	134.89	ng/ml	99
37) 2,4,6-Trichlorophenol	9.082	196	11339	140.09	ng/ml	99
38) 2,4,5-Trichlorophenol	9.119	198	10174	127.91	ng/ml	97
39) 1,1'-Biphenyl	9.269	154	81722	212.56	ng/ml	99
41) 2-Chloronaphthalene	9.295	162	56267	206.96	ng/ml	95
42) 2-Nitroaniline	9.386	138	10366	110.39	ng/ml	97
43) 2,6-Dimethylnaphthalene	9.429	156	60607	215.87	ng/ml	98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

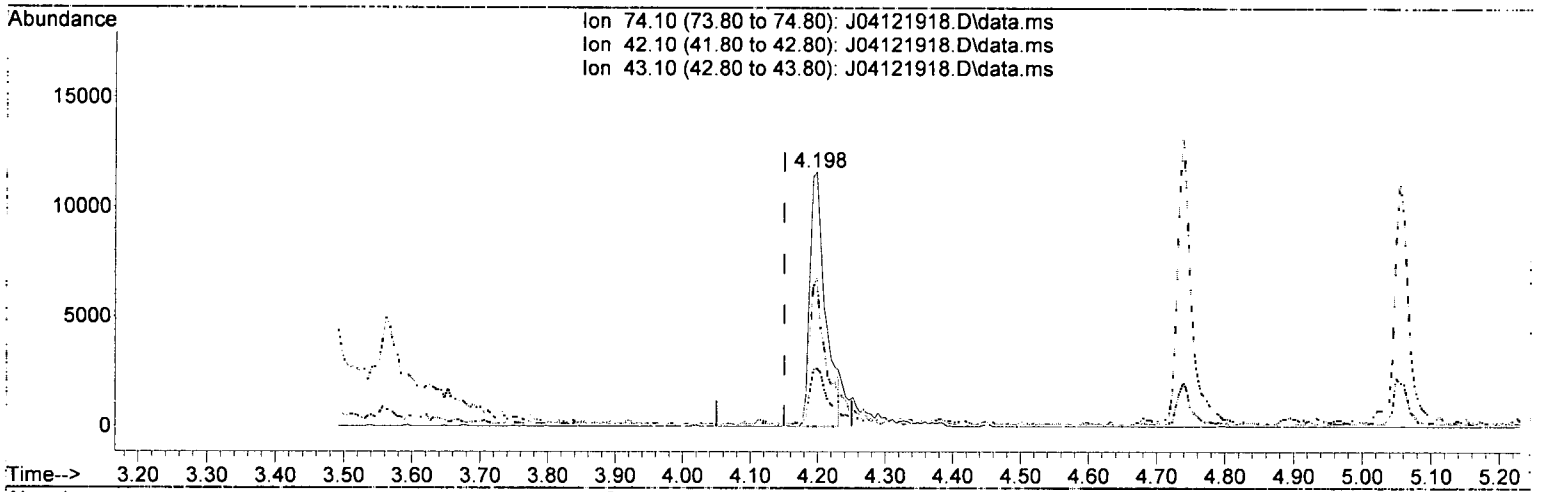
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	1,4-Dinitrobenzene	9.515	168	2775	64.01	ng/ml	86
45)	Dimethyl phthalate	9.563	163	68197	206.53	ng/ml	97
46)	1,3-Dinitrobenzene	9.595	168	4684	96.88	ng/ml	83
47)	2,6-Dinitrotoluene	9.627	165	11248	157.08	ng/ml	94
48)	1,2-Dinitrobenzene	9.681	168	5007	149.85	ng/ml	90
49)	Acenaphthylene	9.718	152	96629	196.46	ng/ml	99
50)	3-Nitroaniline	9.798	138	11232	169.11	ng/ml	93
51)	Acenaphthene	9.895	153	64550	207.72	ng/ml	99
52)	2,4-Dinitrophenol	9.905	184	631	162.38	ng/ml#	52
53)	4-Nitrophenol	9.959	139	5108	91.80	ng/ml	88
54)	2,4-Dinitrotoluene	10.039	165	11165	124.31	ng/ml	97
55)	Dibenzofuran	10.071	168	85043	213.97	ng/ml	99
56)	2,3,5,6-Tetrachlorophenol	10.151	232	9240	145.70	ng/ml	89
57)	2,3,4,6-Tetrachlorophenol	10.194	232	11552	175.34	ng/ml	89
58)	Diethyl phthalate	10.280	149	68644	211.02	ng/ml	98
59)	2,3,5-Trimethylnaphtha...	10.280	170	55486	214.09	ng/ml	99
60)	Fluorene	10.419	166	68196	217.15	ng/ml	99
61)	4-Chlorophenyl phenyl ...	10.408	204	29693	207.85	ng/ml	96
62)	4-Nitroaniline	10.419	138	11137	181.96	ng/ml	96
63)	4,6-Dinitro-2-methylph...	10.456	198	2085	114.28	ng/ml	93
65)	N-Nitrosodiphenylamine	10.526	169	55332	207.08	ng/ml	99
66)	Azobenzene (1,2-DPH)	10.568	77	74635	210.19	ng/ml	95
68)	4-Bromophenyl phenyl e...	10.911	248	17137	193.88	ng/ml	98
69)	Hexachlorobenzene	10.991	284	19743	196.98	ng/ml	95
70)	Pentachlorophenol (PCP)	11.184	266	7672	203.24	ng/ml	97
71)	Phenanthrene	11.403	178	95305	214.48	ng/ml	99
72)	Anthracene	11.451	178	94023	209.92	ng/ml	98
73)	Carbazole	11.606	167	80323	213.71	ng/ml	98
74)	Di-n-butyl phthalate	11.948	149	102422	166.02	ng/ml	98
75)	Fluoranthene	12.719	202	96117	196.29	ng/ml	98
76)	Benzidine	12.874	184	43225	487.30	ng/ml	97
77)	Pyrene	13.029	202	98204	194.79	ng/ml	98
80)	Butyl benzyl phthalate	14.109	149	33181	130.86	ng/ml	97
81)	Bis(2-ethylhexyl) adipate	14.291	129	32652	86.44	ng/ml	99
82)	3,3-Dichlorobenzidine	15.286	252	40983	321.81	ng/ml	94
83)	Benz(a)anthracene	15.329	228	84134	196.01	ng/ml	97
84)	Chrysene	15.409	228	81237	200.60	ng/ml	97
85)	Bis(2-ethylhexyl) phth...	15.489	149	48543	145.33	ng/ml	97
87)	Di-n-octyl phthalate	17.163	149	57618	112.15	ng/ml	99
88)	Benzo(b)fluoranthene	17.944	252	73883	186.28	ng/ml	96
89)	Benzo(k)fluoranthene	18.014	252	77404	207.53	ng/ml	96
90)	Benzo(b+k)fluoranthene	18.014	252	154717	393.88	ng/ml	96
91)	Benzo(e)pyrene	18.602	252	76788	197.50	ng/ml	99
92)	Benzo(a)pyrene	18.720	252	69007	190.52	ng/ml	97
93)	Perylene	18.923	252	76410	207.23	ng/ml	97
95)	Indeno(1,2,3-cd)pyrene	21.260	276	68379	198.17	ng/ml	90
96)	Dibenz(a,h)anthracene	21.325	278	62866	192.17	ng/ml	95
97)	Benzo(g,h,i)perylene	21.801	276	68971	191.73	ng/ml	98

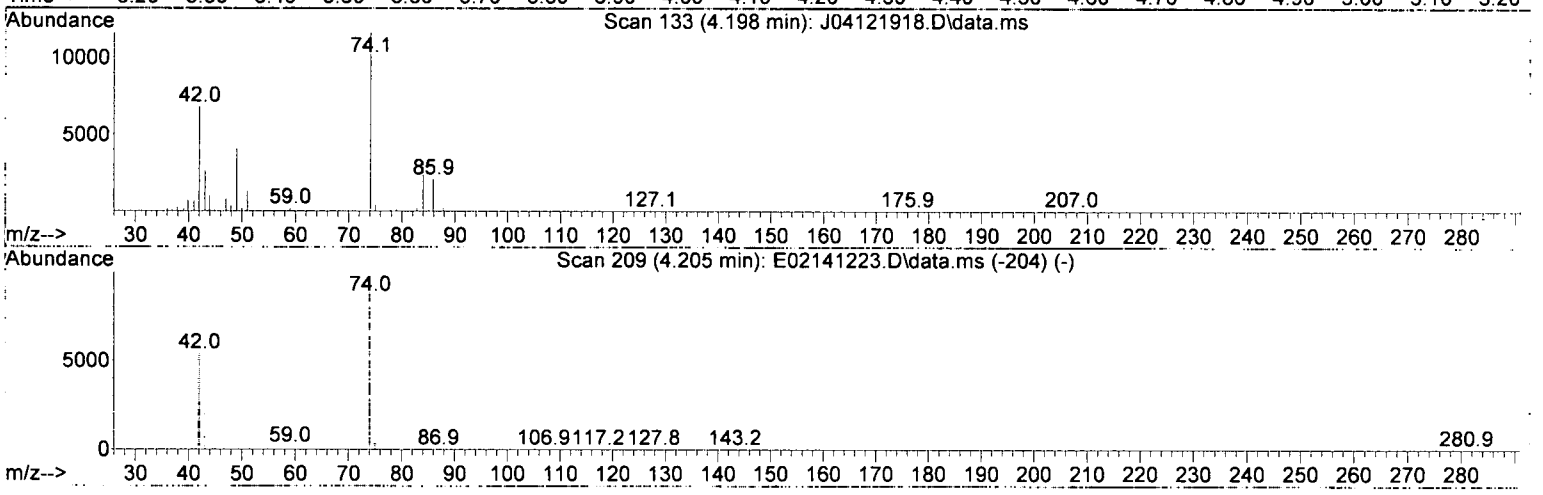
(#) = qualifier out of range (m) = manual integration (+) = signals summed

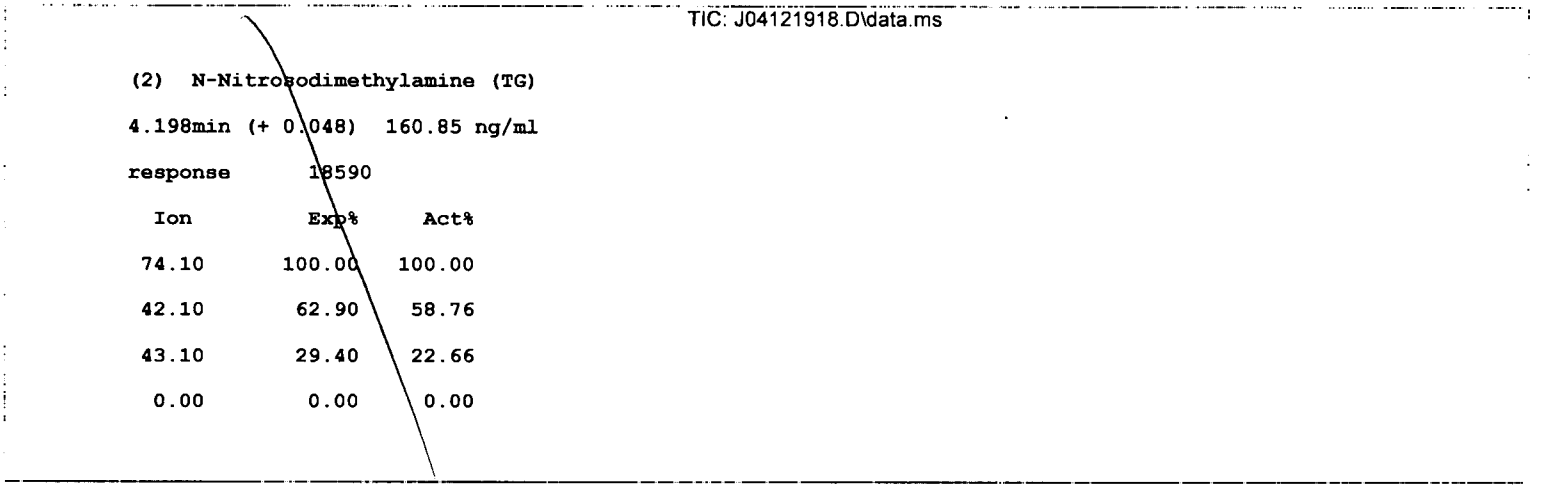
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







(2) N-Nitrosodimethylamine (TG)

4.198min (+ 0.048) 160.85 ng/ml

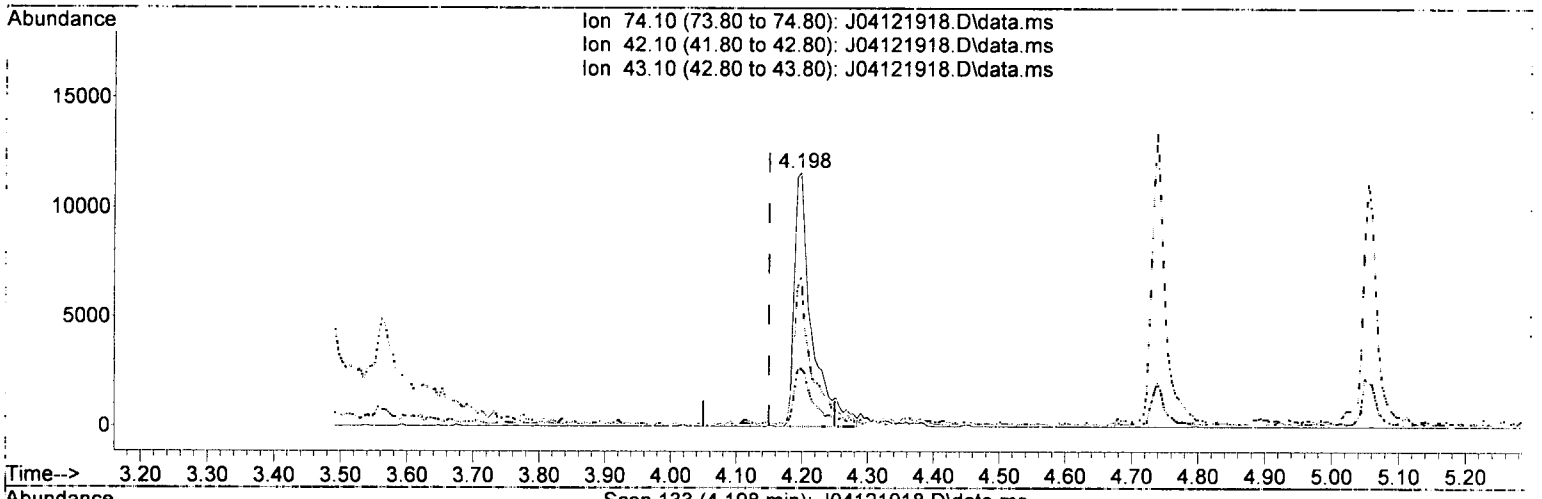
response 18590

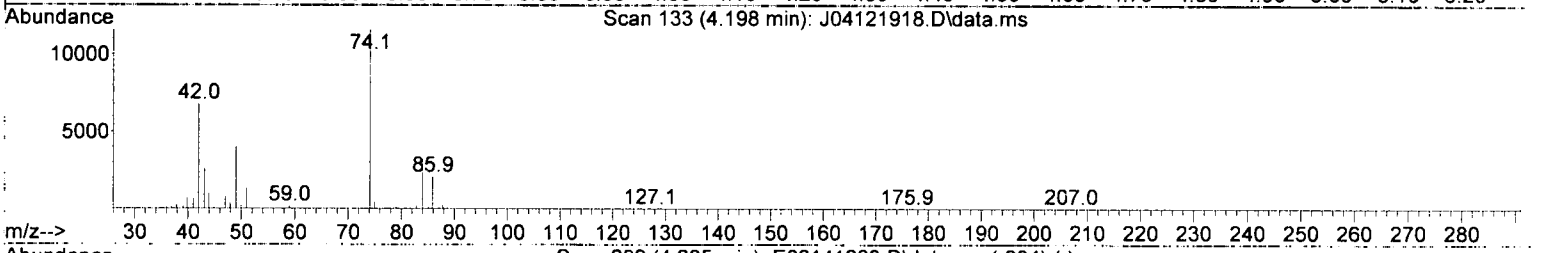
Ion	Exp%	Act%
74.10	100.00	100.00
42.10	62.90	58.76
43.10	29.40	22.66
0.00	0.00	0.00

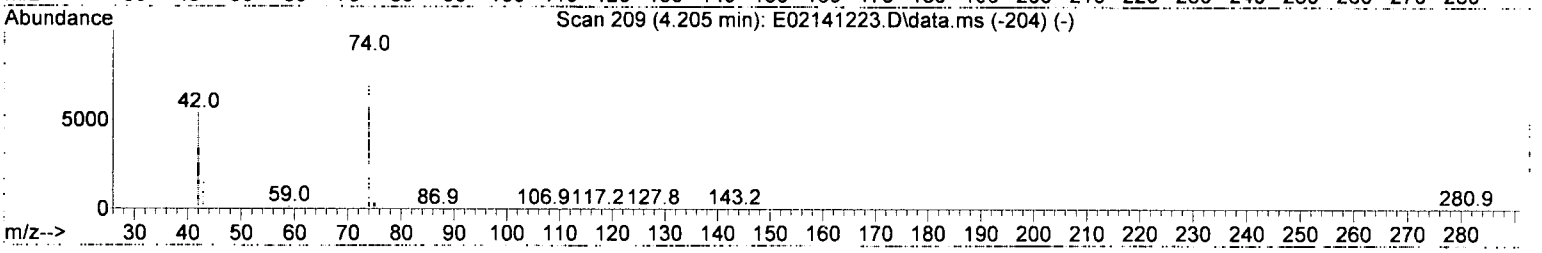
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121918.D\data.ms

(2) N-Nitrosodimethylamine (TG)

4.198min (+ 0.048) 187.68 ng/ml m

response 21690

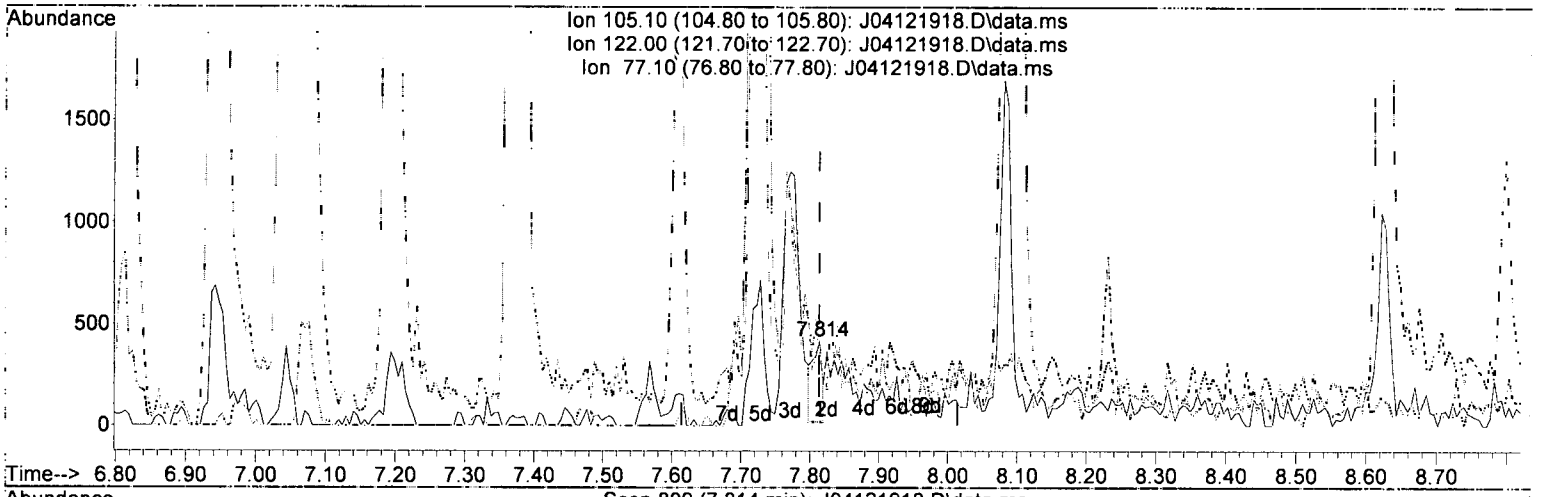
Ion	Exp%	Act%
74.10	100.00	100.00
42.10	62.90	58.76
43.10	29.40	22.66
0.00	0.00	0.00

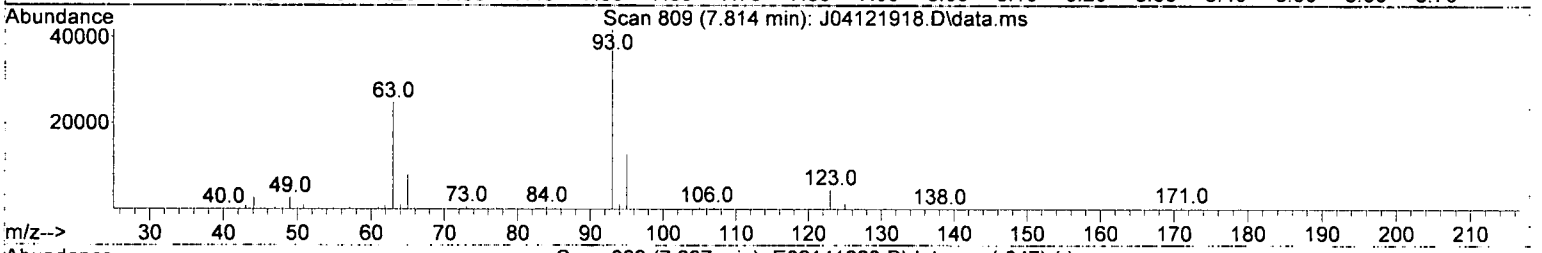
4/15/19

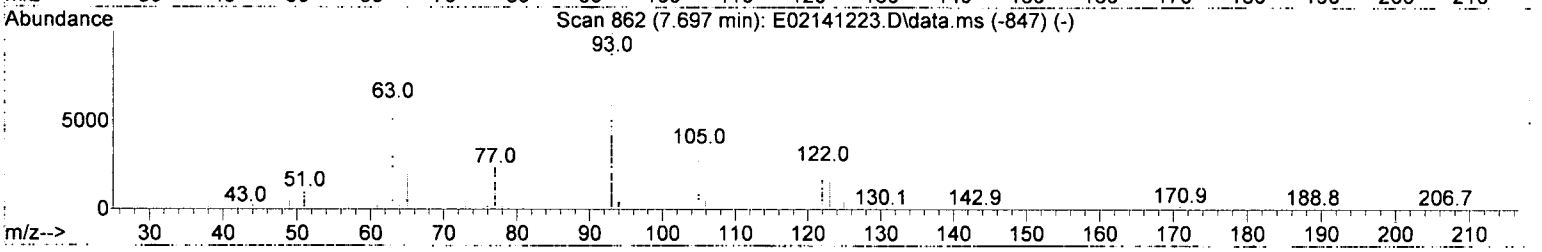
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121918.D\data.ms

(26) Benzoic acid (T)

7.814min (+ 0.000) 538.84 ng/ml

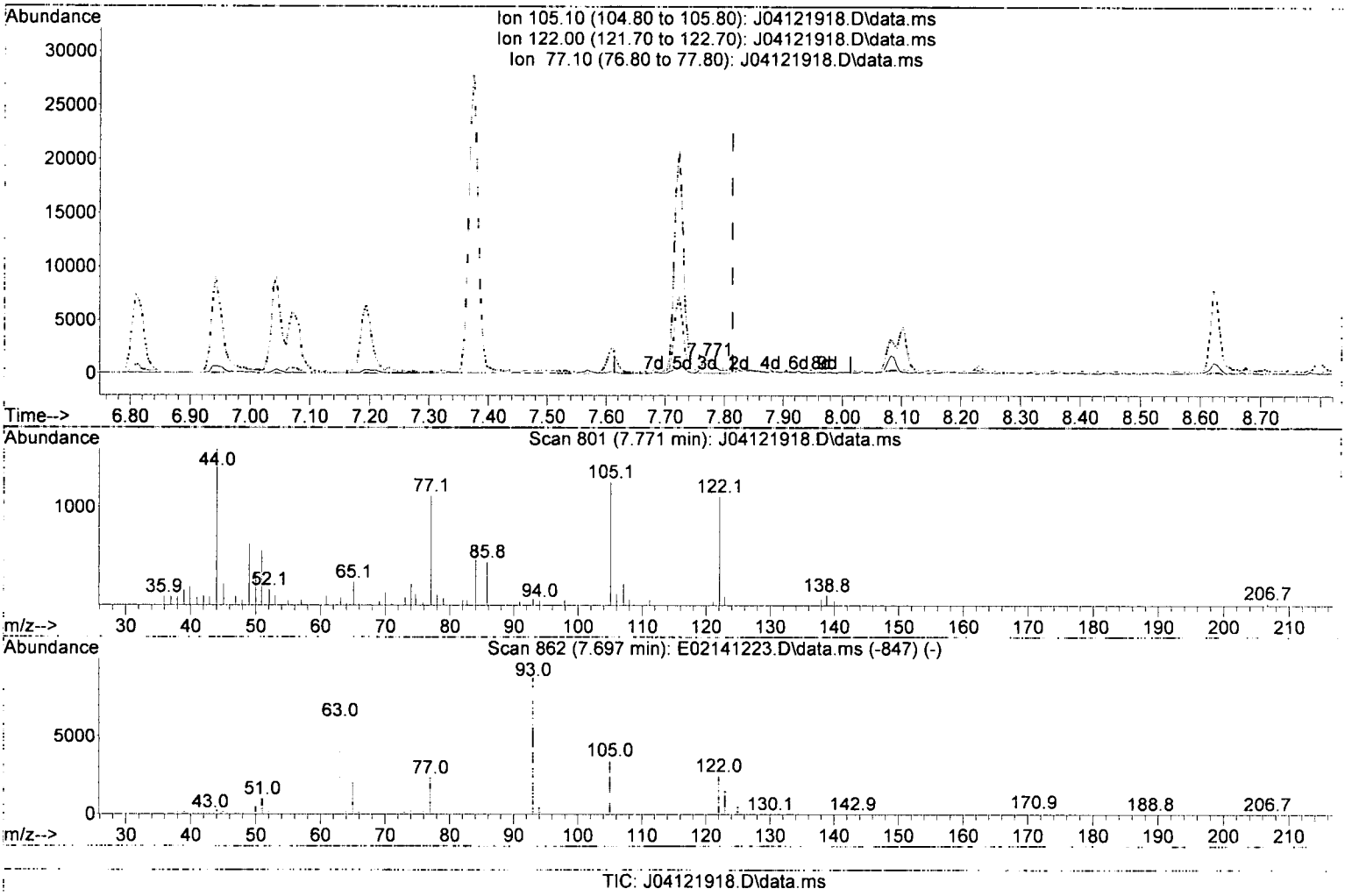
response 384

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	78.90
77.10	76.00	86.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J04121918.D\data.ms

(26) Benzoic acid (T)

7.771min (-0.043) 561.53 ng/ml m

response 2517

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	88.71
77.10	76.00	88.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
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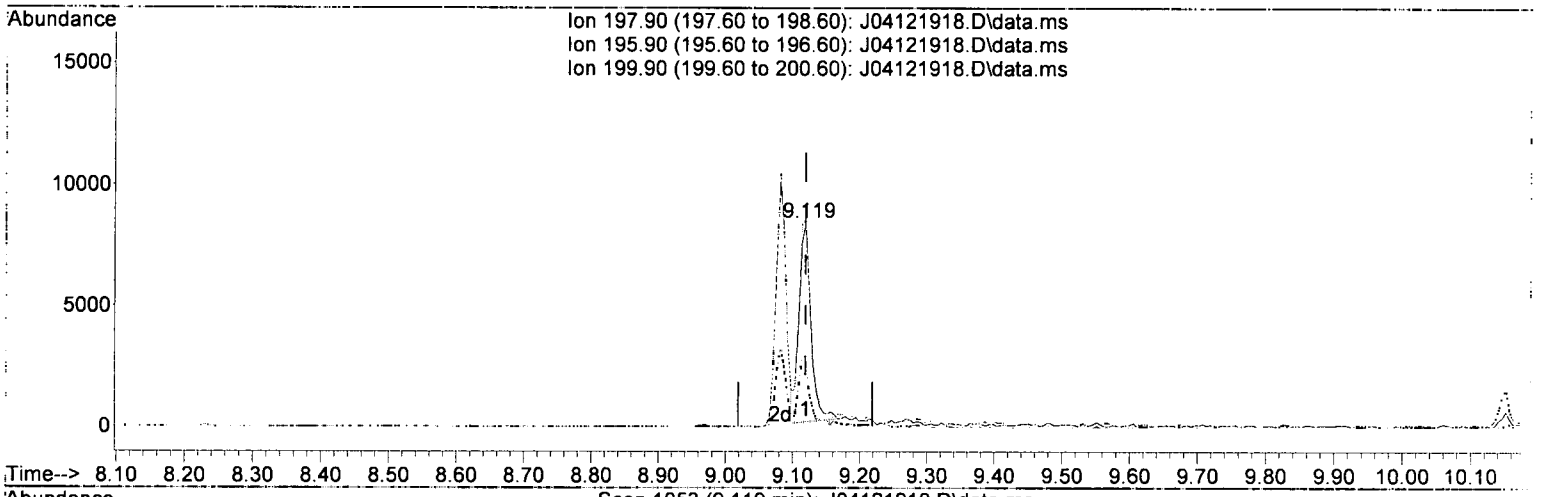
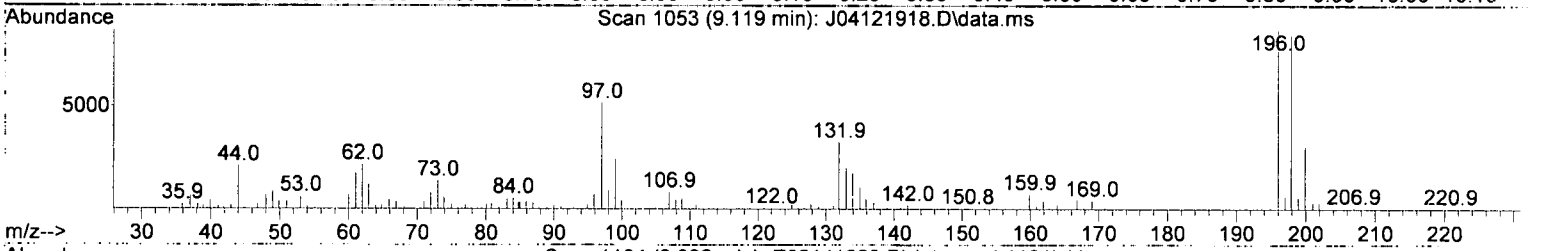
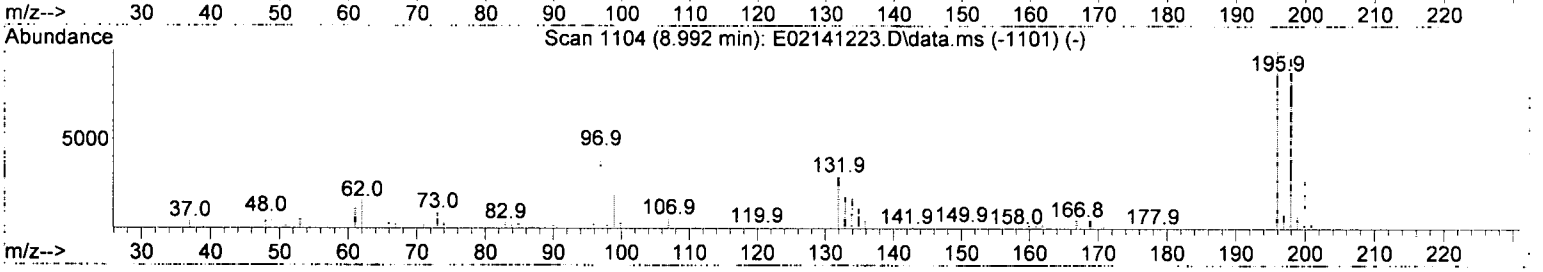






TIC: J04121918.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.119min (+ 0.000) 127.91 ng/ml

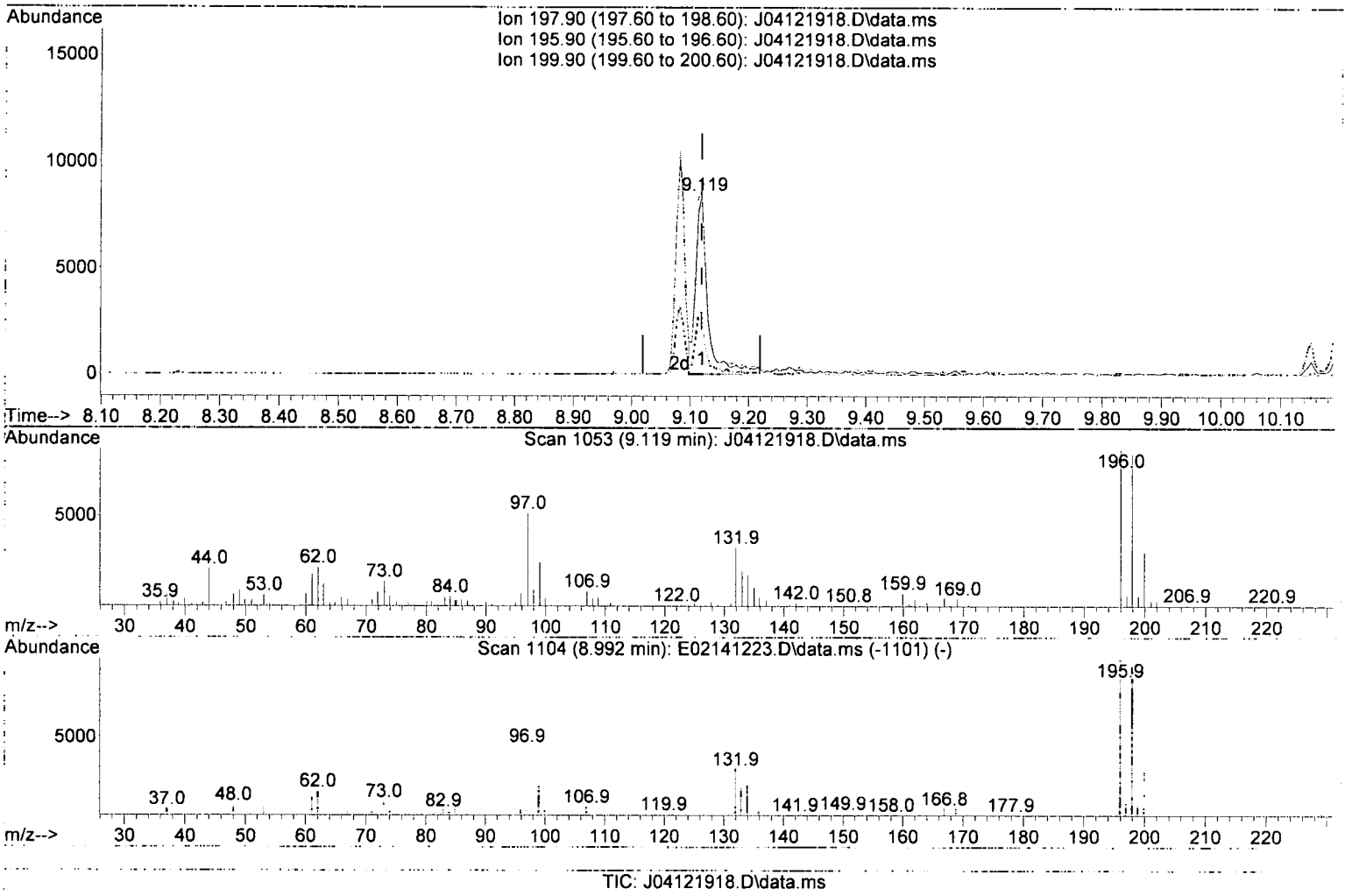
response 10174

Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	102.98
199.90	31.10	35.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



(38) 2,4,5-Trichlorophenol (T)

9.119min (+ 0.000) 145.31 ng/ml m 9/15/19

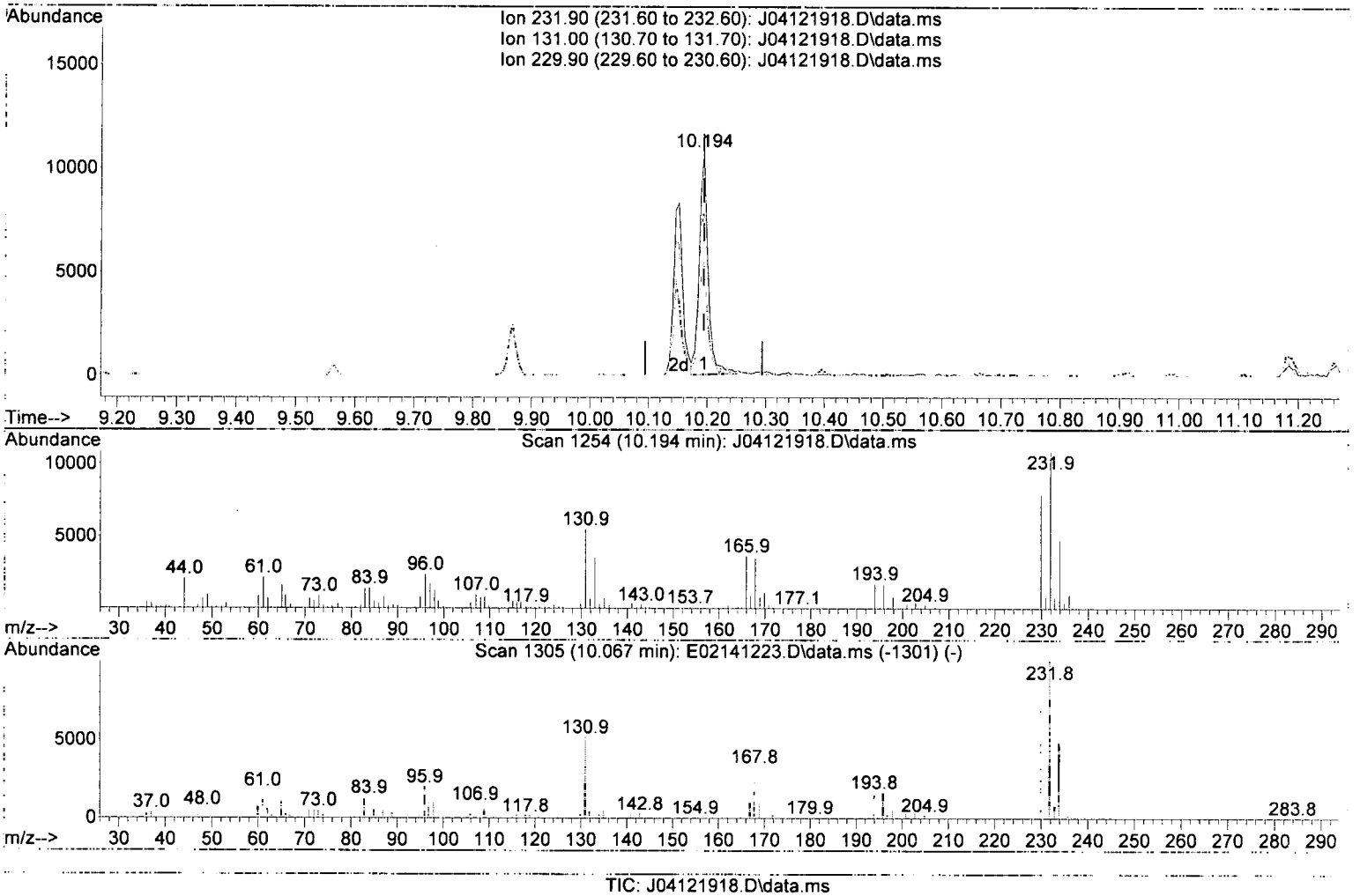
response 11558

Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	102.98
199.90	31.10	35.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J04121918.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.194min (+ 0.000) 175.34 ng/ml

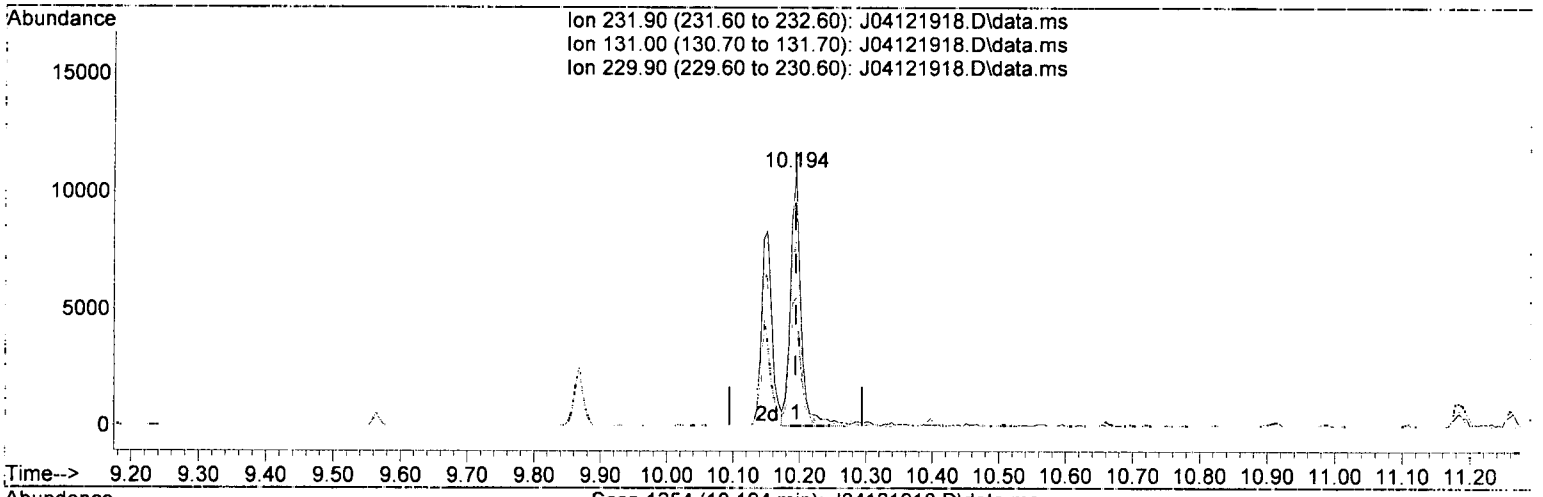
response 11552

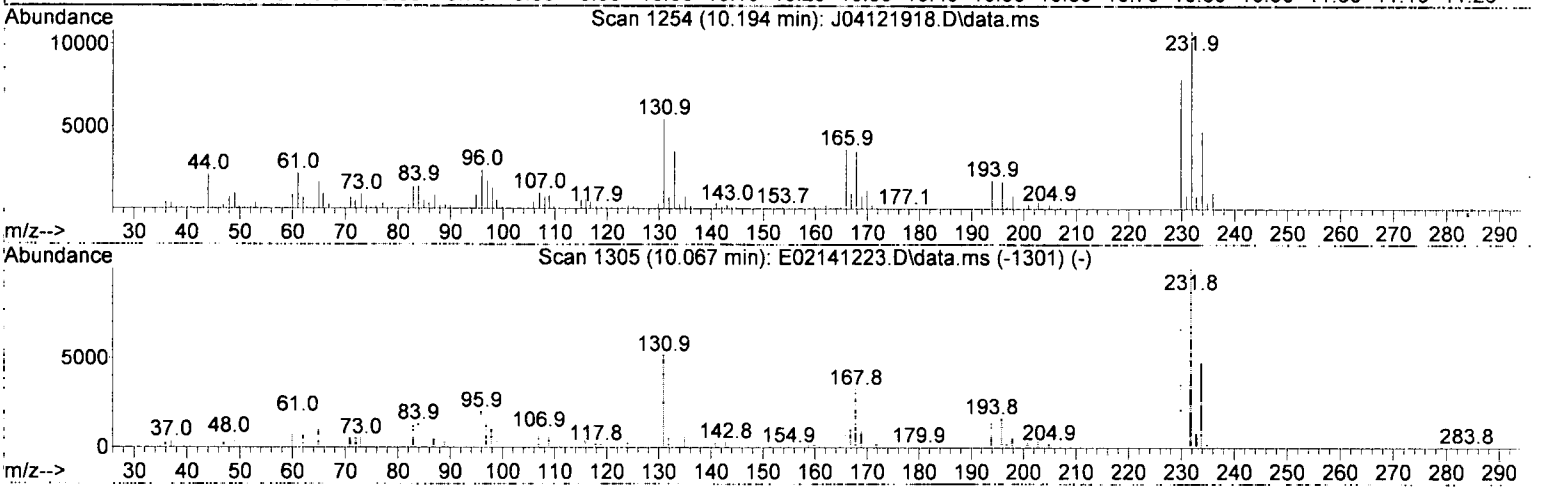
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	50.53
229.90	78.40	72.77
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10





TIC: J04121918.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.194min (+ 0.000) 182.43 ng/ml m

response 12019

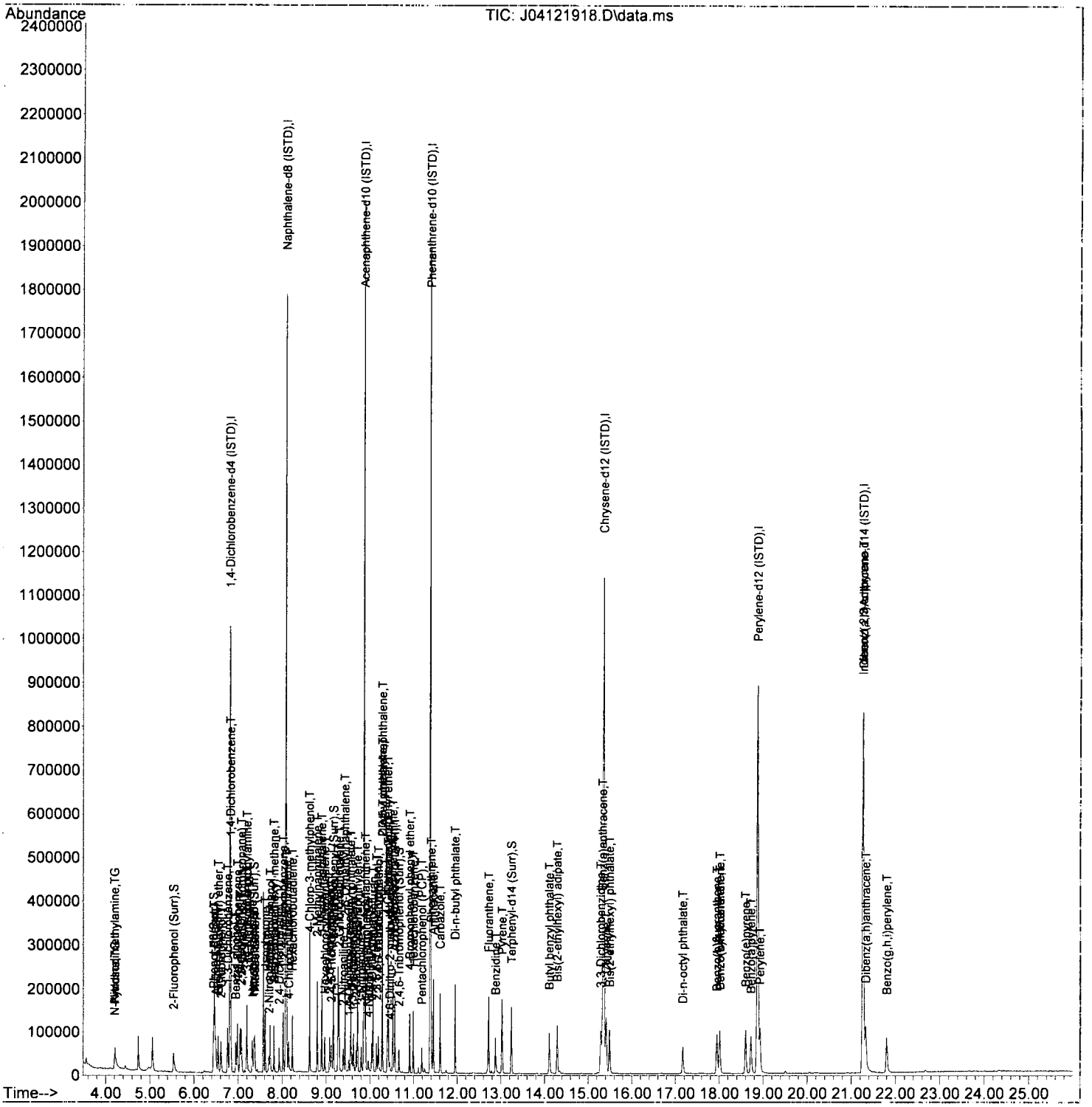
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	50.53
229.90	78.40	72.77
0.00	0.00	0.00

JK 4/15/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121918.D
Acq On : 12 Apr 2019 8:39 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:11 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121919.D
Acq On : 12 Apr 2019 9:16 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL5
Misc : 1x, A19D057 BNA@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:16 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JK 4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	217042	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	898567	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.862	162	434239	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.381	188	738796	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.355	240	671794	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.875	264	611227	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.266	292	566816	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.530	112	73276	479.58	ng/ml	0.00
5) Phenol-d6(Surr)	6.434	99	92867	457.98	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	77263	442.84	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	177018	547.41	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	17282	407.03	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	169985	510.97	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.155	74	53776	477.96	ng/ml	95
3) Pyridine	4.177	79	87366	487.15	ng/ml	92
6) Phenol	6.450	94	105308	461.87	ng/ml	99
7) Aniline	6.487	93	106597	535.71	ng/ml	97
8) Bis(2-chloroethyl) ether	6.541	93	96650	573.04	ng/ml	99
9) 2-Chlorophenol	6.605	128	78427	491.19	ng/ml	96
10) 1,3-Dichlorobenzene	6.755	146	88880	528.47	ng/ml	98
11) 1,4-Dichlorobenzene	6.824	146	87396	533.51	ng/ml	98
12) Benzyl alcohol	6.937	108	38189	356.25	ng/ml	94
13) 1,2-Dichlorobenzene	6.979	146	87063	541.39	ng/ml	97
14) 2-Methylphenol	7.044	107	61181	487.62	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.070	45	112928	511.15	ng/ml	91
16) N-Nitrosodi-n-propylamine	7.199	70	67493	543.56	ng/ml	99
17) 3+4-Methylphenol	7.193	107	77098	499.51	ng/ml	97
18) Hexachloroethane	7.322	201	23400	507.68	ng/ml	96
20) Nitrobenzene	7.375	77	80603	473.27	ng/ml	98
22) Isophorone	7.605	82	179496	527.00	ng/ml	100
23) 2-Nitrophenol	7.696	139	30957	349.98	ng/ml	95
24) 2,4-Dimethylphenol	7.723	122	69085	496.01	ng/ml	97
25) Bis(2-chloroethoxy) me...	7.814	93	99782	518.97	ng/ml	99
26) Benzoic acid	7.787	105	23976	791.78	ng/ml	98
27) 2,4-Dichlorophenol	7.931	162	50336	449.64	ng/ml	96
28) 1,2,4-Trichlorobenzene	8.022	180	68791	508.81	ng/ml	98
29) Naphthalene	8.103	128	257687	537.62	ng/ml	99
30) 4-Chloroaniline	8.145	127	75620	654.08	ng/ml	95
31) Hexachlorobutadiene	8.231	225	35545	498.41	ng/ml	95
32) 4-Chloro-3-methylphenol	8.621	107	61878	457.14	ng/ml	97
33) 2-Methylnaphthalene	8.798	142	173683	542.45	ng/ml	98
34) 1-Methylnaphthalene	8.900	142	168058	546.68	ng/ml	97
36) Hexachlorocyclopentadiene	8.969	237	28477	420.18	ng/ml	99
37) 2,4,6-Trichlorophenol	9.081	196	35536	463.35	ng/ml	97
38) 2,4,5-Trichlorophenol	9.114	198	34165	453.29	ng/ml	99
39) 1,1'-Biphenyl	9.269	154	202383	555.54	ng/ml	99
41) 2-Chloronaphthalene	9.295	162	143842	558.35	ng/ml	98
42) 2-Nitroaniline	9.386	138	37427	420.62	ng/ml	98
43) 2,6-Dimethylnaphthalene	9.429	156	147706	555.20	ng/ml	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121919.D
Acq On : 12 Apr 2019 9:16 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL5
Misc : 1x, A19D057 BNA@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:16 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

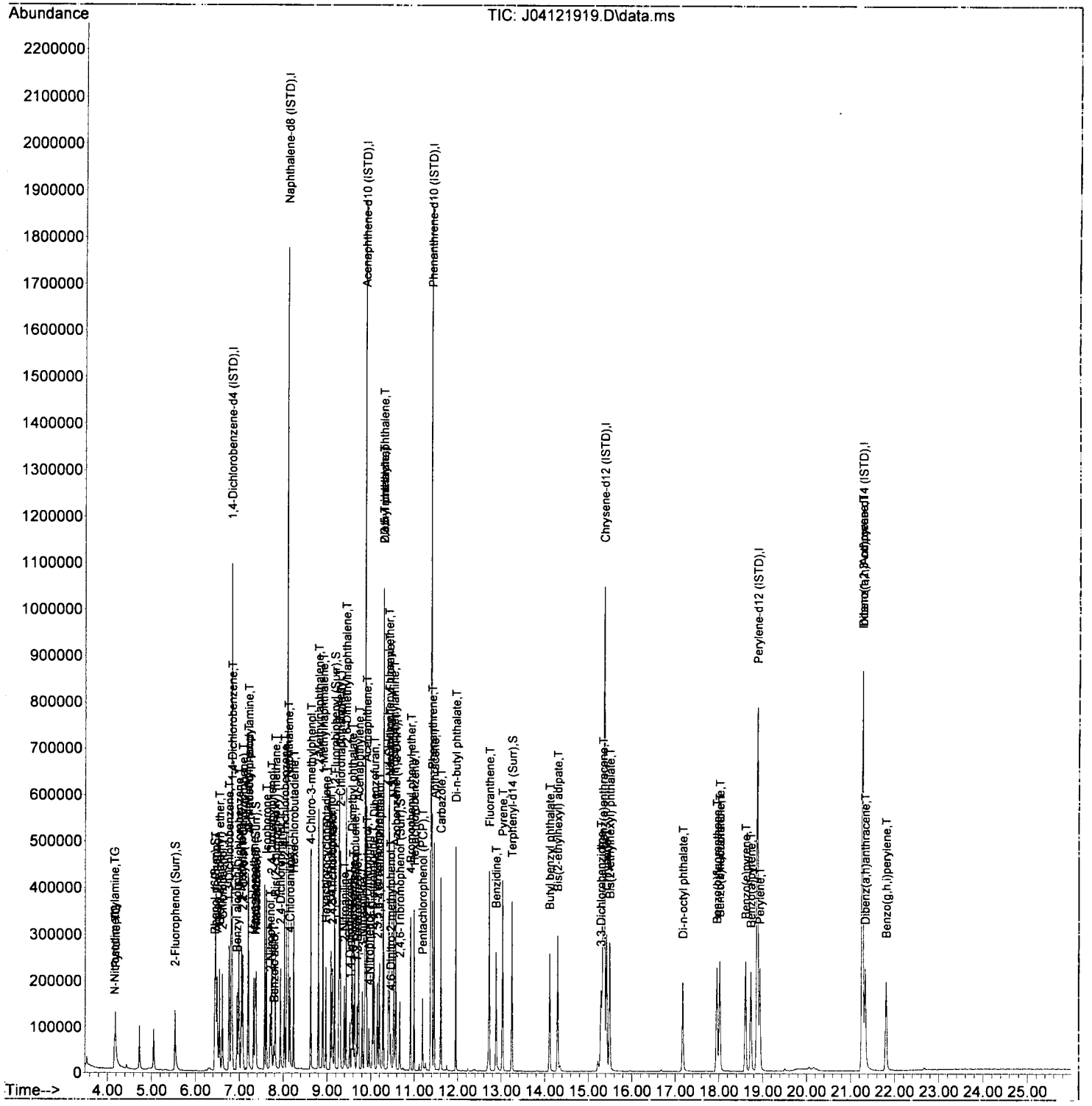
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	1,4-Dinitrobenzene	9.515	168	10966	266.95	ng/ml	96
45)	Dimethyl phthalate	9.568	163	166367	531.71	ng/ml	98
46)	1,3-Dinitrobenzene	9.595	168	16599	362.32	ng/ml	87
47)	2,6-Dinitrotoluene	9.627	165	31238	460.37	ng/ml	95
48)	1,2-Dinitrobenzene	9.686	168	14052	443.83	ng/ml	96
49)	Acenaphthylene	9.718	152	239738	514.40	ng/ml	99
50)	3-Nitroaniline	9.804	138	31835	510.70	ng/ml	98
51)	Acenaphthene	9.894	153	152764	518.80	ng/ml	99
52)	2,4-Dinitrophenol	9.905	184	3186	255.57	ng/ml	88
53)	4-Nitrophenol	9.959	139	16667	316.12	ng/ml	97
54)	2,4-Dinitrotoluene	10.039	165	34132	401.04	ng/ml	93
55)	Dibenzofuran	10.071	168	203340	539.93	ng/ml	99
56)	2,3,5,6-Tetrachlorophenol	10.151	232	26249	436.81	ng/ml	89
57)	2,3,4,6-Tetrachlorophenol	10.194	232	29885	478.70	ng/ml	91
58)	Diethyl phthalate	10.280	149	165131	535.73	ng/ml	99
59)	2,3,5-Trimethylnaphtha...	10.280	170	130703	532.22	ng/ml	98
60)	Fluorene	10.419	166	160999	541.02	ng/ml	98
61)	4-Chlorophenyl phenyl ...	10.408	204	70419	520.22	ng/ml	99
62)	4-Nitroaniline	10.424	138	27588	475.69	ng/ml	93
63)	4,6-Dinitro-2-methylph...	10.456	198	7777	266.49	ng/ml	96
65)	N-Nitrosodiphenylamine	10.526	169	133109	536.71	ng/ml	98
66)	Azobenzene (1,2-DPH)	10.568	77	177851	539.63	ng/ml	96
68)	4-Bromophenyl phenyl e...	10.911	248	40555	494.33	ng/ml	96
69)	Hexachlorobenzene	10.991	284	46685	501.82	ng/ml	96
70)	Pentachlorophenol (PCP)	11.183	266	18590	449.47	ng/ml	95
71)	Phenanthrene	11.403	178	217396	527.11	ng/ml	99
72)	Anthracene	11.456	178	221004	531.60	ng/ml	99
73)	Carbazole	11.606	167	187353	581.37	ng/ml	98
74)	Di-n-butyl phthalate	11.948	149	254292	473.52	ng/ml	99
75)	Fluoranthene	12.719	202	228649	503.09	ng/ml	99
76)	Benzidine	12.874	184	133741	1511.70	ng/ml	98
77)	Pyrene	13.029	202	236036	504.41	ng/ml	99
80)	Butyl benzyl phthalate	14.109	149	94315	412.99	ng/ml	96
81)	Bis(2-ethylhexyl) adipate	14.291	129	89139	395.05	ng/ml	97
82)	3,3-Dichlorobenzidine	15.286	252	74081	895.49	ng/ml	97
83)	Benz(a)anthracene	15.329	228	193655	500.91	ng/ml	99
84)	Chrysene	15.414	228	184149	504.87	ng/ml	99
85)	Bis(2-ethylhexyl) phth...	15.489	149	135678	451.00	ng/ml	98
87)	Di-n-octyl phthalate	17.169	149	179707	395.85	ng/ml	97
88)	Benzo(b)fluoranthene	17.950	252	182995	522.16	ng/ml	95
89)	Benzo(k)fluoranthene	18.014	252	185113	561.68	ng/ml	98
90)	Benzo(b+k)fluoranthene	18.014	252	376051	1083.43	ng/ml	98
91)	Benzo(e)pyrene	18.607	252	185968	541.30	ng/ml	98
92)	Benzo(a)pyrene	18.725	252	167492	523.32	ng/ml	97
93)	Perylene	18.928	252	164210	503.99	ng/ml	100
95)	Indeno(1,2,3-cd)pyrene	21.260	276	156537	503.78	ng/ml	94
96)	Dibenz(a,h)anthracene	21.324	278	147780	501.64	ng/ml	97
97)	Benzo(g,h,i)perylene	21.806	276	166477	513.91	ng/ml	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121919.D
Acq On : 12 Apr 2019 9:16 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL5
Misc : 1x, A19D057 BNA@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:16 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121920.D
Acq On : 12 Apr 2019 9:52 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL6
Misc : 1x, A19D058 BNA@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:21 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JK 4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	207595	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	870566	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.868	162	408985	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.381	188	701196	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.355	240	609064	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.875	264	550560	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.266	292	510954	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	141127	965.69	ng/ml	0.00
5) Phenol-d6(Surr)	6.434	99	182856	942.79	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	153864	922.01	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	318318	1045.15	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	34203	848.76	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	302416	1002.69	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.150	74	104701	972.93	ng/ml	95
3) Pyridine	4.177	79	177059	1032.21	ng/ml	91
6) Phenol	6.450	94	183416	841.06	ng/ml	95
7) Aniline	6.487	93	224184	1177.92	ng/ml	96
8) Bis(2-chloroethyl) ether	6.541	93	176845	1096.24	ng/ml	97
9) 2-Chlorophenol	6.605	128	154232	1009.91	ng/ml	94
10) 1,3-Dichlorobenzene	6.755	146	162324	1009.08	ng/ml	97
11) 1,4-Dichlorobenzene	6.830	146	158903	1014.17	ng/ml	100
12) Benzyl alcohol	6.937	108	86489	843.54	ng/ml	92
13) 1,2-Dichlorobenzene	6.979	146	158706	1031.80	ng/ml	98
14) 2-Methylphenol	7.044	107	123097	1025.74	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.070	45	207984	984.24	ng/ml	92
16) N-Nitrosodi-n-propylamine	7.199	70	126521	1065.32	ng/ml	99
17) 3+4-Methylphenol	7.193	107	154518	1046.66	ng/ml	98
18) Hexachloroethane	7.322	201	42742	969.53	ng/ml	95
20) Nitrobenzene	7.375	77	159222	977.44	ng/ml	96
22) Isophorone	7.605	82	336596	1020.04	ng/ml	100
23) 2-Nitrophenol	7.696	139	70238	819.60	ng/ml	94
24) 2,4-Dimethylphenol	7.723	122	137294	1017.44	ng/ml	98
25) Bis(2-chloroethoxy) me...	7.814	93	191279	1026.85	ng/ml	99
26) Benzoic acid	7.814	105	96370	1592.13	ng/ml	98
27) 2,4-Dichlorophenol	7.931	162	106512	982.06	ng/ml	96
28) 1,2,4-Trichlorobenzene	8.022	180	129034	985.09	ng/ml	99
29) Naphthalene	8.103	128	475302	1023.54	ng/ml	99
30) 4-Chloroaniline	8.145	127	151775	1355.01	ng/ml	98
31) Hexachlorobutadiene	8.231	225	67844	981.90	ng/ml	96
32) 4-Chloro-3-methylphenol	8.621	107	126121	961.72	ng/ml	95
33) 2-Methylnaphthalene	8.798	142	322088	1038.32	ng/ml	98
34) 1-Methylnaphthalene	8.900	142	303908	1020.38	ng/ml	98
36) Hexachlorocyclopentadiene	8.969	237	59442	931.23	ng/ml	97
37) 2,4,6-Trichlorophenol	9.081	196	69804	966.36	ng/ml	96
38) 2,4,5-Trichlorophenol	9.119	198	69025	972.35	ng/ml	97
39) 1,1'-Biphenyl	9.269	154	365897	1066.41	ng/ml	99
41) 2-Chloronaphthalene	9.295	162	256777	1058.27	ng/ml	97
42) 2-Nitroaniline	9.392	138	74805	892.61	ng/ml	95
43) 2,6-Dimethylnaphthalene	9.429	156	267086	1065.93	ng/ml	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121920.D
Acq On : 12 Apr 2019 9:52 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL6
Misc : 1x, A19D058 BNA@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:21 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

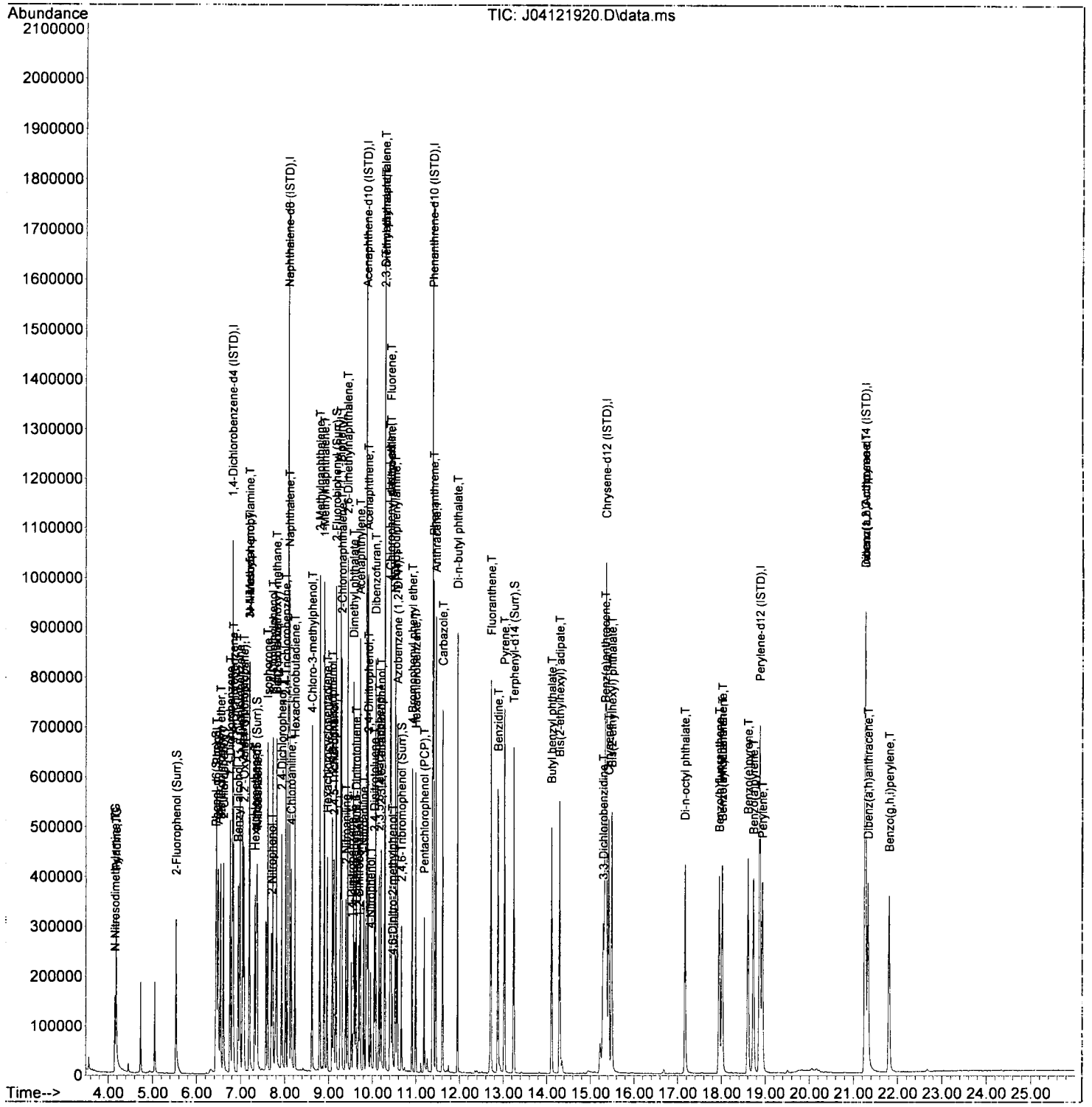
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.515	168	24586	635.47	ng/ml	90
45) Dimethyl phthalate	9.568	163	293273	995.18	ng/ml	98
46) 1,3-Dinitrobenzene	9.600	168	33847	784.43	ng/ml	98
47) 2,6-Dinitrotoluene	9.627	165	61642	964.55	ng/ml	98
48) 1,2-Dinitrobenzene	9.691	168	27578	924.83	ng/ml	87
49) Acenaphthylene	9.718	152	438645	999.30	ng/ml	99
50) 3-Nitroaniline	9.803	138	61316	1121.93	ng/ml	96
51) Acenaphthene	9.900	153	274380	989.35	ng/ml	99
52) 2,4-Dinitrophenol	9.905	184	9505	500.16	ng/ml	91
53) 4-Nitrophenol	9.959	139	38661	778.55	ng/ml	92
54) 2,4-Dinitrotoluene	10.039	165	72103	899.50	ng/ml	94
55) Dibenzofuran	10.071	168	357236	1007.14	ng/ml	99
56) 2,3,5,6-Tetrachlorophenol	10.151	232	53006	936.53	ng/ml	96
57) 2,3,4,6-Tetrachlorophenol	10.194	232	57975	985.99	ng/ml	94
58) Diethyl phthalate	10.285	149	290221	999.70	ng/ml	98
59) 2,3,5-Trimethylnaphtha...	10.280	170	228198	986.59	ng/ml	94
60) Fluorene	10.419	166	283189	1010.38	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.408	204	127242	998.03	ng/ml	96
62) 4-Nitroaniline	10.424	138	55130	1009.29	ng/ml	95
63) 4,6-Dinitro-2-methylph...	10.461	198	18318	569.15	ng/ml	89
65) N-Nitrosodiphenylamine	10.526	169	233117	990.35	ng/ml	99
66) Azobenzene (1,2-DPH)	10.574	77	317716	1015.71	ng/ml	92
68) 4-Bromophenyl phenyl e...	10.911	248	73569	944.82	ng/ml	96
69) Hexachlorobenzene	10.991	284	85256	965.57	ng/ml	98
70) Pentachlorophenol (PCP)	11.183	266	36665	877.43	ng/ml	97
71) Phenanthrene	11.403	178	396616	1013.22	ng/ml	100
72) Anthracene	11.456	178	394791	1000.55	ng/ml	99
73) Carbazole	11.611	167	340948	1248.96	ng/ml	99
74) Di-n-butyl phthalate	11.948	149	466951	949.24	ng/ml	99
75) Fluoranthene	12.719	202	412285	955.79	ng/ml	98
76) Benzidine	12.879	184	301351	3179.82	ng/ml	96
77) Pyrene	13.029	202	420841	947.56	ng/ml	99
80) Butyl benzyl phthalate	14.109	149	182466	881.28	ng/ml	99
81) Bis(2-ethylhexyl) adipate	14.291	129	172525	913.46	ng/ml	99
82) 3,3-Dichlorobenzidine	15.291	252	125386	1989.57	ng/ml	99
83) Benz(a)anthracene	15.334	228	339038	967.28	ng/ml	99
84) Chrysene	15.414	228	330019	997.98	ng/ml	100
85) Bis(2-ethylhexyl) phth...	15.489	149	262635	962.92	ng/ml	97
87) Di-n-octyl phthalate	17.163	149	379612	928.34	ng/ml	98
88) Benzo(b)fluoranthene	17.949	252	328149	1039.52	ng/ml	96
89) Benzo(k)fluoranthene	18.019	252	333411	1123.13	ng/ml	95
90) Benzo(b+k)fluoranthene	18.019	252	674655	2157.92	ng/ml	95
91) Benzo(e)pyrene	18.607	252	331204	1070.27	ng/ml	99
92) Benzo(a)pyrene	18.730	252	305060	1058.17	ng/ml	97
93) Perylene	18.934	252	289485	986.39	ng/ml	100
95) Indeno(1,2,3-cd)pyrene	21.266	276	278226	993.30	ng/ml	96
96) Dibenz(a,h)anthracene	21.330	278	262242	987.50	ng/ml	93
97) Benzo(g,h,i)perylene	21.811	276	301297	1031.78	ng/ml	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121920.D
Acq On : 12 Apr 2019 9:52 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL6
Misc : 1x, A19D058 BNA@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:21 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121921.D
Acq On : 12 Apr 2019 10:28 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL7
Misc : 1x, A19D059 BNA@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:26 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.814	152	210386	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	872864	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.868	162	422972	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.381	188	740336	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.366	240	656807	2000.00	ng/ml	0.01
86) Perylene-d12 (ISTD)	18.880	264	608933	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.271	292	581304	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	292249	1973.23	ng/ml	0.00
5) Phenol-d6(Surr)	6.439	99	384186	1954.56	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.359	82	329613	1948.97	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	622727	1977.02	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.670	330	75759	1780.60	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.248	244	637269	1959.34	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.166	74	208448	1911.30	ng/ml	93
3) Pyridine	4.177	79	358336	2061.29	ng/ml	93
6) Phenol	6.455	94	423399	1915.75	ng/ml	96
7) Aniline	6.487	93	401171	2079.88	ng/ml	96
8) Bis(2-chloroethyl) ether	6.546	93	373313	2283.42	ng/ml	96
9) 2-Chlorophenol	6.610	128	308446	1992.91	ng/ml	93
10) 1,3-Dichlorobenzene	6.760	146	324509	1990.54	ng/ml	97
11) 1,4-Dichlorobenzene	6.830	146	321266	2023.21	ng/ml	99
12) Benzyl alcohol	6.942	108	196023	1886.47	ng/ml	96
13) 1,2-Dichlorobenzene	6.985	146	313391	2010.43	ng/ml	99
14) 2-Methylphenol	7.044	107	248169	2040.51	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.076	45	394994	1844.42	ng/ml	89
16) N-Nitrosodi-n-propylamine	7.204	70	245818	2042.35	ng/ml	99
17) 3+4-Methylphenol	7.193	107	319359	2134.56	ng/ml	99
18) Hexachloroethane	7.322	201	89727	2008.30	ng/ml	99
20) Nitrobenzene	7.375	77	323406	1959.01	ng/ml	99
22) Isophorone	7.611	82	660663	1996.83	ng/ml	99
23) 2-Nitrophenol	7.696	139	144348	1679.95	ng/ml	95
24) 2,4-Dimethylphenol	7.728	122	281937	2083.85	ng/ml	100
25) Bis(2-chloroethoxy) me...	7.819	93	381475	2042.50	ng/ml	99
26) Benzoic acid	7.851	105	293257	3675.18	ng/ml	99
27) 2,4-Dichlorophenol	7.937	162	222208	2043.40	ng/ml	96
28) 1,2,4-Trichlorobenzene	8.022	180	246059	1873.55	ng/ml	98
29) Naphthalene	8.103	128	918583	1972.91	ng/ml	100
30) 4-Chloroaniline	8.151	127	308711	2748.83	ng/ml	98
31) Hexachlorobutadiene	8.231	225	131105	1892.47	ng/ml	99
32) 4-Chloro-3-methylphenol	8.627	107	269479	2049.47	ng/ml	97
33) 2-Methylnaphthalene	8.803	142	633302	2036.20	ng/ml	98
34) 1-Methylnaphthalene	8.905	142	593190	1986.41	ng/ml	99
36) Hexachlorocyclopentadiene	8.969	237	126849	1921.52	ng/ml	98
37) 2,4,6-Trichlorophenol	9.081	196	154065	2062.33	ng/ml	96
38) 2,4,5-Trichlorophenol	9.119	198	144274	1965.17	ng/ml	98
39) 1,1'-Biphenyl	9.269	154	716600	2019.47	ng/ml	100
41) 2-Chloronaphthalene	9.295	162	513880	2047.85	ng/ml	97
42) 2-Nitroaniline	9.392	138	172195	1986.76	ng/ml	96
43) 2,6-Dimethylnaphthalene	9.434	156	523522	2020.26	ng/ml	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121921.D
Acq On : 12 Apr 2019 10:28 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL7
Misc : 1x, A19D059 BNA@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:26 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

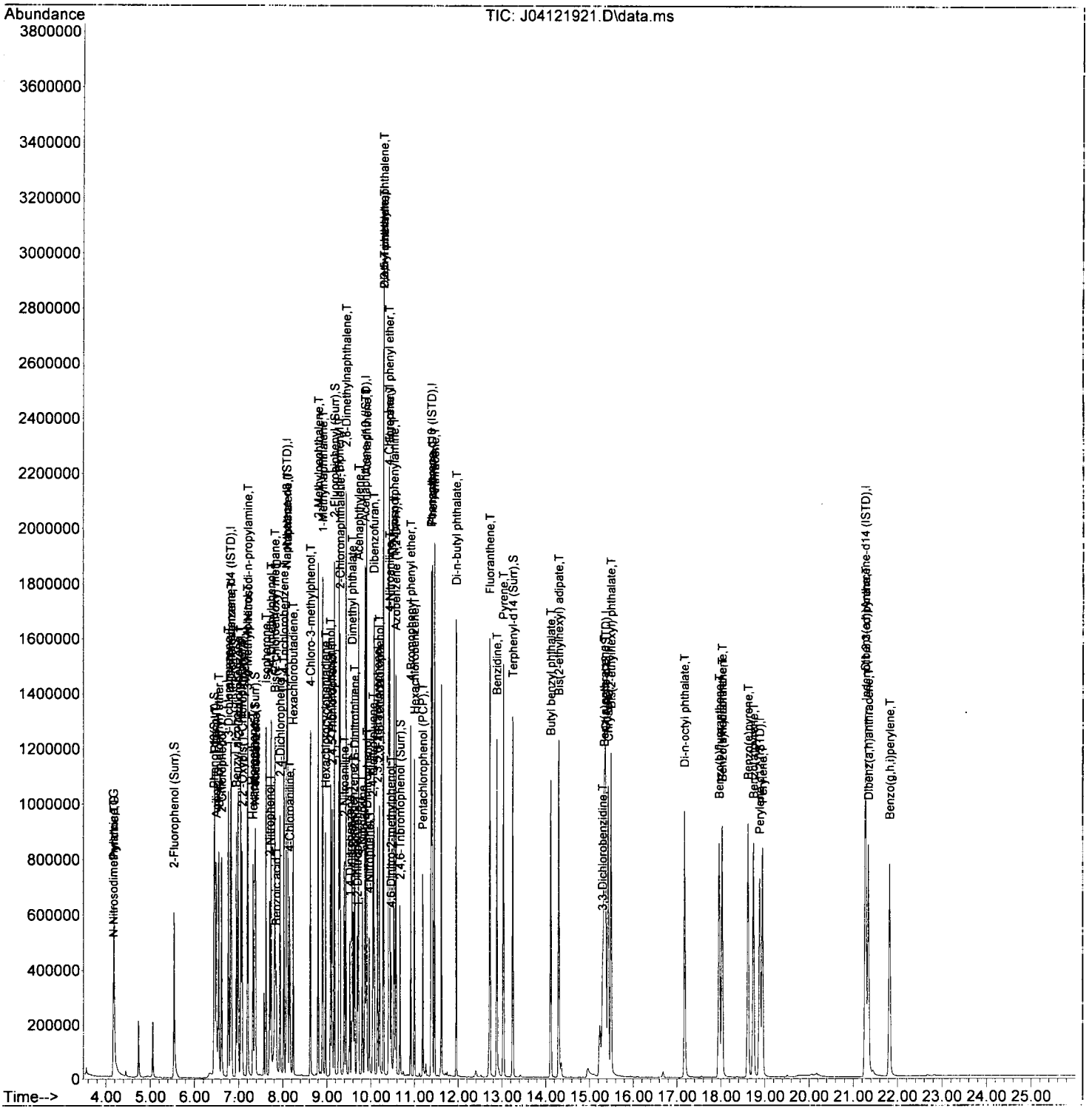
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	1,4-Dinitrobenzene	9.520	168	65644	1640.59	ng/ml	95
45)	Dimethyl phthalate	9.573	163	593270	1946.60	ng/ml	99
46)	1,3-Dinitrobenzene	9.600	168	81663	1830.02	ng/ml	96
47)	2,6-Dinitrotoluene	9.632	165	130676	1977.14	ng/ml	95
48)	1,2-Dinitrobenzene	9.696	168	58797	1906.56	ng/ml	83
49)	Acenaphthylene	9.723	152	847485	1866.85	ng/ml	99
50)	3-Nitroaniline	9.809	138	125110	2923.79	ng/ml	99
51)	Acenaphthene	9.900	153	539641	1881.48	ng/ml	99
52)	2,4-Dinitrophenol	9.910	184	29815	1195.29	ng/ml	90
53)	4-Nitrophenol	9.964	139	95687	1863.20	ng/ml	97
54)	2,4-Dinitrotoluene	10.044	165	165775	1999.68	ng/ml	98
55)	Dibenzofuran	10.071	168	718481	1958.60	ng/ml	98
56)	2,3,5,6-Tetrachlorophenol	10.151	232	116600	1992.01	ng/ml	96
57)	2,3,4,6-Tetrachlorophenol	10.194	232	124349	2044.88	ng/ml	95
58)	Diethyl phthalate	10.285	149	569548	1896.99	ng/ml	99
59)	2,3,5-Trimethylnaphtha...	10.285	170	449654	1879.75	ng/ml	97
60)	Fluorene	10.424	166	562191	1939.49	ng/ml	99
61)	4-Chlorophenyl phenyl ...	10.413	204	257040	1949.45	ng/ml	98
62)	4-Nitroaniline	10.429	138	116803	2067.65	ng/ml	94
63)	4,6-Dinitro-2-methylph...	10.461	198	52412	1434.08	ng/ml	98
65)	N-Nitrosodiphenylamine	10.531	169	470356	1892.57	ng/ml	100
66)	Azobenzene (1,2-DPH)	10.574	77	640569	1939.57	ng/ml	92
68)	4-Bromophenyl phenyl e...	10.911	248	152125	1850.40	ng/ml	97
69)	Hexachlorobenzene	10.996	284	169660	1819.90	ng/ml	95
70)	Pentachlorophenol (PCP)	11.183	266	88610	1928.31	ng/ml	97
71)	Phenanthrene	11.408	178	798010	1930.86	ng/ml	99
72)	Anthracene	11.456	178	805661	1933.90	ng/ml	99
73)	Carbazole	11.611	167	651258	Below Cal		98
74)	Di-n-butyl phthalate	11.954	149	975285	1985.06	ng/ml	99
75)	Fluoranthene	12.718	202	857707	1883.28	ng/ml	98
76)	Benzidine	12.879	184	643196	5527.34	ng/ml	100
77)	Pyrene	13.034	202	864674	1843.96	ng/ml	99
80)	Butyl benzyl phthalate	14.114	149	421549	1888.00	ng/ml	98
81)	Bis(2-ethylhexyl) adipate	14.296	129	390927	1971.17	ng/ml	98
82)	3,3-Dichlorobenzidine	15.297	252	194322	3191.28	ng/ml	97
83)	Benz(a)anthracene	15.334	228	723880	1915.11	ng/ml	100
84)	Chrysene	15.425	228	705299	1977.80	ng/ml	99
85)	Bis(2-ethylhexyl) phth...	15.489	149	581618	1977.43	ng/ml	99
87)	Di-n-octyl phthalate	17.169	149	937211	2072.23	ng/ml	97
88)	Benzo(b)fluoranthene	17.960	252	743627	2129.87	ng/ml	97
89)	Benzo(k)fluoranthene	18.030	252	719520	2191.44	ng/ml	97
90)	Benzo(b+k)fluoranthene	18.030	252	1488733	4305.31	ng/ml	97
91)	Benzo(e)pyrene	18.618	252	729599	2131.65	ng/ml	99
92)	Benzo(a)pyrene	18.741	252	692390	2171.47	ng/ml	98
93)	Perylene	18.944	252	626831	1931.12	ng/ml	100
95)	Indeno(1,2,3-cd)pyrene	21.282	276	633467	1987.86	ng/ml	95
96)	Dibenz(a,h)anthracene	21.340	278	618025	2045.60	ng/ml	94
97)	Benzo(g,h,i)perylene	21.822	276	672680	2024.78	ng/ml	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121921.D
Acq On : 12 Apr 2019 10:28 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL7
Misc : 1x, A19D059 BNA@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:26 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121922.D
Acq On : 12 Apr 2019 11:04 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL8
Misc : 1x, A19D060 BNA@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:31 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.814	152	205518	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.087	136	854691	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.868	162	415395	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.381	188	758182	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.372	240	643412	2000.00	ng/ml	0.02
86) Perylene-d12 (ISTD)	18.886	264	604409	2000.00	ng/ml	0.01
94) Dibenz(a,h)Anthrcene-d...	21.287	292	596931	2000.00	ng/ml	0.02
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.541	112	601422	4156.92	ng/ml	0.00
5) Phenol-d6(Surr)	6.445	99	778420	4054.04	ng/ml	0.01
19) Nitrobenzene-d5 (Surr)	7.365	82	650463	3937.23	ng/ml	0.01
40) 2-Fluorobiphenyl (Surr)	9.172	172	1129555	3651.49	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.670	330	157542	3615.63	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.248	244	1238678	3887.70	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.172	74	426026	3998.84	ng/ml	90
3) Pyridine	4.177	79	737969	4345.64	ng/ml	94
6) Phenol	6.461	94	846992	3923.16	ng/ml	97
7) Aniline	6.493	93	764336	4056.59	ng/ml	98
8) Bis(2-chloroethyl) ether	6.552	93	730472	4573.86	ng/ml	96
9) 2-Chlorophenol	6.611	128	607949	4021.08	ng/ml	94
10) 1,3-Dichlorobenzene	6.760	146	625796	3929.56	ng/ml	98
11) 1,4-Dichlorobenzene	6.830	146	609817	3931.36	ng/ml	99
12) Benzyl alcohol	6.947	108	417822	4116.25	ng/ml	92
13) 1,2-Dichlorobenzene	6.985	146	590567	3878.27	ng/ml	98
14) 2-Methylphenol	7.049	107	490045	4124.71	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.076	45	731830	3498.22	ng/ml	88
16) N-Nitrosodi-n-propylamine	7.215	70	453288	3855.30	ng/ml	96
17) 3+4-Methylphenol	7.204	107	622867	4261.78	ng/ml	97
18) Hexachloroethane	7.322	201	177511	4067.21	ng/ml	97
20) Nitrobenzene	7.381	77	629792	3905.28	ng/ml	97
22) Isophorone	7.621	82	1289086	3979.06	ng/ml	97
23) 2-Nitrophenol	7.696	139	303901	3612.06	ng/ml	93
24) 2,4-Dimethylphenol	7.734	122	523529	3951.77	ng/ml	100
25) Bis(2-chloroethoxy) me...	7.825	93	734704	4017.41	ng/ml	99
26) Benzoic acid	7.900	105	750898	8368.75	ng/ml	99
27) 2,4-Dichlorophenol	7.942	162	440368	4135.68	ng/ml	96
28) 1,2,4-Trichlorobenzene	8.028	180	468931	3646.47	ng/ml	98
29) Naphthalene	8.108	128	1661053	3643.43	ng/ml	97
30) 4-Chloroaniline	8.151	127	625745	5690.25	ng/ml	98
31) Hexachlorobutadiene	8.231	225	243190	3585.02	ng/ml	98
32) 4-Chloro-3-methylphenol	8.627	107	543982	4225.11	ng/ml	95
33) 2-Methylnaphthalene	8.803	142	1165928	3828.42	ng/ml	98
34) 1-Methylnaphthalene	8.905	142	1095549	3746.66	ng/ml	98
36) Hexachlorocyclopentadiene	8.969	237	258289	3983.95	ng/ml	97
37) 2,4,6-Trichlorophenol	9.087	196	304939	4156.41	ng/ml	98
38) 2,4,5-Trichlorophenol	9.119	198	298945	4146.28	ng/ml	99
39) 1,1'-Biphenyl	9.274	154	1284403	3685.63	ng/ml	99
41) 2-Chloronaphthalene	9.301	162	950535	3857.04	ng/ml	96
42) 2-Nitroaniline	9.397	138	356149	4184.16	ng/ml	97
43) 2,6-Dimethylnaphthalene	9.440	156	944826	3712.57	ng/ml	97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121922.D
Acq On : 12 Apr 2019 11:04 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL8
Misc : 1x, A19D060 BNA@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:31 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

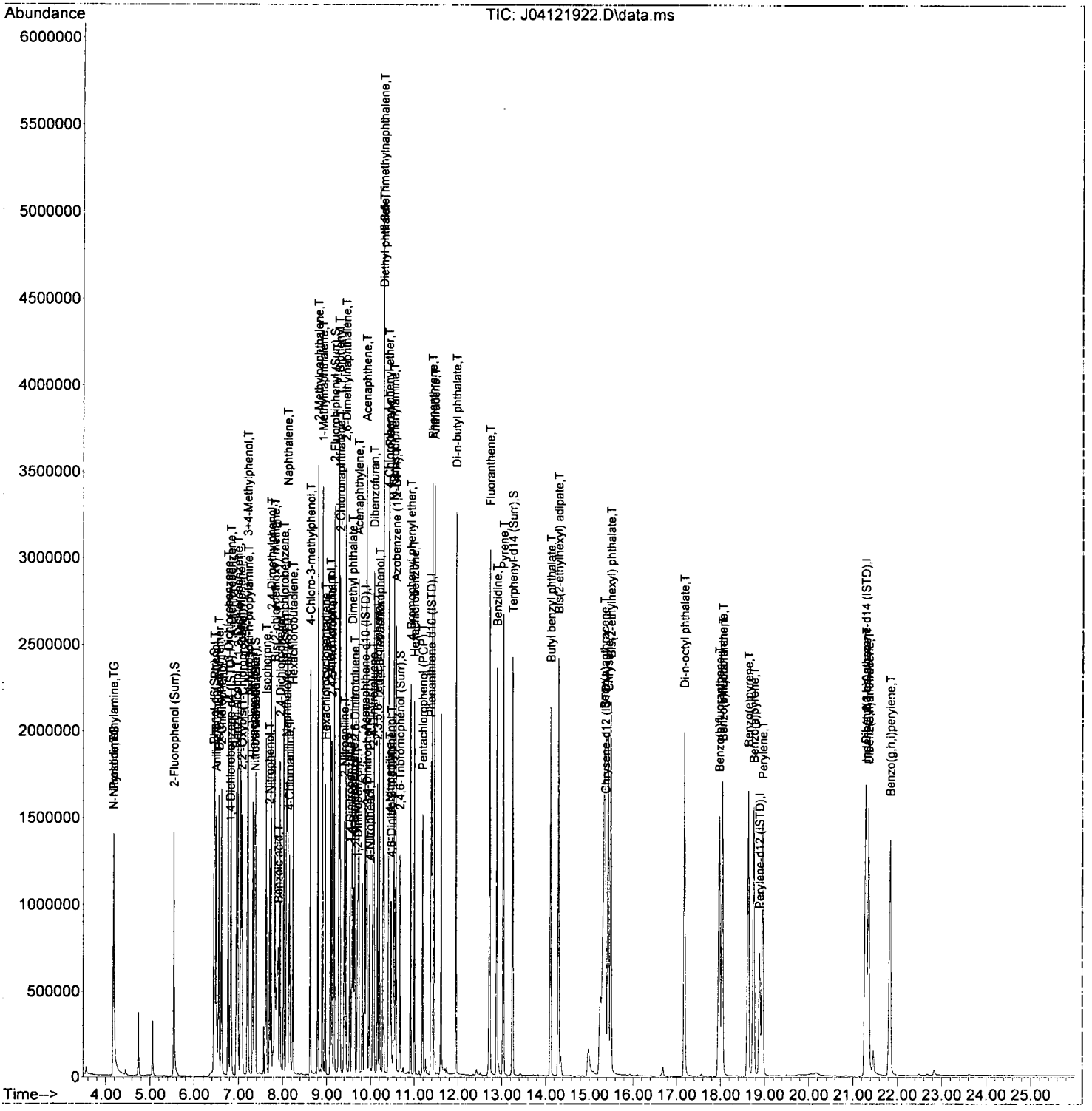
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.525	168	148152	3770.19	ng/ml	96
45) Dimethyl phthalate	9.584	163	1125792	3761.26	ng/ml	98
46) 1,3-Dinitrobenzene	9.611	168	172914	3945.59	ng/ml	98
47) 2,6-Dinitrotoluene	9.638	165	259088	3991.53	ng/ml	96
48) 1,2-Dinitrobenzene	9.702	168	123107	4064.69	ng/ml	93
49) Acenaphthylene	9.723	152	1577347	3537.98	ng/ml	98
50) 3-Nitroaniline	9.814	138	227237	Below Cal		100
51) Acenaphthene	9.905	153	991538	3520.09	ng/ml	99
52) 2,4-Dinitrophenol	9.916	184	85634	2985.64	ng/ml	92
53) 4-Nitrophenol	9.975	139	210496	4173.51	ng/ml	95
54) 2,4-Dinitrotoluene	10.055	165	342144	4202.44	ng/ml	94
55) Dibenzofuran	10.076	168	1332830	3699.60	ng/ml	95
56) 2,3,5,6-Tetrachlorophenol	10.157	232	241470	4200.55	ng/ml	97
57) 2,3,4,6-Tetrachlorophenol	10.199	232	249107	4171.21	ng/ml	95
58) Diethyl phthalate	10.290	149	1025219	3476.98	ng/ml	98
59) 2,3,5-Trimethylnaphtha...	10.285	170	800915	3409.25	ng/ml	97
60) Fluorene	10.429	166	1010351	3549.17	ng/ml	98
61) 4-Chlorophenyl phenyl ...	10.413	204	476543	3680.13	ng/ml	98
62) 4-Nitroaniline	10.440	138	224177	4040.77	ng/ml	92
63) 4,6-Dinitro-2-methylph...	10.472	198	132375	3421.41	ng/ml	92
65) N-Nitrosodiphenylamine	10.536	169	873790	3433.11	ng/ml	100
66) Azobenzene (1,2-DPH)	10.579	77	1195391	3534.31	ng/ml	90
68) 4-Bromophenyl phenyl e...	10.916	248	299638	3558.92	ng/ml	98
69) Hexachlorobenzene	10.996	284	325856	3413.10	ng/ml	99
70) Pentachlorophenol (PCP)	11.189	266	190485	3931.16	ng/ml	97
71) Phenanthrene	11.408	178	1492206	3525.55	ng/ml	98
72) Anthracene	11.462	178	1503459	3523.94	ng/ml	99
73) Carbazole	11.611	167	1088868	Below Cal		99
74) Di-n-butyl phthalate	11.954	149	1863184	4141.28	ng/ml	98
75) Fluoranthene	12.724	202	1642237	3521.01	ng/ml	98
76) Benzidine	12.890	184	1376314	9381.83	ng/ml	99
77) Pyrene	13.040	202	1649971	3435.82	ng/ml	98
80) Butyl benzyl phthalate	14.120	149	881875	4031.91	ng/ml	99
81) Bis(2-ethylhexyl) adipate	14.296	129	814038	4174.04	ng/ml	99
82) 3,3-Dichlorobenzidine	15.307	252	367601	Below Cal		97
83) Benz(a)anthracene	15.345	228	1412877	3815.76	ng/ml	99
84) Chrysene	15.436	228	1362723	3900.89	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.495	149	1174172	4075.15	ng/ml	98
87) Di-n-octyl phthalate	17.174	149	2011354	4480.52	ng/ml	96
88) Benzo(b)fluoranthene	17.971	252	1520664	4388.04	ng/ml	96
89) Benzo(k)fluoranthene	18.046	252	1404715	4310.35	ng/ml	97
90) Benzo(b+k)fluoranthene	18.046	252	2970412	8654.53	ng/ml	97
91) Benzo(e)pyrene	18.634	252	1443185	4248.07	ng/ml	97
92) Benzo(a)pyrene	18.757	252	1361909	4303.18	ng/ml	98
93) Perylene	18.961	252	1230925	3820.57	ng/ml	100
95) Indeno(1,2,3-cd)pyrene	21.298	276	1337697	4087.88	ng/ml	95
96) Dibenz(a,h)anthracene	21.357	278	1232473	3972.57	ng/ml	96
97) Benzo(g,h,i)perylene	21.843	276	1357790	3979.98	ng/ml	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121922.D
Acq On : 12 Apr 2019 11:04 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL8
Misc : 1x, A19D060 BNA@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:31 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121923.D
Acq On : 12 Apr 2019 11:40 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:38 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

JK 9/19/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.814	152	204951	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.087	136	861766	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.873	162	421304	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.387	188	776478	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.377	240	633760	2000.00	ng/ml	0.02
86) Perylene-d12 (ISTD)	18.891	264	621448	2000.00	ng/ml	0.02
94) Dibenz(a,h)Anthrcene-d...	21.298	292	616591	2000.00	ng/ml	0.03
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	900422	6240.78	ng/ml	0.00
5) Phenol-d6(Surr)	6.450	99	1151230	6012.24	ng/ml	0.02
19) Nitrobenzene-d5 (Surr)	7.365	82	952331	5780.37	ng/ml	0.01
40) 2-Fluorobiphenyl (Surr)	9.172	172	1558757	4968.29	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.675	330	233263	5227.30	ng/ml	0.01
79) Terphenyl-d14 (Surr)	13.254	244	1748485	5571.36	ng/ml	0.01
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.150	74	627490	5906.15	ng/ml	88
3) Pyridine	4.155	79	1105047	6525.24	ng/ml	91
6) Phenol	6.466	94	1236521	5748.25	ng/ml	96
7) Aniline	6.493	93	1198758	6379.81	ng/ml	98
8) Bis(2-chloroethyl) ether	6.552	93	1009123	6336.12	ng/ml	96
9) 2-Chlorophenol	6.610	128	902513	5985.90	ng/ml	94
10) 1,3-Dichlorobenzene	6.760	146	902850	5684.95	ng/ml	97
11) 1,4-Dichlorobenzene	6.830	146	873197	5644.90	ng/ml	99
12) Benzyl alcohol	6.947	108	625005	6174.38	ng/ml	94
13) 1,2-Dichlorobenzene	6.985	146	851080	5604.53	ng/ml	99
14) 2-Methylphenol	7.049	107	708351	5978.68	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.076	45	1018502	4882.01	ng/ml	87
16) N-Nitrosodi-n-propylamine	7.220	70	641593	5471.96	ng/ml	96
17) 3+4-Methylphenol	7.210	107	876610	6014.53	ng/ml	98
18) Hexachloroethane	7.322	201	259269	5956.93	ng/ml	98
20) Nitrobenzene	7.386	77	911090	5665.21	ng/ml	95
22) Isophorone	7.632	82	1905816	5834.45	ng/ml	98
23) 2-Nitrophenol	7.702	139	463565	5464.54	ng/ml	94
24) 2,4-Dimethylphenol	7.739	122	746900	5591.56	ng/ml	99
25) Bis(2-chloroethoxy) me...	7.830	93	1040589	5643.29	ng/ml	99
26) Benzoic acid	7.739	105	27049	836.96	ng/ml#	1
27) 2,4-Dichlorophenol	7.948	162	634884	5913.61	ng/ml	98
28) 1,2,4-Trichlorobenzene	8.028	180	677553	5225.48	ng/ml	99
29) Naphthalene	8.113	128	2278161	4955.99	ng/ml	97
30) 4-Chloroaniline	8.156	127	903302	8146.79	ng/ml	97
31) Hexachlorobutadiene	8.236	225	350040	5117.80	ng/ml	99
32) 4-Chloro-3-methylphenol	8.632	107	795091	6124.78	ng/ml	96
33) 2-Methylnaphthalene	8.809	142	1614149	5256.67	ng/ml	98
34) 1-Methylnaphthalene	8.910	142	1501404	5092.49	ng/ml	98
36) Hexachlorocyclopentadiene	8.969	237	390476	5938.38	ng/ml	99
37) 2,4,6-Trichlorophenol	9.087	196	453546	6095.26	ng/ml	98
38) 2,4,5-Trichlorophenol	9.124	198	429331	5871.11	ng/ml	99
39) 1,1'-Biphenyl	9.279	154	1770639	5009.64	ng/ml	97
41) 2-Chloronaphthalene	9.306	162	1327873	5312.62	ng/ml	95
42) 2-Nitroaniline	9.402	138	544899	6311.87	ng/ml	95
43) 2,6-Dimethylnaphthalene	9.440	156	1312335	5084.32	ng/ml	97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121923.D
Acq On : 12 Apr 2019 11:40 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:38 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

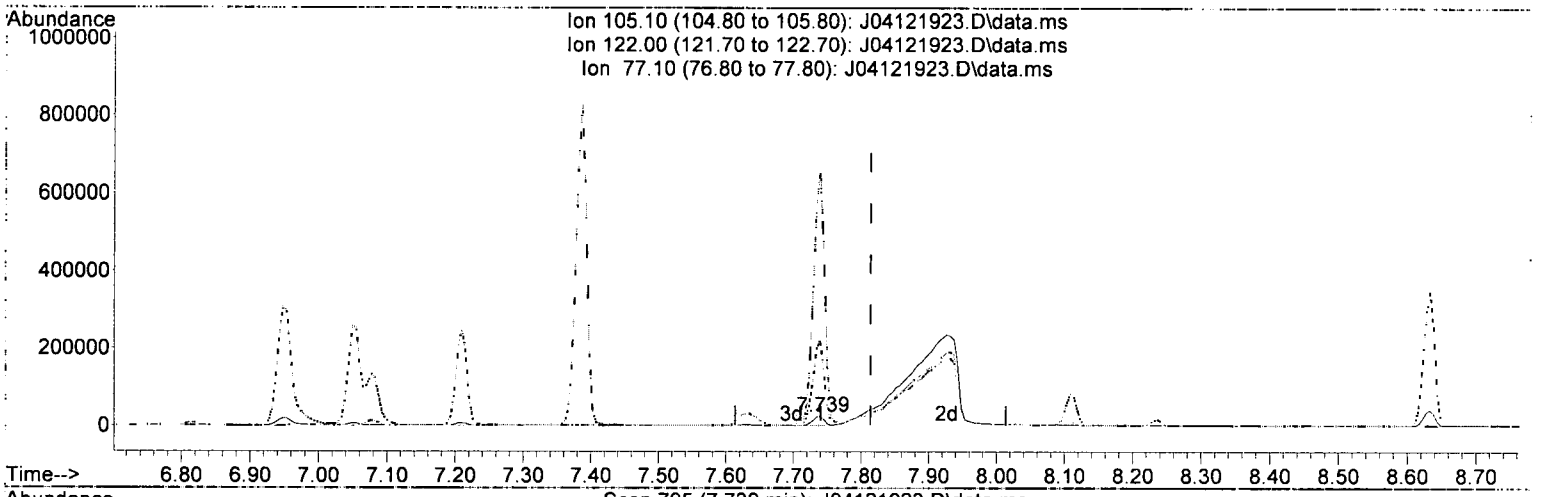
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	1,4-Dinitrobenzene	9.531	168	231647	5812.31	ng/ml	99
45)	Dimethyl phthalate	9.590	163	1593856	5250.38	ng/ml	97
46)	1,3-Dinitrobenzene	9.622	168	262552	5906.94	ng/ml	97
47)	2,6-Dinitrotoluene	9.649	165	380933	5786.37	ng/ml	89
48)	1,2-Dinitrobenzene	9.713	168	181239	5900.14	ng/ml	86
49)	Acenaphthylene	9.729	152	2093729	4630.36	ng/ml	97
50)	3-Nitroaniline	9.820	138	329674	Below Cal		98
51)	Acenaphthene	9.905	153	1376414	4817.92	ng/ml	98
52)	2,4-Dinitrophenol	9.927	184	149631	4702.65	ng/ml	96
53)	4-Nitrophenol	9.980	139	325043	6354.25	ng/ml	96
54)	2,4-Dinitrotoluene	10.060	165	498579	6037.99	ng/ml	96
55)	Dibenzofuran	10.082	168	1822175	4986.96	ng/ml	94
56)	2,3,5,6-Tetrachlorophenol	10.157	232	352904	6052.92	ng/ml	99
57)	2,3,4,6-Tetrachlorophenol	10.205	232	370697	6120.13	ng/ml	95
58)	Diethyl phthalate	10.301	149	1390913	4651.06	ng/ml	97
59)	2,3,5-Trimethylnaphtha...	10.290	170	1102900	4628.86	ng/ml	96
60)	Fluorene	10.429	166	1382772	4789.29	ng/ml	100
61)	4-Chlorophenyl phenyl ...	10.419	204	666343	5073.70	ng/ml	99
62)	4-Nitroaniline	10.451	138	332833	5915.14	ng/ml	91
63)	4,6-Dinitro-2-methylph...	10.478	198	214039	5197.80	ng/ml	93
65)	N-Nitrosodiphenylamine	10.542	169	1213548	4655.67	ng/ml	100
66)	Azobenzene (1,2-DPH)	10.585	77	1634030	4717.36	ng/ml	87
68)	4-Bromophenyl phenyl e...	10.916	248	426557	4947.00	ng/ml	96
69)	Hexachlorobenzene	11.002	284	468256	4789.07	ng/ml	97
70)	Pentachlorophenol (PCP)	11.189	266	290217	5743.28	ng/ml	96
71)	Phenanthrene	11.414	178	2079626	4797.65	ng/ml	97
72)	Anthracene	11.467	178	2083055	4767.40	ng/ml	98
73)	Carbazole	11.617	167	1519317	Below Cal		98
74)	Di-n-butyl phthalate	11.954	149	2563602	6284.66	ng/ml	97
75)	Fluoranthene	12.729	202	2306517	4828.73	ng/ml	98
76)	Benzidine	12.895	184	2206262	12661.33	ng/ml	99
77)	Pyrene	13.045	202	2327794	4733.07	ng/ml	98
80)	Butyl benzyl phthalate	14.125	149	1284862	5963.82	ng/ml	97
81)	Bis(2-ethylhexyl) adipate	14.302	129	1167165	6000.84	ng/ml	100
82)	3,3-Dichlorobenzidine	15.313	252	561471	Below Cal		98
83)	Benz(a)anthracene	15.350	228	2019475	5537.06	ng/ml	98
84)	Chrysene	15.446	228	1955932	5684.27	ng/ml	99
85)	Bis(2-ethylhexyl) phth...	15.500	149	1684021	5933.67	ng/ml	97
87)	Di-n-octyl phthalate	17.179	149	2987922	6473.44	ng/ml	96
88)	Benzo(b)fluoranthene	17.987	252	2251243	6318.09	ng/ml	97
89)	Benzo(k)fluoranthene	18.057	252	2012368	6005.62	ng/ml	98
90)	Benzo(b+k)fluoranthene	18.057	252	4333245	12279.08	ng/ml	98
91)	Benzo(e)pyrene	18.650	252	2113962	6051.92	ng/ml	98
92)	Benzo(a)pyrene	18.773	252	1987626	6108.05	ng/ml	99
93)	Perylene	18.971	252	1800658	5435.68	ng/ml	99
95)	Indeno(1,2,3-cd)pyrene	21.314	276	2048112	6059.28	ng/ml	95
96)	Dibenz(a,h)anthracene	21.373	278	1836914	5732.05	ng/ml	94
97)	Benzo(g,h,i)perylene	21.865	276	2023853	5743.20	ng/ml	98

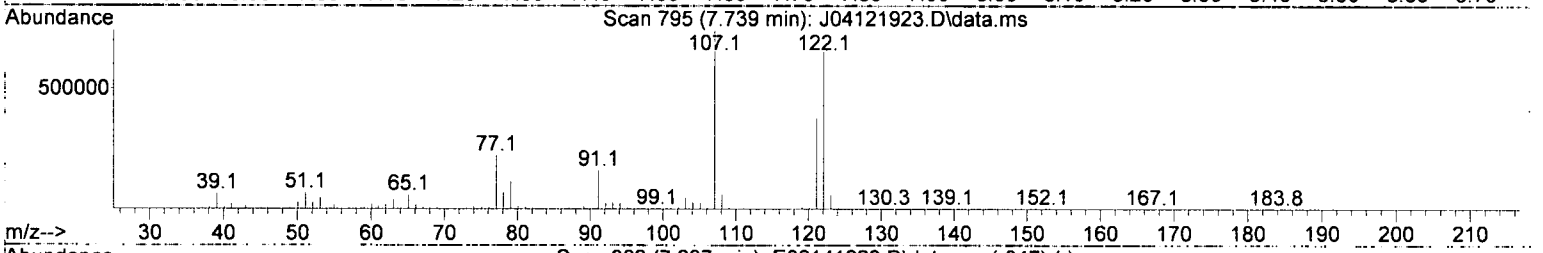
(#) = qualifier out of range (m) = manual integration (+) = signals summed

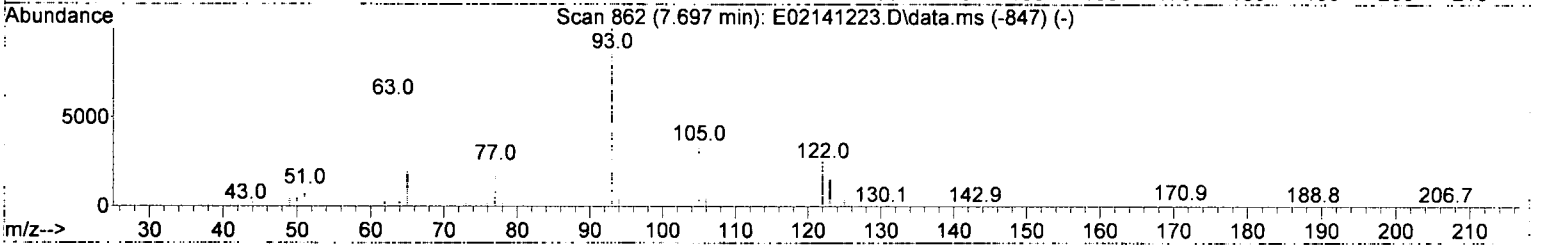
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121923.D
Acq On : 12 Apr 2019 11:40 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:38 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121923.D\data.ms

(26) Benzoic acid (T)

7.739min (-0.075) 836.96 ng/ml

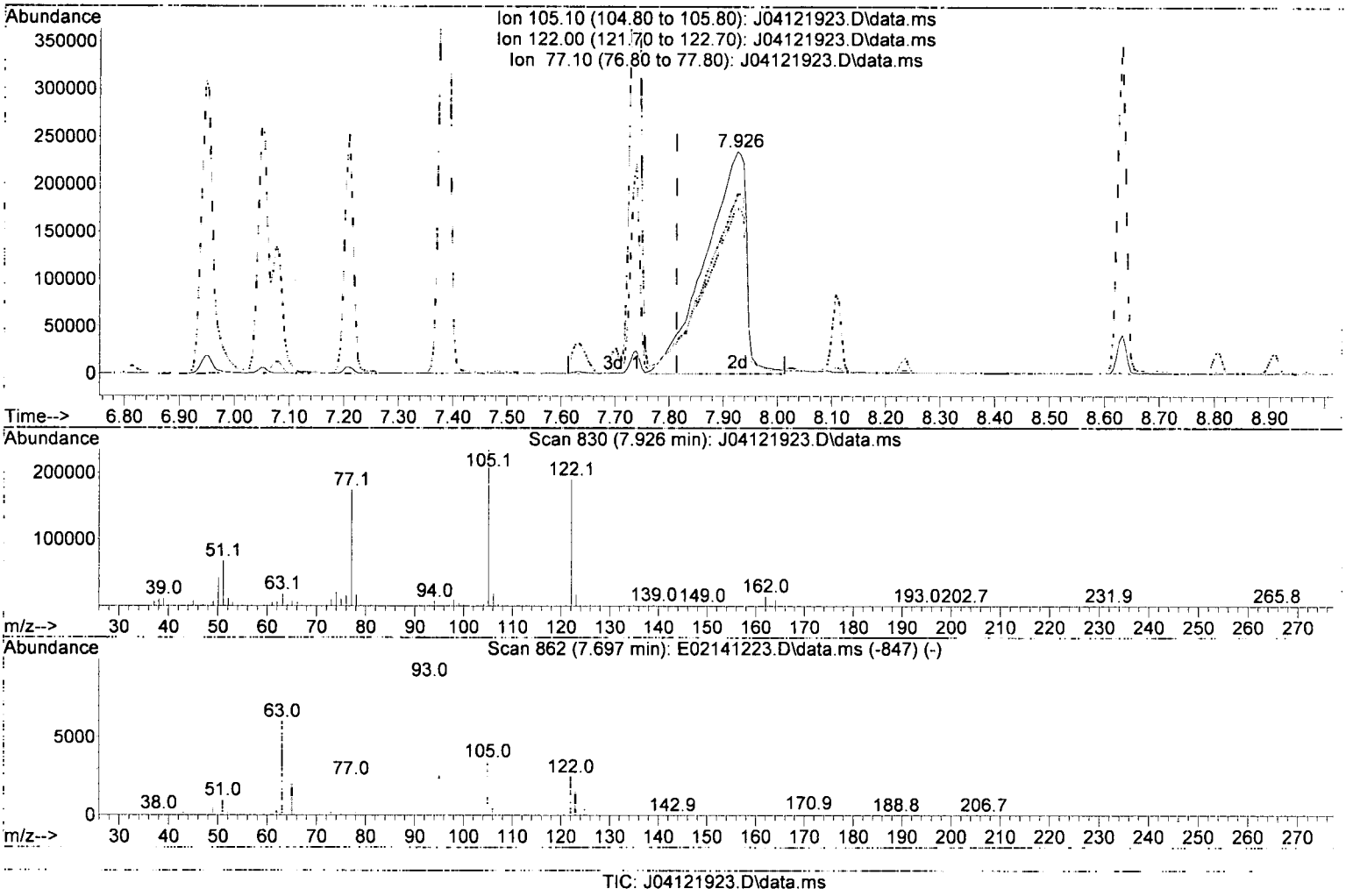
response 27049

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	2703.07#
77.10	76.00	914.78#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121923.D
Acq On : 12 Apr 2019 11:40 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:38 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J04121923.D\data.ms

(26) Benzoic acid (T)

7.926min (+ 0.112) 12780.48 ng/ml m

response 1234711

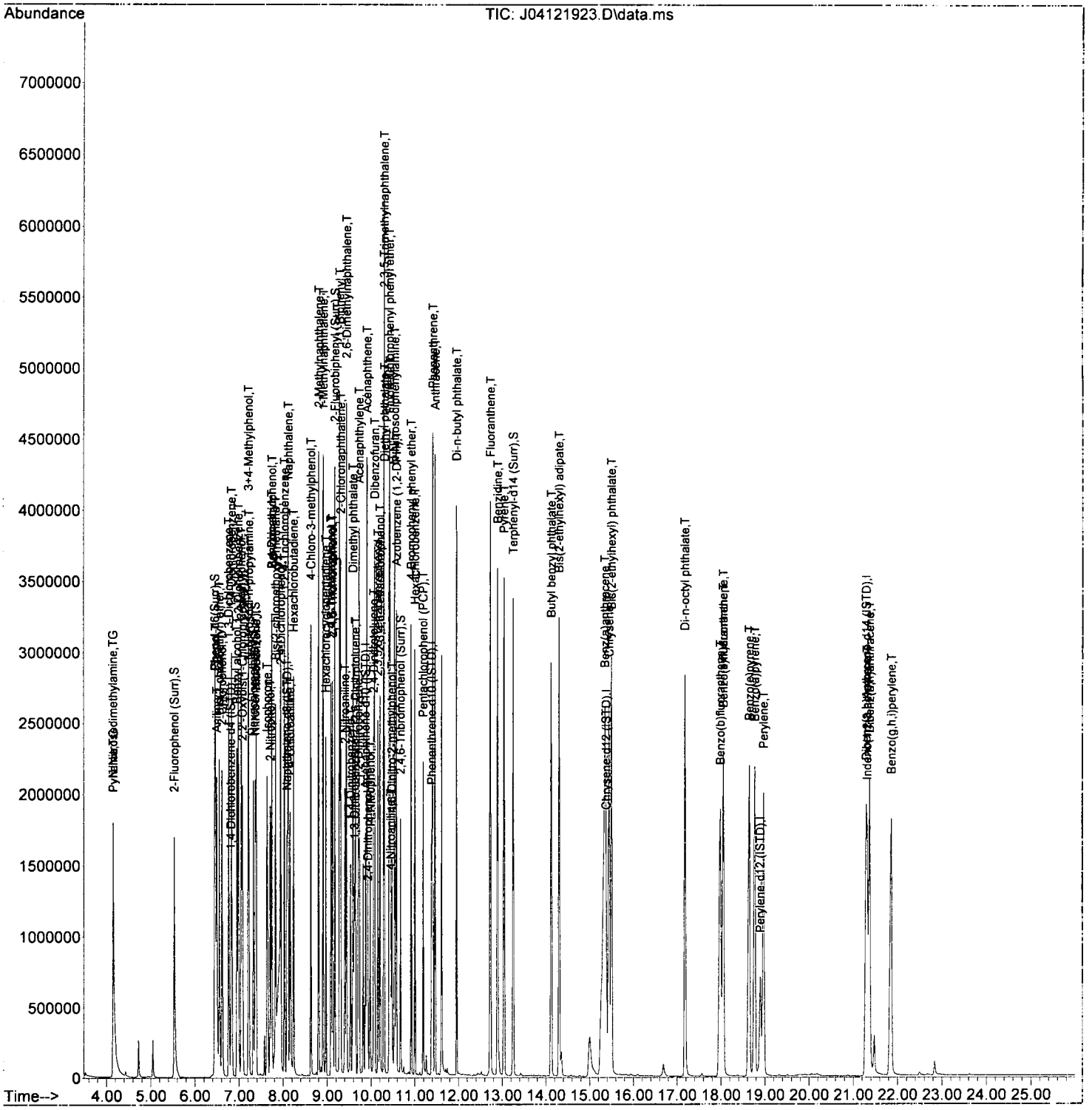
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	80.95
77.10	76.00	74.22
0.00	0.00	0.00

9/15/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121923.D
Acq On : 12 Apr 2019 11:40 pm
Operator : JK/ AMS/ DTH
Sample : 9D12042-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:38 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121924.D
Acq On : 13 Apr 2019 12:15 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:44 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.814	152	205419	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.087	136	857219	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.873	162	424880	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.387	188	796822	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.382	240	627246	2000.00	ng/ml	0.03
86) Perylene-d12 (ISTD)	18.896	264	632280	2000.00	ng/ml	0.02
94) Dibenz(a,h)Anthrcene-d...	21.309	292	623208	2000.00	ng/ml	0.04
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.541	112	1179847	8158.82	ng/ml	0.00
5) Phenol-d6(Surr)	6.455	99	1499696	7814.24	ng/ml	0.02
19) Nitrobenzene-d5 (Surr)	7.370	82	1245282	7541.28	ng/ml	0.02
40) 2-Fluorobiphenyl (Surr)	9.178	172	1972042	6232.67	ng/ml	0.01
67) 2,4,6-Tribromophenol (...	10.681	330	307443	6713.74	ng/ml	0.02
79) Terphenyl-d14 (Surr)	13.259	244	2287744	7365.35	ng/ml	0.02
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.172	74	831842	7811.74	ng/ml	87
3) Pyridine	4.172	79	1473300	8679.93	ng/ml	90
6) Phenol	6.471	94	1605219	7438.75	ng/ml	99
7) Aniline	6.498	93	1648364	8752.63	ng/ml	98
8) Bis(2-chloroethyl) ether	6.557	93	1256889	7873.83	ng/ml	95
9) 2-Chlorophenol	6.616	128	1150237	7611.54	ng/ml	94
10) 1,3-Dichlorobenzene	6.766	146	1147379	7208.21	ng/ml	97
11) 1,4-Dichlorobenzene	6.835	146	1104480	7123.79	ng/ml	99
12) Benzyl alcohol	6.958	108	825334	8134.85	ng/ml	94
13) 1,2-Dichlorobenzene	6.985	146	1066099	7004.47	ng/ml	98
14) 2-Methylphenol	7.054	107	904249	7614.73	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.081	45	1238496	5922.98	ng/ml	81
16) N-Nitrosodi-n-propylamine	7.231	70	824622	7016.94	ng/ml	96
17) 3+4-Methylphenol	7.215	107	1108625	7589.08	ng/ml	98
18) Hexachloroethane	7.322	201	336985	7724.88	ng/ml	98
20) Nitrobenzene	7.391	77	1159115	7191.02	ng/ml	93
22) Isophorone	7.637	82	2513149	7734.54	ng/ml	97
23) 2-Nitrophenol	7.702	139	613878	7274.83	ng/ml	94
24) 2,4-Dimethylphenol	7.744	122	964243	7256.96	ng/ml	99
25) Bis(2-chloroethoxy) me...	7.830	93	1311481	7150.11	ng/ml	98
26) Benzoic acid	7.744	105	36749	947.04	ng/ml#	1
27) 2,4-Dichlorophenol	7.948	162	807681	7562.89	ng/ml	97
28) 1,2,4-Trichlorobenzene	8.028	180	857676	6649.73	ng/ml	98
29) Naphthalene	8.114	128	2813330	6152.68	ng/ml	96
30) 4-Chloroaniline	8.156	127	1106729	10034.43	ng/ml	98
31) Hexachlorobutadiene	8.237	225	453153	6660.52	ng/ml	99
32) 4-Chloro-3-methylphenol	8.638	107	1024540	7934.14	ng/ml	96
33) 2-Methylnaphthalene	8.809	142	2022092	6620.12	ng/ml	98
34) 1-Methylnaphthalene	8.910	142	1877715	6402.65	ng/ml	97
36) Hexachlorocyclopentadiene	8.975	237	512416	7727.27	ng/ml	99
37) 2,4,6-Trichlorophenol	9.092	196	583608	7777.17	ng/ml	98
38) 2,4,5-Trichlorophenol	9.130	198	569105	7717.02	ng/ml	99
39) 1,1'-Biphenyl	9.280	154	2197978	6166.36	ng/ml	97
41) 2-Chloronaphthalene	9.306	162	1678580	6659.22	ng/ml	95
42) 2-Nitroaniline	9.408	138	729589	8380.10	ng/ml	95
43) 2,6-Dimethylnaphthalene	9.445	156	1648270	6332.07	ng/ml	96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121924.D
Acq On : 13 Apr 2019 12:15 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:44 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

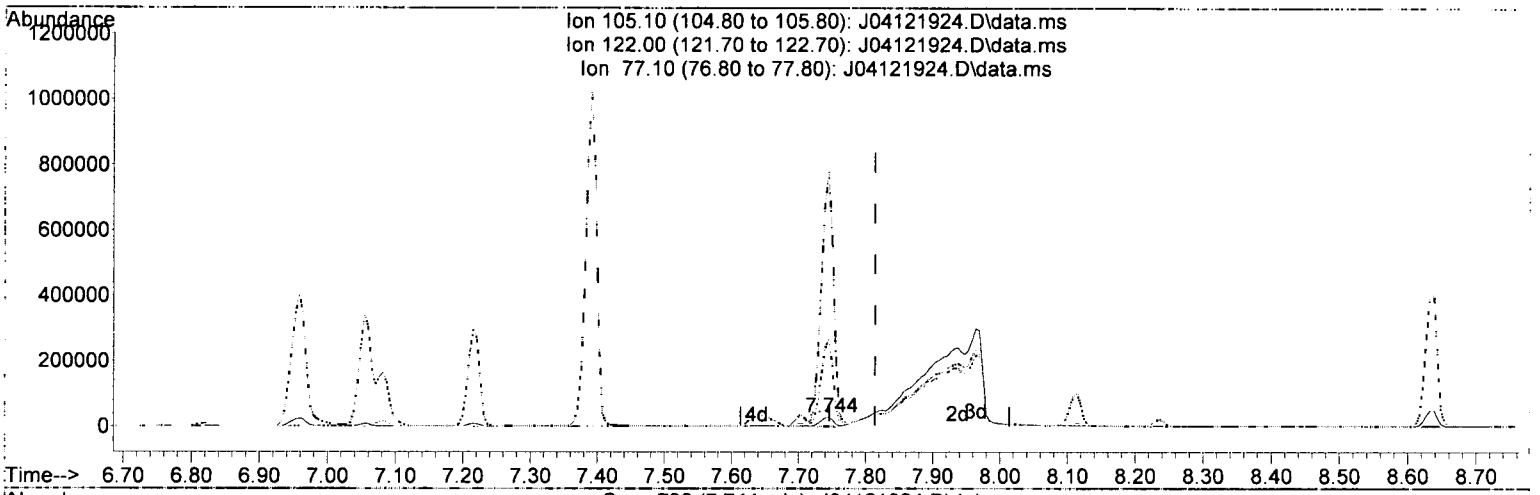
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.536	168	319922	7959.67	ng/ml	97
45) Dimethyl phthalate	9.600	163	2076750	6783.52	ng/ml	98
46) 1,3-Dinitrobenzene	9.633	168	349862	7805.01	ng/ml	95
47) 2,6-Dinitrotoluene	9.654	165	483438	7281.62	ng/ml	91
48) 1,2-Dinitrobenzene	9.718	168	227922	7357.43	ng/ml	90
49) Acenaphthylene	9.734	152	2539761	5569.50	ng/ml	97
50) 3-Nitroaniline	9.830	138	417444	Below Cal		97
51) Acenaphthene	9.911	153	1737085	6029.22	ng/ml	99
52) 2,4-Dinitrophenol	9.932	184	222443	6428.00	ng/ml	98
53) 4-Nitrophenol	9.991	139	441662	8561.36	ng/ml	98
54) 2,4-Dinitrotoluene	10.071	165	642029	7709.78	ng/ml	94
55) Dibenzofuran	10.082	168	2258697	6129.61	ng/ml	93
56) 2,3,5,6-Tetrachlorophenol	10.162	232	471457	8018.25	ng/ml	98
57) 2,3,4,6-Tetrachlorophenol	10.205	232	480353	7863.78	ng/ml	97
58) Diethyl phthalate	10.301	149	1740855	5772.23	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.296	170	1390016	5784.78	ng/ml	99
60) Fluorene	10.435	166	1760020	6044.60	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.419	204	866576	6542.78	ng/ml	99
62) 4-Nitroaniline	10.462	138	435677	7677.72	ng/ml	95
63) 4,6-Dinitro-2-methylph...	10.488	198	299612	6918.04	ng/ml	89
65) N-Nitrosodiphenylamine	10.547	169	1549603	5793.13	ng/ml	99
66) Azobenzene (1,2-DPH)	10.585	77	2030780	5713.07	ng/ml	87
68) 4-Bromophenyl phenyl e...	10.922	248	567177	6409.91	ng/ml	98
69) Hexachlorobenzene	11.007	284	614308	6122.40	ng/ml	95
70) Pentachlorophenol (PCP)	11.194	266	397295	7541.07	ng/ml	97
71) Phenanthrene	11.419	178	2691755	6051.27	ng/ml	97
72) Anthracene	11.467	178	2638439	5884.32	ng/ml	97
73) Carbazole	11.617	167	1858306	Below Cal		97
74) Di-n-butyl phthalate	11.959	149	3263829	10160.74	ng/ml	96
75) Fluoranthene	12.735	202	2984085	6087.72	ng/ml	97
76) Benzidine	12.901	184	2941124	14984.41	ng/ml	99
77) Pyrene	13.050	202	3020323	5984.39	ng/ml	98
80) Butyl benzyl phthalate	14.131	149	1721965	8075.68	ng/ml	96
81) Bis(2-ethylhexyl) adipate	14.307	129	1536908	7867.60	ng/ml	99
82) 3,3-Dichlorobenzidine	15.323	252	752117	Below Cal		98
83) Benz(a)anthracene	15.361	228	2651985	7346.81	ng/ml	98
84) Chrysene	15.457	228	2567396	7538.78	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.505	149	2197866	7824.63	ng/ml	97
87) Di-n-octyl phthalate	17.190	149	3987899	8491.91	ng/ml	95
88) Benzo(b)fluoranthene	17.998	252	3082964	8504.07	ng/ml	97
89) Benzo(k)fluoranthene	18.067	252	2486052	7292.16	ng/ml	97
90) Benzo(b+k)fluoranthene	18.067	252	5776538	16088.51	ng/ml	97
91) Benzo(e)pyrene	18.661	252	2828166	7957.85	ng/ml	98
92) Benzo(a)pyrene	18.784	252	2622343	7920.50	ng/ml	98
93) Perylene	18.987	252	2414315	7163.28	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.330	276	3112495	9110.45	ng/ml	95
96) Dibenz(a,h)anthracene	21.383	278	2425385	7488.00	ng/ml	95
97) Benzo(g,h,i)perylene	21.876	276	2701841	7585.76	ng/ml	97

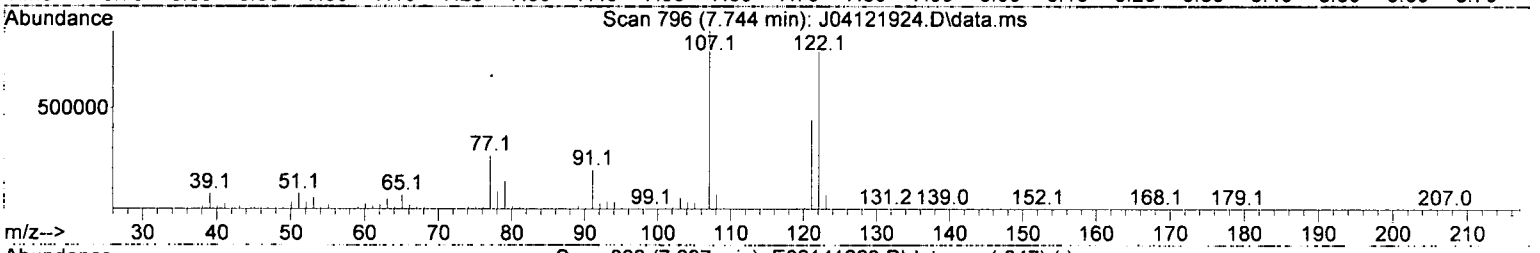
(#) = qualifier out of range (m) = manual integration (+) = signals summed

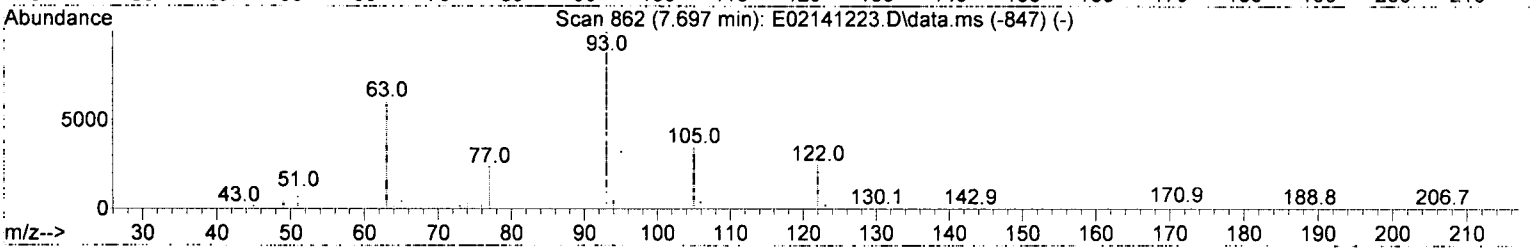
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121924.D
Acq On : 13 Apr 2019 12:15 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:44 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121924.D\data.ms

(26) Benzoic acid (T)

7.744min (-0.069) 947.04 ng/ml

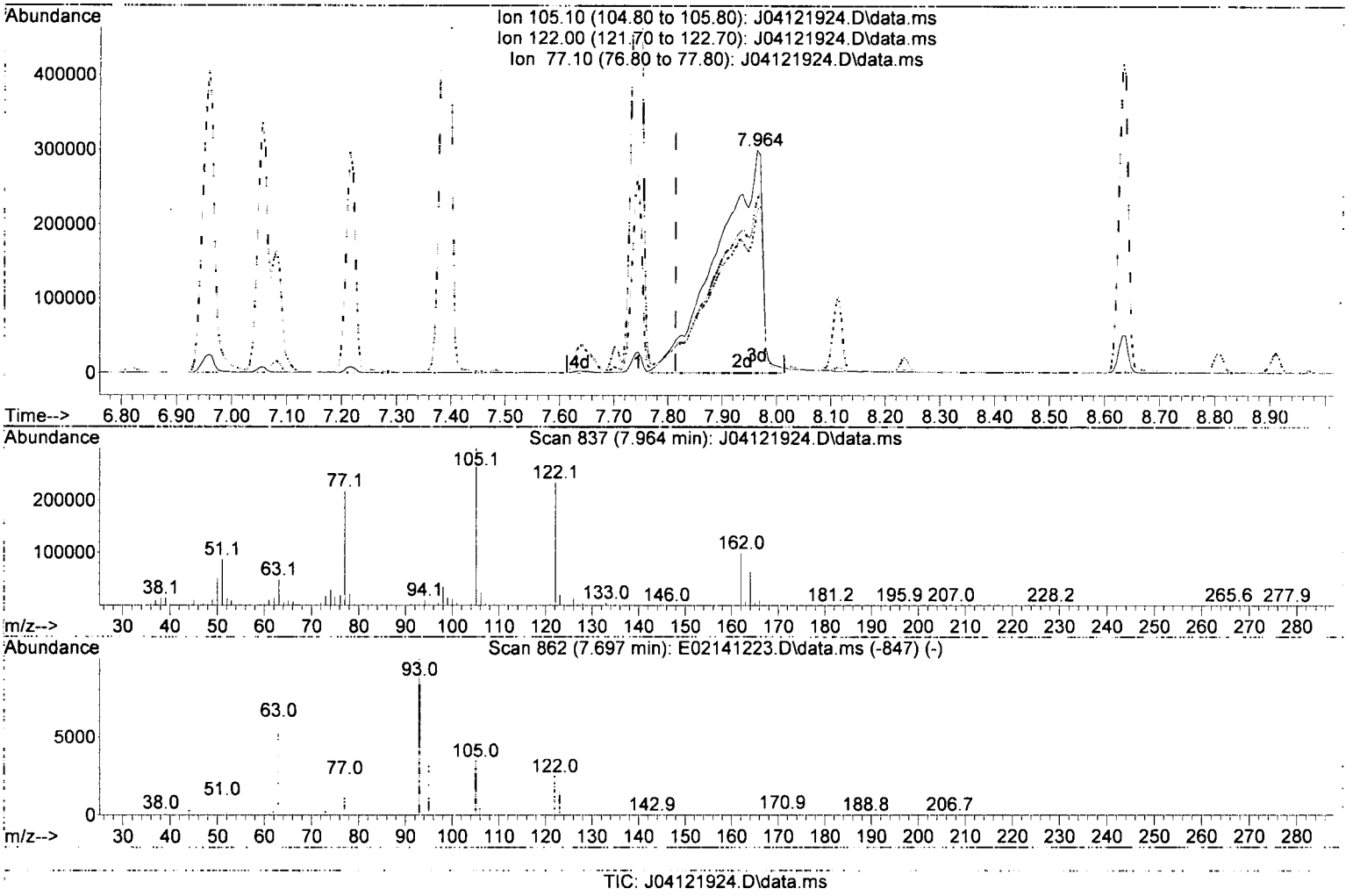
response 36749

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	2710.75#
77.10	76.00	928.46#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121924.D
Acq On : 13 Apr 2019 12:15 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:44 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J04121924.D\data.ms

(26) Benzoic acid (T)

7.964min (+ 0.150) 16913.93 ng/ml m

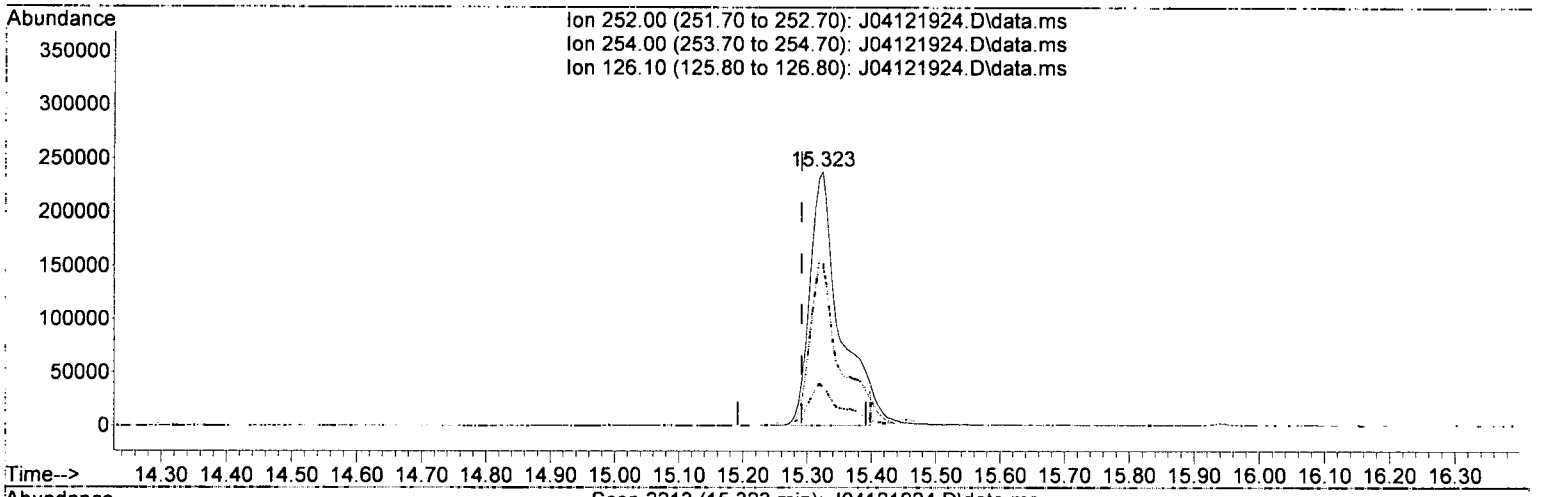
response 1706623

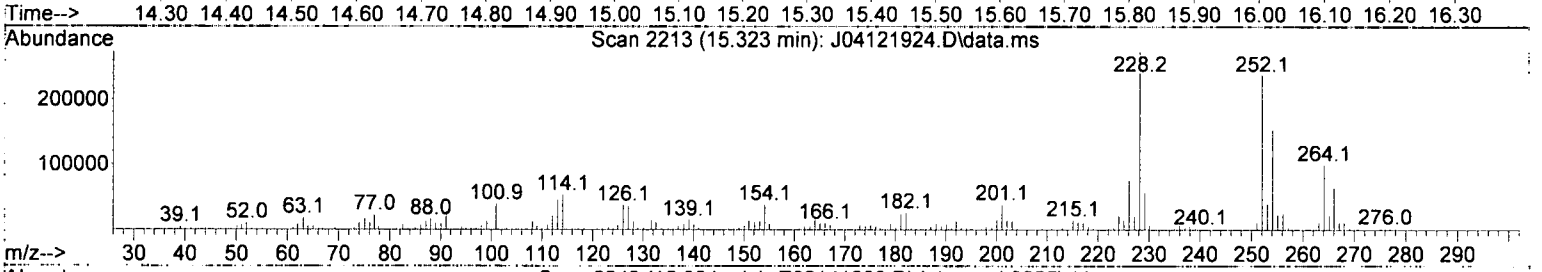
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	78.16
77.10	76.00	72.89
0.00	0.00	0.00

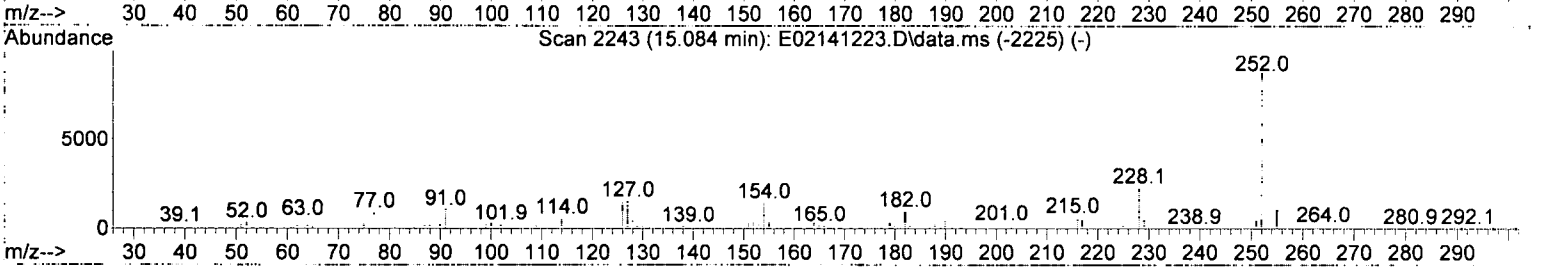
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121924.D
Acq On : 13 Apr 2019 12:15 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:44 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10







TIC: J04121924.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.323min (+ 0.032) -2000.00 ng/ml

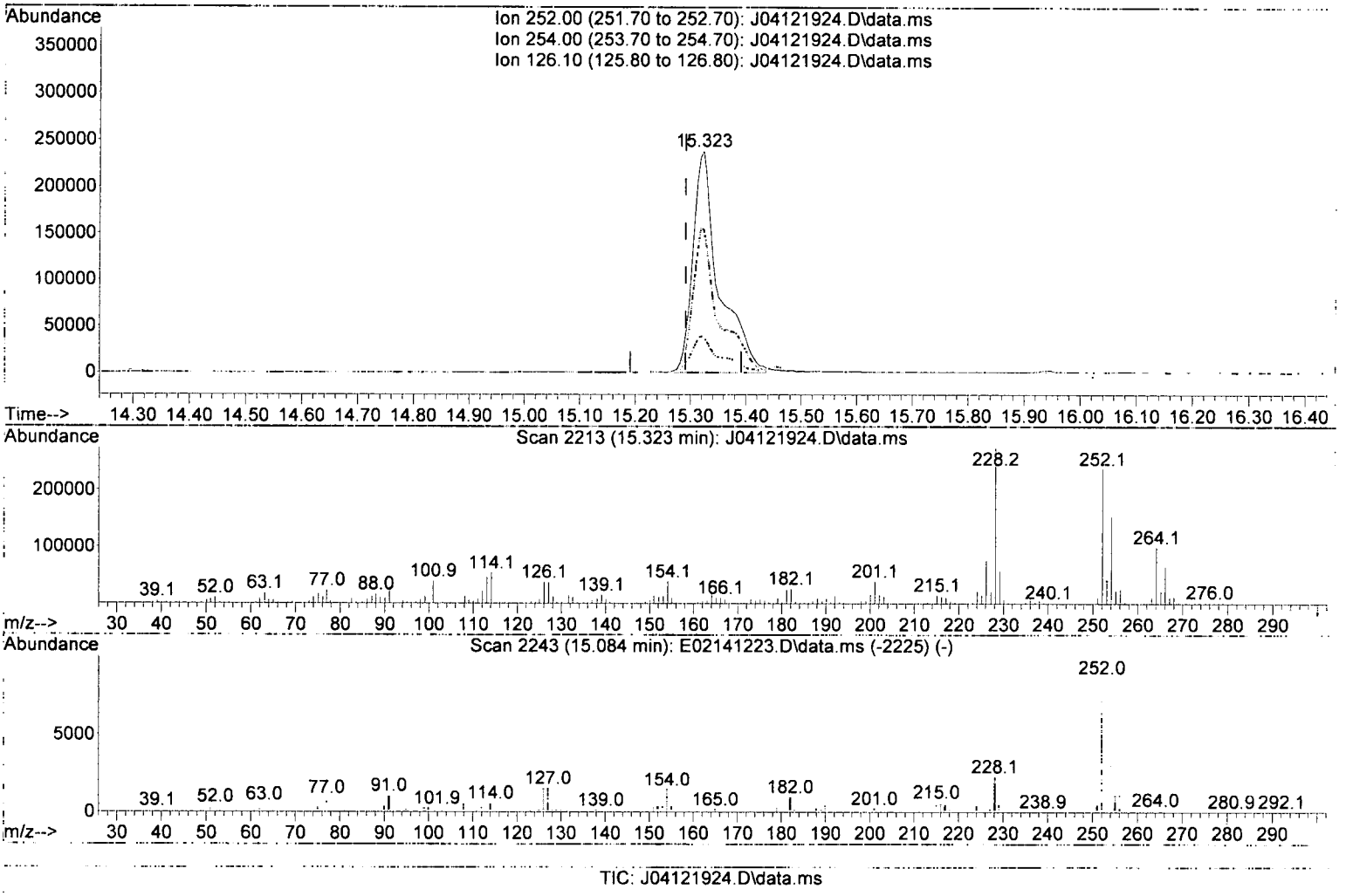
response 752117

Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	64.46
126.10	16.90	15.60
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121924.D
Acq On : 13 Apr 2019 12:15 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:44 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



TIC: J04121924.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.323min (+ 0.032) -2000.00 ng/ml (m) 4/15/19

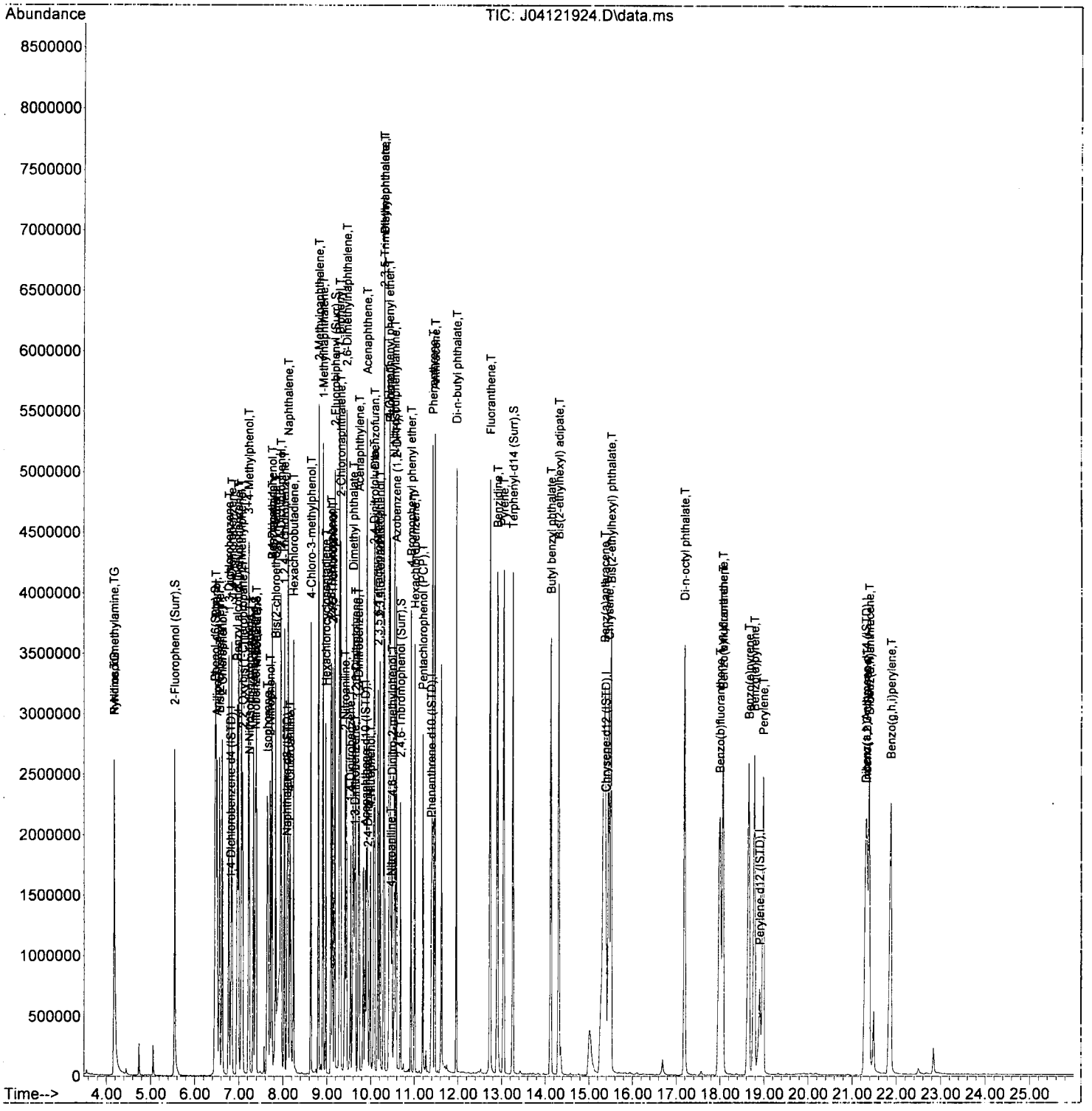
response 784747

Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	64.46
126.10	16.90	15.60
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121924.D
Acq On : 13 Apr 2019 12:15 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:44 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:58 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

4/15/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	225231	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	940161	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.868	162	454606	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.381	188	789773	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.361	240	706895	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.875	264	657267	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.266	292	607358	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	150125	946.82	ng/ml	0.00
5) Phenol-d6(Surr)	6.434	99	191648	910.75	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	169867	938.21	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	351303	1037.70	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	38934	857.80	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	347922	993.92	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.155	74	107198	918.13	ng/ml	92
3) Pyridine	4.171	79	168038	902.91	ng/ml	91
6) Phenol	6.450	94	221184	934.83	ng/ml	97
7) Aniline	6.487	93	224581	1087.60	ng/ml	97
8) Bis(2-chloroethyl) ether	6.541	93	193865	1107.65	ng/ml	97
9) 2-Chlorophenol	6.605	128	164404	992.22	ng/ml	93
10) 1,3-Dichlorobenzene	6.755	146	176447	1010.99	ng/ml	98
11) 1,4-Dichlorobenzene	6.830	146	174527	1026.66	ng/ml	98
12) Benzyl alcohol	6.942	108	89446	804.07	ng/ml	93
13) 1,2-Dichlorobenzene	6.979	146	171866	1029.86	ng/ml	100
14) 2-Methylphenol	7.044	107	127820	981.70	ng/ml	97
15) 2,2'-Oxybis(1-Chloropr...	7.070	45	214379	935.06	ng/ml	91
16) N-Nitrosodi-n-propylamine	7.199	70	132402	1027.54	ng/ml	99
17) 3+4-Methylphenol	7.193	107	165705	1034.55	ng/ml	99
18) Hexachloroethane	7.322	201	47249	987.84	ng/ml	96
20) Nitrobenzene	7.375	77	169560	959.40	ng/ml	96
22) Isophorone	7.611	82	360193	1010.74	ng/ml	97
23) 2-Nitrophenol	7.691	139	82990	896.72	ng/ml	97
24) 2,4-Dimethylphenol	7.723	122	142361	976.90	ng/ml	99
25) Bis(2-chloroethoxy) me...	7.814	93	209172	1039.79	ng/ml	99
26) Benzoic acid	7.814	105	98896	1540.07	ng/ml	98
27) 2,4-Dichlorophenol	7.931	162	118350	1010.43	ng/ml	96
28) 1,2,4-Trichlorobenzene	8.022	180	136487	964.85	ng/ml	96
29) Naphthalene	8.103	128	510313	1017.58	ng/ml	99
30) 4-Chloroaniline	8.145	127	163413	1350.91	ng/ml	97
31) Hexachlorobutadiene	8.231	225	72214	967.78	ng/ml	98
32) 4-Chloro-3-methylphenol	8.621	107	136286	962.30	ng/ml	96
33) 2-Methylnaphthalene	8.798	142	346320	1033.79	ng/ml	99
34) 1-Methylnaphthalene	8.900	142	324946	1010.25	ng/ml	98
36) Hexachlorocyclopentadiene	8.969	237	68590	966.71	ng/ml	95
37) 2,4,6-Trichlorophenol	9.081	196	77965	971.03	ng/ml	98
38) 2,4,5-Trichlorophenol	9.119	198	78439	994.08	ng/ml	97
39) 1,1'-Biphenyl	9.269	154	401597	1053.00	ng/ml	99
41) 2-Chloronaphthalene	9.295	162	288501	1069.70	ng/ml	97
42) 2-Nitroaniline	9.386	138	89325	958.90	ng/ml	99
43) 2,6-Dimethylnaphthalene	9.429	156	289552	1039.62	ng/ml	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:58 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10

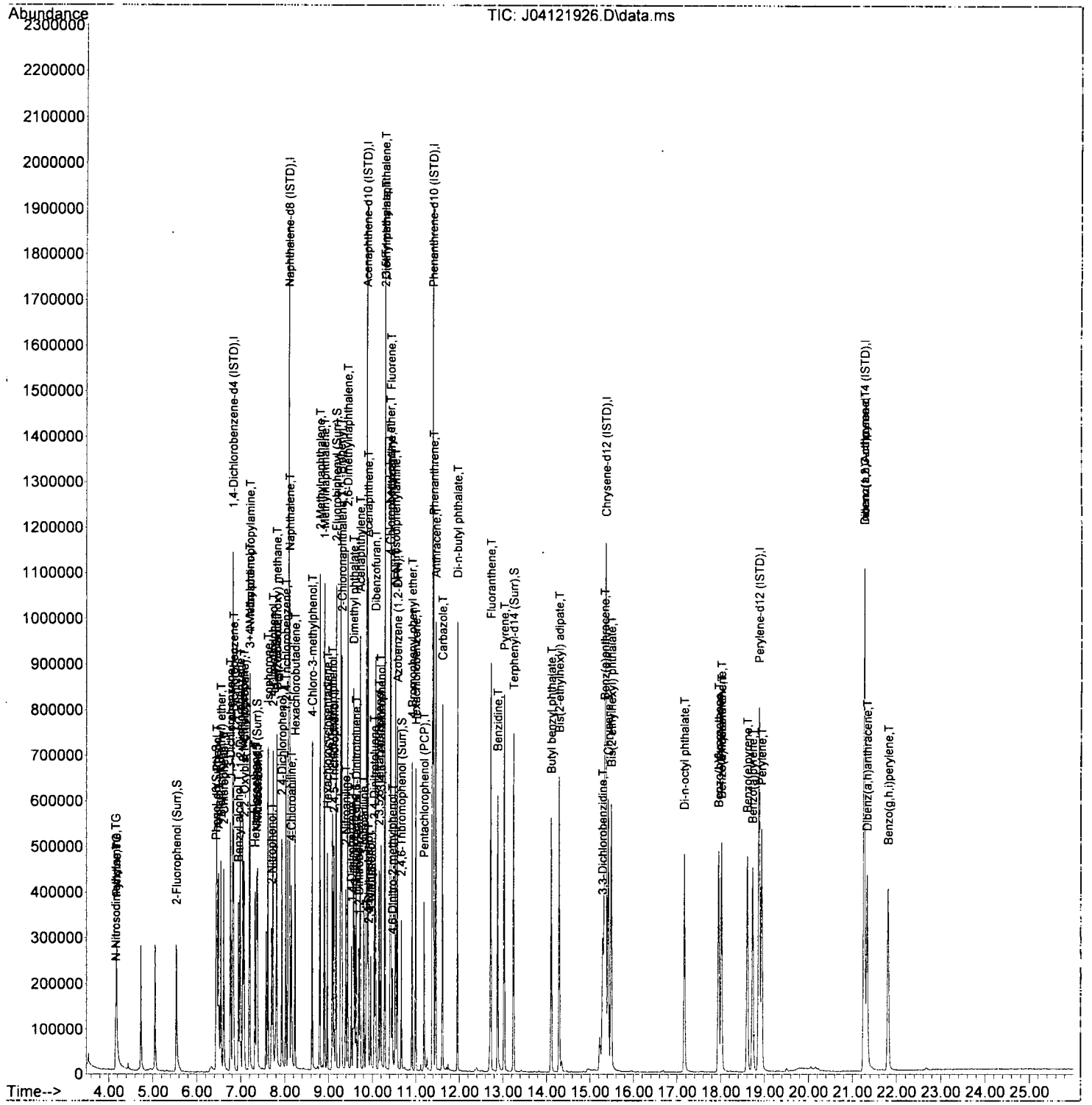
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.515	168	32109	746.64	ng/ml	98
45) Dimethyl phthalate	9.568	163	331508	1012.04	ng/ml	99
46) 1,3-Dinitrobenzene	9.600	168	42198	879.83	ng/ml	97
47) 2,6-Dinitrotoluene	9.627	165	71148	1001.57	ng/ml	95
48) 1,2-Dinitrobenzene	9.691	168	30968	934.30	ng/ml	78
49) Acenaphthylene	9.718	152	489910	1004.09	ng/ml	99
50) 3-Nitroaniline	9.803	138	70812	1173.57	ng/ml	96
51) Acenaphthene	9.894	153	301133	976.85	ng/ml	99
52) 2,4-Dinitrophenol	9.910	184	11124	518.82	ng/ml	94
53) 4-Nitrophenol	9.959	139	47352	857.87	ng/ml	95
54) 2,4-Dinitrotoluene	10.039	165	86115	966.49	ng/ml	98
55) Dibenzofuran	10.071	168	404403	1025.70	ng/ml	99
56) 2,3,5,6-Tetrachlorophenol	10.151	232	59505	945.85	ng/ml	97
57) 2,3,4,6-Tetrachlorophenol	10.194	232	65002	994.56	ng/ml	95
58) Diethyl phthalate	10.285	149	322768	1000.24	ng/ml	98
59) 2,3,5-Trimethylnaphtha...	10.280	170	253977	987.85	ng/ml	98
60) Fluorene	10.419	166	320366	1028.32	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.408	204	143339	1011.47	ng/ml	100
62) 4-Nitroaniline	10.424	138	67831	1117.19	ng/ml	93
63) 4,6-Dinitro-2-methylph...	10.461	198	26986	731.29	ng/ml	86
65) N-Nitrosodiphenylamine	10.526	169	262526	990.20	ng/ml	100
66) Azobenzene (1,2-DPH)	10.574	77	348955	990.46	ng/ml	91
68) 4-Bromophenyl phenyl e...	10.911	248	84915	968.23	ng/ml	97
69) Hexachlorobenzene	10.991	284	93599	941.17	ng/ml	97
70) Pentachlorophenol (PCP)	11.183	266	44624	943.63	ng/ml	98
71) Phenanthrene	11.403	178	444580	1008.37	ng/ml	99
72) Anthracene	11.456	178	439747	989.49	ng/ml	99
73) Carbazole	11.606	167	376107	1216.39	ng/ml	98
74) Di-n-butyl phthalate	11.948	149	526060	949.47	ng/ml	99
75) Fluoranthene	12.719	202	469482	966.32	ng/ml	98
76) Benzidine	12.874	184	313160	2975.76	ng/ml	98
77) Pyrene	13.029	202	481350	962.25	ng/ml	99
80) Butyl benzyl phthalate	14.109	149	208309	866.85	ng/ml	98
81) Bis(2-ethylhexyl) adipate	14.291	129	197557	900.48	ng/ml	100
82) 3,3-Dichlorobenzidine	15.286	252	126187	1660.79	ng/ml	99
83) Benz(a)anthracene	15.334	228	401111	986.00	ng/ml	99
84) Chrysene	15.414	228	382137	995.66	ng/ml	100
85) Bis(2-ethylhexyl) phth...	15.489	149	299160	945.04	ng/ml	98
87) Di-n-octyl phthalate	17.163	149	448238	918.20	ng/ml	97
88) Benzo(b)fluoranthene	17.949	252	390614	1036.51	ng/ml	96
89) Benzo(k)fluoranthene	18.014	252	391287	1104.10	ng/ml	97
90) Benzo(b+k)fluoranthene	18.014	252	796315	2133.54	ng/ml	97
91) Benzo(e)pyrene	18.607	252	381547	1032.78	ng/ml	97
92) Benzo(a)pyrene	18.725	252	358790	1042.49	ng/ml	98
93) Perylene	18.934	252	390591	1114.83	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.266	276	325049	976.27	ng/ml	95
96) Dibenz(a,h)anthracene	21.330	278	309719	981.16	ng/ml	92
97) Benzo(g,h,i)perylene	21.811	276	349358	1006.46	ng/ml	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 08:55:58 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 08:54:36 2019
Response via : Initial Calibration
InstName : SV-GCMS10



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Final Reqmnt

JK 9/19/19

Quant Time: Apr 15 12:07:14 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.808	152	225231	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.081	136	940161	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.868	162	454606	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.381	188	789773	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.361	240	706895	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.875	264	657267	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.266	292	607358	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.535	112	150125	1025.32	ng/ml	0.00
5) Phenol-d6(Surr)	6.434	99	191648	1017.56	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.354	82	169867	1010.05	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.167	172	351303	1095.25	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.665	330	38934	1004.38	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.243	244	347922	1045.59	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.155	74	107198	965.91	ng/ml	92
3) Pyridine	4.171	79	168038	927.96	ng/ml	91
6) Phenol	6.450	94	221184	1050.65	ng/ml	97
7) Aniline	6.487	93	224581	1014.19	ng/ml	97
8) Bis(2-chloroethyl) ether	6.541	93	193865	1016.60	ng/ml	97
9) 2-Chlorophenol	6.605	128	164404	1073.70	ng/ml	93
10) 1,3-Dichlorobenzene	6.755	146	176447	1024.14	ng/ml	98
11) 1,4-Dichlorobenzene	6.830	146	174527	1015.39	ng/ml	98
12) Benzyl alcohol	6.942	108	89446	990.85	ng/ml	93
13) 1,2-Dichlorobenzene	6.979	146	171866	1027.38	ng/ml	100
14) 2-Methylphenol	7.044	107	127820	1077.70	ng/ml	97
15) 2,2'-Oxybis(1-Chloropr...	7.070	45	214379	993.42	ng/ml	91
16) N-Nitrosodi-n-propylamine	7.199	70	132402	1060.94	ng/ml	99
17) 3+4-Methylphenol	7.193	107	165705	1052.78	ng/ml	99
18) Hexachloroethane	7.322	201	47249	1019.95	ng/ml	96
20) Nitrobenzene	7.375	77	169560	1058.29	ng/ml	96
22) Isophorone	7.611	82	360193	1028.66	ng/ml	97
23) 2-Nitrophenol	7.691	139	82990	1121.76	ng/ml	97
24) 2,4-Dimethylphenol	7.723	122	142361	987.26	ng/ml	99
25) Bis(2-chloroethoxy) me...	7.814	93	209172	1113.78	ng/ml	99
26) Benzoic acid	7.814	105	98896	1817.64	ng/ml	98
27) 2,4-Dichlorophenol	7.931	162	118350	1020.66	ng/ml	96
28) 1,2,4-Trichlorobenzene	8.022	180	136487	1022.10	ng/ml	96
29) Naphthalene	8.103	128	510313	1048.62	ng/ml	99
30) 4-Chloroaniline	8.145	127	163413	1033.03	ng/ml	97
31) Hexachlorobutadiene	8.231	225	72214	995.32	ng/ml	98
32) 4-Chloro-3-methylphenol	8.621	107	136286	992.95	ng/ml	96
33) 2-Methylnaphthalene	8.798	142	346320	1085.22	ng/ml	99
34) 1-Methylnaphthalene	8.900	142	324946	1049.76	ng/ml	98
36) Hexachlorocyclopentadiene	8.969	237	68590	1089.80	ng/ml	95
37) 2,4,6-Trichlorophenol	9.081	196	77965	963.90	ng/ml	98
38) 2,4,5-Trichlorophenol	9.119	198	78439	1081.65	ng/ml	97
39) 1,1'-Biphenyl	9.269	154	401597	1089.76	ng/ml	99
41) 2-Chloronaphthalene	9.295	162	288501	1107.03	ng/ml	97
42) 2-Nitroaniline	9.386	138	89325	1054.08	ng/ml	99
43) 2,6-Dimethylnaphthalene	9.429	156	289552	1071.65	ng/ml	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV10_AQUISITION.M

Quant Time: Apr 15 12:07:14 2019
Quant Method : C:\msdchem\1\methods\SV10_041219.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Apr 15 09:10:15 2019
Response via : Initial Calibration
InstName : SV-GCMS10

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.515	168	32109	1067.40	ng/ml	98
45) Dimethyl phthalate	9.568	163	331508	1048.39	ng/ml	99
46) 1,3-Dinitrobenzene	9.600	168	42198	1080.55	ng/ml	97
47) 2,6-Dinitrotoluene	9.627	165	71148	1065.26	ng/ml	95
48) 1,2-Dinitrobenzene	9.691	168	30968	1016.45	ng/ml	78
49) Acenaphthylene	9.718	152	489910	1077.32	ng/ml	99
50) 3-Nitroaniline	9.803	138	70812	1139.38	ng/ml	96
51) Acenaphthene	9.894	153	301133	1029.64	ng/ml	99
52) 2,4-Dinitrophenol	9.910	184	11124	962.19	ng/ml	94
53) 4-Nitrophenol	9.959	139	47352	1076.92	ng/ml	95
54) 2,4-Dinitrotoluene	10.039	165	86115	1054.72	ng/ml	98
55) Dibenzofuran	10.071	168	404403	1058.40	ng/ml	99
56) 2,3,5,6-Tetrachlorophenol	10.151	232	59505	1034.56	ng/ml	97
57) 2,3,4,6-Tetrachlorophenol	10.194	232	65002	1042.78	ng/ml	95
58) Diethyl phthalate	10.285	149	322768	1068.75	ng/ml	98
59) 2,3,5-Trimethylnaphtha...	10.280	170	253977	1051.39	ng/ml	98
60) Fluorene	10.419	166	320366	1070.71	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.408	204	143339	1046.87	ng/ml	100
62) 4-Nitroaniline	10.424	138	67831	1186.32	ng/ml	93
63) 4,6-Dinitro-2-methylph...	10.461	198	26986	1185.98	ng/ml	86
65) N-Nitrosodiphenylamine	10.526	169	262526	1079.66	ng/ml	100
66) Azobenzene (1,2-DPH)	10.574	77	348955	1060.34	ng/ml	91
68) 4-Bromophenyl phenyl e...	10.911	248	84915	1092.31	ng/ml	97
69) Hexachlorobenzene	10.991	284	93599	987.47	ng/ml	97
70) Pentachlorophenol (PCP)	11.183	266	44624	1050.08	ng/ml	98
71) Phenanthrene	11.403	178	444580	1037.41	ng/ml	99
72) Anthracene	11.456	178	439747	1053.61	ng/ml	99
73) Carbazole	11.606	167	376107	1064.80	ng/ml	98
74) Di-n-butyl phthalate	11.948	149	526060	1089.31	ng/ml	99
75) Fluoranthene	12.719	202	469482	1098.54	ng/ml	98
76) Benzidine	12.874	184	313160	1975.91	ng/ml	98
77) Pyrene	13.029	202	481350	1092.93	ng/ml	99
80) Butyl benzyl phthalate	14.109	149	208309	1011.77	ng/ml	98
81) Bis(2-ethylhexyl) adipate	14.291	129	197557	980.78	ng/ml	100
82) 3,3-Dichlorobenzidine	15.286	252	126187	2025.16	ng/ml	99
83) Benz(a)anthracene	15.334	228	401111	1039.86	ng/ml	99
84) Chrysene	15.414	228	382137	1021.00	ng/ml	100
85) Bis(2-ethylhexyl) phth...	15.489	149	299160	1007.49	ng/ml	98
87) Di-n-octyl phthalate	17.163	149	448238	993.34	ng/ml	97
88) Benzo(b)fluoranthene	17.949	252	390614	1030.12	ng/ml	96
89) Benzo(k)fluoranthene	18.014	252	391287	1016.41	ng/ml	97
90) Benzo(b+k)fluoranthene	18.014	252	796315	2049.18	ng/ml	97
91) Benzo(e)pyrene	18.607	252	381547	1058.65	ng/ml	97
92) Benzo(a)pyrene	18.725	252	358790	1035.11	ng/ml	98
93) Perylene	18.934	252	390591	1170.70	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.266	276	325049	956.67	ng/ml	95
96) Dibenz(a,h)anthracene	21.330	278	309719	1019.03	ng/ml	92
97) Benzo(g,h,i)perylene	21.811	276	349358	1063.81	ng/ml	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-04\9D12042\
Data File : J04121926.D
Acq On : 13 Apr 2019 1:26 am
Operator : JK/ AMS/ DTH
Sample : 9D12042-ICV1
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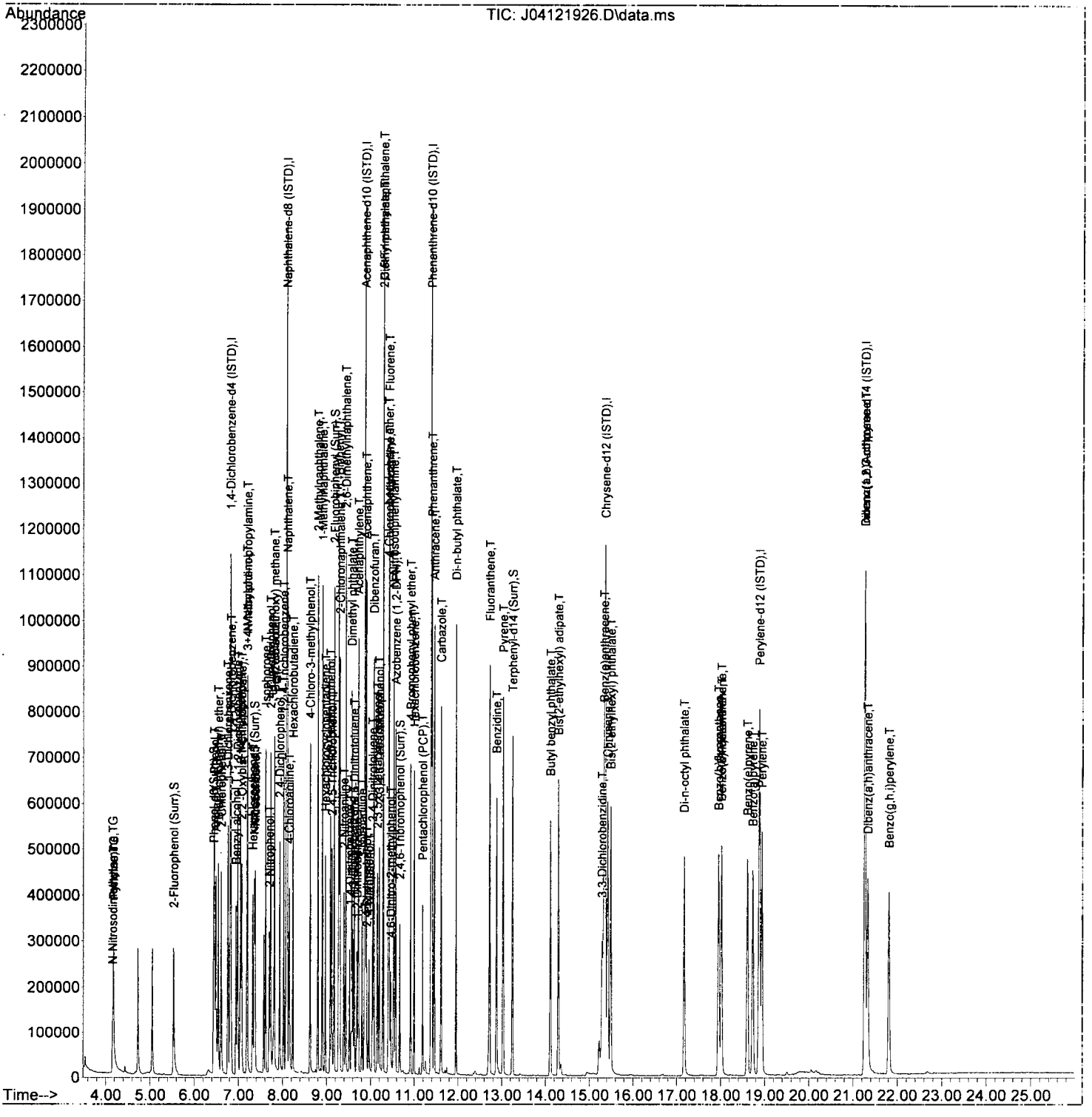

APEX LABORATORIES, LLC
6700 SW Sandburg St. Tigard OR 97223 phone 503-718-2323

Total Metals by EPA 6020 A (ICPMS)

Benchsheet & Analysis Sequence Data (including calibration)

Batch 9051152

Sequence 9E23021

APEX LABORATORIES

Ag (Silver) - 6020 - Total
Al (Aluminum) - 6020 - Total
As (Arsenic) - 6020 - Total
Ba (Barium) - 6020 - Total
Be (Beryllium) - 6020 - Total
Ca (Calcium) - 6020 - Total
Cd (Cadmium) - 6020 - Total
Cr (Chromium) - 6020 - Total

PREPARATION BENCH SHEET

9051152

JUN 14 2019

Apex Laboratories
BATCH #: 9051152 (Solid)
Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9051152-BLK1	---	**05/22/19 11:59**	**0.5**	**50**	*QC Sample*		
9051152-BS1	---	**05/22/19 11:59**	**0.5**	**50**	*QC Sample*		
Spike 1: **5000 uL of A19E038** Spike 2: **500 uL of A19D229**							
A9E0453-02	*05/24/19*	**05/22/19 11:59**	~~0.5~~ .487	**50**	**Telluric Enterprises, LLC**	**#2 FS07 Intake Acid-Solid**	
☐ Ag (Silver) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Pb (Lead) - 6020 - Total ☐ Se (Selenium) - 6020 - Total							
A9E0453-04	*05/24/19*	**05/22/19 11:59**	~~0.5~~ .453	**50**	**Telluric Enterprises, LLC**	**#3 FS12 Intake Acid-Solid**	
☐ Ag (Silver) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Pb (Lead) - 6020 - Total ☐ Se (Selenium) - 6020 - Total							
A9E0453-06	*05/24/19*	**05/22/19 11:59**	~~0.5~~ .489	**50**	**Telluric Enterprises, LLC**	**#4 FS08 Intake Alk-Solid**	
☐ Ag (Silver) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Pb (Lead) - 6020 - Total ☐ Se (Selenium) - 6020 - Total							
A9E0672-01	*05/24/19*	**05/22/19 11:59**	~~0.5~~ .496	**50**	**HydroCon LLC**	**Carbon-01**	Added for BatchQC in: 9051152 Temp
☐ Ag (Silver) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Pb (Lead) - 6020 - Total ☐ Se (Selenium) - 6020 - Total							
Batch QC:							
☐ Al (Aluminum) - 6020 - Total ☐ Be (Beryllium) - 6020 - Total ☐ Ca (Calcium) - 6020 - Total ☐ Cu (Copper) - 6020 - Total ☐ Fe (Iron) - 6020 - Total ☐ K (Potassium) - 6020 - Total ☐ Mg (Magnesium) - 6020 - Total ☐ Mn (Manganese) - 6020 - Total ☐ Na (Sodium) - 6020 - Total ☐ Ni (Nickel) - 6020 - Total ☐ Sb (Antimony) - 6020 - Total ☐ Tl (Thallium) - 6020 - Total ☐ V (Vanadium) - 6020 - Total ☐ Zn (Zinc) - 6020 - Total							
9051152-DUP1	---	**05/22/19 11:59**	~~0.5~~ .469	**50**	*QC Sample*		Temp
Source: **A9E0672-01**							
9051152-MS1	---	**05/22/19 11:59**	~~0.5~~ .462	**50**	*QC Sample*		Temp
Source: **A9E0672-01** Spike 1: **5000 uL of A19E038** Spike 2: **500 uL of A19D229**							
A9E0675-01	*05/28/19*	**05/22/19 11:59**	~~0.5~~ .498	**50**	**CCS (PNE Corporation) - Longvi**	**Catch Basin Composite**	
☐ Ag (Silver) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Pb (Lead) - 6020 - Total ☐ Se (Selenium) - 6020 - Total							
A9E0677-01	*05/28/19*	**05/22/19 11:59**	MJG 5/22/19 ~~0.5~~ .450	**50**	**Hahn and Associates**	**2708-190520-006**	Strong Odor Ag, Al, As, Ba, Be, Cd, Cr, Cu, Fe, Hg, Mn, Ni, Pb, Sb, Se, Tl, V, Z, Ca, Mg, K, Na
☐ Ag (Silver) - 6020 - Total ☐ Al (Aluminum) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Be (Beryllium) - 6020 - Total ☐ Ca (Calcium) - 6020 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Cu (Copper) - 6020 - Total ☐ Fe (Iron) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ K (Potassium) - 6020 - Total ☐ Mg (Magnesium) - 6020 - Total ☐ Mn (Manganese) - 6020 - Total ☐ Na (Sodium) - 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							

MJG 5/22/19
Prepared By: Date

Reviewed By: 5/24/19
Date

APEX LABORATORIES

Apex Laboratories
BATCH #: 9051152 (Solid)
Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L213	11/30/23 ✓	Metals Prep Balance 2
A15E001	05/01/20 ✓	Mars-1 Microwave
A19C191	03/04/22 ✓	Conc. HCl - Omnitrace
A19D287	04/22/20 ✓	Conc. HNO3 - Omnitrace
A19E112	11/05/21 ✓	30% hydrogen peroxide

Analyte Spike(s) MJG 5/22/19

Std ID	Exp. Date	Description
A19D229	10/13/19 ✓	Hg Spiking Standard
A19E038	05/31/19 ✓	**Combo Spike** A+B+C

MJG 5/22/19
A) A19E033 } 2500 µL
B) A19D335 } 1250 µL
C) A19D334 1250 µL

Digestion time and temperature achieved?
Initials: MJG I witnessed temp

MJG 5/22/19
Prepared By: Date

Reviewed By: Date

Batch #: 9051152

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: 05/22/19 Prepared by: MJG

#	Mars Tube ID	Sample ID	Pre-digestion Vessel + Sample Wt. (g)	Post-digestion Vessel + Sample Wt. (g)	Sample Wt. Loss (%)* *Formula only used if sample loss >0.2g*
1	522	9051152-BLK1	183.78	183.78	n/a
2	569	9051152-BS1	186.03	186.03	n/a
3	554	A9E0453-02	184.80	184.78	n/a
4	544	A9E0453-04	184.67	184.66	n/a
5	520	A9E0453-06	184.45	184.42	n/a
6	587A	A9E0672-01	184.78	184.78	n/a
7	5228	9051152-DUP1	185.30	185.30	n/a
8	536A	9051152-MS1	184.79	184.78	n/a
9	524	A9E0675-01	185.07	185.06	n/a
10	518	A9E0677-01	185.30	185.29	n/a
11					n/a
12					n/a
13					n/a
14					n/a
15					n/a
16					n/a
17					n/a
18					n/a
19					n/a
20					n/a
21					n/a
22					n/a
23					n/a
24					n/a
25					n/a

*Example Calculation: (Pre(g) – Post(g))/(Post(g) – 159.32g) This represents the mean weight of the empty digestion vessels. By factoring in the mean digestion vessel weight, we observe weight loss from only the sample, rather than as a percentage of the sample+vessel weight.

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9E23021** Instrument: **ICPMS6**

Date: **05/23/19 10:44** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E23021-CAL1	Water	QC	QC			A19D189	A19E285
2	9E23021-CAL2	Water	QC	QC			A19D189	A19E286
3	9E23021-CAL3	Water	QC	QC			A19D189	A19E287
4	9E23021-CAL4	Water	QC	QC			A19D189	A19E288
5	9E23021-CAL5	Water	QC	QC			A19D189	A19E083
6	9E23021-CAL6	Water	QC	QC			A19D189	A19E289
7	9E23021-CAL7	Water	QC	QC			A19D189	A19E082
8	9E23021-CAL8	Water	QC	QC			A19D189	A19D321
9	9E23021-CAL9	Water	QC	QC			A19D189	A19E164
10	9E23021-ICV1	Water	QC	QC			A19D189	A19E109
11	9E23021-ICB1	Water	QC	QC			A19D189	
12	9E23021-ICV2	Water	QC	QC			A19D189	A19E109
13	9E23021-CRL1	Water	QC	QC			A19D189	A19E285
14	9E23021-CRL2	Water	QC	QC			A19D189	A19E286
15	9E23021-CRL3	Water	QC	QC			A19D189	A19E287
16	9E23021-IFA1	Water	QC	QC			A19D189	A19E234
17	9E23021-IFB1	Water	QC	QC			A19D189	A19E235
18	9051099-BLK2	Water	QC	QC		9051099	A19D189	
19	9051099-BS2	Water	QC	QC		9051099	A19D189	
20	A9E0513-22RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
21	9051099-DUP2	Water	QC	QC		9051099	A19D189	
22	A9E0513-23RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
23	9051099-MS3	Water	QC	QC		9051099	A19D189	
24	A9E0513-24RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
25	9051099-MS4	Water	QC	QC		9051099	A19D189	
26	A9E0513-25RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
27	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051099	A19D189	
28	A9E0513-26RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
29	9E23021-CCV1	Water	QC	QC			A19D189	A19E109
30	9E23021-CCB1	Water	QC	QC			A19D189	
31	A9E0513-27RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
32	A9E0513-28RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
33	A9E0513-29RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
34	A9E0513-30RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
35	A9E0513-31RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
36	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051099	A19D189	
37	A9E0513-32RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
38	A9E0513-33RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
39	A9E0513-35RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
40	A9E0513-37RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
41	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051099	A19D189	
42	A9E0513-38RE1	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
43	9E23021-CCV2	Water	QC	QC			A19D189	A19E109
44	9E23021-CCB2	Water	QC	QC			A19D189	
45	A9E0513-41RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
46	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051099	A19D189	
47	A9E0513-43RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051099	A19D189	
48	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051099	A19D189	
49	A9E0453-02RE1	Solid	Cr (Chromium) - 6020 - TCLP		05/24/19	9051144	A19D189	
50	9051150-BLK1	Water	QC	QC		9051150	A19D189	
51	9051150-BSD1	Water	QC	QC		9051150	A19D189	

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
52	9051150-BS1	Water	QC	QC		9051150	A19D189	
53	A9E0513-14	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051150	A19D189	
54	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051150	A19D189	
55	A9E0513-20	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051150	A19D189	
56	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051150	A19D189	
57	A9E0513-34	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051150	A19D189	
58	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051150	A19D189	
59	A9E0513-36	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051150	A19D189	
60	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051150	A19D189	
61	9E23021-CCV3	Water	QC	QC			A19D189	A19E109
62	9E23021-CCB3	Water	QC	QC			A19D189	
63	A9E0513-42	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051150	A19D189	
64	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/24/19	9051150	A19D189	
65	9051152-BLK1	Solid	QC	QC		9051152	A19D189	
66	9051152-BS1	Solid	QC	QC		9051152	A19D189	
67	A9E0453-02	Solid	Ag (Silver) - 6020 - Total		05/24/19	9051152	A19D189	
68	"	Solid	As (Arsenic) - 6020 - Total	"	05/24/19	9051152	A19D189	
69	"	Solid	Ba (Barium) - 6020 - Total	"	05/24/19	9051152	A19D189	
70	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/24/19	9051152	A19D189	
71	"	Solid	Cr (Chromium) - 6020 - Total	"	05/24/19	9051152	A19D189	
72	"	Solid	Hg (Mercury) - 6020 - Total	"	05/24/19	9051152	A19D189	
73	"	Solid	Pb (Lead) - 6020 - Total	"	05/24/19	9051152	A19D189	
74	"	Solid	Se (Selenium) - 6020 - Total	"	05/24/19	9051152	A19D189	
75	A9E0453-04	Solid	Ag (Silver) - 6020 - Total		05/24/19	9051152	A19D189	
76	"	Solid	As (Arsenic) - 6020 - Total	"	05/24/19	9051152	A19D189	
77	"	Solid	Ba (Barium) - 6020 - Total	"	05/24/19	9051152	A19D189	
78	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/24/19	9051152	A19D189	
79	"	Solid	Cr (Chromium) - 6020 - Total	"	05/24/19	9051152	A19D189	
80	"	Solid	Hg (Mercury) - 6020 - Total	"	05/24/19	9051152	A19D189	
81	"	Solid	Pb (Lead) - 6020 - Total	"	05/24/19	9051152	A19D189	
82	"	Solid	Se (Selenium) - 6020 - Total	"	05/24/19	9051152	A19D189	
83	A9E0453-06	Solid	Ag (Silver) - 6020 - Total		05/24/19	9051152	A19D189	
84	"	Solid	As (Arsenic) - 6020 - Total	"	05/24/19	9051152	A19D189	
85	"	Solid	Ba (Barium) - 6020 - Total	"	05/24/19	9051152	A19D189	
86	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/24/19	9051152	A19D189	
87	"	Solid	Cr (Chromium) - 6020 - Total	"	05/24/19	9051152	A19D189	
88	"	Solid	Hg (Mercury) - 6020 - Total	"	05/24/19	9051152	A19D189	
89	"	Solid	Pb (Lead) - 6020 - Total	"	05/24/19	9051152	A19D189	
90	"	Solid	Se (Selenium) - 6020 - Total	"	05/24/19	9051152	A19D189	
91	A9E0672-01	Solid	Ag (Silver) - 6020 - Total		05/24/19	9051152	A19D189	
92	"	Solid	Al (Aluminum) - 6020 - Total	(QC Source)		9051152	A19D189	
93	"	Solid	As (Arsenic) - 6020 - Total	"	05/24/19	9051152	A19D189	
94	"	Solid	Ba (Barium) - 6020 - Total	"	05/24/19	9051152	A19D189	
95	"	Solid	Be (Beryllium) - 6020 - Total	(QC Source)		9051152	A19D189	
96	"	Solid	Ca (Calcium) - 6020 - Total	(QC Source)		9051152	A19D189	
97	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/24/19	9051152	A19D189	
98	"	Solid	Cr (Chromium) - 6020 - Total	"	05/24/19	9051152	A19D189	
99	"	Solid	Cu (Copper) - 6020 - Total	(QC Source)		9051152	A19D189	
100	"	Solid	Fe (Iron) - 6020 - Total	(QC Source)		9051152	A19D189	
101	"	Solid	Hg (Mercury) - 6020 - Total	"	05/24/19	9051152	A19D189	
102	"	Solid	K (Potassium) - 6020 - Total	(QC Source)		9051152	A19D189	
103	"	Solid	Mg (Magnesium) - 6020 - Total	(QC Source)		9051152	A19D189	
104	"	Solid	Mn (Manganese) - 6020 - Total	(QC Source)		9051152	A19D189	
105	"	Solid	Na (Sodium) - 6020 - Total	(QC Source)		9051152	A19D189	
106	"	Solid	Ni (Nickel) - 6020 - Total	(QC Source)		9051152	A19D189	

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
107	"	Solid	Pb (Lead) - 6020 - Total	"	05/24/19	9051152	A19D189	
108	"	Solid	Sb (Antimony) - 6020 - Total	(QC Source)		9051152	A19D189	
109	"	Solid	Se (Selenium) - 6020 - Total	"	05/24/19	9051152	A19D189	
110	"	Solid	Tl (Thallium) - 6020 - Total	(QC Source)		9051152	A19D189	
111	"	Solid	V (Vanadium) - 6020 - Total	(QC Source)		9051152	A19D189	
112	"	Solid	Zn (Zinc) - 6020 - Total	(QC Source)		9051152	A19D189	
113	9051152-DUP1	Solid	QC	QC		9051152	A19D189	
114	9051152-MS1	Solid	QC	QC		9051152	A19D189	
115	A9E0645-01	Water	Ag (Silver) - 6020 - Total		05/23/19	9051210	A19D189	
116	"	Water	Al (Aluminum) - 6020 - Total	"	05/23/19	9051210	A19D189	
117	"	Water	As (Arsenic) - 6020 - Total	"	05/23/19	9051210	A19D189	
118	"	Water	Ba (Barium) - 6020 - Total	"	05/23/19	9051210	A19D189	
119	"	Water	Be (Beryllium) - 6020 - Total	"	05/23/19	9051210	A19D189	
120	"	Water	Ca (Calcium) - 6020 - Total	"	05/23/19	9051210	A19D189	
121	"	Water	Cd (Cadmium) - 6020 - Total	"	05/23/19	9051210	A19D189	
122	"	Water	Co (Cobalt) - 6020 - Total	"	05/23/19	9051210	A19D189	
123	"	Water	Cr (Chromium) - 6020 - Total	"	05/23/19	9051210	A19D189	
124	"	Water	Cu (Copper) - 6020 - Total	"	05/23/19	9051210	A19D189	
125	"	Water	Fe (Iron) - 6020 - Total	"	05/23/19	9051210	A19D189	
126	"	Water	Hg (Mercury) - 6020 - Total	"	05/23/19	9051210	A19D189	
127	"	Water	K (Potassium) - 6020 - Total	"	05/23/19	9051210	A19D189	
128	"	Water	Mg (Magnesium) - 6020 - Total	"	05/23/19	9051210	A19D189	
129	"	Water	Mn (Manganese) - 6020 - Total	"	05/23/19	9051210	A19D189	
130	"	Water	Na (Sodium) - 6020 - Total	"	05/23/19	9051210	A19D189	
131	"	Water	Ni (Nickel) - 6020 - Total	"	05/23/19	9051210	A19D189	
132	"	Water	Pb (Lead) - 6020 - Total	"	05/23/19	9051210	A19D189	
133	"	Water	Sb (Antimony) - 6020 - Total	"	05/23/19	9051210	A19D189	
134	"	Water	Se (Selenium) - 6020 - Total	"	05/23/19	9051210	A19D189	
135	"	Water	Tl (Thallium) - 6020 - Total	"	05/23/19	9051210	A19D189	
136	"	Water	V (Vanadium) - 6020 - Total	"	05/23/19	9051210	A19D189	
137	"	Water	Zn (Zinc) - 6020 - Total	"	05/23/19	9051210	A19D189	
138	9E23021-CCV4	Water	QC	QC			A19D189	A19E109
139	9E23021-CCB4	Water	QC	QC			A19D189	
140	9E23021-CRL4	Water	QC	QC			A19D189	A19E285
141	9E23021-CRL5	Water	QC	QC			A19D189	A19E286
142	9E23021-CRL6	Water	QC	QC			A19D189	A19E287
143	9E23021-CRL7	Water	QC	QC			A19D189	A19E288
144	A9E0675-01	Solid	Ag (Silver) - 6020 - Total		05/28/19	9051152	A19D189	
145	"	Solid	As (Arsenic) - 6020 - Total	"	05/28/19	9051152	A19D189	
146	"	Solid	Ba (Barium) - 6020 - Total	"	05/28/19	9051152	A19D189	
147	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/28/19	9051152	A19D189	
148	"	Solid	Cr (Chromium) - 6020 - Total	"	05/28/19	9051152	A19D189	
149	"	Solid	Hg (Mercury) - 6020 - Total	"	05/28/19	9051152	A19D189	
150	"	Solid	Pb (Lead) - 6020 - Total	"	05/28/19	9051152	A19D189	
151	"	Solid	Se (Selenium) - 6020 - Total	"	05/28/19	9051152	A19D189	
152	A9E0677-01	Solid	Ag (Silver) - 6020 - Total	Hahn and Associates	05/28/19	9051152	A19D189	
153	"	Solid	Al (Aluminum) - 6020 - Total	"	05/28/19	9051152	A19D189	
154	"	Solid	As (Arsenic) - 6020 - Total	"	05/28/19	9051152	A19D189	
155	"	Solid	Ba (Barium) - 6020 - Total	"	05/28/19	9051152	A19D189	
156	"	Solid	Be (Beryllium) - 6020 - Total	"	05/28/19	9051152	A19D189	
157	"	Solid	Ca (Calcium) - 6020 - Total	"	05/28/19	9051152	A19D189	
158	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/28/19	9051152	A19D189	
159	"	Solid	Cr (Chromium) - 6020 - Total	"	05/28/19	9051152	A19D189	
160	"	Solid	Cu (Copper) - 6020 - Total	"	05/28/19	9051152	A19D189	
161	"	Solid	Fe (Iron) - 6020 - Total	"	05/28/19	9051152	A19D189	

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
162	"	Solid	Hg (Mercury) - 6020 - Total	"	05/28/19	9051152	A19D189	
163	"	Solid	K (Potassium) - 6020 - Total	"	05/28/19	9051152	A19D189	
164	"	Solid	Mg (Magnesium) - 6020 - Total	"	05/28/19	9051152	A19D189	
165	"	Solid	Mn (Manganese) - 6020 - Total	"	05/28/19	9051152	A19D189	
166	"	Solid	Na (Sodium) - 6020 - Total	"	05/28/19	9051152	A19D189	
167	"	Solid	Ni (Nickel) - 6020 - Total	"	05/28/19	9051152	A19D189	
168	"	Solid	Pb (Lead) - 6020 - Total	"	05/28/19	9051152	A19D189	
169	"	Solid	Sb (Antimony) - 6020 - Total	"	05/28/19	9051152	A19D189	
170	"	Solid	Se (Selenium) - 6020 - Total	"	05/28/19	9051152	A19D189	
171	"	Solid	Tl (Thallium) - 6020 - Total	"	05/28/19	9051152	A19D189	
172	"	Solid	V (Vanadium) - 6020 - Total	"	05/28/19	9051152	A19D189	
173	"	Solid	Zn (Zinc) - 6020 - Total	"	05/28/19	9051152	A19D189	
174	9051057-DUP4	Paint Chip	QC	QC		9051057	A19D189	
175	9051057-MS4	Paint Chip	QC	QC		9051057	A19D189	
176	9051156-BLK1	Water	QC	QC		9051156	A19D189	
177	9051156-BS1	Water	QC	QC		9051156	A19D189	
178	A9E0436-01	Water	Cu (Copper) - 200.8 - Total		05/28/19	9051156	A19D189	
179	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
180	"	Water	Pb (Lead) - 200.8 - Total	"	05/28/19	9051156	A19D189	
181	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051156	A19D189	
182	A9E0436-02	Water	Cu (Copper) - 200.8 - Total		05/28/19	9051156	A19D189	
183	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
184	"	Water	Pb (Lead) - 200.8 - Total	"	05/28/19	9051156	A19D189	
185	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051156	A19D189	
186	A9E0438-01	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
187	"	Water	Cu (Copper) - 200.8 - Total	"	05/28/19	9051156	A19D189	
188	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
189	"	Water	Pb (Lead) - 200.8 - Total	"	05/28/19	9051156	A19D189	
190	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051156	A19D189	
191	9E23021-CCV5	Water	QC	QC			A19D189	A19E109
192	9E23021-CCB5	Water	QC	QC			A19D189	
193	A9E0440-01	Water	Ag (Silver) - 200.8 - Total	(QC Source)		9051156	A19D189	
194	"	Water	Al (Aluminum) - 200.8 - Total	"	05/28/19	9051156	A19D189	
195	"	Water	As (Arsenic) - 200.8 - Total	(QC Source)		9051156	A19D189	
196	"	Water	Be (Beryllium) - 200.8 - Total	(QC Source)		9051156	A19D189	
197	"	Water	Cd (Cadmium) - 200.8 - Total	(QC Source)		9051156	A19D189	
198	"	Water	Cr (Chromium) - 200.8 - Total	(QC Source)		9051156	A19D189	
199	"	Water	Cu (Copper) - 6020 - Total	(QC Source)		9051156	A19D189	
200	"	Water	Cu (Copper) - 200.8 - Total	(QC Source)		9051156	A19D189	
201	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
202	"	Water	Fe (Iron) - 6020 - Total	(QC Source)		9051156	A19D189	
203	"	Water	Hg (Mercury) - 6020 - Total	(QC Source)		9051156	A19D189	
204	"	Water	Ni (Nickel) - 200.8 - Total	(QC Source)		9051156	A19D189	
205	"	Water	Pb (Lead) - 6020 - Total	(QC Source)		9051156	A19D189	
206	"	Water	Pb (Lead) - 200.8 - Total	(QC Source)		9051156	A19D189	
207	"	Water	Zn (Zinc) - 200.8 - Total	(QC Source)		9051156	A19D189	
208	9051156-DUP1	Water	QC	QC		9051156	A19D189	
209	9051156-MS1	Water	QC	QC		9051156	A19D189	
210	A9E0440-02	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
211	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
212	A9E0440-03	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
213	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
214	A9E0440-04	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
215	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
216	A9E0440-05	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	

Sequence: **9E23021** Instrument: **ICPMS6**

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
217	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
218	A9E0440-06	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
219	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
220	A9E0440-07	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
221	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
222	A9E0441-01	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
223	"	Water	Cu (Copper) - 200.8 - Total	"	05/28/19	9051156	A19D189	
224	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
225	"	Water	Pb (Lead) - 200.8 - Total	"	05/28/19	9051156	A19D189	
226	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051156	A19D189	
227	9E23021-CCV6	Water	QC	QC			A19D189	A19E109
228	9E23021-CCB6	Water	QC	QC			A19D189	
229	A9E0443-01	Water	As (Arsenic) - 200.8 - Total		05/28/19	9051156	A19D189	
230	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
231	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
232	A9E0443-02	Water	As (Arsenic) - 200.8 - Total		05/28/19	9051156	A19D189	
233	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
234	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
235	A9E0443-03	Water	As (Arsenic) - 200.8 - Total		05/28/19	9051156	A19D189	
236	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
237	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
238	A9E0443-04	Water	As (Arsenic) - 200.8 - Total		05/28/19	9051156	A19D189	
239	"	Water	Be (Beryllium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
240	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
241	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
242	A9E0443-05	Water	As (Arsenic) - 200.8 - Total		05/28/19	9051156	A19D189	
243	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
244	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
245	A9E0443-06	Water	As (Arsenic) - 200.8 - Total		05/28/19	9051156	A19D189	
246	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
247	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
248	A9E0449-01	Water	Ag (Silver) - 200.8 - Total		05/28/19	9051156	A19D189	
249	"	Water	As (Arsenic) - 200.8 - Total	"	05/28/19	9051156	A19D189	
250	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
251	"	Water	Cr (Chromium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
252	"	Water	Cu (Copper) - 200.8 - Total	"	05/28/19	9051156	A19D189	
253	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
254	"	Water	Pb (Lead) - 200.8 - Total	"	05/28/19	9051156	A19D189	
255	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051156	A19D189	
256	A9E0636-01	Water	Ag (Silver) - 200.8 - Total	(QC Source)		9051156	A19D189	
257	"	Water	Al (Aluminum) - 200.8 - Total	(QC Source)		9051156	A19D189	
258	"	Water	As (Arsenic) - 200.8 - Total	(QC Source)		9051156	A19D189	
259	"	Water	Be (Beryllium) - 200.8 - Total	(QC Source)		9051156	A19D189	
260	"	Water	Cd (Cadmium) - 200.8 - Total	(QC Source)		9051156	A19D189	
261	"	Water	Cr (Chromium) - 200.8 - Total	(QC Source)		9051156	A19D189	
262	"	Water	Cu (Copper) - 6020 - Total	"	05/24/19	9051156	A19D189	
263	"	Water	Cu (Copper) - 200.8 - Total	(QC Source)		9051156	A19D189	
264	"	Water	Fe (Iron) - 200.8 - Total	(QC Source)		9051156	A19D189	
265	"	Water	Fe (Iron) - 6020 - Total	"	05/24/19	9051156	A19D189	
266	"	Water	Hg (Mercury) - 6020 - Total	"	05/24/19	9051156	A19D189	
267	"	Water	Ni (Nickel) - 200.8 - Total	(QC Source)		9051156	A19D189	
268	"	Water	Pb (Lead) - 6020 - Total	"	05/24/19	9051156	A19D189	
269	"	Water	Pb (Lead) - 200.8 - Total	(QC Source)		9051156	A19D189	
270	"	Water	Zn (Zinc) - 200.8 - Total	(QC Source)		9051156	A19D189	
271	9051156-MS2	Water	QC	QC		9051156	A19D189	

Sequence: **9E23021** Instrument: **ICPMS6**

Date: **05/23/19 10:44** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
272	A9E0513-36RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051150	A19D189	
273	9E23021-CCV7	Water	QC	QC			A19D189	A19E109
274	9E23021-CCB7	Water	QC	QC			A19D189	
275	A9E0513-42RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051150	A19D189	
276	A9E0453-02RE1	Solid	Cr (Chromium) - 6020 - Total		05/24/19	9051152	A19D189	
277	A9E0401-09RE1	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051090	A19D189	
278	A9E0595-01RE1	Soil	Cd (Cadmium) - 6020 - Total		05/23/19	9051090	A19D189	
279	9051090-MS3	Soil	QC	QC		9051090	A19D189	
280	9E23021-CCV8	Water	QC	QC			A19D189	A19E109
281	9E23021-CCB8	Water	QC	QC			A19D189	
282	9E23021-CRL8	Water	QC	QC			A19D189	A19E285
283	9E23021-CRL9	Water	QC	QC			A19D189	A19E286
284	9E23021-CRLA	Water	QC	QC			A19D189	A19E287
285	9E23021-CRLB	Water	QC	QC			A19D189	A19E288
286	9051189-BLK1	Sediment	QC	QC		9051189	A19D189	
287	9051189-BSD1	Sediment	QC	QC		9051189	A19D189	
288	9051189-BS1	Sediment	QC	QC		9051189	A19D189	
289	A9E0513-45	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
290	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
291	A9E0513-46	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
292	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
293	A9E0513-47	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
294	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
295	A9E0513-48	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
296	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
297	A9E0513-49	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
298	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
299	A9E0513-50	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
300	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
301	A9E0513-51	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
302	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
303	9E23021-CCV9	Water	QC	QC			A19D189	A19E109
304	9E23021-CCB9	Water	QC	QC			A19D189	
305	A9E0513-52	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
306	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
307	A9E0513-53	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
308	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
309	A9E0513-54	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
310	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
311	A9E0513-55	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
312	"	Sediment	Fe (Iron) - 6020 - Total	"	05/24/19	9051189	A19D189	
313	9E23021-CCVA	Water	QC	QC			A19D189	A19E109
314	9E23021-CCBA	Water	QC	QC			A19D189	
315	9E23021-CRLC	Water	QC	QC			A19D189	A19E285
316	9E23021-CRLD	Water	QC	QC			A19D189	A19E286
317	9E23021-CRLE	Water	QC	QC			A19D189	A19E287
318	9E23021-CRLF	Water	QC	QC			A19D189	A19E288

Data Entered By: ESS 5/24/19 Comments:

Data Reviewed By: [signature] 5/24/19

EPA Tune Check Report ICPMS6

Operator Name	ICPMS Analyst
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\9E23021.b
Acq. Date-Time	05/23/2019 11:33:34
Report Comment	9E23021 EPA Multi-Mode Tune Report Std ID A19E047
Instrument Name	ICPMS6 JP17412047

[He]

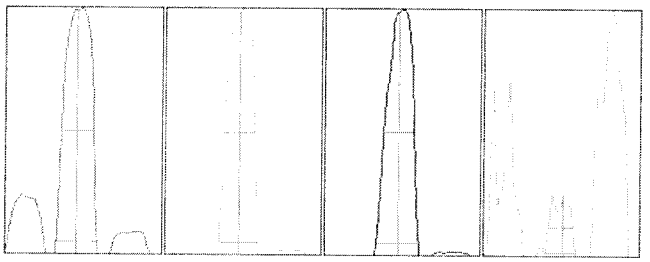
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Req) [cps/ug/l]	RSD%	Resp (Flag)	RSD% (Req)	RSD% (Flag)
59	1.00	205	2052.17	1000.00	1.987		5.000	
89	1.00	306	3060.28	2000.00	1.550		5.000	
205	1.00	1006	10064.10	1000.00	1.218		5.000	
75		1	7.60		45.911			

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	209	205	199	209	205
89	308	313	302	301	305
205	1020	1010	1015	995	992
75	1	0	1	1	0

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Ht	Axis	Axis (Req)	Axis (Flag)	W-50%	W-5%	W-X% (Req)	W-5% (Flag)
59	342.40	58.90	58.90 - 59.10		0.62	0.776	0.900	
89	523.41	88.95	88.90 - 89.10		0.60	0.734	0.900	
205	1764.54	204.95	204.90 - 205.10		0.60	0.811	0.900	
75	1.55	75.05	-		0.47	0.588		

Integration Time [sec]	0.1
Acquisition Time [sec]	134.8
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min

EPA Tune Check Report ICPMS6

RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	2.0 V
Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.3 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	-0.5 mm	Torch V	0.0 mm		

EM

Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

[No Gas]

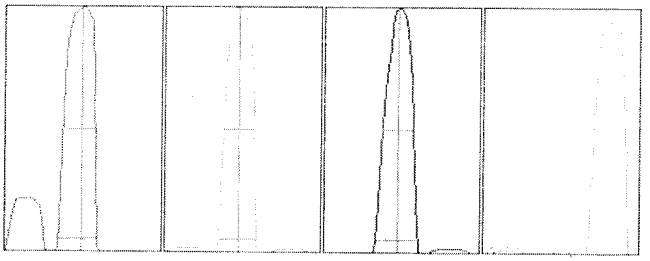
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Req) [cps/ug/l]	RSD%	Resp (Flag)	RSD% (Req)	RSD% (Flag)
7	1.00	601	6014.77	5000.00	1.054		5.000	
89	1.00	1462	14615.56	10000.00	0.721		5.000	
205	1.00	1529	15287.61	10000.00	2.089		5.000	
102		0	0.50		122.474			

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	598	613	599	600	598
89	1467	1446	1455	1467	1472
205	1486	1515	1532	1536	1574
102	0	0	0	0	0

Integration Time [sec] 0.1

Resolution/Axis



EPA Tune Check Report ICPMS6

Mass	Peak Ht	Axis	Axis (Req)	Axis (Flag)	W-50%	W-5%	W-X% (Req)	W-5% (Flag)
7	977.54	7.00	6.90 - 7.10		0.63	0.739	0.900	
89	2506.92	88.95	88.90 - 89.10		0.60	0.737	0.900	
205	2692.71	204.95	204.90 - 205.10		0.60	0.816	0.900	
102			-					

Integration Time [sec]	0.1
Acquisition Time [sec]	135.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	16.0 V
Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	-0.5 mm	Torch V	0.0 mm		

EM

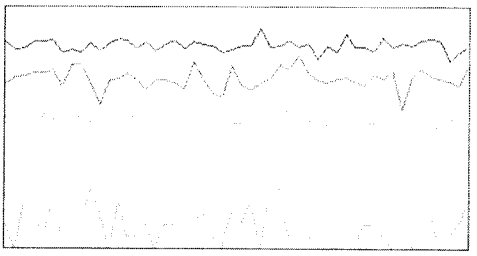
Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

Standard Tune Check Report ICPMS6

Operator Name	ICPMS Analyst
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\9E23021.b
Acq. Date-Time	05/23/2019 11:14:07
Report Comment	9E23021 Std Multi-Mode Tune Report Std ID A19E047
Instrument Name	ICPMS6 JP17412047

[He]

Sensitivity



Sampling Period [sec]	0.412
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
59	500	353	3527.64	1000.00	
89	1000	533	5332.23	2000.00	
205	2000	1686	16858.81	1000.00	
75	20	2			

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
59	5.892	5.000	Fail
89	4.396	5.000	
205	2.900	5.000	
75	84.789		

see EPA report for RSDs
ESS 5/24/19

Mass	Background	Background (Required)	Background (Flag)
59			
89			
205			
75			

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	2.0 V

Standard Tune Check Report ICPMS6

Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.3 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

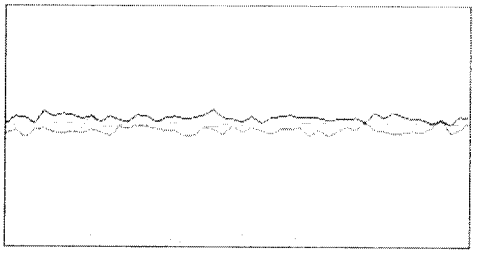
Torch H	-0.5 mm	Torch V	0.0 mm		

EM

Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

[No Gas]

Sensitivity



Sampling Period [sec]	0.413
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
7	2000	965	9653.99	5000.00	
89	5000	2557	25567.96	10000.00	
205	5000	2676	26762.93	10000.00	
102	20	0			

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
7	0.38	0.20 - 1.00	
89	1.00	1.00 - 1.00	
205	1.05	0.50 - 1.50	
102		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
7	3.556	5.000	
89	2.519	5.000	
205	2.543	5.000	
102	303.046		

Mass	Background	Background (Required)	Background (Flag)
7			
89			
205			
102			

Standard Tune Check Report ICPMS6

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.751 %
Doubly Charged	69 / 138 1.185 %

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	16.0 V
Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	-0.5 mm	Torch V	0.0 mm		

EM

Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

P/A Factor Tuning Report

========== Current Sample ==========

Sample Name: 9E23021-ICV2
Data File: 016_ICV.d
Acquired: 05/23/2019 12:51:40

========= Detector Parameters and P/A Factors =========

Discriminator: 5.2 mV
AnalogHV: 2243 V
PulseHV: 1545 V

Acquired: 05/22/2019 17:10:07

Mass[u]	Element	P/A Factor
23	Na	0.102906
24	Mg	0.107204
27	Al	0.110768
39	K	0.115102
44	Ca	0.115099
47	Ti	0.113772
51	V	0.117622
52	Cr	0.121354
55	Mn	0.122969
56	Fe	0.128323
59	Co	0.130625
98	Mo	0.131911
6	Li	Signal too low
7	[Li]	Signal too low
9	Be	Signal too low
10	B	Signal too low
45	Sc	Signal too low
60	Ni	Signal too low
65	Cu	Signal too low
66	Zn	Signal too low
74	Ge	Signal too low
75	As	Signal too low
78	Se	Signal too low
82	Se	Signal too low
99	[Mo]	Signal too low
103	Rh	Signal too low
108	[Cd]	Signal too low
109	Ag	Signal too low
111	Cd	Signal too low
123	Sb	Signal too low
137	Ba	Signal too low
159	Tb	Signal too low
186	W	Signal too low

201	Hg	Signal too low
202	Hg	Signal too low
205	Tl	Signal too low
206	[Pb]	Signal too low
207	[Pb]	Signal too low
208	Pb	Signal too low
209	Bi	Signal too low

=== Independent Detector Parameters and P/A Factors ===

Tune Mode Name: He
Discriminator: 5.2 mV
AnalogHV: 2243 V
PulseHV: 1545 V

Acquired: 05/23/2019 12:33:32

Mass[u]	Element	P/A Factor
23	Na	0.109106
27	Al	0.118638
39	K	0.123199
44	Ca	0.124207
51	V	0.127156
52	Cr	0.131035
56	Fe	0.133726
60	Ni	0.138244
65	Cu	0.141234
66	Zn	0.141016
45	Sc	Signal too low
74	Ge	Signal too low
75	As	Signal too low
78	Se	Signal too low

Tune Mode Name: No Gas
Discriminator: 5.2 mV
AnalogHV: 2243 V
PulseHV: 1545 V

Acquired: 05/23/2019 12:34:47

Mass[u]	Element	P/A Factor
24	Mg	0.114017
45	Sc	0.123236
47	Ti	0.124412
55	Mn	0.130906
59	Co	0.135740
65	Cu	0.140312
98	Mo	0.136846

109	Ag	0.148360
111	Cd	0.146592
123	Sb	0.145129
137	Ba	0.146104
159	Tb	0.145086
186	W	0.148910
205	Tl	0.155500
206	[Pb]	0.155273
207	[Pb]	0.155632
208	Pb	0.156581
209	Bi	0.153733
6	Li	Signal too low
7	[Li]	Signal too low
9	Be	Signal too low
74	Ge	Signal too low
82	Se	Signal too low
83	[Se]	Signal too low
99	[Mo]	Signal too low
103	Rh	Signal too low
106	[Cd]	Signal too low
108	[Cd]	Signal too low
201	Hg	Signal too low

Created: 05/24/2019 09:47:38

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	001RINS.d	**Vial #**	1
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 11:36:44	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	396953	5.1	0		70	120	
Sc	45	He	13	66.1	0		70	120	RSD Warning
Sc	45	No Gas	1078866	2.2	0		70	120	
Ge	74	He	23	37.8	0		70	120	RSD Warning
Ge	74	No Gas	356856	5.8	0		70	120	
Rh	103	No Gas	389641	4.6	0		70	120	
Tb	159	No Gas	877761	2.8	0		70	120	
Bi	209	No Gas	657029	2.4	0		70	120	

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	002RINS.d	**Vial #**	1
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 11:41:21	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	412944	1.0	0		70	120	
Sc	45	He	66387	0.9	0		70	120	
Sc	45	No Gas	1098622	0.4	0		70	120	
Ge	74	He	72024	0.4	0		70	120	
Ge	74	No Gas	374463	0.6	0		70	120	
Rh	103	No Gas	408804	0.2	0		70	120	
Tb	159	No Gas	882622	1.3	0		70	120	
Bi	209	No Gas	631485	0.3	0		70	120	

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	003RINS.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 11:45:59	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	397979	0.9	0		70	120	
Sc	45	He	68066	0.9	0		70	120	
Sc	45	No Gas	1081888	1.6	0		70	120	
Ge	74	He	73042	0.7	0		70	120	
Ge	74	No Gas	371545	1.1	0		70	120	
Rh	103	No Gas	403444	1.0	0		70	120	
Tb	159	No Gas	867798	1.3	0		70	120	
Bi	209	No Gas	622591	1.5	0		70	120	

Calibration Blank Report ICPMS6

Sample Name	**9E23021-CAL0**	**Sample Type**	CalBlk
File Name	004CALB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 11:50:36	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	Cal Blank		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	CPS	CPS RSD
Be	9	6	No Gas	11	45.8
Na	23	45	He	4579	2.1
Mg	24	45	No Gas	95527	1.1
Al	27	45	He	17	0.0
K	39	45	He	9115	2.9
Ca	44	45	He	21	50.8
Ti	47	45	No Gas	166	1.2
V	51	74	He	579	10.3
Cr	52	74	He	74	6.8
Mn	55	74	No Gas	1816	3.2
Fe	56	74	He	4148	4.7
Co	59	74	No Gas	46	37.5
Ni	60	74	He	226	17.5
Cu	65	74	He	30	11.1
Zn	66	74	He	26	19.9
As	75	74	He	18	4.2
Se	78	74	He	9	20.3
Se	82	74	No Gas	13	98.1
Mo	98	103	No Gas	7	86.6
Ag	109	103	No Gas	15	26.4
Cd	111	103	No Gas	1	603.5
Sb	123	103	No Gas	33	45.8
Ba	137	159	No Gas	14	58.1
W	186	159	No Gas	13	43.3
Hg	201	159	No Gas	2	66.7
Tl	205	159	No Gas	50	26.7
Pb	208	159	No Gas	118	19.3

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Sc	45	He	66581	3.7
Ge	74	He	71790	3.7
Li	6	No Gas	389941	0.8
Sc	45	No Gas	1073548	0.7
Ge	74	No Gas	372837	0.8
Rh	103	No Gas	405307	0.5
Tb	159	No Gas	871308	0.6
Bi	209	No Gas	626349	1.8

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL1**	**Sample Type**	CalStd
File Name	005CALS.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 11:55:25	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E285 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.177	ug/l	396	5.4	3	0.3000	
Na	23	45	He	9.041	ug/l	7699	3.3	3	0.3000	
Mg	24	45	No Gas	10.559	ug/l	153808	1.2	3	0.0999	
Al	27	45	He	9.565	ug/l	897	1.0	3	0.3000	
K	39	45	He	8.319	ug/l	10702	1.1	3	0.3000	
Ca	44	45	He	9.26	ug/l	117	28.1	3	0.3000	RSD Warning
Ti	47	45	No Gas	0.134	ug/l	271	13.7	3	0.3000	
V	51	74	He	0.169	ug/l	889	4.1	3	0.3000	
Cr	52	74	He	0.169	ug/l	444	1.1	3	0.3000	
Mn	55	74	No Gas	0.193	ug/l	4669	1.8	3	0.3000	
Fe	56	74	He	9.169	ug/l	22741	0.7	3	0.3000	
Co	59	74	No Gas	0.201	ug/l	2044	2.6	3	0.3000	
Ni	60	74	He	0.155	ug/l	350	12.2	3	0.3000	
Cu	65	74	He	0.156	ug/l	194	13.9	3	0.3000	
Zn	66	74	He	0.226	ug/l	140	14.9	3	0.3000	
As	75	74	He	0.187	ug/l	84	7.6	3	2.0001	
Se	78	74	He	0.25	ug/l	18	17.1	3	2.0001	RSD Warning
Se	82	74	No Gas	0.147	ug/l	32	37.9	3	0.9999	RSD Warning
Mo	98	103	No Gas	0.183	ug/l	1075	19.6	3	0.0999	RSD Warning
Ag	109	103	No Gas	0.182	ug/l	1808	0.8	3	0.9999	
Cd	111	103	No Gas	0.177	ug/l	430	6.5	3	0.3000	
Sb	123	103	No Gas	0.166	ug/l	1271	17.8	3	0.0999	RSD Warning
Ba	137	159	No Gas	0.198	ug/l	638	9.0	3	0.3000	
Hg	201	159	No Gas	7.396	ng/l	12	10.3	3	2.0001	
Tl	205	159	No Gas	0.183	ug/l	4626	2.5	3	0.3000	
Pb	208	159	No Gas	0.18	ug/l	6274	1.9	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	381055	0.8	3	389940.86	97.72	70	120	
Sc	45	He	66969	0.2	3	66581.48	100.58	70	120	
Sc	45	No Gas	1067005	0.8	3	1073548.11	99.39	70	120	
Ge	74	He	73244	0.7	3	71790.07	102.03	70	120	
Ge	74	No Gas	370455	1.3	3	372836.81	99.36	70	120	
Rh	103	No Gas	403437	0.4	3	405307.18	99.54	70	120	
Tb	159	No Gas	869566	1.1	3	871308.14	99.8	70	120	
Bi	209	No Gas	624191	1.6	3	626349.34	99.66	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL2**	**Sample Type**	CalStd
File Name	006CALS.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:00:15	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E286 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.909	ug/l	1952	3.2	3	0.3000	
Na	23	45	He	45.143	ug/l	20385	1.4	3	0.3000	
Mg	24	45	No Gas	54.514	ug/l	390559	1.1	3	0.0999	
Al	27	45	He	44.757	ug/l	4204	4.0	3	0.3000	
K	39	45	He	45.288	ug/l	17751	1.4	3	0.3000	
Ca	44	45	He	45.454	ug/l	498	9.8	3	0.3000	
Ti	47	45	No Gas	0.834	ug/l	809	3.1	3	0.3000	
V	51	74	He	0.883	ug/l	2140	1.6	3	0.3000	
Cr	52	74	He	0.904	ug/l	2054	7.8	3	0.3000	
Mn	55	74	No Gas	0.926	ug/l	15306	0.4	3	0.3000	
Fe	56	74	He	45.931	ug/l	97093	0.6	3	0.3000	
Co	59	74	No Gas	0.989	ug/l	9750	2.2	3	0.3000	
Ni	60	74	He	0.919	ug/l	947	1.8	3	0.3000	
Cu	65	74	He	0.994	ug/l	1075	6.2	3	0.3000	
Zn	66	74	He	0.93	ug/l	496	3.1	3	0.3000	
As	75	74	He	0.943	ug/l	347	4.9	3	2.0001	
Se	78	74	He	0.996	ug/l	41	4.9	3	2.0001	
Se	82	74	No Gas	0.864	ug/l	125	17.7	3	0.9999	RSD Warning
Mo	98	103	No Gas	0.872	ug/l	5023	4.1	3	0.0999	
Ag	109	103	No Gas	0.921	ug/l	8963	1.6	3	0.9999	
Cd	111	103	No Gas	0.852	ug/l	2037	1.0	3	0.3000	
Sb	123	103	No Gas	0.818	ug/l	6051	5.2	3	0.0999	
Ba	137	159	No Gas	0.962	ug/l	3006	2.1	3	0.3000	
Hg	201	159	No Gas	34.889	ng/l	51	9.2	3	2.0001	
Tl	205	159	No Gas	0.923	ug/l	22894	1.6	3	0.3000	
Pb	208	159	No Gas	0.89	ug/l	30338	0.9	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	374841	1.0	3	389940.86	96.13	70	120	
Sc	45	He	68106	0.7	3	66581.48	102.29	70	120	
Sc	45	No Gas	1045175	1.8	3	1073548.11	97.36	70	120	
Ge	74	He	73365	1.4	3	71790.07	102.19	70	120	
Ge	74	No Gas	364905	1.7	3	372836.81	97.87	70	120	
Rh	103	No Gas	397992	1.7	3	405307.18	98.2	70	120	
Tb	159	No Gas	860700	1.5	3	871308.14	98.78	70	120	
Bi	209	No Gas	622494	1.7	3	626349.34	99.38	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL3**	**Sample Type**	CalStd
File Name	007CALS.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:05:03	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E287 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	1.736	ug/l	3647	3.2	3	0.3000	
Na	23	45	He	92.123	ug/l	35307	1.7	3	0.3000	
Mg	24	45	No Gas	107.657	ug/l	673267	0.7	3	0.0999	
Al	27	45	He	91.666	ug/l	8260	2.2	3	0.3000	
K	39	45	He	92.827	ug/l	25556	1.1	3	0.3000	
Ca	44	45	He	85.672	ug/l	884	8.7	3	0.3000	
Ti	47	45	No Gas	1.716	ug/l	1479	5.5	3	0.3000	
V	51	74	He	1.774	ug/l	3637	3.9	3	0.3000	
Cr	52	74	He	1.72	ug/l	3766	2.3	3	0.3000	
Mn	55	74	No Gas	1.836	ug/l	28485	1.9	3	0.3000	
Fe	56	74	He	92.618	ug/l	188094	0.7	3	0.3000	
Co	59	74	No Gas	1.92	ug/l	18821	0.7	3	0.3000	
Ni	60	74	He	1.803	ug/l	1607	6.1	3	0.3000	
Cu	65	74	He	1.955	ug/l	2046	3.9	3	0.3000	
Zn	66	74	He	1.832	ug/l	934	2.7	3	0.3000	
As	75	74	He	1.832	ug/l	645	3.4	3	2.0001	
Se	78	74	He	1.823	ug/l	67	2.0	3	2.0001	
Se	82	74	No Gas	1.877	ug/l	257	3.1	3	0.9999	
Mo	98	103	No Gas	1.766	ug/l	10094	1.9	3	0.0999	
Ag	109	103	No Gas	1.813	ug/l	17515	0.7	3	0.9999	
Cd	111	103	No Gas	1.715	ug/l	4071	1.5	3	0.3000	
Sb	123	103	No Gas	1.728	ug/l	12649	4.3	3	0.0999	
Ba	137	159	No Gas	1.889	ug/l	5848	3.7	3	0.3000	
Hg	201	159	No Gas	70.606	ng/l	102	8.7	3	2.0001	
Tl	205	159	No Gas	1.826	ug/l	44959	2.7	3	0.3000	
Pb	208	159	No Gas	1.766	ug/l	59661	1.8	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	367920	1.2	3	389940.86	94.35	70	120	
Sc	45	He	65494	1.6	3	66581.48	98.37	70	120	
Sc	45	No Gas	1033808	1.8	3	1073548.11	96.3	70	120	
Ge	74	He	72071	1.5	3	71790.07	100.39	70	120	
Ge	74	No Gas	363617	1.2	3	372836.81	97.53	70	120	
Rh	103	No Gas	395220	1.7	3	405307.18	97.51	70	120	
Tb	159	No Gas	854663	1.6	3	871308.14	98.09	70	120	
Bi	209	No Gas	616394	2.0	3	626349.34	98.41	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL4**	**Sample Type**	CalStd
File Name	008CALS.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:09:52	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E288 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	3.59	ug/l	7443	1.6	3	0.3000	
Na	23	45	He	179.184	ug/l	66600	0.6	3	0.3000	
Mg	24	45	No Gas	195.88	ug/l	1133931	0.7	3	0.0999	
Al	27	45	He	180.423	ug/l	16795	0.7	3	0.3000	
K	39	45	He	182.712	ug/l	43014	0.7	3	0.3000	
Ca	44	45	He	179.572	ug/l	1892	1.5	3	0.3000	
Ti	47	45	No Gas	3.56	ug/l	2857	1.8	3	0.3000	
V	51	74	He	3.52	ug/l	6667	0.6	3	0.3000	
Cr	52	74	He	3.573	ug/l	7776	2.5	3	0.3000	
Mn	55	74	No Gas	3.63	ug/l	54751	1.7	3	0.3000	
Fe	56	74	He	183.24	ug/l	369473	0.4	3	0.3000	
Co	59	74	No Gas	3.83	ug/l	37596	1.9	3	0.3000	
Ni	60	74	He	3.67	ug/l	3049	6.7	3	0.3000	
Cu	65	74	He	3.876	ug/l	4044	0.7	3	0.3000	
Zn	66	74	He	3.562	ug/l	1800	5.3	3	0.3000	
As	75	74	He	3.642	ug/l	1270	1.1	3	2.0001	
Se	78	74	He	3.541	ug/l	121	4.4	3	2.0001	
Se	82	74	No Gas	3.664	ug/l	490	2.1	3	0.9999	
Mo	98	103	No Gas	3.514	ug/l	20056	2.5	3	0.0999	
Ag	109	103	No Gas	3.642	ug/l	35124	1.0	3	0.9999	
Cd	111	103	No Gas	3.383	ug/l	8018	1.5	3	0.3000	
Sb	123	103	No Gas	3.457	ug/l	25237	1.7	3	0.0999	
Ba	137	159	No Gas	3.794	ug/l	11755	1.9	3	0.3000	
Hg	201	159	No Gas	143.183	ng/l	205	1.9	3	2.0001	
Tl	205	159	No Gas	3.682	ug/l	90736	1.3	3	0.3000	
Pb	208	159	No Gas	3.539	ug/l	119616	0.9	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	363461	1.4	3	389940.86	93.21	70	120	
Sc	45	He	67698	0.7	3	66581.48	101.68	70	120	
Sc	45	No Gas	1019539	0.9	3	1073548.11	94.97	70	120	
Ge	74	He	72339	0.5	3	71790.07	100.76	70	120	
Ge	74	No Gas	364585	1.0	3	372836.81	97.79	70	120	
Rh	103	No Gas	394638	1.0	3	405307.18	97.37	70	120	
Tb	159	No Gas	856069	1.6	3	871308.14	98.25	70	120	
Bi	209	No Gas	621715	1.6	3	626349.34	99.26	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL5**	**Sample Type**	CalStd
File Name	009CALS.d	**Vial #**	2105
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:14:33	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E083 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	9.755	ug/l	19904	0.4	3	0.3000	
Na	23	45	He	404.673	ug/l	142666	0.5	3	0.3000	
Mg	24	45	No Gas	427.819	ug/l	2346228	0.5	3	0.0999	
Al	27	45	He	405.569	ug/l	37241	1.1	3	0.3000	
K	39	45	He	407.629	ug/l	83441	0.6	3	0.3000	
Ca	44	45	He	401.451	ug/l	4150	1.5	3	0.3000	
Ti	47	45	No Gas	19.612	ug/l	14885	2.2	3	0.3000	
V	51	74	He	19.762	ug/l	34730	0.5	3	0.3000	
Cr	52	74	He	19.749	ug/l	42637	1.0	3	0.3000	
Mn	55	74	No Gas	20.365	ug/l	296514	0.6	3	0.3000	
Fe	56	74	He	410.057	ug/l	821561	0.4	3	0.3000	
Co	59	74	No Gas	20.729	ug/l	201584	1.1	3	0.3000	
Ni	60	74	He	20.885	ug/l	16292	1.0	3	0.3000	
Cu	65	74	He	21.562	ug/l	22353	1.5	3	0.3000	
Zn	66	74	He	20.342	ug/l	10159	1.9	3	0.3000	
As	75	74	He	19.731	ug/l	6795	0.3	3	2.0001	
Se	78	74	He	10.26	ug/l	332	5.1	3	2.0001	
Se	82	74	No Gas	9.934	ug/l	1298	2.9	3	0.9999	
Mo	98	103	No Gas	9.725	ug/l	55814	1.0	3	0.0999	
Ag	109	103	No Gas	9.83	ug/l	95310	0.4	3	0.9999	
Cd	111	103	No Gas	18.899	ug/l	45037	1.0	3	0.3000	
Sb	123	103	No Gas	9.83	ug/l	72130	2.9	3	0.0999	
Ba	137	159	No Gas	20.723	ug/l	64586	1.0	3	0.3000	
Hg	201	159	No Gas	393.617	ng/l	564	1.3	3	2.0001	
Tl	205	159	No Gas	10.015	ug/l	248445	1.6	3	0.3000	
Pb	208	159	No Gas	20.372	ug/l	692849	1.8	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	357973	0.0	3	389940.86	91.8	70	120	
Sc	45	He	66817	0.6	3	66581.48	100.35	70	120	
Sc	45	No Gas	1009670	0.4	3	1073548.11	94.05	70	120	
Ge	74	He	72334	0.6	3	71790.07	100.76	70	120	
Ge	74	No Gas	361543	0.6	3	372836.81	96.97	70	120	
Rh	103	No Gas	396836	0.9	3	405307.18	97.91	70	120	
Tb	159	No Gas	861945	1.5	3	871308.14	98.93	70	120	
Bi	209	No Gas	619092	0.6	3	626349.34	98.84	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL6**	**Sample Type**	CalStd
File Name	010CALS.d	**Vial #**	2106
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:19:21	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E289		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	49.732	ug/l	100494	0.2	3	0.3000	
Na	23	45	He	2521.459	ug/l	866028	0.4	3	0.3000	
Mg	24	45	No Gas	2596.64	ug/l	13790202	0.8	3	0.0999	
Al	27	45	He	2495.991	ug/l	229403	0.2	3	0.3000	
K	39	45	He	2520.852	ug/l	469098	1.4	3	0.3000	
Ca	44	45	He	2476.539	ug/l	25522	0.2	3	0.3000	
Ti	47	45	No Gas	49.564	ug/l	37407	3.2	3	0.3000	
V	51	74	He	50.264	ug/l	85760	0.8	3	0.3000	
Cr	52	74	He	49.413	ug/l	104530	0.8	3	0.3000	
Mn	55	74	No Gas	49.856	ug/l	727364	1.0	3	0.3000	
Fe	56	74	He	2533.762	ug/l	4958073	1.7	3	0.3000	
Co	59	74	No Gas	51.714	ug/l	505628	0.8	3	0.3000	
Ni	60	74	He	52.838	ug/l	40089	1.2	3	0.3000	
Cu	65	74	He	53.165	ug/l	54019	1.2	3	0.3000	
Zn	66	74	He	52.181	ug/l	25522	0.5	3	0.3000	
As	75	74	He	50.451	ug/l	17013	0.8	3	2.0001	
Se	78	74	He	51.416	ug/l	1596	0.4	3	2.0001	
Se	82	74	No Gas	49.478	ug/l	6447	1.9	3	0.9999	
Mo	98	103	No Gas	49.963	ug/l	281330	1.6	3	0.0999	
Ag	109	103	No Gas	50.437	ug/l	479739	0.5	3	0.9999	
Cd	111	103	No Gas	47.114	ug/l	110172	1.2	3	0.3000	
Sb	123	103	No Gas	48.295	ug/l	347513	0.7	3	0.0999	
Ba	137	159	No Gas	52.497	ug/l	162239	0.8	3	0.3000	
Hg	201	159	No Gas	1998.948	ng/l	2837	0.1	3	2.0001	
Tl	205	159	No Gas	50.663	ug/l	1246452	1.8	3	0.3000	
Pb	208	159	No Gas	48.454	ug/l	1634555	2.1	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	354687	0.9	3	389940.86	90.96	70	120	
Sc	45	He	66907	1.2	3	66581.48	100.49	70	120	
Sc	45	No Gas	1010393	2.3	3	1073548.11	94.12	70	120	
Ge	74	He	70948	0.2	3	71790.07	98.83	70	120	
Ge	74	No Gas	363601	1.9	3	372836.81	97.52	70	120	
Rh	103	No Gas	389514	2.8	3	405307.18	96.1	70	120	
Tb	159	No Gas	855385	3.5	3	871308.14	98.17	70	120	
Bi	209	No Gas	617789	3.9	3	626349.34	98.63	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL7**	**Sample Type**	CalStd
File Name	011CALS.d	**Vial #**	2107
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:24:08	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A18E082		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	100.16	ug/l	191845	0.1	3	0.3000	
Na	23	45	He	4117.787	ug/l	1389987	0.5	3	0.3000	
Mg	24	45	No Gas	4169.544	ug/l	21581335	0.5	3	0.0999	
Al	27	45	He	4037.832	ug/l	365553	1.2	3	0.3000	
K	39	45	He	4091.613	ug/l	744383	0.6	3	0.3000	
Ca	44	45	He	3982.615	ug/l	40415	0.4	3	0.3000	
Ti	47	45	No Gas	195.483	ug/l	143642	0.6	3	0.3000	
V	51	74	He	197.902	ug/l	339074	1.0	3	0.3000	
Cr	52	74	He	195.981	ug/l	418186	0.7	3	0.3000	
Mn	55	74	No Gas	200.031	ug/l	2845402	1.0	3	0.3000	
Fe	56	74	He	4004.135	ug/l	7905330	1.2	3	0.3000	
Co	59	74	No Gas	203.082	ug/l	1939490	1.6	3	0.3000	
Ni	60	74	He	204.491	ug/l	155936	1.0	3	0.3000	
Cu	65	74	He	210.087	ug/l	215339	0.7	3	0.3000	
Zn	66	74	He	204.32	ug/l	100777	1.4	3	0.3000	
As	75	74	He	199.349	ug/l	67792	0.7	3	2.0001	
Se	78	74	He	99.267	ug/l	3101	1.5	3	2.0001	
Se	82	74	No Gas	100.264	ug/l	12754	0.3	3	0.9999	
Mo	98	103	No Gas	100.05	ug/l	554864	0.8	3	0.0999	
Ag	109	103	No Gas	99.796	ug/l	935020	0.7	3	0.9999	
Cd	111	103	No Gas	194.411	ug/l	447747	0.8	3	0.3000	
Sb	123	103	No Gas	100.877	ug/l	714950	0.9	3	0.0999	
Ba	137	159	No Gas	206.484	ug/l	640380	0.7	3	0.3000	
Hg	201	159	No Gas	4001.229	ng/l	5698	0.6	3	2.0001	
Tl	205	159	No Gas	99.663	ug/l	2460096	0.9	3	0.3000	
Pb	208	159	No Gas	201.315	ug/l	6812917	0.6	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	336211	0.9	3	389940.86	86.22	70	120	
Sc	45	He	65917	2.3	3	66581.48	99	70	120	
Sc	45	No Gas	986846	0.9	3	1073548.11	91.92	70	120	
Ge	74	He	71613	1.5	3	71790.07	99.75	70	120	
Ge	74	No Gas	355126	0.5	3	372836.81	95.25	70	120	
Rh	103	No Gas	383531	0.8	3	405307.18	94.63	70	120	
Tb	159	No Gas	857837	0.2	3	871308.14	98.45	70	120	
Bi	209	No Gas	608986	1.1	3	626349.34	97.23	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL8**	**Sample Type**	CalStd
File Name	012CALS.d	**Vial #**	2108
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:28:50	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19D321		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.034	ug/l	71	17.7	3	0.3000	RSD Warning
Na	23	45	He	10147.473	ug/l	3321476	0.1	3	0.3000	
Mg	24	45	No Gas	10275.433	ug/l	51700334	0.7	3	0.0999	
Al	27	45	He	10047.375	ug/l	883561	0.8	3	0.3000	
K	39	45	He	10290.027	ug/l	1805274	0.1	3	0.3000	
Ca	44	45	He	9932.236	ug/l	97880	0.4	3	0.3000	
Ti	47	45	No Gas	496.947	ug/l	355593	0.9	3	0.3000	
V	51	74	He	500.823	ug/l	831146	0.5	3	0.3000	
Cr	52	74	He	490.934	ug/l	1015634	0.5	3	0.3000	
Mn	55	74	No Gas	498.921	ug/l	6899067	0.8	3	0.3000	
Fe	56	74	He	10024.571	ug/l	19182153	1.4	3	0.3000	
Co	59	74	No Gas	498.564	ug/l	4630016	0.5	3	0.3000	
Ni	60	74	He	508.036	ug/l	375329	0.8	3	0.3000	
Cu	65	74	He	517.958	ug/l	514768	1.1	3	0.3000	
Zn	66	74	He	507.852	ug/l	242870	1.1	3	0.3000	
As	75	74	He	500.225	ug/l	164915	0.5	3	2.0001	
Se	78	74	He	0.038	ug/l	10	19.9	3	2.0001	RSD Warning
Se	82	74	No Gas	-0.154	ug/l	-7	-144.5	3	0.9999	
Mo	98	103	No Gas	0.07	ug/l	381	20.5	3	0.0999	RSD Warning
Ag	109	103	No Gas	0.024	ug/l	229	4.8	3	0.9999	
Cd	111	103	No Gas	501.672	ug/l	1109823	0.8	3	0.3000	
Sb	123	103	No Gas	0.101	ug/l	721	13.3	3	0.0999	
Ba	137	159	No Gas	520.965	ug/l	1590868	0.8	3	0.3000	
Hg	201	159	No Gas	128.429	ng/l	181	5.1	3	2.0001	
Tl	205	159	No Gas	0.026	ug/l	690	9.8	3	0.3000	
Pb	208	159	No Gas	499.614	ug/l	16648694	0.9	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	323017	1.0	3	389940.86	82.84	70	120	
Sc	45	He	64016	0.7	3	66581.48	96.15	70	120	
Sc	45	No Gas	961618	0.8	3	1073548.11	89.57	70	120	
Ge	74	He	69430	1.0	3	71790.07	96.71	70	120	
Ge	74	No Gas	345338	1.0	3	372836.81	92.62	70	120	
Rh	103	No Gas	368396	0.9	3	405307.18	90.89	70	120	
Tb	159	No Gas	844733	1.3	3	871308.14	96.95	70	120	
Bi	209	No Gas	592031	2.0	3	626349.34	94.52	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E23021-CAL9**	**Sample Type**	CalStd
File Name	013CALS.d	**Vial #**	2109
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:33:30	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E164		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.026	ug/l	53	34.8	3	0.3000	RSD Warning
Na	23	45	He	49959.971	ug/l	16059587	0.1	3	0.3000	
Mg	24	45	No Gas	49926.198	ug/l	245905647	1.5	3	0.0999	
Al	27	45	He	49987.65	ug/l	4321501	0.6	3	0.3000	
K	39	45	He	49933.547	ug/l	8578755	0.6	3	0.3000	
Ca	44	45	He	50016.114	ug/l	484481	0.6	3	0.3000	
Ti	47	45	No Gas	2500.984	ug/l	1753455	1.2	3	0.3000	
V	51	74	He	-0.115	ug/l	358	11.5	3	0.3000	
Cr	52	74	He	1005.371	ug/l	2002844	0.8	3	0.3000	
Mn	55	74	No Gas	2500.213	ug/l	32719048	1.1	3	0.3000	
Fe	56	74	He	49992.969	ug/l	92117311	0.3	3	0.3000	
Co	59	74	No Gas	0.29	ug/l	2589	2.5	3	0.3000	
Ni	60	74	He	994.924	ug/l	707657	0.9	3	0.3000	
Cu	65	74	He	988.813	ug/l	946325	1.0	3	0.3000	
Zn	66	74	He	2498.038	ug/l	1150328	0.7	3	0.3000	
As	75	74	He	0.089	ug/l	45	12.1	3	2.0001	
Se	78	74	He	0.079	ug/l	11	16.4	3	2.0001	RSD Warning
Se	82	74	No Gas	-0.058	ug/l	4	350.2	3	0.9999	RSD Warning
Mo	98	103	No Gas	0.172	ug/l	863	5.1	3	0.0999	
Ag	109	103	No Gas	0.098	ug/l	837	2.2	3	0.9999	
Cd	111	103	No Gas	1000.449	ug/l	2066102	1.3	3	0.3000	
Sb	123	103	No Gas	0.054	ug/l	370	7.2	3	0.0999	
Ba	137	159	No Gas	2495.232	ug/l	7316548	1.1	3	0.3000	
Hg	201	159	No Gas	42.33	ng/l	58	10.4	3	2.0001	
Tl	205	159	No Gas	0.01	ug/l	276	6.1	3	0.3000	
Pb	208	159	No Gas	0.161	ug/l	5258	0.7	3	0.3000	

QC ISTD Table

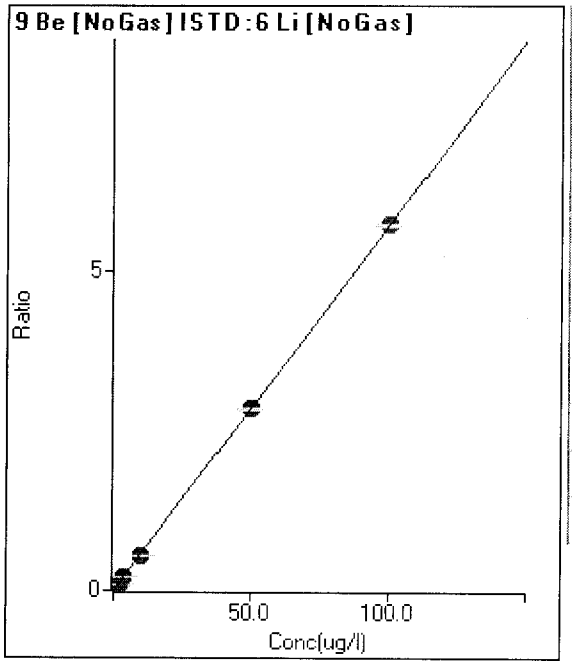
Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	299964	0.2	3	389940.86	76.93	70	120	
Sc	45	He	62936	1.0	3	66581.48	94.52	70	120	
Sc	45	No Gas	942611	1.5	3	1073548.11	87.8	70	120	
Ge	74	He	66861	0.7	3	71790.07	93.13	70	120	
Ge	74	No Gas	326875	0.8	3	372836.81	87.67	70	120	
Rh	103	No Gas	343896	1.0	3	405307.18	84.85	70	120	
Tb	159	No Gas	811061	0.9	3	871308.14	93.09	70	120	
Bi	209	No Gas	561001	2.0	3	626349.34	89.57	70	120	

Calibration for 113SMPL.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\9E23021.b\
Analysis File: 9E23021.batch.bin
DA Date-Time: 05/23/2019 20:26:44
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	9E23021-CAL0	05/23/2019 11:50:36
2	005CALS.d	9E23021-CAL1	05/23/2019 11:55:25
3	006CALS.d	9E23021-CAL2	05/23/2019 12:00:15
4	007CALS.d	9E23021-CAL3	05/23/2019 12:05:03
5	008CALS.d	9E23021-CAL4	05/23/2019 12:09:52
6	009CALS.d	9E23021-CAL5	05/23/2019 12:14:33
7	010CALS.d	9E23021-CAL6	05/23/2019 12:19:21
8	011CALS.d	9E23021-CAL7	05/23/2019 12:24:08
9	012CALS.d	9E23021-CAL8	05/23/2019 12:28:50
10	013CALS.d	9E23021-CAL9	05/23/2019 12:33:30

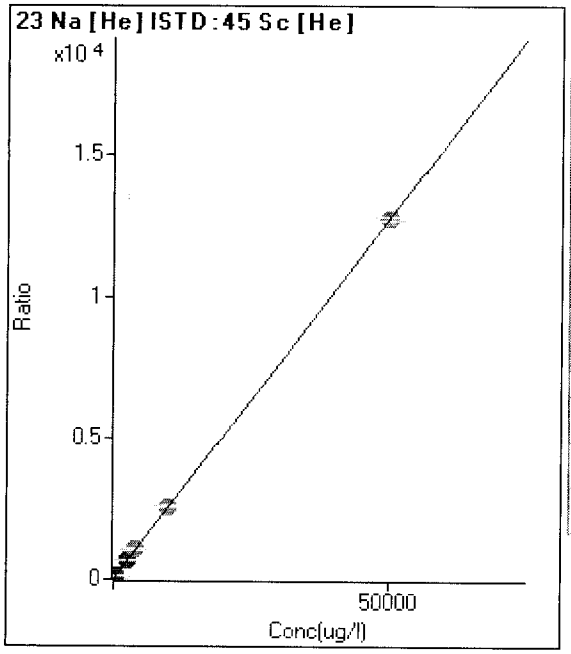
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11	0.000	P	46.3
2	☐	0.180	0.177	396	0.010	P	4.7
3	☐	0.900	0.909	1952	0.052	P	4.2
4	☐	1.800	1.736	3647	0.099	P	4.4
5	☐	3.600	3.590	7443	0.205	P	0.8
6	☐	10.000	9.755	19904	0.556	P	0.4
7	☐	50.000	49.732	100494	2.833	P	1.0
8	☐	100.000	100.160	191845	5.706	P	0.9
9	☐			71	0.002	P	18.3
10	☐			53	0.002	P	34.8

y = 0.0570 * x + 2.8555E-004
R = 1.0000
DL = 0.006968
BEC = 0.005012

Weight: <None>
Min Conc: <None>

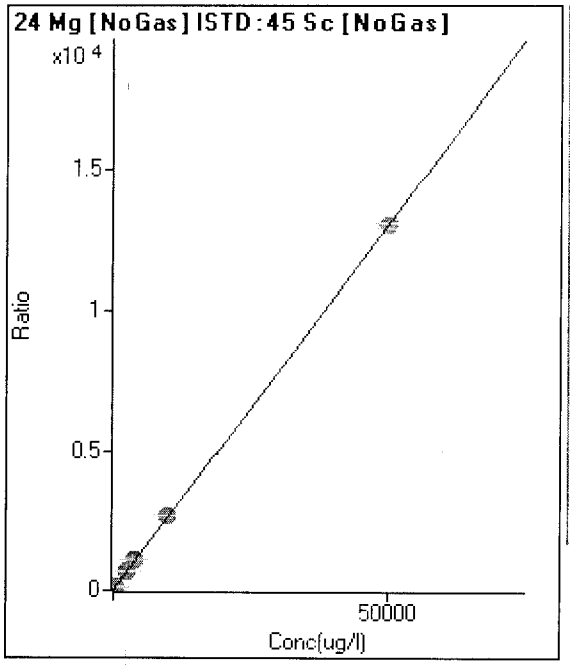


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4579	3.440	P	1.6
2	☐			7699	5.748	P	3.3
3	☐	45.000	45.143	20385	14.966	P	1.5
4	☐	90.000	92.123	35307	26.961	P	2.8
5	☐	180.000	179.184	66600	49.190	P	0.5
6	☐	400.000	404.673	142666	106.763	P	1.0
7	☐	2500.000	2521.459	866028	647.234	P	0.9
8	☐	4000.000	4117.787	1389987	1,054.818	A	2.8
9	☐	10000.000	10147.473	3321476	2,594.354	A	0.8
10	☐	50000.000	49959.971	16059587	12,759.523	A	0.9

y = 0.2553 * x + 3.4397
R = 1.0000
DL = 0.6502
BEC = 13.47

Weight: <None>
Min Conc: <None>

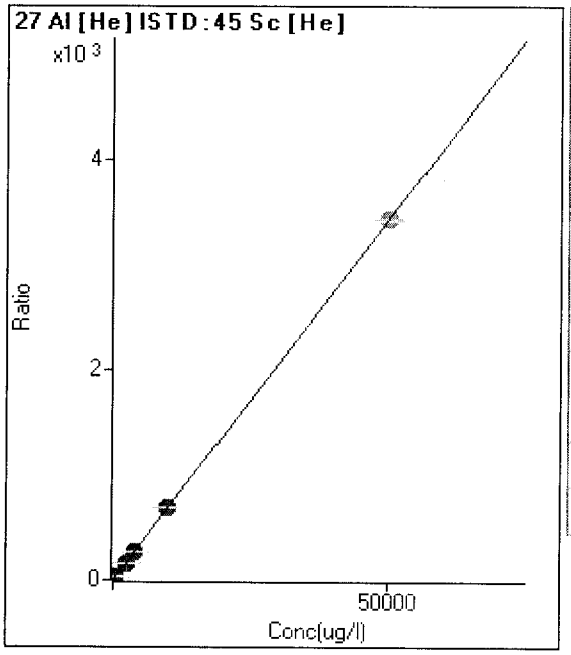
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	95527	4.449	P	1.6
2	☐			153808	7.207	P	0.5
3	☐	45.000	54.514	390559	18.688	P	2.0
4	☐	90.000	107.657	673267	32.568	P	1.6
5	☐	180.000	195.880	1133931	55.611	A	0.4
6	☐	400.000	427.819	2346228	116.190	A	0.9
7	☐	2500.000	2596.640	13790202	682.660	A	2.4
8	☐	4000.000	4169.544	21581335	1,093.483	A	0.6
9	☐	10000.000	10275.433	51700334	2,688.267	A	0.8
10	☐	50000.000	49926.198	245905647	13,044.562	A	1.3

y = 0.2612 * x + 4.4494
R = 1.0000
DL = 0.8245
BEC = 17.04

Weight: <None>
Min Conc: <None>

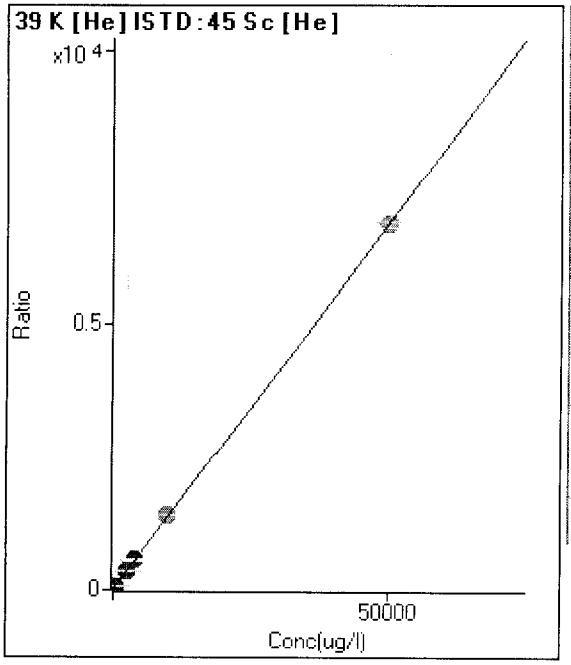


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17	0.013	P	3.8
2	☐			897	0.669	P	0.9
3	☐	45.000	44.757	4204	3.087	P	4.3
4	☐	90.000	91.666	8260	6.309	P	3.7
5	☐	180.000	180.423	16795	12.405	P	1.4
6	☐	400.000	405.569	37241	27.869	P	1.5
7	☐	2500.000	2495.991	229403	171.450	P	1.2
8	☐	4000.000	4037.832	365553	277.351	P	1.8
9	☐	10000.000	10047.375	883561	690.117	P	0.6
10	☐	50000.000	49987.650	4321501	3,433.418	A	0.8

y = 0.0687 * x + 0.0125
R = 1.0000
DL = 0.02075
BEC = 0.1824

Weight: <None>
Min Conc: <None>

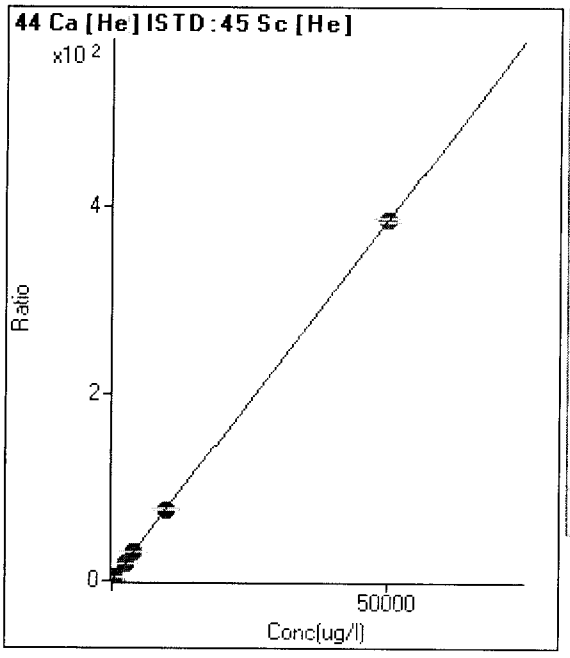
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9115	6.856	P	6.5
2	☐			10702	7.990	P	1.3
3	☐	45.000	45.288	17751	13.032	P	0.8
4	☐	90.000	92.827	25556	19.514	P	2.4
5	☐	180.000	182.712	43014	31.772	P	1.5
6	☐	400.000	407.629	83441	62.443	P	1.1
7	☐	2500.000	2520.852	469098	350.616	P	2.3
8	☐	4000.000	4091.613	744383	564.815	P	2.1
9	☐	10000.000	10290.027	1805274	1,410.071	A	0.8
10	☐	50000.000	49933.547	8578755	6,816.120	A	1.4

y = 0.1364 * x + 6.8559
R = 1.0000
DL = 9.755
BEC = 50.28

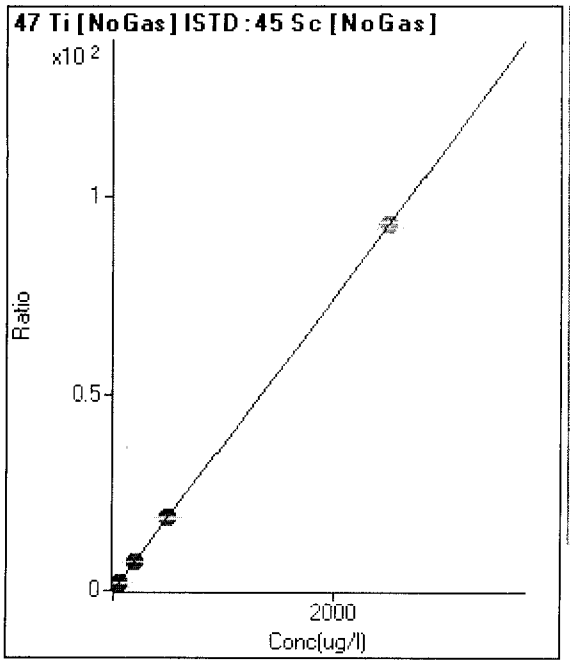
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21	0.016	P	49.5
2	☐			117	0.087	P	28.1
3	☐	45.000	45.454	498	0.366	P	10.4
4	☐	90.000	85.672	884	0.675	P	8.2
5	☐	180.000	179.572	1892	1.398	P	2.0
6	☐	400.000	401.451	4150	3.105	P	1.8
7	☐	2500.000	2476.539	25522	19.075	P	1.2
8	☐	4000.000	3982.615	40415	30.665	P	2.0
9	☐	10000.000	9932.236	97880	76.452	P	0.8
10	☐	50000.000	50016.114	484481	384.930	P	1.2

y = 0.0077 * x + 0.0158
R = 1.0000
DL = 3.052
BEC = 2.056

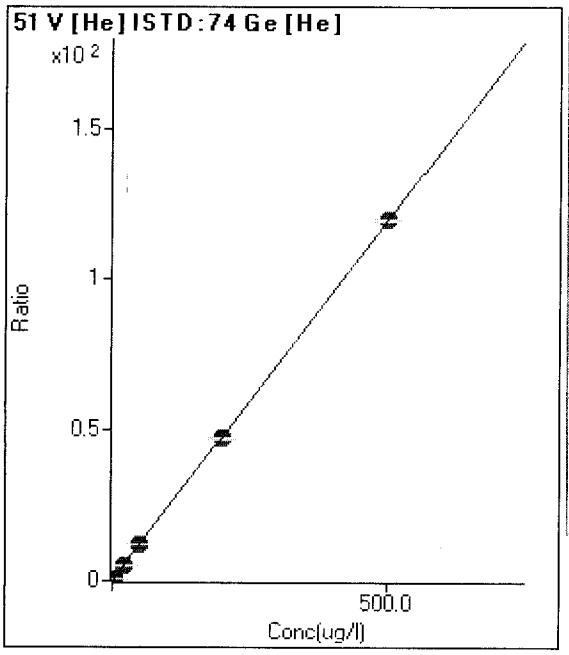
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	166	0.008	P	1.7
2	☐	0.180	0.134	271	0.013	P	13.5
3	☐	0.900	0.834	809	0.039	P	4.8
4	☐	1.800	1.716	1479	0.072	P	4.6
5	☐	3.600	3.560	2857	0.140	P	2.4
6	☐	20.000	19.612	14885	0.737	P	2.1
7	☐	50.000	49.564	37407	1.851	P	2.0
8	☐	200.000	195.483	143642	7.278	P	0.3
9	☐	500.000	496.947	355593	18.490	P	0.9
10	☐	2500.000	2500.984	1753455	93.022	A	1.6

y = 0.0372 * x + 0.0077
R = 1.0000
DL = 0.0106
BEC = 0.2073

Weight: <None>
Min Conc: <None>

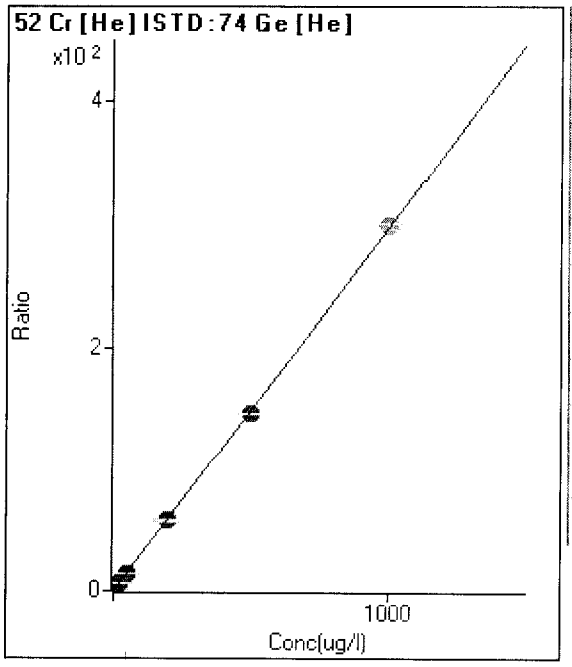


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	579	0.081	P	13.5
2	☐	0.180	0.169	889	0.121	P	4.1
3	☐	0.900	0.883	2140	0.292	P	1.8
4	☐	1.800	1.774	3637	0.505	P	3.7
5	☐	3.600	3.520	6667	0.922	P	1.1
6	☐	20.000	19.762	34730	4.801	P	0.7
7	☐	50.000	50.264	85760	12.088	P	1.0
8	☐	200.000	197.902	339074	47.355	P	1.8
9	☐	500.000	500.823	831146	119.715	P	0.8
10	☐			358	0.053	P	11.1

y = 0.2389 * x + 0.0809
R = 1.0000
DL = 0.1371
BEC = 0.3386

Weight: <None>
Min Conc: <None>

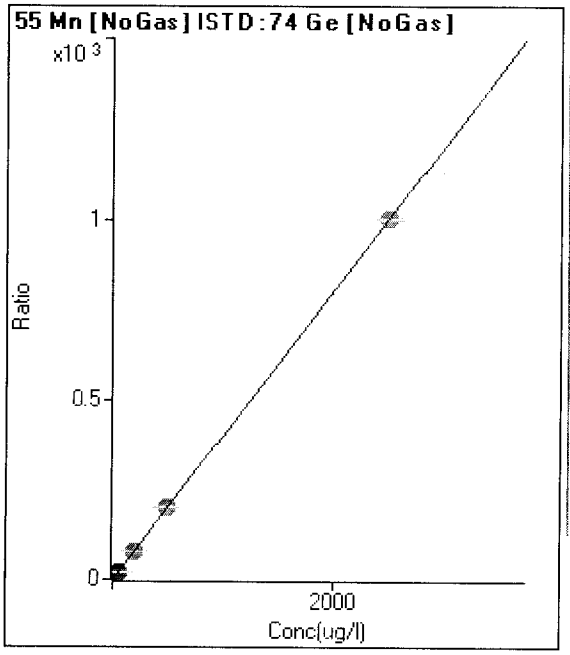
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	74	0.010	P	4.4
2	☐	0.180	0.169 ✓	444	0.061	P	0.8
3	☐	0.900	0.904 ✓	2054	0.280	P	6.6
4	☐	1.800	1.720 ✓	3766	0.523	P	3.5
5	☐	3.600	3.573 ✓	7776	1.075	P	2.4
6	☐	20.000	19.749 ✓	42637	5.895	P	1.6
7	☐	50.000	49.413 ✓	104530	14.733	P	1.0
8	☐	200.000	195.981 ✓	418186	58.405	P	1.8
9	☐	500.000	490.934 ✓	1015634	146.288	P	0.8
10	☐	1000.000	1005.371 ✓	2002844	299.569	A	1.3

y = 0.2980 * x + 0.0104
R = 0.9999 ✓
DL = 0.004644
BEC = 0.03479

Weight: <None>
Min Conc: <None>

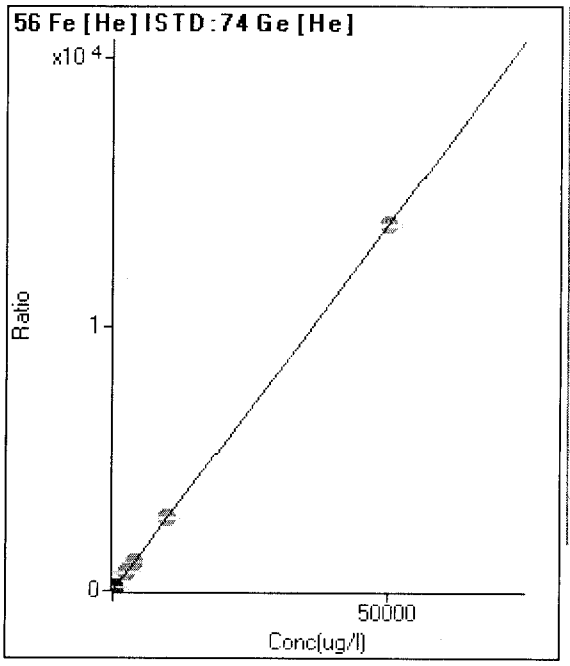


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1816	0.049	P	2.8
2	☐	0.180	0.193 ✓	4669	0.126	P	2.0
3	☐	0.900	0.926 ✓	15306	0.420	P	2.0
4	☐	1.800	1.836 ✓	28485	0.784	P	3.1
5	☐	3.600	3.630 ✓	54751	1.502	P	2.7
6	☐	20.000	20.365 ✓	296514	8.201	P	0.6
7	☐	50.000	49.856 ✓	727364	20.008	P	1.4
8	☐	200.000	200.031 ✓	2845402	80.126	A	1.3
9	☐	500.000	498.921 ✓	6899067	199.780	A	0.4
10	☐	2500.000	2500.213 ✓	32719048	1,000.950	A	0.3

y = 0.4003 * x + 0.0487
R = 1.0000 ✓
DL = 0.0103
BEC = 0.1216

Weight: <None>
Min Conc: <None>

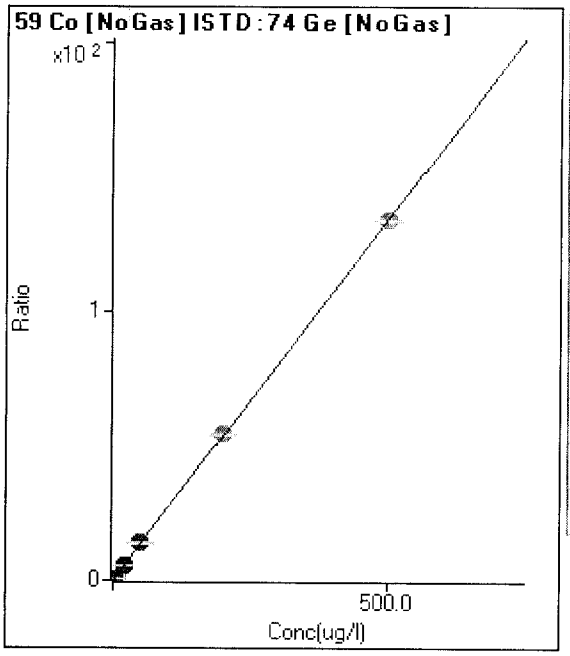
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4148	0.578	P	4.2
2	☐			22741	3.105	P	1.3
3	☐	45.000	45.931	97093	13.236	P	1.4
4	☐	90.000	92.618	188094	26.102	P	1.6
5	☐	180.000	183.240	369473	51.076	P	0.6
6	☐	400.000	410.057	821561	113.582	P	0.8
7	☐	2500.000	2533.762	4958073	698.838	A	1.8
8	☐	4000.000	4004.135	7905330	1,104.046	A	1.9
9	☐	10000.000	10024.571	19182153	2,763.171	A	2.2
10	☐	50000.000	49992.969	92117311	13,777.747	A	0.4

y = 0.2756 * x + 0.5781
R = 1.0000
DL = 0.2643
BEC = 2.098

Weight: <None>
Min Conc: <None>

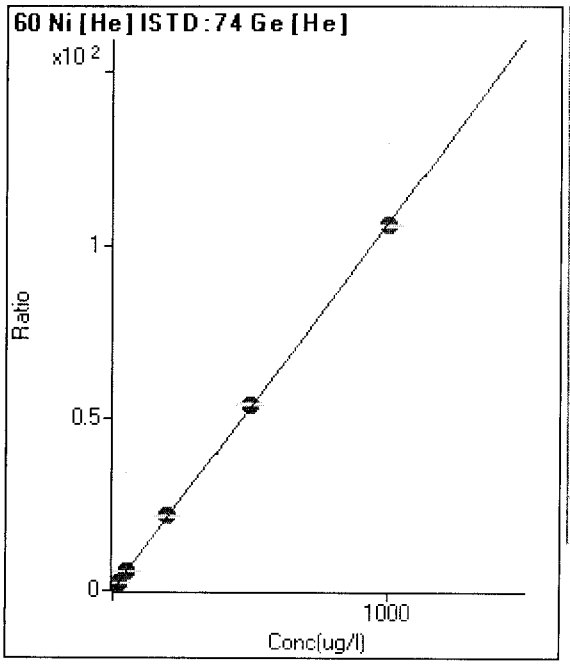


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46	0.001	P	37.7
2	☐	0.180	0.201	2044	0.055	P	3.2
3	☐	0.900	0.989	9750	0.267	P	2.7
4	☐	1.800	1.920	18821	0.518	P	0.6
5	☐	3.600	3.830	37596	1.031	P	2.1
6	☐	20.000	20.729	201584	5.576	P	1.0
7	☐	50.000	51.714	505628	13.908	P	1.3
8	☐	200.000	203.082	1939490	54.615	A	1.6
9	☐	500.000	498.564	4630016	134.077	A	0.6
10	☐			2589	0.079	P	3.1

y = 0.2689 * x + 0.0012
R = 1.0000
DL = 0.005144
BEC = 0.004545

Weight: <None>
Min Conc: <None>

Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226	0.031	P	14.2
2	☐	0.180	0.155	350	0.048	P	12.4
3	☐	0.900	0.919	947	0.129	P	3.2
4	☐	1.800	1.803	1607	0.223	P	7.5
5	☐	3.600	3.670	3049	0.422	P	7.1
6	☐	20.000	20.885	16292	2.252	P	1.4
7	☐	50.000	52.838	40089	5.650	P	1.4
8	☐	200.000	204.491	155936	21.779	P	2.0
9	☐	500.000	508.036	375329	54.060	P	0.6
10	☐	1000.000	994.924	707657	105.840	P	0.3

y = 0.1063 * x + 0.0313

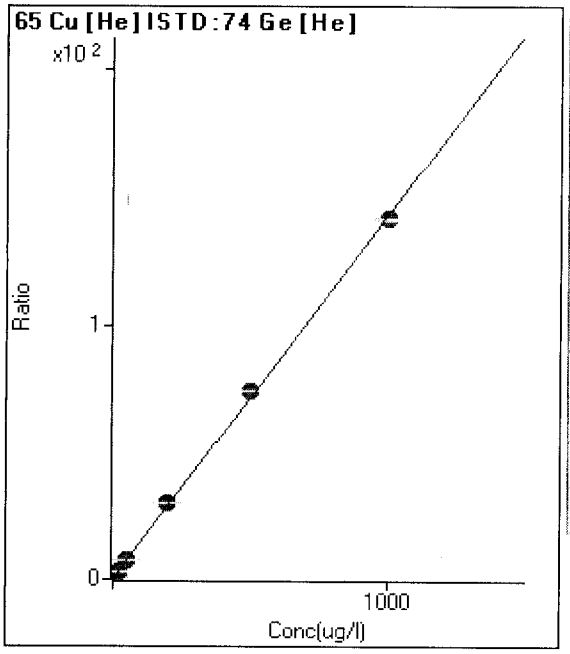
R = 0.9999

DL = 0.1252

BEC = 0.2944

Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30	0.004	P	11.7
2	☐	0.180	0.156	194	0.027	P	14.1
3	☐	0.900	0.994	1075	0.146	P	4.8
4	☐	1.800	1.955	2046	0.284	P	5.3
5	☐	3.600	3.876	4044	0.559	P	0.4
6	☐	20.000	21.562	22353	3.090	P	2.1
7	☐	50.000	53.165	54019	7.614	P	1.2
8	☐	200.000	210.087	215339	30.075	P	1.9
9	☐	500.000	517.958	514768	74.142	P	0.5
10	☐	1000.000	988.813	946325	141.537	P	0.7

y = 0.1431 * x + 0.0042

R = 0.9997

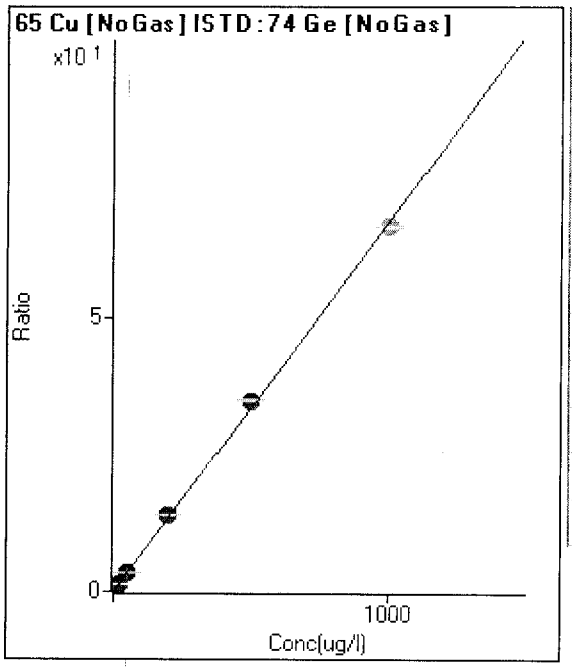
DL = 0.01023

BEC = 0.02923

Weight: <None>

Min Conc: <None>

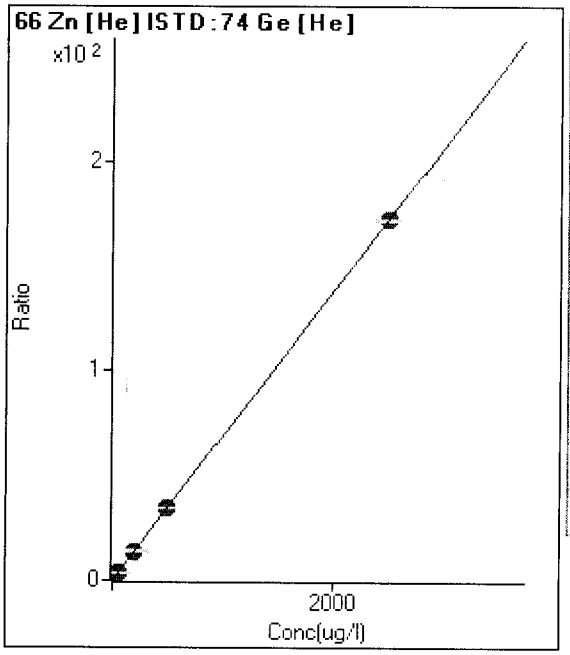
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93	0.003	P	3.1
2	☐	0.180	0.194	574	0.015	P	8.9
3	☐	0.900	1.001	2539	0.070	P	3.0
4	☐	1.800	1.940	4819	0.133	P	5.3
5	☐	3.600	3.960	9771	0.268	P	2.0
6	☐	20.000	22.004	53422	1.478	P	0.6
7	☐	50.000	52.100	127063	3.495	P	2.1
8	☐	200.000	210.733	501760	14.129	P	0.9
9	☐	500.000	519.768	1203357	34.846	P	0.6
10	☐	1000.000	987.823	2164579	66.223	A	0.8

y = 0.0670 * x + 0.0025
R = 0.9997
DL = 0.003461
BEC = 0.03734

Weight: <None>
Min Conc: <None>

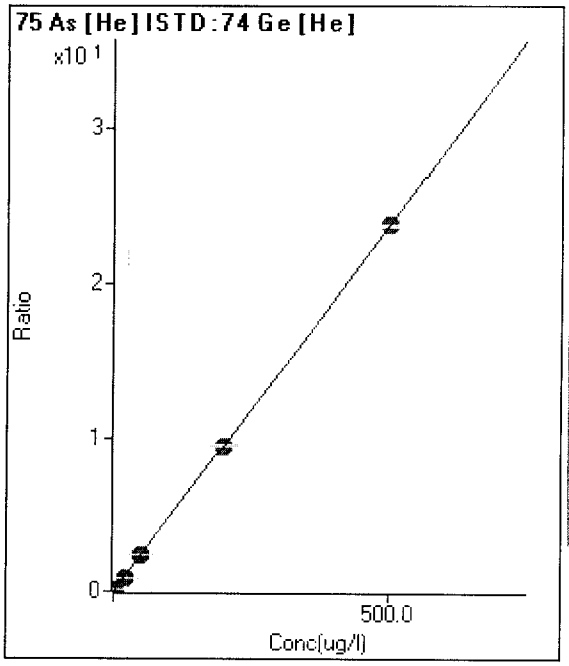


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26	0.004	P	16.7
2	☐			140	0.019	P	15.5
3	☐	0.900	0.930	496	0.068	P	4.5
4	☐	1.800	1.832	934	0.130	P	3.5
5	☐	3.600	3.562	1800	0.249	P	5.7
6	☐	20.000	20.342	10159	1.405	P	2.0
7	☐	50.000	52.181	25522	3.597	P	0.6
8	☐	200.000	204.320	100777	14.076	P	2.5
9	☐	500.000	507.852	242870	34.980	P	0.1
10	☐	2500.000	2498.038	1150328	172.049	P	0.3

y = 0.0689 * x + 0.0035
R = 1.0000
DL = 0.0258
BEC = 0.05149

Weight: <None>
Min Conc: <None>

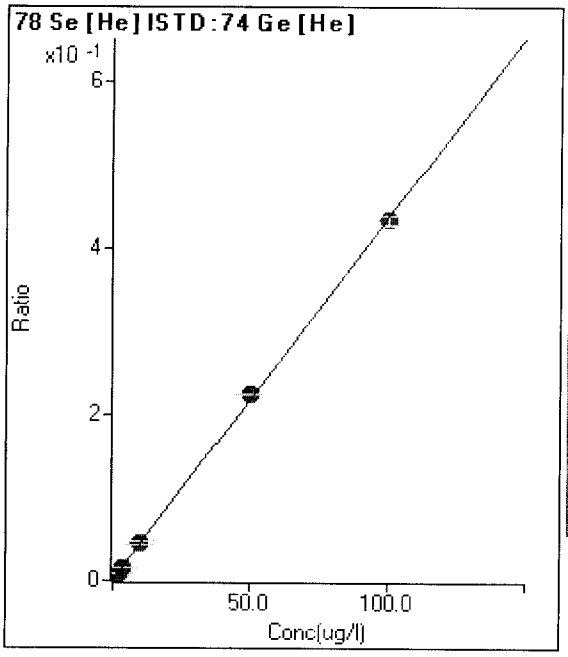
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18	0.003	P	1.5
2	☐	0.180	0.187 ✓	84	0.011	P	8.2
3	☐	0.900	0.943 ✓	347	0.047	P	6.1
4	☐	1.800	1.832 ✓	645	0.090	P	1.9
5	☐	3.600	3.642 ✓	1270	0.175	P	0.6
6	☐	20.000	19.731 ✓	6795	0.939	P	0.6
7	☐	50.000	50.451 ✓	17013	2.398	P	0.9
8	☐	200.000	199.349 ✓	67792	9.468	P	1.6
9	☐	500.000	500.225 ✓	164915	23.753	P	0.5
10	☐			45	0.007	P	12.8

y = 0.0475 * x + 0.0026
R = 1.0000 ✓
DL = 0.002487
BEC = 0.05378

Weight: <None>
Min Conc: <None>

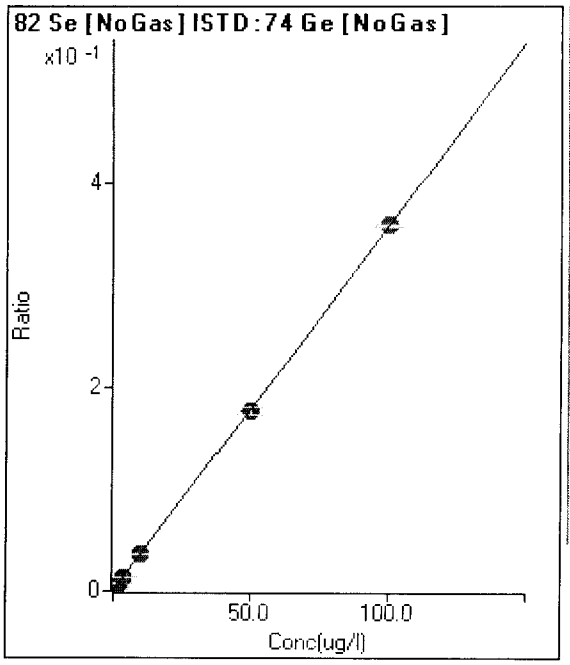


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9	0.001	P	19.0
2	☐	0.180	0.250	18	0.002	P	16.5
3	☐	0.900	0.996 ✓	41	0.006	P	4.0
4	☐	1.800	1.823 ✓	67	0.009	P	2.5
5	☐	3.600	3.541 ✓	121	0.017	P	4.5
6	☐	10.000	10.260 ✓	332	0.046	P	5.7
7	☐	50.000	51.416 ✓	1596	0.225	P	0.3
8	☐	100.000	99.267 ✓	3101	0.433	P	2.7
9	☐			10	0.001	P	19.4
10	☐			11	0.002	P	15.8

y = 0.0043 * x + 0.0013
R = 0.9999 ✓
DL = 0.1704
BEC = 0.2986

Weight: <None>
Min Conc: <None>

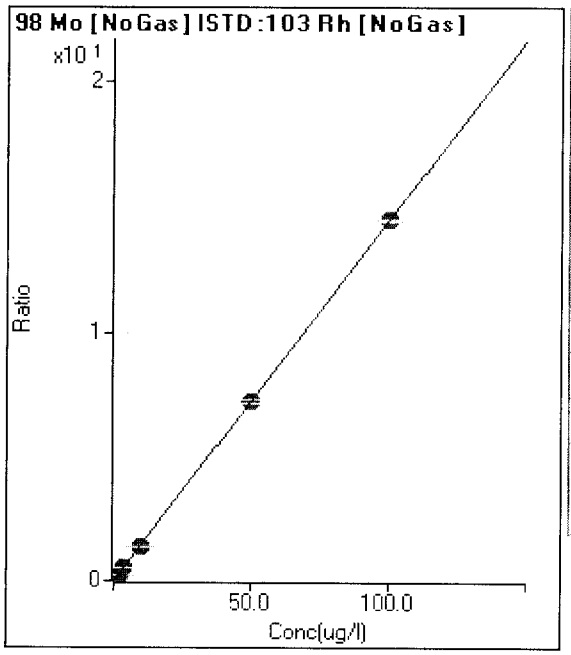
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13	0.000	P	98.3
2	☐	0.180	0.147	32	0.001	P	39.2
3	☐	0.900	0.864	125	0.003	P	19.3
4	☐	1.800	1.877	257	0.007	P	2.2
5	☐	3.600	3.664	490	0.013	P	2.4
6	☐	10.000	9.934	1298	0.036	P	3.2
7	☐	50.000	49.478	6447	0.177	P	3.8
8	☐	100.000	100.264	12754	0.359	P	0.8
9	☐			-7	0.000	P	-143.8
10	☐			4	0.000	P	352.3

y = 0.0036 * x + 3.4015E-004
R = 1.0000
DL = 0.2802
BEC = 0.09505

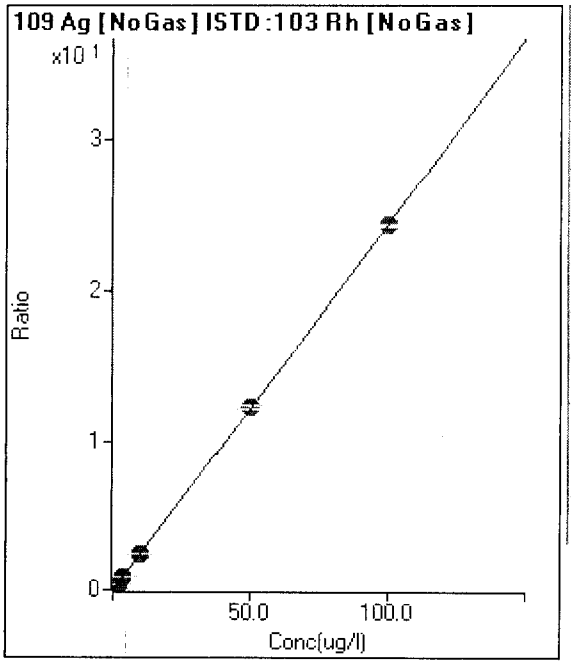
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7	0.000	P	86.6
2	☐	0.180	0.183	1075	0.027	P	19.9
3	☐	0.900	0.872	5023	0.126	P	3.5
4	☐	1.800	1.766	10094	0.256	P	3.5
5	☐	3.600	3.514	20056	0.508	P	3.4
6	☐	10.000	9.725	55814	1.406	P	0.1
7	☐	50.000	49.963	281330	7.225	P	2.1
8	☐	100.000	100.050	554864	14.467	P	0.3
9	☐			381	0.010	P	20.7
10	☐			863	0.025	P	4.4

y = 0.1446 * x + 1.6422E-004
R = 1.0000
DL = 0.002951
BEC = 0.001136

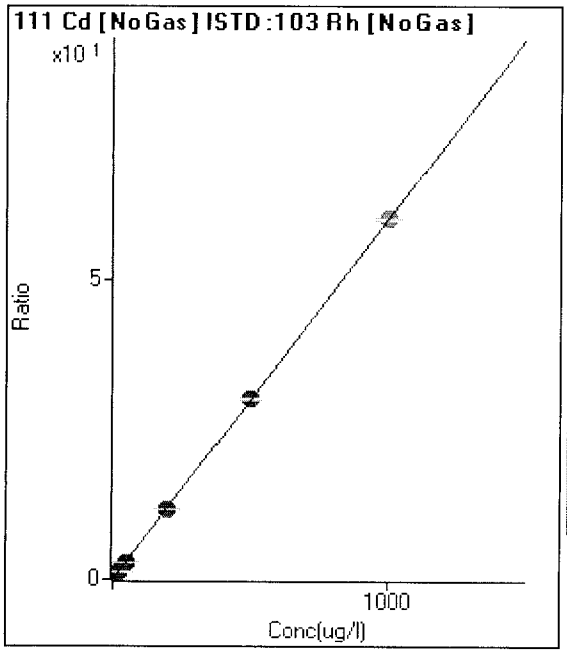
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15	0.000	P	26.9
2	☐	0.180	0.182	1808	0.045	P	1.3
3	☐	0.900	0.921	8963	0.225	P	2.8
4	☐	1.800	1.813	17515	0.443	P	2.4
5	☐	3.600	3.642	35124	0.890	P	1.0
6	☐	10.000	9.830	95310	2.402	P	0.5
7	☐	50.000	50.437	479739	12.322	P	2.4
8	☐	100.000	99.796	935020	24.380	P	0.5
9	☐			229	0.006	P	4.1
10	☐			837	0.024	P	2.5

y = 0.2443 * x + 3.7862E-004
R = 1.0000
DL = 0.001249
BEC = 0.00155

Weight: <None>
Min Conc: <None>

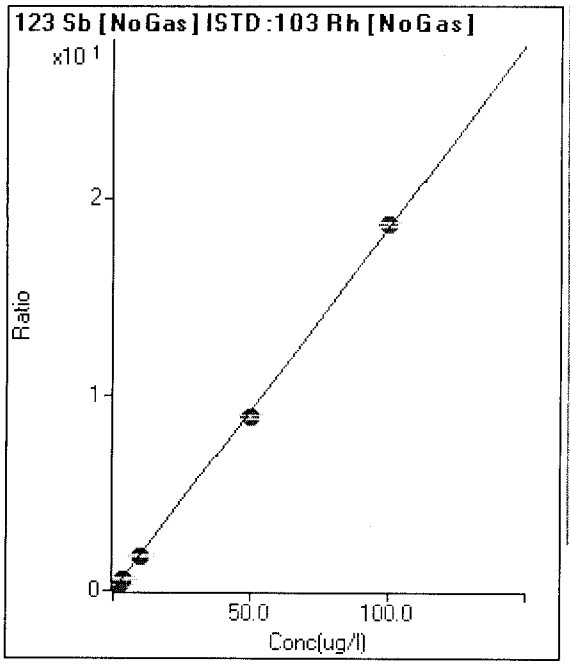


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1	0.000	P	597.5
2	☐	0.180	0.177	430	0.011	P	6.8
3	☐	0.900	0.852	2037	0.051	P	2.6
4	☐	1.800	1.715	4071	0.103	P	0.9
5	☐	3.600	3.383	8018	0.203	P	2.4
6	☐	20.000	18.899	45037	1.135	P	0.8
7	☐	50.000	47.114	110172	2.829	P	1.6
8	☐	200.000	194.411	447747	11.675	P	0.9
9	☐	500.000	501.672	1109823	30.126	P	0.3
10	☐	1000.000	1000.449	2066102	60.078	A	0.3

y = 0.0601 * x + 2.5032E-005
R = 1.0000
DL = 0.007471
BEC = 0.0004168

Weight: <None>
Min Conc: <None>

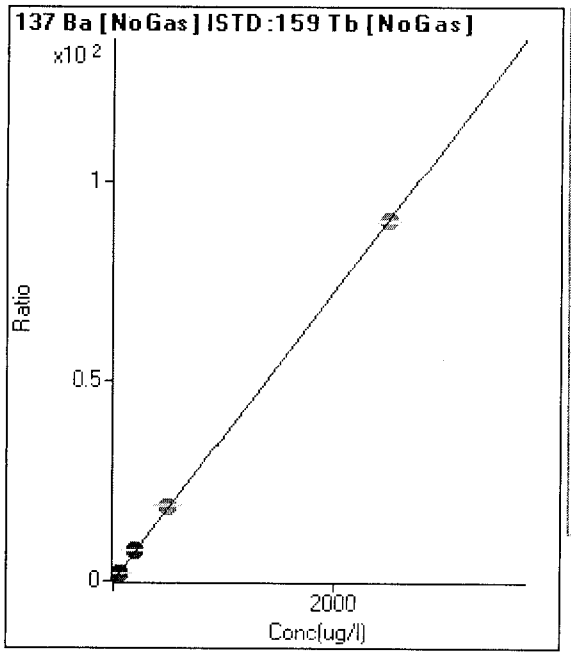
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33	0.001	P	45.5
2	☐	0.180	0.166	1271	0.032	P	17.8
3	☐	0.900	0.818	6051	0.152	P	5.4
4	☐	1.800	1.728	12649	0.320	P	4.9
5	☐	3.600	3.457	25237	0.640	P	2.6
6	☐	10.000	9.830	72130	1.817	P	2.1
7	☐	50.000	48.295	347513	8.925	P	2.3
8	☐	100.000	100.877	714950	18.642	P	1.2
9	☐			721	0.020	P	13.7
10	☐			370	0.011	P	8.1

y = 0.1848 * x + 8.2255E-004
R = 0.9998
DL = 0.00607
BEC = 0.004451

Weight: <None>
Min Conc: <None>

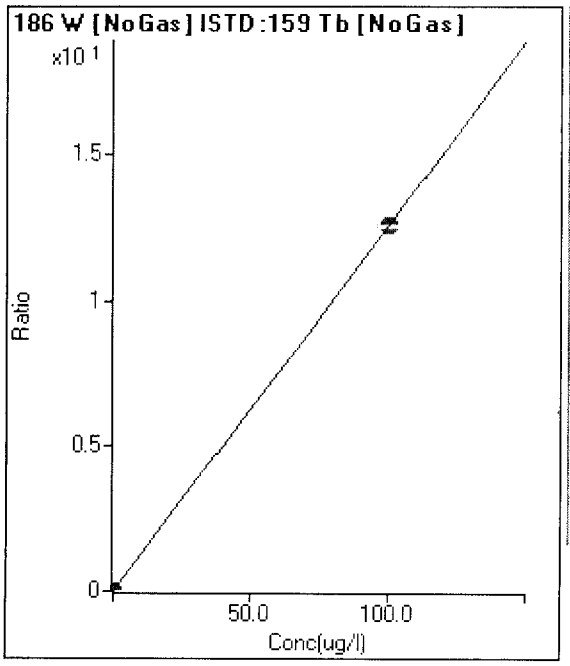


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14	0.000	P	58.1
2	☐	0.180	0.198	638	0.007	P	9.7
3	☐	0.900	0.962	3006	0.035	P	3.3
4	☐	1.800	1.889	5848	0.068	P	5.0
5	☐	3.600	3.794	11755	0.137	P	1.5
6	☐	20.000	20.723	64586	0.749	P	0.5
7	☐	50.000	52.497	162239	1.898	P	3.2
8	☐	200.000	206.484	640380	7.465	P	0.7
9	☐	500.000	520.965	1590868	18.834	A	1.2
10	☐	2500.000	2495.232	7316548	90.209	A	0.5

y = 0.0362 * x + 1.6571E-004
R = 1.0000
DL = 0.007996
BEC = 0.004584

Weight: <None>
Min Conc: <None>

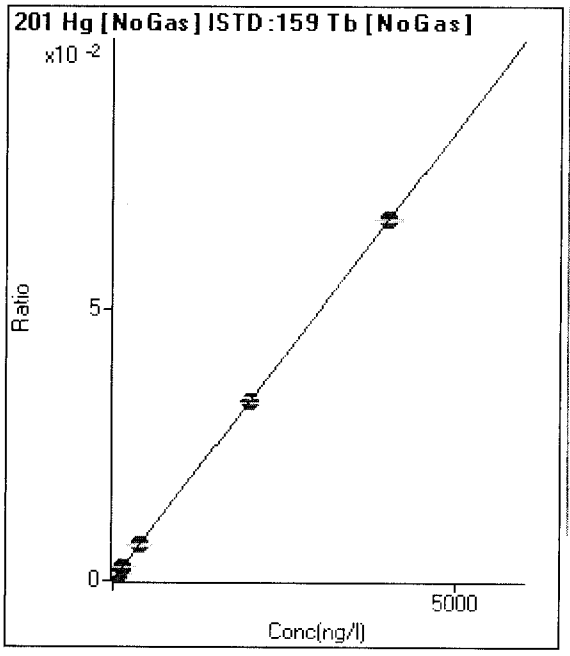
Calibration for 113SMPL.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13	0.000	P	42.7
2	☐			17	0.000	P	91.3
3	☐			23	0.000	P	50.3
4	☐			17	0.000	P	92.1
5	☐			20	0.000	P	48.7
6	☐			43	0.001	P	14.8
7	☐			113	0.001	P	46.6
8	☐			143	0.002	P	20.3
9	☐	100.000	100.000	1060149	12.550	P	0.3
10	☐			1255	0.015	P	4.0

y = 0.1255 * x + 1.5295E-004
R = 1.0000
DL = 0.001561
BEC = 0.001219

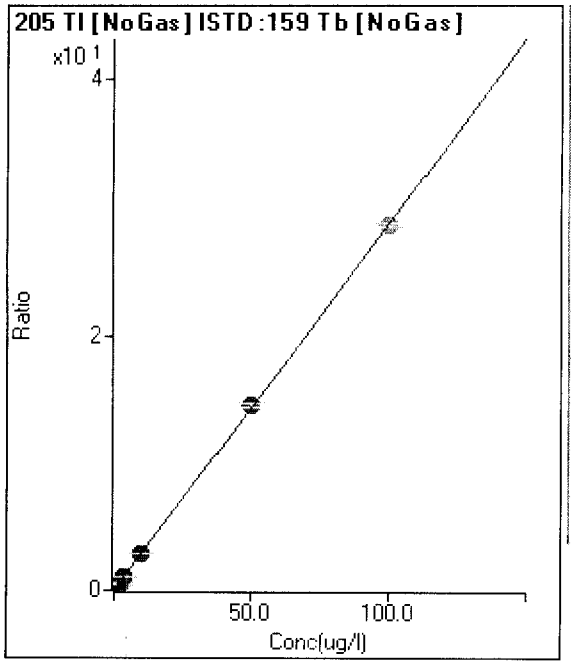
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2	0.000	P	66.8
2	☐			12	0.000	P	10.5
3	☐	36.000	34.889	51	0.001	P	8.6
4	☐	72.000	70.606 ✓	102	0.001	P	7.8
5	☐	144.000	143.183 ✓	205	0.002	P	3.4
6	☐	400.000	393.617 ✓	564	0.007	P	1.4
7	☐	2000.000	1998.948 ✓	2837	0.033	P	3.5
8	☐	4000.000	4001.229 ✓	5698	0.066	P	0.4
9	☐			181	0.002	P	5.1
10	☐			58	0.001	P	11.2

y = 1.6596E-005 * x + 1.7204E-005
R = 1.0000 ✓
DL = 2.076
BEC = 1.037

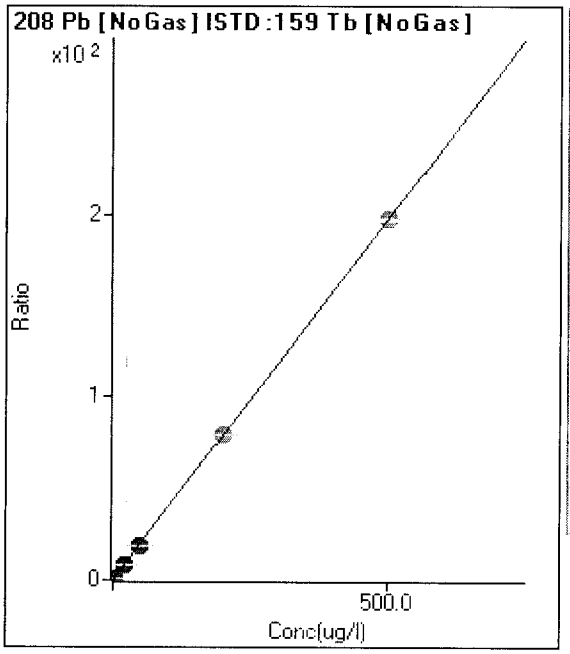
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50	0.001	P	26.6
2	☐	0.180	0.183 ✓	4626	0.053	P	2.2
3	☐	0.900	0.923 ✓	22894	0.266	P	2.1
4	☐	1.800	1.826 ✓	44959	0.526	P	2.6
5	☐	3.600	3.682 ✓	90736	1.060	P	1.1
6	☐	10.000	10.015 ✓	248445	2.882	P	0.1
7	☐	50.000	50.663 ✓	1246452	14.578	P	2.1
8	☐	100.000	99.663 ✓	2460096	28.678	A	1.0
9	☐			690	0.008	P	10.6
10	☐			276	0.003	P	6.6

y = 0.2877 * x + 5.7370E-004
R = 1.0000 ✓
DL = 0.001591
BEC = 0.001994

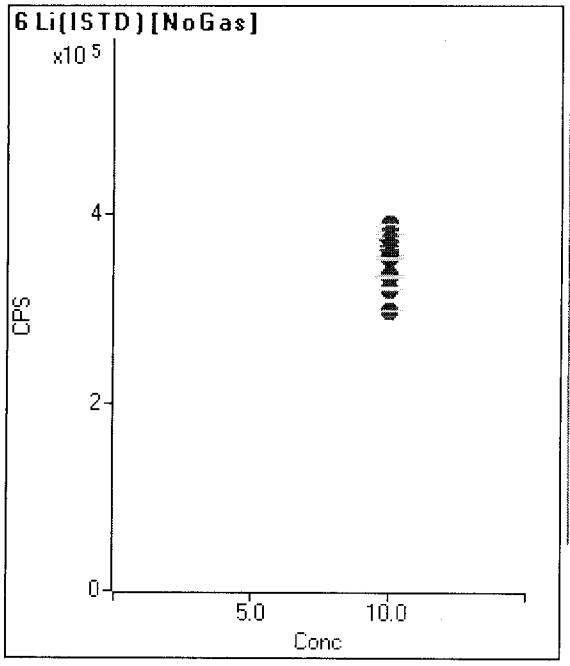
Weight: <None>
Min Conc: <None>



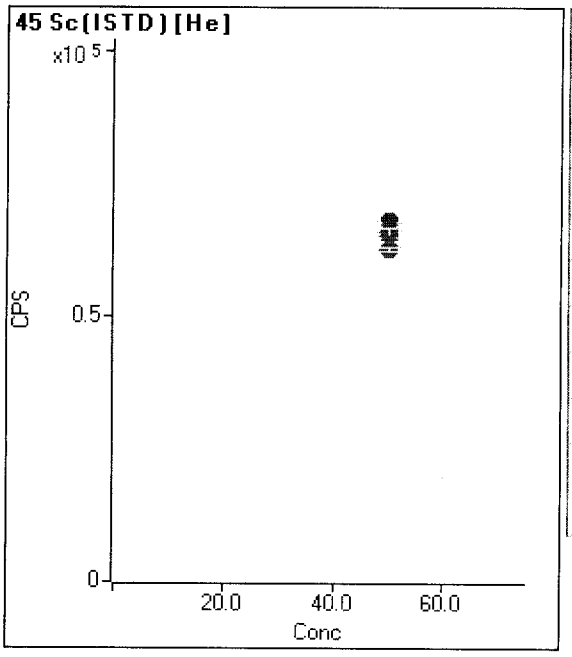
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	118	0.001	P	18.7
2	☐	0.180	0.180 ✓	6274	0.072	P	2.8
3	☐	0.900	0.890 ✓	30338	0.353	P	1.4
4	☐	1.800	1.766 ✓	59661	0.698	P	1.3
5	☐	3.600	3.539 ✓	119616	1.397	P	0.8
6	☐	20.000	20.372 ✓	692849	8.038	P	0.3
7	☐	50.000	48.454 ✓	1634555	19.117	P	2.0
8	☐	200.000	201.315 ✓	6812917	79.420	A	0.6
9	☐	500.000	499.614 ✓	16648694	197.099	A	0.9
10	☐			5258	0.065	P	0.5

y = 0.3945 * x + 0.0014
R = 1.0000 ✓
DL = 0.001919
BEC = 0.003424

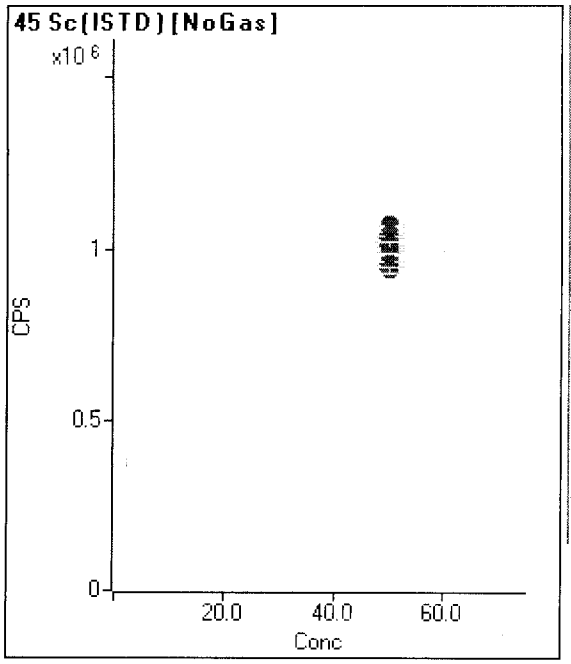
Weight: <None>
Min Conc: <None>



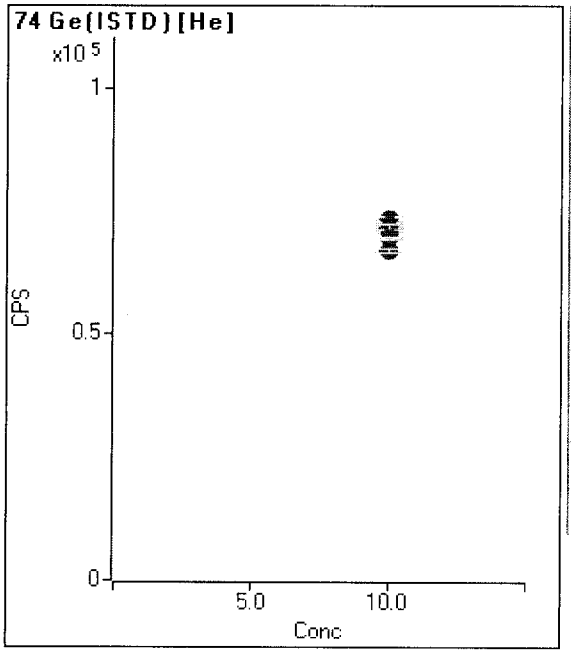
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		389941		P	0.8
2	☐	10.000		381055		P	0.8
3	☐	10.000		374841		P	1.0
4	☐	10.000		367920		P	1.2
5	☐	10.000		363461		P	1.4
6	☐	10.000		357973		P	0.0
7	☐	10.000		354687		P	0.9
8	☐	10.000		336211		P	0.9
9	☐	10.000		323017		P	1.0
10	☐	10.000		299964		P	0.2



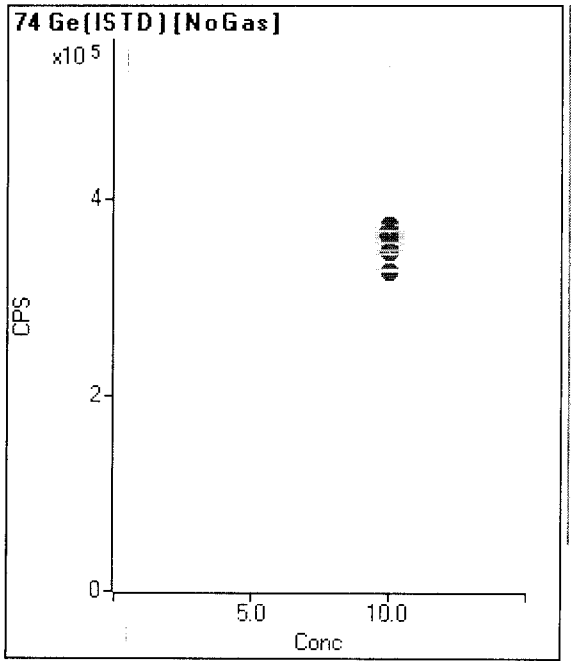
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	50.000		66581		P	3.7
2	☐	50.000		66969		P	0.2
3	☐	50.000		68106		P	0.7
4	☐	50.000		65494		P	1.6
5	☐	50.000		67698		P	0.7
6	☐	50.000		66817		P	0.6
7	☐	50.000		66907		P	1.2
8	☐	50.000		65917		P	2.3
9	☐	50.000		64016		P	0.7
10	☐	50.000		62936		P	1.0



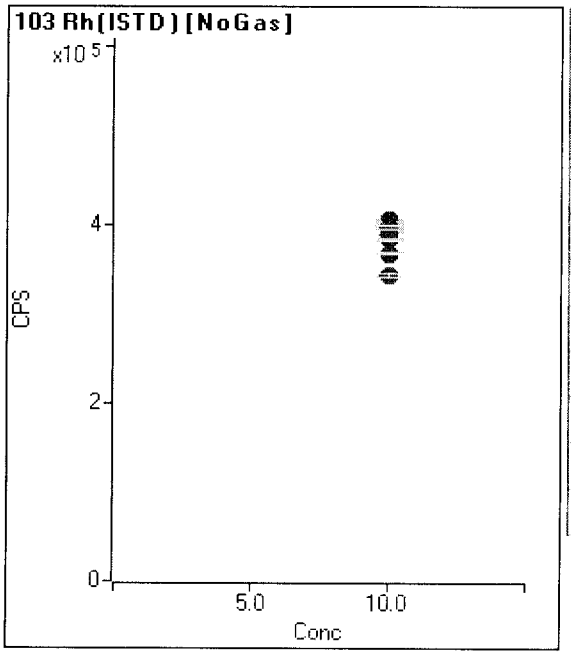
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	50.000		1073548		P	0.7
2	☐	50.000		1067005		P	0.8
3	☐	50.000		1045175		P	1.8
4	☐	50.000		1033808		P	1.8
5	☐	50.000		1019539		P	0.9
6	☐	50.000		1009670		P	0.4
7	☐	50.000		1010393		P	2.3
8	☐	50.000		986846		P	0.9
9	☐	50.000		961618		P	0.8
10	☐	50.000		942611		P	1.5



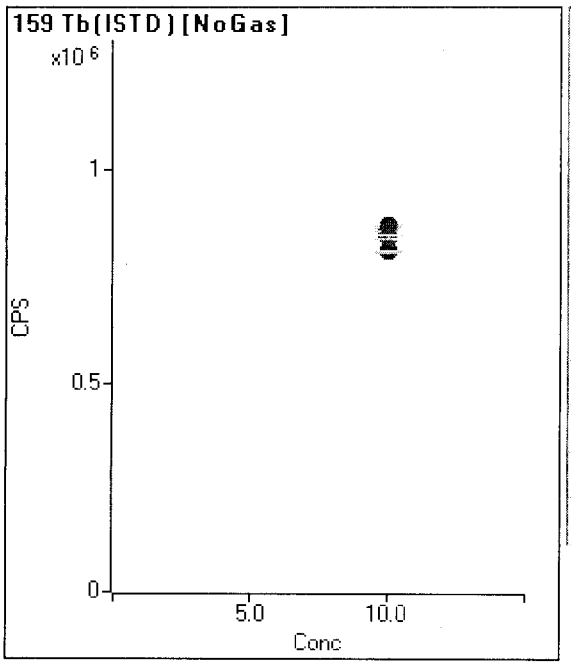
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		71790		P	3.7
2	☐	10.000		73244		P	0.7
3	☐	10.000		73365		P	1.4
4	☐	10.000		72071		P	1.5
5	☐	10.000		72339		P	0.5
6	☐	10.000		72334		P	0.6
7	☐	10.000		70948		P	0.2
8	☐	10.000		71613		P	1.5
9	☐	10.000		69430		P	1.0
10	☐	10.000		66861		P	0.7



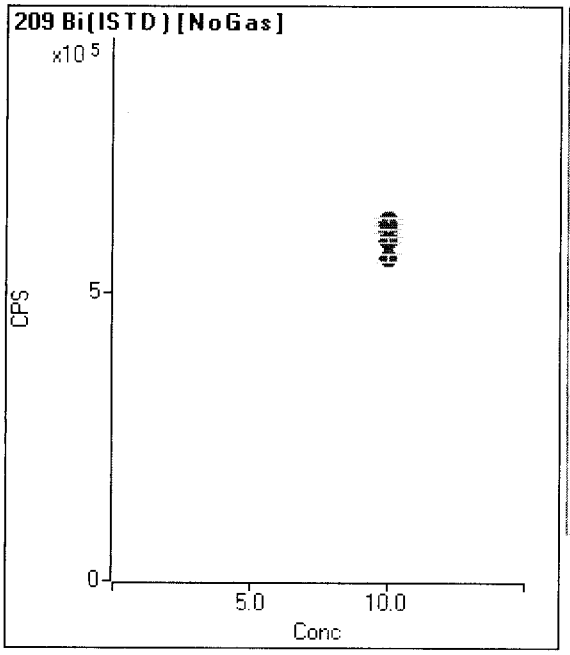
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		372837		P	0.8
2	☐	10.000		370455		P	1.3
3	☐	10.000		364905		P	1.7
4	☐	10.000		363617		P	1.2
5	☐	10.000		364585		P	1.0
6	☐	10.000		361543		P	0.6
7	☐	10.000		363601		P	1.9
8	☐	10.000		355126		P	0.5
9	☐	10.000		345338		P	1.0
10	☐	10.000		326875		P	0.8



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		405307		P	0.5
2	☐	10.000		403437		P	0.4
3	☐	10.000		397992		P	1.7
4	☐	10.000		395220		P	1.7
5	☐	10.000		394638		P	1.0
6	☐	10.000		396836		P	0.9
7	☐	10.000		389514		P	2.8
8	☐	10.000		383531		P	0.8
9	☐	10.000		368396		P	0.9
10	☐	10.000		343896		P	1.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		871308		P	0.6
2	☐	10.000		869566		P	1.1
3	☐	10.000		860700		P	1.5
4	☐	10.000		854663		P	1.6
5	☐	10.000		856069		P	1.6
6	☐	10.000		861945		P	1.5
7	☐	10.000		855385		P	3.5
8	☐	10.000		857837		P	0.2
9	☐	10.000		844733		P	1.3
10	☐	10.000		811061		P	0.9



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		626349		P	1.8
2	☐	10.000		624191		P	1.6
3	☐	10.000		622494		P	1.7
4	☐	10.000		616394		P	2.0
5	☐	10.000		621715		P	1.6
6	☐	10.000		619092		P	0.6
7	☐	10.000		617789		P	3.9
8	☐	10.000		608986		P	1.1
9	☐	10.000		592031		P	2.0
10	☐	10.000		561001		P	2.0

Initial Calibration Blank (ICB) Report ICPMS6

Sample Name	**9E23021-ICB1**	**Sample Type**	ICB
File Name	015_ICB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:46:28	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	ICB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.009	ug/l	54.4	24	0.09	
Na	23	45	He	-0.833	ug/l	N/A	4145	45	
Mg	24	45	No Gas	-5.655	ug/l	N/A	55679	22.5	
Al	27	45	He	-0.056	ug/l	N/A	11	22.5	
K	39	45	He	-0.003	ug/l	N/A	8808	45	
Ca	44	45	He	0.082	ug/l	967.8	21	45	
Ti	47	45	No Gas	-0.048	ug/l	N/A	111	0.45	
V	51	74	He	-0.200	ug/l	N/A	234	0.45	
Cr	52	74	He	0.002	ug/l	822.4	77	0.45	
Mn	55	74	No Gas	0.002	ug/l	122.4	1703	0.45	
Fe	56	74	He	0.205	ug/l	3.1	4496	22.5	
Co	59	74	No Gas	0.005	ug/l	33.9	88	0.09	
Ni	60	74	He	0.027	ug/l	143.0	242	0.45	
Cu	65	74	He	0.029	ug/l	51.9	59	0.45	
Zn	66	74	He	0.035	ug/l	12.2	42	1.8	
As	75	74	He	-0.026	ug/l	N/A	10	0.45	
Se	78	74	He	-0.006	ug/l	N/A	9	0.45	
Se	82	74	No Gas	-0.062	ug/l	N/A	4	0.45	
Mo	98	103	No Gas	0.004	ug/l	57.4	27	0.45	
Ag	109	103	No Gas	0.000	ug/l	N/A	11	0.09	
Cd	111	103	No Gas	0.008	ug/l	30.5	20	0.09	
Sb	123	103	No Gas	0.006	ug/l	24.8	77	0.45	
Ba	137	159	No Gas	0.008	ug/l	1.9	40	0.45	
Hg	201	159	No Gas	5.565	ng/l	11.0	9	36	
Tl	205	159	No Gas	0.002	ug/l	28.6	109	0.09	
Pb	208	159	No Gas	0.005	ug/l	8.0	280	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64250	1.2	66581.48	96.5	70	120	
Ge	74	He	70852	0.5	71790.07	98.69	70	120	
Li	6	No Gas	309656	0.4	389940.86	79.41	70	120	
Sc	45	No Gas	936623	1.4	1073548.11	87.25	70	120	
Ge	74	No Gas	343463	1.2	372836.81	92.12	70	120	
Rh	103	No Gas	389245	0.6	405307.18	96.04	70	120	
Tb	159	No Gas	852452	1.2	871308.14	97.84	70	120	
Bi	209	No Gas	613373	1.9	626349.34	97.93	70	120	

Initial Calibration Verification (ICV) Report ICPMS6

Sample Name	**9E23021-ICV2**	**Sample Type**	ICV
File Name	016_ICV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:51:40	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpValue	% Rec	%QC Low	%QC High	QC Flag
Be	9	6	No Gas	40.849	ug/l	0.6	71452	40	102.12	90	110	
Na	23	45	He	4223.041	ug/l	0.7	1387656	4000	105.58	90	110	
Mg	24	45	No Gas	4260.329	ug/l	0.9	21110639	4000	106.51	90	110	
Al	27	45	He	4135.013	ug/l	1.2	364306	4000	103.38	90	110	
K	39	45	He	4215.211	ug/l	1.2	746082	4000	105.38	90	110	
Ca	44	45	He	4189.503	ug/l	1.9	41372	4000	104.74	90	110	
Ti	47	45	No Gas	98.475	ug/l	1.6	69348	100	98.48	90	110	
V	51	74	He	98.625	ug/l	1.8	166264	100	98.62	90	110	
Cr	52	74	He	98.499	ug/l	1.6	206495	100	98.5	90	110	
Mn	55	74	No Gas	98.935	ug/l	1.6	1387466	100	98.94	90	110	
Fe	56	74	He	4204.445	ug/l	1.9	8153065	4000	105.11	90	110	
Co	59	74	No Gas	102.500	ug/l	0.7	964536	100	102.5	90	110	
Ni	60	74	He	104.632	ug/l	0.8	78490	100	104.63	90	110	
Cu	65	74	He	106.247	ug/l	1.1	106994	100	106.25	90	110	
Zn	66	74	He	101.680	ug/l	1.6	49280	100	101.68	90	110	
As	75	74	He	99.209	ug/l	1.6	33148	100	99.21	90	110	
Se	78	74	He	40.442	ug/l	1.6	1247	40	101.1	90	110	
Se	82	74	No Gas	39.728	ug/l	3.0	4985	40	99.32	90	110	
Mo	98	103	No Gas	40.087	ug/l	0.3	221494	40	100.22	90	110	
Ag	109	103	No Gas	40.019	ug/l	0.2	373561	40	100.05	90	110	
Cd	111	103	No Gas	95.540	ug/l	0.4	219221	100	95.54	90	110	
Sb	123	103	No Gas	42.872	ug/l	1.0	302731	40	107.18	90	110	
Ba	137	159	No Gas	103.522	ug/l	0.5	320487	100	103.52	90	110	
Hg	201	159	No Gas	804.155	ng/l	2.4	1144	800	100.52	90	110	
Tl	205	159	No Gas	39.779	ug/l	0.3	980167	40	99.45	90	110	
Pb	208	159	No Gas	97.356	ug/l	0.2	3288897	100	97.36	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64141	1.6	66581.48	96.33	70	120	
Ge	74	He	70345	1.6	71790.07	97.99	70	120	
Li	6	No Gas	306989	1.1	389940.86	78.73	70	120	
Sc	45	No Gas	944876	1.2	1073548.11	88.01	70	120	
Ge	74	No Gas	349929	1.8	372836.81	93.86	70	120	
Rh	103	No Gas	382106	1.1	405307.18	94.28	70	120	
Tb	159	No Gas	856302	1.7	871308.14	98.28	70	120	
Bi	209	No Gas	606274	1.8	626349.34	96.79	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL1**	**Sample Type**	CRL1
File Name	017CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 12:56:14	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E285 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.219	ug/l	8.4	401	121.67	70	130		
Na	23	45	He	7.646	ug/l	5.6	7159	84.96	70	130		
Mg	24	45	No Gas	6.012	ug/l	7.0	115368	66.8	70	130	CRL1 Failed	<MRL
Al	27	45	He	9.505	ug/l	6.6	883	105.61	70	130		
K	39	45	He	9.315	ug/l	9.0	10788	103.5	70	130		
Ca	44	45	He	10.020	ug/l	20.7	123	111.33	70	130		
Ti	47	45	No Gas	0.121	ug/l	39.7	234	67.22	70	130	CRL1 Failed	<MRL
V	51	74	He	0.000	ug/l	N/A	588	0	70	130	CRL1 Failed	
Cr	52	74	He	0.181	ug/l	19.8	469	100.56	70	130		
Mn	55	74	No Gas	0.175	ug/l	1.7	4156	97.22	70	130		
Fe	56	74	He	8.885	ug/l	2.1	22031	98.72	70	130		
Co	59	74	No Gas	0.193	ug/l	2.3	1862	107.22	70	130		
Ni	60	74	He	0.151	ug/l	37.4	344	83.89	70	130		
Cu	65	74	He	0.228	ug/l	7.4	268	126.67	70	130		
Zn	66	74	He	0.175	ug/l	23.2	113	97.22	70	130		
As	75	74	He	0.183	ug/l	10.8	82	101.67	70	130		
Se	78	74	He	0.291	ug/l	44.9	19	161.67	70	130	CRL1 Failed	<MRL
Se	82	74	No Gas	0.062	ug/l	232.1	20	34.44	70	130	CRL1 Failed	
Mo	98	103	No Gas	0.183	ug/l	10.8	1041	101.67	70	130		
Ag	109	103	No Gas	0.189	ug/l	0.9	1815	105	70	130		
Cd	111	103	No Gas	0.175	ug/l	6.4	411	97.22	70	130		
Sb	123	103	No Gas	0.190	ug/l	7.9	1405	105.56	70	130		
Ba	137	159	No Gas	0.196	ug/l	11.4	628	108.89	70	130		
Hg	201	159	No Gas	17.675	ng/l	20.1	27	98.19	70	130		
Tl	205	159	No Gas	0.185	ug/l	3.0	4660	102.78	70	130		
Pb	208	159	No Gas	0.182	ug/l	1.5	6334	101.11	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66379	0.5	66581.48	99.7	70	120	
Ge	74	He	72804	1.7	71790.07	101.41	70	120	
Li	6	No Gas	314695	0.8	389940.86	80.7	70	120	
Sc	45	No Gas	958312	1.7	1073548.11	89.27	70	120	
Ge	74	No Gas	350373	1.3	372836.81	93.97	70	120	
Rh	103	No Gas	390704	0.8	405307.18	96.4	70	120	
Tb	159	No Gas	865754	1.5	871308.14	99.36	70	120	
Bi	209	No Gas	618057	2.5	626349.34	98.68	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL2**	**Sample Type**	CRL2
File Name	018_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 13:00:51	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E286 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.934	ug/l	4.6	1679	103.78	70	130	
Na	23	45	He	45.031	ug/l	3.5	19537	100.07	70	130	
Mg	24	45	No Gas	48.788	ug/l	1.7	323557	108.42	70	130	
Al	27	45	He	46.122	ug/l	6.5	4158	102.49	70	130	
K	39	45	He	45.909	ug/l	5.8	17155	102.02	70	130	
Ca	44	45	He	45.320	ug/l	12.2	477	100.71	70	130	
Ti	47	45	No Gas	0.813	ug/l	9.7	714	90.33	70	130	
V	51	74	He	0.765	ug/l	6.1	1885	85	70	130	
Cr	52	74	He	0.885	ug/l	5.9	1958	98.33	70	130	
Mn	55	74	No Gas	0.915	ug/l	2.3	14227	101.67	70	130	
Fe	56	74	He	45.889	ug/l	0.8	94522	101.98	70	130	
Co	59	74	No Gas	0.946	ug/l	3.6	8765	105.11	70	130	
Ni	60	74	He	0.897	ug/l	4.1	906	99.67	70	130	
Cu	65	74	He	0.982	ug/l	4.9	1035	109.11	70	130	
Zn	66	74	He	0.996	ug/l	7.4	516	110.67	70	130	
As	75	74	He	0.845	ug/l	7.3	305	93.89	70	130	
Se	78	74	He	0.907	ug/l	23.1	38	100.78	70	130	
Se	82	74	No Gas	0.931	ug/l	19.2	126	103.44	70	130	
Mo	98	103	No Gas	0.920	ug/l	6.1	5096	102.22	70	130	
Ag	109	103	No Gas	0.938	ug/l	0.7	8787	104.22	70	130	
Cd	111	103	No Gas	0.856	ug/l	8.7	1968	95.11	70	130	
Sb	123	103	No Gas	0.892	ug/l	1.9	6341	99.11	70	130	
Ba	137	159	No Gas	0.927	ug/l	3.2	2848	103	70	130	
Hg	201	159	No Gas	42.093	ng/l	11.2	61	116.93	70	130	
Tl	205	159	No Gas	0.934	ug/l	0.4	22781	103.78	70	130	
Pb	208	159	No Gas	0.902	ug/l	0.3	30237	100.22	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65413	1.5	66581.48	98.25	70	120	
Ge	74	He	71478	0.6	71790.07	99.57	70	120	
Li	6	No Gas	314092	0.9	389940.86	80.55	70	120	
Sc	45	No Gas	940997	0.3	1073548.11	87.65	70	120	
Ge	74	No Gas	342811	1.1	372836.81	91.95	70	120	
Rh	103	No Gas	382670	1.1	405307.18	94.41	70	120	
Tb	159	No Gas	846071	1.4	871308.14	97.1	70	120	
Bi	209	No Gas	607899	1.4	626349.34	97.05	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL3**	**Sample Type**	CRL3
File Name	019CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 13:05:28	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E287 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.710	ug/l	3.8	3088	95	70	130	
Na	23	45	He	88.419	ug/l	0.5	34437	98.24	70	130	
Mg	24	45	No Gas	99.383	ug/l	0.8	578349	110.43	70	130	
Al	27	45	He	89.695	ug/l	1.9	8172	99.66	70	130	
K	39	45	He	90.827	ug/l	0.1	25471	100.92	70	130	
Ca	44	45	He	91.070	ug/l	6.4	949	101.19	70	130	
Ti	47	45	No Gas	1.588	ug/l	4.8	1270	88.22	70	130	
V	51	74	He	1.627	ug/l	1.9	3376	90.39	70	130	
Cr	52	74	He	1.762	ug/l	3.5	3849	97.89	70	130	
Mn	55	74	No Gas	1.772	ug/l	1.0	26348	98.44	70	130	
Fe	56	74	He	90.651	ug/l	1.1	183755	100.72	70	130	
Co	59	74	No Gas	1.881	ug/l	2.2	17625	104.5	70	130	
Ni	60	74	He	1.854	ug/l	2.4	1642	103	70	130	
Cu	65	74	He	1.942	ug/l	1.7	2029	107.89	70	130	
Zn	66	74	He	1.847	ug/l	8.1	940	102.61	70	130	
As	75	74	He	1.775	ug/l	3.8	624	98.61	70	130	
Se	78	74	He	1.770	ug/l	14.3	65	98.33	70	130	
Se	82	74	No Gas	1.730	ug/l	6.6	227	96.11	70	130	
Mo	98	103	No Gas	1.773	ug/l	1.1	9954	98.5	70	130	
Ag	109	103	No Gas	1.832	ug/l	0.6	17379	101.78	70	130	
Cd	111	103	No Gas	1.761	ug/l	2.1	4103	97.83	70	130	
Sb	123	103	No Gas	1.735	ug/l	4.7	12476	96.39	70	130	
Ba	137	159	No Gas	1.868	ug/l	1.1	5777	103.78	70	130	
Hg	201	159	No Gas	71.398	ng/l	5.6	103	99.16	70	130	
Tl	205	159	No Gas	1.809	ug/l	2.4	44484	100.5	70	130	
Pb	208	159	No Gas	1.765	ug/l	1.2	59555	98.06	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66187	0.8	66581.48	99.41	70	120	
Ge	74	He	71896	0.6	71790.07	100.15	70	120	
Li	6	No Gas	315996	1.0	389940.86	81.04	70	120	
Sc	45	No Gas	951019	0.7	1073548.11	88.59	70	120	
Ge	74	No Gas	347564	0.9	372836.81	93.22	70	120	
Rh	103	No Gas	387969	1.3	405307.18	95.72	70	120	
Tb	159	No Gas	853581	1.9	871308.14	97.97	70	120	
Bi	209	No Gas	621387	1.5	626349.34	99.21	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV1**	**Sample Type**	CCV
File Name	033_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 14:10:45	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	40.716	ug/l	1.4	71230	40	101.79	90	110	
Na	23	45	He	3962.221	ug/l	0.8	1420443	4000	99.06	90	110	
Mg	24	45	No Gas	4089.343	ug/l	1.4	21689767	4000	102.23	90	110	
Al	27	45	He	3978.102	ug/l	0.3	382354	4000	99.45	90	110	
K	39	45	He	4104.169	ug/l	0.5	792728	4000	102.6	90	110	
Ca	44	45	He	4090.748	ug/l	1.6	44072	4000	102.27	90	110	
Ti	47	45	No Gas	98.057	ug/l	2.5	73897	100	98.06	90	110	
V	51	74	He	96.659	ug/l	1.6	176585	100	96.66	90	110	
Cr	52	74	He	95.939	ug/l	0.8	217949	100	95.94	90	110	
Mn	55	74	No Gas	98.686	ug/l	1.7	1473139	100	98.69	90	110	
Fe	56	74	He	4062.741	ug/l	1.2	8537475	4000	101.57	90	110	
Co	59	74	No Gas	103.850	ug/l	0.4	1040189	100	103.85	90	110	
Ni	60	74	He	101.756	ug/l	1.8	82711	100	101.76	90	110	
Cu	65	74	He	103.284	ug/l	0.9	112706	100	103.28	90	110	
Zn	66	74	He	98.082	ug/l	1.5	51510	100	98.08	90	110	
As	75	74	He	97.821	ug/l	0.7	35419	100	97.82	90	110	
Se	78	74	He	39.667	ug/l	0.8	1325	40	99.17	90	110	
Se	82	74	No Gas	39.469	ug/l	0.7	5273	40	98.67	90	110	
Mo	98	103	No Gas	39.574	ug/l	1.7	231557	40	98.94	90	110	
Ag	109	103	No Gas	39.507	ug/l	1.5	390543	40	98.77	90	110	
Cd	111	103	No Gas	92.817	ug/l	1.1	225551	100	92.82	90	110	
Sb	123	103	No Gas	41.572	ug/l	1.0	310903	40	103.93	90	110	
Ba	137	159	No Gas	106.754	ug/l	1.4	331237	100	106.75	90	110	
Hg	201	159	No Gas	776.595	ng/l	1.5	1108	800	97.07	90	110	
Tl	205	159	No Gas	39.139	ug/l	1.2	966657	40	97.85	90	110	
Pb	208	159	No Gas	94.958	ug/l	1.8	3215157	100	94.96	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	69965	0.5	66581.48	105.08	70	120	
Ge	74	He	76221	1.2	71790.07	106.17	70	120	
Li	6	No Gas	307069	1.1	389940.86	78.75	70	120	
Sc	45	No Gas	1011345	2.1	1073548.11	94.21	70	120	
Ge	74	No Gas	372439	0.6	372836.81	99.89	70	120	
Rh	103	No Gas	404697	1.5	405307.18	99.85	70	120	
Tb	159	No Gas	858349	2.0	871308.14	98.51	70	120	
Bi	209	No Gas	593360	2.2	626349.34	94.73	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB1**	**Sample Type**	CCB
File Name	034_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 14:15:19	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.012	ug/l	27.5	30	0.09	
Na	23	45	He	-1.185	ug/l	N/A	4429	45	
Mg	24	45	No Gas	-7.912	ug/l	N/A	48060	22.5	
Al	27	45	He	0.173	ug/l	64.9	34	22.5	
K	39	45	He	-0.347	ug/l	N/A	9612	45	
Ca	44	45	He	0.094	ug/l	1138.9	23	45	
Ti	47	45	No Gas	-0.093	ug/l	N/A	86	0.45	
V	51	74	He	-0.157	ug/l	N/A	337	0.45	
Cr	52	74	He	-0.010	ug/l	N/A	57	0.45	
Mn	55	74	No Gas	-0.028	ug/l	N/A	1399	0.45	
Fe	56	74	He	-0.371	ug/l	N/A	3685	22.5	
Co	59	74	No Gas	0.004	ug/l	31.1	81	0.09	
Ni	60	74	He	-0.153	ug/l	N/A	117	0.45	
Cu	65	74	He	0.009	ug/l	117.6	42	0.45	
Zn	66	74	He	0.005	ug/l	348.5	30	1.8	
As	75	74	He	0.004	ug/l	124.2	21	0.45	
Se	78	74	He	0.107	ug/l	33.0	14	0.45	
Se	82	74	No Gas	-0.168	ug/l	N/A	-10	0.45	
Mo	98	103	No Gas	0.015	ug/l	48.8	93	0.45	
Ag	109	103	No Gas	0.004	ug/l	40.8	53	0.09	
Cd	111	103	No Gas	0.003	ug/l	22.5	9	0.09	
Sb	123	103	No Gas	0.007	ug/l	11.0	87	0.45	
Ba	137	159	No Gas	0.007	ug/l	78.6	37	0.45	
Hg	201	159	No Gas	5.869	ng/l	32.5	10	36	
Tl	205	159	No Gas	0.001	ug/l	66.2	79	0.09	
Pb	208	159	No Gas	0.005	ug/l	7.3	283	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	70596	0.7	66581.48	106.03	70	120	
Ge	74	He	77457	0.6	71790.07	107.89	70	120	
Li	6	No Gas	305095	0.3	389940.86	78.24	70	120	
Sc	45	No Gas	1008388	0.9	1073548.11	93.93	70	120	
Ge	74	No Gas	372250	0.7	372836.81	99.84	70	120	
Rh	103	No Gas	413063	0.7	405307.18	101.91	70	120	
Tb	159	No Gas	857134	1.1	871308.14	98.37	70	120	
Bi	209	No Gas	606407	0.4	626349.34	96.82	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV2**	**Sample Type**	CCV
File Name	045_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 15:06:44	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	41.270	ug/l	0.5	67034	40	103.18	90	110	
Na	23	45	He	4024.797	ug/l	1.0	1432793	4000	100.62	90	110	
Mg	24	45	No Gas	3961.889	ug/l	0.7	20281764	4000	99.05	90	110	
Al	27	45	He	3988.037	ug/l	1.0	380657	4000	99.7	90	110	
K	39	45	He	4109.993	ug/l	0.8	788358	4000	102.75	90	110	
Ca	44	45	He	4104.963	ug/l	1.2	43921	4000	102.62	90	110	
Ti	47	45	No Gas	96.110	ug/l	0.8	69904	100	96.11	90	110	
V	51	74	He	96.568	ug/l	0.6	178363	100	96.57	90	110	
Cr	52	74	He	96.141	ug/l	0.6	220797	100	96.14	90	110	
Mn	55	74	No Gas	96.212	ug/l	1.1	1411835	100	96.21	90	110	
Fe	56	74	He	4034.047	ug/l	0.3	8570342	4000	100.85	90	110	
Co	59	74	No Gas	101.041	ug/l	0.6	994722	100	101.04	90	110	
Ni	60	74	He	101.876	ug/l	1.0	83719	100	101.88	90	110	
Cu	65	74	He	103.319	ug/l	0.7	113977	100	103.32	90	110	
Zn	66	74	He	97.893	ug/l	0.7	51977	100	97.89	90	110	
As	75	74	He	96.202	ug/l	0.4	35214	100	96.2	90	110	
Se	78	74	He	39.142	ug/l	2.6	1322	40	97.86	90	110	
Se	82	74	No Gas	38.928	ug/l	1.6	5112	40	97.32	90	110	
Mo	98	103	No Gas	39.364	ug/l	1.2	228368	40	98.41	90	110	
Ag	109	103	No Gas	39.174	ug/l	1.5	383950	40	97.93	90	110	
Cd	111	103	No Gas	92.297	ug/l	0.9	222363	100	92.3	90	110	
Sb	123	103	No Gas	41.601	ug/l	1.3	308453	40	104	90	110	
Ba	137	159	No Gas	103.563	ug/l	0.4	328728	100	103.56	90	110	
Hg	201	159	No Gas	778.962	ng/l	2.3	1137	800	97.37	90	110	
Tl	205	159	No Gas	38.385	ug/l	1.2	969774	40	95.96	90	110	
Pb	208	159	No Gas	93.206	ug/l	0.8	3228516	100	93.21	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	69483	0.5	66581.48	104.36	70	120	
Ge	74	He	77051	0.4	71790.07	107.33	70	120	
Li	6	No Gas	285075	0.4	389940.86	73.11	70	120	
Sc	45	No Gas	975776	1.1	1073548.11	90.89	70	120	
Ge	74	No Gas	366076	1.1	372836.81	98.19	70	120	
Rh	103	No Gas	401203	0.4	405307.18	98.99	70	120	
Tb	159	No Gas	877957	1.1	871308.14	100.76	70	120	
Bi	209	No Gas	606472	1.4	626349.34	96.83	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB2**	**Sample Type**	CCB
File Name	046_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 15:11:18	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.014	ug/l	21.7	31	0.09	
Na	23	45	He	-0.433	ug/l	N/A	4712	45	
Mg	24	45	No Gas	-8.645	ug/l	N/A	42735	22.5	
Al	27	45	He	0.218	ug/l	10.4	39	22.5	
K	39	45	He	-2.073	ug/l	N/A	9302	45	
Ca	44	45	He	-0.227	ug/l	N/A	20	45	
Ti	47	45	No Gas	-0.103	ug/l	N/A	76	0.45	
V	51	74	He	-0.174	ug/l	N/A	306	0.45	
Cr	52	74	He	-0.013	ug/l	N/A	51	0.45	
Mn	55	74	No Gas	-0.030	ug/l	N/A	1357	0.45	
Fe	56	74	He	-0.366	ug/l	N/A	3712	22.5	
Co	59	74	No Gas	0.004	ug/l	77.1	83	0.09	
Ni	60	74	He	-0.128	ug/l	N/A	138	0.45	
Cu	65	74	He	0.012	ug/l	109.4	46	0.45	
Zn	66	74	He	0.007	ug/l	203.1	31	1.8	
As	75	74	He	0.018	ug/l	23.2	27	0.45	
Se	78	74	He	0.125	ug/l	93.7	14	0.45	
Se	82	74	No Gas	-0.067	ug/l	N/A	4	0.45	
Mo	98	103	No Gas	0.014	ug/l	31.9	89	0.45	
Ag	109	103	No Gas	0.001	ug/l	52.5	26	0.09	
Cd	111	103	No Gas	0.003	ug/l	180.2	7	0.09	
Sb	123	103	No Gas	0.009	ug/l	30.9	100	0.45	
Ba	137	159	No Gas	0.007	ug/l	33.7	36	0.45	
Hg	201	159	No Gas	7.360	ng/l	19.9	12	36	
Tl	205	159	No Gas	0.001	ug/l	46.0	78	0.09	
Pb	208	159	No Gas	0.006	ug/l	19.0	330	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	70754	1.8	66581.48	106.27	70	120	
Ge	74	He	77781	1.5	71790.07	108.34	70	120	
Li	6	No Gas	287930	0.5	389940.86	73.84	70	120	
Sc	45	No Gas	975290	1.3	1073548.11	90.85	70	120	
Ge	74	No Gas	368813	1.0	372836.81	98.92	70	120	
Rh	103	No Gas	412123	1.6	405307.18	101.68	70	120	
Tb	159	No Gas	874155	1.3	871308.14	100.33	70	120	
Bi	209	No Gas	614001	1.9	626349.34	98.03	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV3**	**Sample Type**	CCV
File Name	057_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 16:02:08	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	42.073	ug/l	0.6	65472	40	105.18	90	110	
Na	23	45	He	3992.361	ug/l	0.9	1407720	4000	99.81	90	110	
Mg	24	45	No Gas	4043.804	ug/l	1.8	19639805	4000	101.1	90	110	
Al	27	45	He	3969.460	ug/l	1.1	375266	4000	99.24	90	110	
K	39	45	He	4090.757	ug/l	0.9	777220	4000	102.27	90	110	
Ca	44	45	He	4125.583	ug/l	0.4	43721	4000	103.14	90	110	
Ti	47	45	No Gas	97.356	ug/l	2.1	67185	100	97.36	90	110	
V	51	74	He	97.231	ug/l	1.1	176273	100	97.23	90	110	
Cr	52	74	He	95.799	ug/l	1.1	215957	100	95.8	90	110	
Mn	55	74	No Gas	97.936	ug/l	1.9	1367304	100	97.94	90	110	
Fe	56	74	He	4062.721	ug/l	1.3	8471902	4000	101.57	90	110	
Co	59	74	No Gas	102.085	ug/l	0.8	956392	100	102.08	90	110	
Ni	60	74	He	102.788	ug/l	0.4	82912	100	102.79	90	110	
Cu	65	74	He	102.995	ug/l	0.2	111530	100	103	90	110	
Zn	66	74	He	97.965	ug/l	0.7	51056	100	97.96	90	110	
As	75	74	He	96.363	ug/l	0.9	34623	100	96.36	90	110	
Se	78	74	He	40.215	ug/l	1.3	1333	40	100.54	90	110	
Se	82	74	No Gas	39.959	ug/l	1.1	4993	40	99.9	90	110	
Mo	98	103	No Gas	39.980	ug/l	0.2	220670	40	99.95	90	110	
Ag	109	103	No Gas	40.118	ug/l	0.8	374067	40	100.3	90	110	
Cd	111	103	No Gas	94.790	ug/l	0.4	217269	100	94.79	90	110	
Sb	123	103	No Gas	42.577	ug/l	0.9	300353	40	106.44	90	110	
Ba	137	159	No Gas	105.996	ug/l	0.8	319831	100	106	90	110	
Hg	201	159	No Gas	802.906	ng/l	1.8	1113	800	100.36	90	110	
Tl	205	159	No Gas	39.084	ug/l	1.1	938698	40	97.71	90	110	
Pb	208	159	No Gas	94.790	ug/l	0.9	3121408	100	94.79	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	68819	0.5	66581.48	103.36	70	120	
Ge	74	He	75632	0.5	71790.07	105.35	70	120	
Li	6	No Gas	273130	1.6	389940.86	70.04	70	120	
Sc	45	No Gas	926059	2.0	1073548.11	86.26	70	120	
Ge	74	No Gas	348379	1.7	372836.81	93.44	70	120	
Rh	103	No Gas	381707	1.7	405307.18	94.18	70	120	
Tb	159	No Gas	834672	2.3	871308.14	95.8	70	120	
Bi	209	No Gas	577263	2.7	626349.34	92.16	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB3**	**Sample Type**	CCB
File Name	058_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 16:06:43	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.013	ug/l	69.3	28	0.09	
Na	23	45	He	-1.419	ug/l	N/A	4282	45	
Mg	24	45	No Gas	-8.082	ug/l	N/A	42841	22.5	
Al	27	45	He	0.073	ug/l	143.6	24	22.5	
K	39	45	He	-1.962	ug/l	N/A	9165	45	
Ca	44	45	He	-0.498	ug/l	N/A	17	45	
Ti	47	45	No Gas	-0.083	ug/l	N/A	84	0.45	
V	51	74	He	-0.134	ug/l	N/A	372	0.45	
Cr	52	74	He	-0.014	ug/l	N/A	48	0.45	
Mn	55	74	No Gas	-0.032	ug/l	N/A	1245	0.45	
Fe	56	74	He	-0.730	ug/l	N/A	2867	22.5	
Co	59	74	No Gas	0.004	ug/l	51.4	76	0.09	
Ni	60	74	He	-0.175	ug/l	N/A	97	0.45	
Cu	65	74	He	0.000	ug/l	1659.3	32	0.45	
Zn	66	74	He	0.008	ug/l	176.8	31	1.8	
As	75	74	He	0.091	ug/l	13.7	52	0.45	
Se	78	74	He	0.106	ug/l	121.6	13	0.45	
Se	82	74	No Gas	-0.063	ug/l	N/A	4	0.45	
Mo	98	103	No Gas	0.020	ug/l	6.6	119	0.45	
Ag	109	103	No Gas	0.001	ug/l	27.4	21	0.09	
Cd	111	103	No Gas	0.003	ug/l	70.0	9	0.09	
Sb	123	103	No Gas	0.008	ug/l	74.0	87	0.45	
Ba	137	159	No Gas	0.007	ug/l	119.3	33	0.45	
Hg	201	159	No Gas	9.469	ng/l	14.9	15	36	
Tl	205	159	No Gas	0.003	ug/l	46.1	110	0.09	
Pb	208	159	No Gas	0.005	ug/l	18.7	286	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	69563	1.0	66581.48	104.48	70	120	
Ge	74	He	76100	1.6	71790.07	106	70	120	
Li	6	No Gas	277339	0.6	389940.86	71.12	70	120	
Sc	45	No Gas	916204	1.9	1073548.11	85.34	70	120	
Ge	74	No Gas	345638	1.8	372836.81	92.7	70	120	
Rh	103	No Gas	388745	2.2	405307.18	95.91	70	120	
Tb	159	No Gas	831451	2.6	871308.14	95.43	70	120	
Bi	209	No Gas	584515	3.2	626349.34	93.32	70	120	

Sample Report ICPMS6

Sample Name	**9051152-BLK1**	**Sample Type**	Sample
File Name	060SMPL.d	**Vial #**	3302
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 16:15:58	**Sample QC Pass/Fail**	Pass
Total Dilution	10.0000	**ISTD QC Pass/Fail**	Pass
Comment	9051152 Solid		
ISTD Ref FileName	AgAlAsBaBeCaCdCrCuFeHgKMgMnNaNiPbSbSeTlVZn 004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag
Be	9	6	No Gas	ug/l	0.003	42.3	12	15.7	100	
Na	23	45	He	ug/l	-0.684	N/A	4173	2.2	50000	
Mg	24	45	No Gas	ug/l	-8.251	N/A	40978	3.2	50000	
Al	27	45	He	ug/l	1.538	27.9	150	19.2	50000	
K	39	45	He	ug/l	0.901	716.2	8895	3.5	50000	
Ca	44	45	He	ug/l	4.264	24.7	62	16.4	50000	
Ti	47	45	No Gas	ug/l	-0.032	N/A	117	29.8	2500	
V	51	74	He	ug/l	-0.1	N/A	399	8.6	500	
Cr	52	74	He	ug/l	0.001	254.3	76	2.5	1000	
Mn	55	74	No Gas	ug/l	-0.005	N/A	1581	5.2	2500	
Fe	56	74	He	ug/l	0.174	65.7	4415	4.7	50000	
Co	59	74	No Gas	ug/l	0.002	8.1	59	3.3	500	
Ni	60	74	He	ug/l	-0.156	N/A	103	6.4	1000	
Cu	65	74	He	ug/l	0.013	55.2	42	9.1	1000	
Zn	66	74	He	ug/l	0.033	115.5	41	47.5	2500	
As	75	74	He	ug/l	0.096	19.1	51	18.3	500	
Se	78	74	He	ug/l	0.019	538.5	10	28.5	100	
Se	82	74	No Gas	ug/l	-0.086	N/A	1	871.8	100	
Mo	98	103	No Gas	ug/l	0.009	57.1	57	50.9	100	
Ag	109	103	No Gas	ug/l	0	138.5	17	21.2	100	
Cd	111	103	No Gas	ug/l	0.003	217.9	8	194.0	1000	
Sb	123	103	No Gas	ug/l	0.003	54.7	50	20.0	100	
Ba	137	159	No Gas	ug/l	0.005	89.0	28	45.4	2500	
W	186	159	No Gas	ug/l	0	N/A	10	100.0	100	
Hg	201	159	No Gas	ng/l	5.493	10.6	9	9.6	4000	
Tl	205	159	No Gas	ug/l	0.001	56.1	60	11.1	100	
Pb	208	159	No Gas	ug/l	0.002	15.1	192	7.2	500	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	272960	0.8	389940.86	70	70	120	
Sc	45	He	64198	8.7	66581.48	96.42	70	120	
Sc	45	No Gas	893152	1.3	1073548.11	83.2	70	120	
Ge	74	He	70649	7.2	71790.07	98.41	70	120	
Ge	74	No Gas	337959	0.9	372836.81	90.65	70	120	
Rh	103	No Gas	379361	0.6	405307.18	93.6	70	120	
Tb	159	No Gas	830225	1.1	871308.14	95.28	70	120	
Bi	209	No Gas	584540	1.1	626349.34	93.32	70	120	

Sample Report ICPMS6

Sample Name	**9051152-BS1**	**Sample Type**	Sample
File Name	061SMPL.d	**Vial #**	3303
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 16:20:56	**Sample QC Pass/Fail**	Pass
Total Dilution	10.0000	**ISTD QC Pass/Fail**	Fail
Comment	9051152 Solid		
ISTD Ref FileName	AgAlAsBaBeCaCdCrCuFeHgKMgMnNaNiPbSbSeTlVZn 004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag
Be	9	6	No Gas	ug/l	24.923	1.3	38632	0.9	100	
Na	23	45	He	ug/l	2423.942	0.7	841581	1.1	50000	
Mg	24	45	No Gas	ug/l	2366.898	0.5	11232427	1.8	50000	
Al	27	45	He	ug/l	2405.375	1.4	223435	1.7	50000	
K	39	45	He	ug/l	2494.876	1.0	469323	0.5	50000	
Ca	44	45	He	ug/l	2442.544	3.0	25435	1.7	50000	
Ti	47	45	No Gas	ug/l	48.632	0.4	32766	1.7	2500	
V	51	74	He	ug/l	47.575	1.0	85041	1.4	500	
Cr	52	74	He	ug/l	48.51	1.6	107466	1.3	1000	
Mn	55	74	No Gas	ug/l	48.768	1.2	667291	1.0	2500	
Fe	56	74	He	ug/l	2460.017	1.1	5041200	0.8	50000	
Co	59	74	No Gas	ug/l	49.475	1.4	453672	1.3	500	
Ni	60	74	He	ug/l	50.65	0.4	40254	0.1	1000	
Cu	65	74	He	ug/l	50.105	0.3	53318	0.7	1000	
Zn	66	74	He	ug/l	49.21	1.8	25208	1.7	2500	
As	75	74	He	ug/l	48.495	0.2	17127	0.6	500	
Se	78	74	He	ug/l	22.895	2.8	750	3.1	100	
Se	82	74	No Gas	ug/l	22.718	2.8	2783	1.3	100	
Mo	98	103	No Gas	ug/l	23.511	2.0	128432	0.2	100	
Ag	109	103	No Gas	ug/l	23.517	1.0	217082	1.8	100	
Cd	111	103	No Gas	ug/l	46.806	1.4	106189	0.9	1000	
Sb	123	103	No Gas	ug/l	22.668	1.5	158283	0.6	100	
Ba	137	159	No Gas	ug/l	52.005	0.8	156054	1.3	2500	
W	186	159	No Gas	ug/l	0.01	31.5	117	27.6	100	
Hg	201	159	No Gas	ng/l	908.796	3.9	1253	2.1	4000	
Tl	205	159	No Gas	ug/l	23.143	0.2	552763	1.7	100	
Pb	208	159	No Gas	ug/l	47.146	0.1	1543820	1.7	500	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	272043	0.9	389940.86	69.77	70	120	Recovery Failed
Sc	45	He	67617	1.3	66581.48	101.56	70	120	
Sc	45	No Gas	901942	1.4	1073548.11	84.02	70	120	
Ge	74	He	74300	0.4	71790.07	103.5	70	120	
Ge	74	No Gas	340979	1.6	372836.81	91.46	70	120	
Rh	103	No Gas	377846	1.8	405307.18	93.22	70	120	
Tb	159	No Gas	830009	1.8	871308.14	95.26	70	120	
Bi	209	No Gas	579074	2.1	626349.34	92.45	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV4**	**Sample Type**	CCV
File Name	069_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 17:00:58	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	40.786	ug/l	1.9	63381	40	101.96	90	110	
Na	23	45	He	3989.339	ug/l	1.6	1323249	4000	99.73	90	110	
Mg	24	45	No Gas	4037.484	ug/l	1.8	19010409	4000	100.94	90	110	
Al	27	45	He	3925.048	ug/l	1.4	349081	4000	98.13	90	110	
K	39	45	He	4013.198	ug/l	1.7	717420	4000	100.33	90	110	
Ca	44	45	He	4005.492	ug/l	2.4	39925	4000	100.14	90	110	
Ti	47	45	No Gas	95.664	ug/l	2.8	64003	100	95.66	90	110	
V	51	74	He	94.481	ug/l	3.8	161751	100	94.48	90	110	
Cr	52	74	He	94.226	ug/l	4.3	200539	100	94.23	90	110	
Mn	55	74	No Gas	95.288	ug/l	1.7	1303625	100	95.29	90	110	
Fe	56	74	He	4014.525	ug/l	4.3	7903262	4000	100.36	90	110	
Co	59	74	No Gas	99.273	ug/l	2.0	911226	100	99.27	90	110	
Ni	60	74	He	100.920	ug/l	3.9	76864	100	100.92	90	110	
Cu	65	74	He	101.827	ug/l	4.3	104095	100	101.83	90	110	
Zn	66	74	He	96.628	ug/l	3.9	47549	100	96.63	90	110	
As	75	74	He	94.585	ug/l	4.3	32083	100	94.58	90	110	
Se	78	74	He	38.868	ug/l	5.8	1216	40	97.17	90	110	
Se	82	74	No Gas	38.992	ug/l	1.8	4774	40	97.48	90	110	
Mo	98	103	No Gas	39.511	ug/l	1.5	213315	40	98.78	90	110	
Ag	109	103	No Gas	39.964	ug/l	0.8	364522	40	99.91	90	110	
Cd	111	103	No Gas	93.692	ug/l	0.8	210065	100	93.69	90	110	
Sb	123	103	No Gas	42.437	ug/l	1.4	292818	40	106.09	90	110	
Ba	137	159	No Gas	102.825	ug/l	1.8	311936	100	102.83	90	110	
Hg	201	159	No Gas	778.011	ng/l	1.5	1085	800	97.25	90	110	
Tl	205	159	No Gas	38.751	ug/l	1.7	935668	40	96.88	90	110	
Pb	208	159	No Gas	94.444	ug/l	2.0	3126397	100	94.44	90	110	

Be Q-06/ Q-14

ESS 5/24/19

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64753	2.5	66581.48	97.25	70	120	
Ge	74	He	71486	4.2	71790.07	99.58	70	120	
Li	6	No Gas	272802	2.0	389940.86	69.96	70	120	Recovery Failed
Sc	45	No Gas	897630	0.7	1073548.11	83.61	70	120	
Ge	74	No Gas	341308	0.2	372836.81	91.54	70	120	
Rh	103	No Gas	373364	0.8	405307.18	92.12	70	120	
Tb	159	No Gas	839084	0.2	871308.14	96.3	70	120	
Bi	209	No Gas	588706	0.9	626349.34	93.99	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB4**	**Sample Type**	CCB
File Name	070_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 17:05:32	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.011	ug/l	41.1	24	0.09	
Na	23	45	He	-1.596	ug/l	N/A	3964	45	
Mg	24	45	No Gas	-9.746	ug/l	N/A	33768	22.5	
Al	27	45	He	0.065	ug/l	40.3	22	22.5	
K	39	45	He	-1.846	ug/l	N/A	8631	45	
Ca	44	45	He	-0.395	ug/l	N/A	17	45	
Ti	47	45	No Gas	-0.105	ug/l	N/A	68	0.45	
V	51	74	He	-0.204	ug/l	N/A	233	0.45	
Cr	52	74	He	0.006	ug/l	228.3	88	0.45	
Mn	55	74	No Gas	-0.025	ug/l	N/A	1309	0.45	
Fe	56	74	He	-0.825	ug/l	N/A	2541	22.5	
Co	59	74	No Gas	0.003	ug/l	32.1	70	0.09	
Ni	60	74	He	-0.121	ug/l	N/A	133	0.45	
Cu	65	74	He	0.000	ug/l	N/A	30	0.45	
Zn	66	74	He	0.018	ug/l	125.8	34	1.8	
As	75	74	He	0.016	ug/l	45.2	24	0.45	
Se	78	74	He	0.019	ug/l	372.1	10	0.45	
Se	82	74	No Gas	-0.134	ug/l	N/A	-5	0.45	
Mo	98	103	No Gas	0.019	ug/l	44.9	112	0.45	
Ag	109	103	No Gas	0.001	ug/l	71.7	25	0.09	
Cd	111	103	No Gas	0.004	ug/l	54.3	10	0.09	
Sb	123	103	No Gas	0.006	ug/l	31.0	77	0.45	
Ba	137	159	No Gas	0.011	ug/l	26.6	48	0.45	
Hg	201	159	No Gas	10.233	ng/l	12.9	16	36	
Tl	205	159	No Gas	0.003	ug/l	20.6	126	0.09	
Pb	208	159	No Gas	0.006	ug/l	25.4	292	0.09	

Be Q-06
ESS 5/24/19

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65375	2.2	66581.48	98.19	70	120	
Ge	74	He	72482	1.0	71790.07	100.96	70	120	
Li	6	No Gas	272761	0.7	389940.86	69.95	70	120	Recovery Failed
Sc	45	No Gas	887025	1.5	1073548.11	82.63	70	120	
Ge	74	No Gas	337667	1.5	372836.81	90.57	70	120	
Rh	103	No Gas	380630	1.8	405307.18	93.91	70	120	
Tb	159	No Gas	828153	1.9	871308.14	95.05	70	120	
Bi	209	No Gas	584378	2.1	626349.34	93.3	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL4**	**Sample Type**	CRL1
File Name	071CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 17:10:09	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E285 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Be Q-06
ESS 5/24/19

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.177	ug/l	7.4	279	98.33	70	130		
Na	23	45	He	6.763	ug/l	5.0	6681	75.14	70	130		
Mg	24	45	No Gas	0.482	ug/l	140.5	79869	5.36	70	130	CRL1 Failed	< MRL
Al	27	45	He	9.396	ug/l	7.8	851	104.4	70	130		
K	39	45	He	7.608	ug/l	45.4	10201	84.53	70	130		
Ca	44	45	He	8.659	ug/l	16.1	107	96.21	70	130		
Ti	47	45	No Gas	0.112	ug/l	3.7	208	62.22	70	130	CRL1 Failed	< MRL
V	51	74	He	-0.017	ug/l	N/A	547	-9.44	70	130	CRL1 Failed	
Cr	52	74	He	0.171	ug/l	4.4	436	95	70	130		
Mn	55	74	No Gas	0.152	ug/l	3.4	3641	84.44	70	130		
Fe	56	74	He	7.971	ug/l	1.4	19745	88.57	70	130		
Co	59	74	No Gas	0.193	ug/l	3.9	1761	107.22	70	130		
Ni	60	74	He	0.005	ug/l	592.7	227	2.78	70	130	CRL1 Failed	< MRL
Cu	65	74	He	0.162	ug/l	16.8	194	90	70	130		
Zn	66	74	He	0.202	ug/l	5.9	124	112.22	70	130		
As	75	74	He	0.171	ug/l	24.6	76	95	70	130		
Se	78	74	He	0.229	ug/l	52.6	16	127.22	70	130		
Se	82	74	No Gas	0.174	ug/l	93.9	32	96.67	70	130		
Mo	98	103	No Gas	0.191	ug/l	11.5	1043	106.11	70	130		
Ag	109	103	No Gas	0.187	ug/l	3.9	1729	103.89	70	130		
Cd	111	103	No Gas	0.169	ug/l	19.3	383	93.89	70	130		
Sb	123	103	No Gas	0.166	ug/l	10.1	1185	92.22	70	130		
Ba	137	159	No Gas	0.198	ug/l	6.4	600	110	70	130		
Hg	201	159	No Gas	11.386	ng/l	20.7	17	63.26	70	130	CRL1 Failed	< MRL
Tl	205	159	No Gas	0.185	ug/l	1.6	4398	102.78	70	130		
Pb	208	159	No Gas	0.171	ug/l	3.4	5643	95	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64657	1.7	66581.48	97.11	70	120	
Ge	74	He	71168	1.0	71790.07	99.13	70	120	
Li	6	No Gas	269140	1.6	389940.86	69.02	70	120	Recovery Failed
Sc	45	No Gas	873427	3.4	1073548.11	81.36	70	120	
Ge	74	No Gas	332017	1.9	372836.81	89.05	70	120	
Rh	103	No Gas	376017	1.9	405307.18	92.77	70	120	
Tb	159	No Gas	818922	2.4	871308.14	93.99	70	120	
Bi	209	No Gas	576411	2.3	626349.34	92.03	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL5**	**Sample Type**	CRL2
File Name	072_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 17:14:46	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E286 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.979	ug/l	6.5	1496	108.78	70	130	
Na	23	45	He	42.315	ug/l	2.1	18524	94.03	70	130	
Mg	24	45	No Gas	40.293	ug/l	2.3	260431	89.54	70	130	
Al	27	45	He	43.610	ug/l	2.5	3912	96.91	70	130	
K	39	45	He	42.956	ug/l	2.8	16534	95.46	70	130	
Ca	44	45	He	45.112	ug/l	9.3	472	100.25	70	130	
Ti	47	45	No Gas	0.785	ug/l	7.4	642	87.22	70	130	
V	51	74	He	0.649	ug/l	10.6	1685	72.11	70	130	
Cr	52	74	He	0.860	ug/l	2.7	1905	95.56	70	130	
Mn	55	74	No Gas	0.855	ug/l	3.2	12968	95	70	130	
Fe	56	74	He	44.460	ug/l	0.8	91660	98.8	70	130	
Co	59	74	No Gas	0.909	ug/l	1.5	8147	101	70	130	
Ni	60	74	He	0.760	ug/l	8.4	801	84.44	70	130	
Cu	65	74	He	0.961	ug/l	3.8	1012	106.78	70	130	
Zn	66	74	He	0.891	ug/l	9.5	463	99	70	130	
As	75	74	He	0.874	ug/l	4.6	314	97.11	70	130	
Se	78	74	He	0.993	ug/l	8.6	40	110.33	70	130	
Se	82	74	No Gas	0.989	ug/l	1.8	129	109.89	70	130	
Mo	98	103	No Gas	0.861	ug/l	1.6	4662	95.67	70	130	
Ag	109	103	No Gas	0.912	ug/l	0.4	8349	101.33	70	130	
Cd	111	103	No Gas	0.839	ug/l	4.7	1885	93.22	70	130	
Sb	123	103	No Gas	0.871	ug/l	1.5	6048	96.78	70	130	
Ba	137	159	No Gas	0.975	ug/l	6.5	2886	108.33	70	130	
Hg	201	159	No Gas	41.978	ng/l	7.3	58	116.61	70	130	
Tl	205	159	No Gas	0.910	ug/l	2.3	21387	101.11	70	130	
Pb	208	159	No Gas	0.873	ug/l	1.3	28175	97	70	130	

Be Q-06 - Li fails throughout rest of sequence. Be will be re-run ESS 5/24/19

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65027	0.5	66581.48	97.67	70	120	
Ge	74	He	71442	0.7	71790.07	99.52	70	120	
Li	6	No Gas	266742	1.0	389940.86	68.41	70	120	Recovery Failed
Sc	45	No Gas	869757	1.2	1073548.11	81.02	70	120	
Ge	74	No Gas	331720	0.5	372836.81	88.97	70	120	
Rh	103	No Gas	373911	0.7	405307.18	92.25	70	120	
Tb	159	No Gas	814996	1.2	871308.14	93.54	70	120	
Bi	209	No Gas	581239	1.1	626349.34	92.8	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL6**	**Sample Type**	CRL3
File Name	073CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 17:19:22	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E287 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.820	ug/l	5.7	2765	101.11	70	130	
Na	23	45	He	84.692	ug/l	1.1	32606	94.1	70	130	
Mg	24	45	No Gas	89.235	ug/l	1.5	480012	99.15	70	130	
Al	27	45	He	86.159	ug/l	2.0	7716	95.73	70	130	
K	39	45	He	87.898	ug/l	2.0	24513	97.66	70	130	
Ca	44	45	He	84.760	ug/l	12.2	869	94.18	70	130	
Ti	47	45	No Gas	1.621	ug/l	3.3	1176	90.06	70	130	
V	51	74	He	1.579	ug/l	3.9	3210	87.72	70	130	
Cr	52	74	He	1.749	ug/l	1.6	3726	97.17	70	130	
Mn	55	74	No Gas	1.724	ug/l	0.6	24461	95.78	70	130	
Fe	56	74	He	89.880	ug/l	2.2	177630	99.87	70	130	
Co	59	74	No Gas	1.811	ug/l	1.0	16160	100.61	70	130	
Ni	60	74	He	1.704	ug/l	9.1	1489	94.67	70	130	
Cu	65	74	He	1.973	ug/l	4.6	2009	109.61	70	130	
Zn	66	74	He	1.915	ug/l	5.0	949	106.39	70	130	
As	75	74	He	1.757	ug/l	1.6	603	97.61	70	130	
Se	78	74	He	1.727	ug/l	17.7	62	95.94	70	130	
Se	82	74	No Gas	1.689	ug/l	11.2	211	93.83	70	130	
Mo	98	103	No Gas	1.748	ug/l	2.7	9467	97.11	70	130	
Ag	109	103	No Gas	1.784	ug/l	0.5	16327	99.11	70	130	
Cd	111	103	No Gas	1.707	ug/l	1.5	3837	94.83	70	130	
Sb	123	103	No Gas	1.681	ug/l	1.9	11657	93.39	70	130	
Ba	137	159	No Gas	1.864	ug/l	1.4	5517	103.56	70	130	
Hg	201	159	No Gas	74.486 ✓	ng/l	6.2 ✓	102	103.45	70	130	
Tl	205	159	No Gas	1.778	ug/l	0.5	41845	98.78	70	130	
Pb	208	159	No Gas	1.711	ug/l	0.9	55258	95.06	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65046	0.6	66581.48	97.69	70	120	
Ge	74	He	70095	1.6	71790.07	97.64	70	120	
Li	6	No Gas	266076	1.9	389940.86	68.24	70	120	Recovery Failed
Sc	45	No Gas	864858	2.7	1073548.11	80.56	70	120	
Ge	74	No Gas	330967	1.2	372836.81	88.77	70	120	
Rh	103	No Gas	374253	0.8	405307.18	92.34	70	120	
Tb	159	No Gas	816958	1.5	871308.14	93.76	70	120	
Bi	209	No Gas	582040	2.7	626349.34	92.93	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL7**	**Sample Type**	CRL4
File Name	074CRL4.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 17:23:59	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E288 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	3.758	ug/l	4.1	5646	104.39	70	130	
Na	23	45	He	172.991	ug/l	2.4	61765	96.11	70	130	
Mg	24	45	No Gas	190.540	ug/l	1.4	926752	105.86	70	130	
Al	27	45	He	171.704	ug/l	2.8	15317	95.39	70	130	
K	39	45	He	176.752	ug/l	2.0	40166	98.2	70	130	
Ca	44	45	He	174.270	ug/l	6.0	1760	96.82	70	130	
Ti	47	45	No Gas	3.378	ug/l	5.8	2281	93.83	70	130	
V	51	74	He	3.290	ug/l	2.4	6151	91.39	70	130	
Cr	52	74	He	3.497	ug/l	2.6	7468	97.14	70	130	
Mn	55	74	No Gas	3.473	ug/l	0.4	47150	96.47	70	130	
Fe	56	74	He	178.221	ug/l	0.9	352666	99.01	70	130	
Co	59	74	No Gas	3.635	ug/l	1.6	32077	100.97	70	130	
Ni	60	74	He	3.491	ug/l	2.1	2857	96.97	70	130	
Cu	65	74	He	3.770	ug/l	4.0	3858	104.72	70	130	
Zn	66	74	He	3.662	ug/l	4.8	1816	101.72	70	130	
As	75	74	He	3.516	ug/l	2.3	1203	97.67	70	130	
Se	78	74	He	3.634	ug/l	11.2	121	100.94	70	130	
Se	82	74	No Gas	3.697	ug/l	1.9	445	102.69	70	130	
Mo	98	103	No Gas	3.618	ug/l	2.4	19309	100.5	70	130	
Ag	109	103	No Gas	3.621	ug/l	0.4	32653	100.58	70	130	
Cd	111	103	No Gas	3.413	ug/l	2.4	7564	94.81	70	130	
Sb	123	103	No Gas	3.421	ug/l	1.8	23355	95.03	70	130	
Ba	137	159	No Gas	3.814	ug/l	0.7	11133	105.94	70	130	
Hg	201	159	No Gas	139.440	ng/l	1.4	188	96.83	70	130	
Tl	205	159	No Gas	3.604	ug/l	1.5	83674	100.11	70	130	
Pb	208	159	No Gas	3.452	ug/l	0.2	109941	95.89	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64873	0.7	66581.48	97.43	70	120	
Ge	74	He	70973	0.8	71790.07	98.86	70	120	
Li	6	No Gas	263355	0.6	389940.86	67.54	70	120	Recovery Failed
Sc	45	No Gas	854831	2.3	1073548.11	79.63	70	120	
Ge	74	No Gas	327692	1.0	372836.81	87.89	70	120	
Rh	103	No Gas	369023	1.0	405307.18	91.05	70	120	
Tb	159	No Gas	806437	1.7	871308.14	92.55	70	120	
Bi	209	No Gas	572822	2.0	626349.34	91.45	70	120	

Sample Report ICPMS6

Sample Name	**A9E0677-01**	**Sample Type**	Sample
File Name	076SMPL.d	**Vial #**	3311
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 17:33:11	**Sample QC Pass/Fail**	Pass
Total Dilution	10.0000	**ISTD QC Pass/Fail**	Fail
Comment	9051152 Solid AgAlAsBaBeCaCdCrCuFeHgKMgMnNaNiPbSbSeTlVZn		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag
Be	9	6	No Gas	ug/l	0.013	53.8	28	38.6	100	
Na	23	45	He	ug/l	143.787	4.0	52168	1.1	50000	
Mg	24	45	No Gas	ug/l	8.521	2.5	114937	0.8	50000	
Al	27	45	He	ug/l	43.451	3.2	3895	2.7	50000	
K	39	45	He	ug/l	1.283	183.4	9134	2.6	50000	
Ca	44	45	He	ug/l	33.883	8.5	359	3.8	50000	
Ti	47	45	No Gas	ug/l	3.237	3.7	2206	3.4	2500	
V	51	74	He	ug/l	1.043	6.8	2345	2.3	500	
Cr	52	74	He	ug/l	0.119	20.7	326	14.3	1000	
Mn	55	74	No Gas	ug/l	7.862	2.0	105443	2.1	2500	
Fe	56	74	He	ug/l	1128.169	3.8	2213261	1.0	50000	
Co	59	74	No Gas	ug/l	0.28	5.2	2524	5.5	500	
Ni	60	74	He	ug/l	0.416	7.0	537	3.2	1000	
Cu	65	74	He	ug/l	1.603	4.8	1661	5.5	1000	
Zn	66	74	He	ug/l	31.533	3.5	15459	1.9	2500	
As	75	74	He	ug/l	0.286	5.7	115	2.1	500	
Se	78	74	He	ug/l	0.262	4.2	17	4.4	100	
Se	82	74	No Gas	ug/l	0.176	84.5	32	54.9	100	
Mo	98	103	No Gas	ug/l	0.024	16.3	136	15.5	100	
Ag	109	103	No Gas	ug/l	0.014	5.1	139	5.0	100	
Cd	111	103	No Gas	ug/l	0.334	7.0	751	7.1	1000	
Sb	123	103	No Gas	ug/l	0.032	22.5	254	20.3	100	
Ba	137	159	No Gas	ug/l	2.039	2.9	6064	3.3	2500	
W	186	159	No Gas	ug/l	0.014	27.8	160	25.0	100	
Hg	201	159	No Gas	ng/l	28.444	14.9	40	15.0	4000	
Tl	205	159	No Gas	ug/l	0.071	7.1	1730	6.5	100	
Pb	208	159	No Gas	ug/l	25.067	1.5	811462	1.4	500	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	267055	0.6	389940.86	68.49	70	120	Recovery Failed
Sc	45	He	65027	4.2	66581.48	97.67	70	120	
Sc	45	No Gas	860971	0.8	1073548.11	80.2	70	120	
Ge	74	He	71107	2.9	71790.07	99.05	70	120	
Ge	74	No Gas	329923	0.4	372836.81	88.49	70	120	
Rh	103	No Gas	373311	0.5	405307.18	92.11	70	120	
Tb	159	No Gas	820497	0.7	871308.14	94.17	70	120	
Bi	209	No Gas	652041	1.6	626349.34	104.1	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV5**	**Sample Type**	CCV
File Name	085_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 18:14:36	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	41.923	ug/l	0.1	61423	40	104.81	90	110	
Na	23	45	He	4082.192	ug/l	1.1	1338028	4000	102.05	90	110	
Mg	24	45	No Gas	4137.121	ug/l	0.8	18245423	4000	103.43	90	110	
Al	27	45	He	3992.474	ug/l	0.9	350882	4000	99.81	90	110	
K	39	45	He	4080.804	ug/l	0.7	720801	4000	102.02	90	110	
Ca	44	45	He	4104.584	ug/l	1.0	40437	4000	102.61	90	110	
Ti	47	45	No Gas	98.133	ug/l	0.6	61506	100	98.13	90	110	
V	51	74	He	96.686	ug/l	0.2	162112	100	96.69	90	110	
Cr	52	74	He	96.231	ug/l	1.0	200619	100	96.23	90	110	
Mn	55	74	No Gas	95.658	ug/l	2.3	1235967	100	95.66	90	110	
Fe	56	74	He	4121.909	ug/l	0.5	7949219	4000	103.05	90	110	
Co	59	74	No Gas	100.805	ug/l	1.3	874010	100	100.8	90	110	
Ni	60	74	He	102.944	ug/l	1.2	76791	100	102.94	90	110	
Cu	65	74	He	103.920	ug/l	0.9	104067	100	103.92	90	110	
Zn	66	74	He	97.947	ug/l	1.2	47208	100	97.95	90	110	
As	75	74	He	95.991	ug/l	0.7	31897	100	95.99	90	110	
Se	78	74	He	39.187	ug/l	2.8	1201	40	97.97	90	110	
Se	82	74	No Gas	40.134	ug/l	1.3	4642	40	100.34	90	110	
Mo	98	103	No Gas	39.578	ug/l	0.2	204805	40	98.94	90	110	
Ag	109	103	No Gas	40.250	ug/l	0.7	351892	40	100.63	90	110	
Cd	111	103	No Gas	95.669	ug/l	0.9	205576	100	95.67	90	110	
Sb	123	103	No Gas	42.867	ug/l	1.5	283469	40	107.17	90	110	
Ba	137	159	No Gas	104.925	ug/l	1.1	304920	100	104.92	90	110	
Hg	201	159	No Gas	776.822	ng/l	2.3	1038	800	97.1	90	110	
Tl	205	159	No Gas	39.451	ug/l	1.0	912523	40	98.63	90	110	
Pb	208	159	No Gas	96.314	ug/l	1.4	3054137	100	96.31	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	63977	0.6	66581.48	96.09	70	120	
Ge	74	He	69946	0.6	71790.07	97.43	70	120	
Li	6	No Gas	257146	0.6	389940.86	65.94	70	120	Recovery Failed
Sc	45	No Gas	840880	2.0	1073548.11	78.33	70	120	
Ge	74	No Gas	322456	2.2	372836.81	86.49	70	120	
Rh	103	No Gas	357855	1.4	405307.18	88.29	70	120	
Tb	159	No Gas	803914	1.9	871308.14	92.27	70	120	
Bi	209	No Gas	560292	2.9	626349.34	89.45	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB5**	**Sample Type**	CCB
File Name	086_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 18:19:09	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.014	ug/l	31.8	29	0.09	
Na	23	45	He	-2.271	ug/l	N/A	3636	45	
Mg	24	45	No Gas	-9.354	ug/l	N/A	33487	22.5	
Al	27	45	He	0.237	ug/l	31.3	37	22.5	
K	39	45	He	-0.191	ug/l	N/A	8684	45	
Ca	44	45	He	-0.468	ug/l	N/A	16	45	
Ti	47	45	No Gas	-0.102	ug/l	N/A	66	0.45	
V	51	74	He	-0.157	ug/l	N/A	303	0.45	
Cr	52	74	He	-0.004	ug/l	N/A	64	0.45	
Mn	55	74	No Gas	-0.030	ug/l	N/A	1163	0.45	
Fe	56	74	He	-0.925	ug/l	N/A	2265	22.5	
Co	59	74	No Gas	0.003	ug/l	31.7	61	0.09	
Ni	60	74	He	-0.151	ug/l	N/A	107	0.45	
Cu	65	74	He	0.005	ug/l	320.7	34	0.45	
Zn	66	74	He	0.004	ug/l	366.7	27	1.8	
As	75	74	He	0.016	ug/l	40.9	23	0.45	
Se	78	74	He	0.150	ug/l	36.2	14	0.45	
Se	82	74	No Gas	-0.052	ug/l	N/A	5	0.45	
Mo	98	103	No Gas	0.019	ug/l	55.7	103	0.45	
Ag	109	103	No Gas	0.001	ug/l	73.0	20	0.09	
Cd	111	103	No Gas	0.003	ug/l	42.9	7	0.09	
Sb	123	103	No Gas	0.008	ug/l	121.8	80	0.45	
Ba	137	159	No Gas	0.003	ug/l	57.2	21	0.45	
Hg	201	159	No Gas	9.324	ng/l	16.3	14	36	
Tl	205	159	No Gas	0.002	ug/l	10.0	96	0.09	
Pb	208	159	No Gas	0.005	ug/l	1.8	251	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	63568	0.7	66581.48	95.47	70	120	
Ge	74	He	70087	0.4	71790.07	97.63	70	120	
Li	6	No Gas	260464	1.9	389940.86	66.8	70	120	Recovery Failed
Sc	45	No Gas	834598	2.7	1073548.11	77.74	70	120	
Ge	74	No Gas	317356	2.1	372836.81	85.12	70	120	
Rh	103	No Gas	358888	2.6	405307.18	88.55	70	120	
Tb	159	No Gas	786795	3.0	871308.14	90.3	70	120	
Bi	209	No Gas	555498	2.9	626349.34	88.69	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV6**	**Sample Type**	CCV
File Name	097_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 19:09:34	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	42.995	ug/l	3.7	61131	40	107.49	90	110	
Na	23	45	He	4013.759	ug/l	1.0	1342201	4000	100.34	90	110	
Mg	24	45	No Gas	4192.266	ug/l	4.8	18549896	4000	104.81	90	110	
Al	27	45	He	3984.261	ug/l	1.7	357209	4000	99.61	90	110	
K	39	45	He	4105.937	ug/l	1.5	739784	4000	102.65	90	110	
Ca	44	45	He	4096.243	ug/l	1.4	41168	4000	102.41	90	110	
Ti	47	45	No Gas	99.534	ug/l	4.1	62602	100	99.53	90	110	
V	51	74	He	97.152	ug/l	1.0	166439	100	97.15	90	110	
Cr	52	74	He	96.771	ug/l	2.1	206126	100	96.77	90	110	
Mn	55	74	No Gas	98.606	ug/l	5.8	1277073	100	98.61	90	110	
Fe	56	74	He	4077.528	ug/l	2.0	8034352	4000	101.94	90	110	
Co	59	74	No Gas	102.973	ug/l	4.9	894855	100	102.97	90	110	
Ni	60	74	He	102.792	ug/l	1.7	78348	100	102.79	90	110	
Cu	65	74	He	102.790	ug/l	1.9	105172	100	102.79	90	110	
Zn	66	74	He	97.940	ug/l	2.7	48226	100	97.94	90	110	
As	75	74	He	96.821	ug/l	1.8	32871	100	96.82	90	110	
Se	78	74	He	39.215	ug/l	2.4	1228	40	98.04	90	110	
Se	82	74	No Gas	41.522	ug/l	7.9	4809	40	103.8	90	110	
Mo	98	103	No Gas	41.218	ug/l	5.1	210422	40	103.05	90	110	
Ag	109	103	No Gas	41.872	ug/l	6.1	360998	40	104.68	90	110	
Cd	111	103	No Gas	98.260	ug/l	4.9	208322	100	98.26	90	110	
Sb	123	103	No Gas	44.335	ug/l	5.2	289252	40	110.84	90	110	+/- 10%
Ba	137	159	No Gas	107.407	ug/l	5.0	305837	100	107.41	90	110	
Hg	201	159	No Gas	820.624	ng/l	8.2	1073	800	102.58	90	110	
Tl	205	159	No Gas	40.531	ug/l	5.7	918315	40	101.33	90	110	
Pb	208	159	No Gas	99.167	ug/l	6.1	3079901	100	99.17	90	110	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65269	1.0	66581.48	98.03	70	120	
Ge	74	He	71477	1.6	71790.07	99.56	70	120	
Li	6	No Gas	249749	3.3	389940.86	64.05	70	120	Recovery Failed
Sc	45	No Gas	844317	2.7	1073548.11	78.65	70	120	
Ge	74	No Gas	323476	3.4	372836.81	86.76	70	120	
Rh	103	No Gas	353512	4.2	405307.18	87.22	70	120	
Tb	159	No Gas	788657	4.5	871308.14	90.51	70	120	
Bi	209	No Gas	550602	3.3	626349.34	87.91	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB6**	**Sample Type**	CCB
File Name	098_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 19:14:07	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.011	ug/l	29.0	24	0.09	
Na	23	45	He	-2.795	ug/l	N/A	3544	45	
Mg	24	45	No Gas	-9.383	ug/l	N/A	34176	22.5	
Al	27	45	He	0.165	ug/l	70.6	31	22.5	
K	39	45	He	-2.323	ug/l	N/A	8503	45	
Ca	44	45	He	0.387	ug/l	100.3	24	45	
Ti	47	45	No Gas	-0.099	ug/l	N/A	69	0.45	
V	51	74	He	-0.170	ug/l	N/A	284	0.45	
Cr	52	74	He	0.000	ug/l	2255.7	74	0.45	
Mn	55	74	No Gas	-0.022	ug/l	N/A	1292	0.45	
Fe	56	74	He	-0.796	ug/l	N/A	2539	22.5	
Co	59	74	No Gas	0.004	ug/l	75.4	73	0.09	
Ni	60	74	He	-0.198	ug/l	N/A	72	0.45	
Cu	65	74	He	0.009	ug/l	108.2	39	0.45	
Zn	66	74	He	0.012	ug/l	138.1	31	1.8	
As	75	74	He	0.034	ug/l	43.7	30	0.45	
Se	78	74	He	0.054	ug/l	124.8	11	0.45	
Se	82	74	No Gas	0.126	ug/l	56.7	26	0.45	
Mo	98	103	No Gas	0.014	ug/l	10.2	82	0.45	
Ag	109	103	No Gas	0.000	ug/l	359.6	15	0.09	
Cd	111	103	No Gas	-0.001	ug/l	N/A	-1	0.09	
Sb	123	103	No Gas	0.002	ug/l	116.1	43	0.45	
Ba	137	159	No Gas	0.006	ug/l	29.8	31	0.45	
Hg	201	159	No Gas	5.316	ng/l	1.1	9	36	
Tl	205	159	No Gas	0.001	ug/l	76.1	70	0.09	
Pb	208	159	No Gas	0.005	ug/l	11.6	256	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65009	1.1	66581.48	97.64	70	120	
Ge	74	He	70791	1.5	71790.07	98.61	70	120	
Li	6	No Gas	260989	1.3	389940.86	66.93	70	120	Recovery Failed
Sc	45	No Gas	854900	1.0	1073548.11	79.63	70	120	
Ge	74	No Gas	323138	1.3	372836.81	86.67	70	120	
Rh	103	No Gas	370164	0.9	405307.18	91.33	70	120	
Tb	159	No Gas	806278	0.9	871308.14	92.54	70	120	
Bi	209	No Gas	565943	1.6	626349.34	90.36	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV7**	**Sample Type**	CCV
File Name	109_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 20:06:20	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	41.458	ug/l	3.4	64107	40	103.64	90	110	
Na	23	45	He	3968.898	ug/l	0.7	1316066	4000	99.22	90	110	
Mg	24	45	No Gas	4162.110	ug/l	2.4	19742302	4000	104.05	90	110	
Al	27	45	He	3969.232	ug/l	0.8	352885	4000	99.23	90	110	
K	39	45	He	4110.911	ug/l	0.9	734453	4000	102.77	90	110	
Ca	44	45	He	4123.854	ug/l	0.4	41098	4000	103.1	90	110	
Ti	47	45	No Gas	101.531	ug/l	3.5	68414	100	101.53	90	110	
V	51	74	He	94.693	ug/l	0.8	163751	100	94.69	90	110	
Cr	52	74	He	94.365	ug/l	1.0	202895	100	94.36	90	110	
Mn	55	74	No Gas	102.525	ug/l	2.2	1401123	100	102.52	90	110	
Fe	56	74	He	4008.928	ug/l	1.1	7973453	4000	100.22	90	110	
Co	59	74	No Gas	105.393	ug/l	3.0	966337	100	105.39	90	110	
Ni	60	74	He	101.045	ug/l	1.0	77741	100	101.04	90	110	
Cu	65	74	He	101.561	ug/l	1.1	104890	100	101.56	90	110	
Zn	66	74	He	96.506	ug/l	1.7	47969	100	96.51	90	110	
As	75	74	He	96.044	ug/l	1.3	32913	100	96.04	90	110	
Se	78	74	He	38.614	ug/l	2.0	1221	40	96.54	90	110	
Se	82	74	No Gas	41.536	ug/l	1.5	5080	40	103.84	90	110	
Mo	98	103	No Gas	41.278	ug/l	3.5	223907	40	103.2	90	110	
Ag	109	103	No Gas	40.970	ug/l	2.0	375574	40	102.42	90	110	
Cd	111	103	No Gas	97.141	ug/l	2.5	218868	100	97.14	90	110	
Sb	123	103	No Gas	43.552	ug/l	3.4	301950	40	108.88	90	110	
Ba	137	159	No Gas	109.999	ug/l	2.5	320044	100	110	90	110	
Hg	201	159	No Gas	816.288	ng/l	4.4	1092	800	102.04	90	110	
Tl	205	159	No Gas	39.890	ug/l	2.8	923744	40	99.72	90	110	
Pb	208	159	No Gas	97.038	ug/l	2.7	3081023	100	97.04	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64717	0.4	66581.48	97.2	70	120	
Ge	74	He	72137	0.6	71790.07	100.48	70	120	
Li	6	No Gas	271546	2.6	389940.86	69.64	70	120	Recovery Failed
Sc	45	No Gas	904794	3.6	1073548.11	84.28	70	120	
Ge	74	No Gas	341118	3.0	372836.81	91.49	70	120	
Rh	103	No Gas	375362	2.7	405307.18	92.61	70	120	
Tb	159	No Gas	805135	2.9	871308.14	92.41	70	120	
Bi	209	No Gas	552370	3.7	626349.34	88.19	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB7**	**Sample Type**	CCB
File Name	110_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 20:10:53	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.007	ug/l	73.0	20	0.09	
Na	23	45	He	4.740	ug/l	7.6	6091	45	
Mg	24	45	No Gas	-9.248	ug/l	N/A	37836	22.5	
Al	27	45	He	0.138	ug/l	79.8	29	22.5	
K	39	45	He	-2.658	ug/l	N/A	8504	45	
Ca	44	45	He	-0.306	ug/l	N/A	18	45	
Ti	47	45	No Gas	-0.098	ug/l	N/A	76	0.45	
V	51	74	He	-0.180	ug/l	N/A	273	0.45	
Cr	52	74	He	-0.012	ug/l	N/A	49	0.45	
Mn	55	74	No Gas	0.025	ug/l	22.3	2042	0.45	
Fe	56	74	He	-1.030	ug/l	N/A	2124	22.5	
Co	59	74	No Gas	0.003	ug/l	41.6	71	0.09	
Ni	60	74	He	-0.206	ug/l	N/A	68	0.45	
Cu	65	74	He	0.004	ug/l	52.2	34	0.45	
Zn	66	74	He	0.009	ug/l	128.4	30	1.8	
As	75	74	He	0.010	ug/l	41.8	22	0.45	
Se	78	74	He	0.190	ug/l	48.0	15	0.45	
Se	82	74	No Gas	-0.090	ug/l	N/A	1	0.45	
Mo	98	103	No Gas	0.014	ug/l	38.8	87	0.45	
Ag	109	103	No Gas	0.000	ug/l	51.3	19	0.09	
Cd	111	103	No Gas	0.003	ug/l	92.4	9	0.09	
Sb	123	103	No Gas	0.007	ug/l	59.5	83	0.45	
Ba	137	159	No Gas	0.004	ug/l	48.3	27	0.45	
Hg	201	159	No Gas	8.181	ng/l	11.3	13	36	
Tl	205	159	No Gas	0.005	ug/l	18.2	153	0.09	
Pb	208	159	No Gas	0.003	ug/l	30.4	210	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65504	1.4	66581.48	98.38	70	120	
Ge	74	He	72208	1.5	71790.07	100.58	70	120	
Li	6	No Gas	280951	0.6	389940.86	72.05	70	120	
Sc	45	No Gas	930155	1.0	1073548.11	86.64	70	120	
Ge	74	No Gas	348639	0.8	372836.81	93.51	70	120	
Rh	103	No Gas	392081	0.7	405307.18	96.74	70	120	
Tb	159	No Gas	816881	1.3	871308.14	93.75	70	120	
Bi	209	No Gas	572887	1.5	626349.34	91.46	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV8**	**Sample Type**	CCV
File Name	116_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 20:38:30	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	41.385	ug/l	2.1	61419	40	103.46	90	110	
Na	23	45	He	3917.399	ug/l	2.1	1342908	4000	97.93	90	110	
Mg	24	45	No Gas	3962.920	ug/l	0.9	18978028	4000	99.07	90	110	
Al	27	45	He	3924.793	ug/l	3.1	360677	4000	98.12	90	110	
K	39	45	He	4087.412	ug/l	2.4	754945	4000	102.19	90	110	
Ca	44	45	He	4082.424	ug/l	1.6	42061	4000	102.06	90	110	
Ti	47	45	No Gas	95.726	ug/l	1.6	65136	100	95.73	90	110	
V	51	74	He	95.943	ug/l	1.4	168391	100	95.94	90	110	
Cr	52	74	He	95.421	ug/l	1.8	208230	100	95.42	90	110	
Mn	55	74	No Gas	95.747	ug/l	1.1	1332835	100	95.75	90	110	
Fe	56	74	He	4066.171	ug/l	1.2	8208507	4000	101.65	90	110	
Co	59	74	No Gas	99.372	ug/l	0.3	928081	100	99.37	90	110	
Ni	60	74	He	101.583	ug/l	2.2	79322	100	101.58	90	110	
Cu	65	74	He	102.509	ug/l	1.4	107457	100	102.51	90	110	
Zn	66	74	He	97.592	ug/l	0.8	49239	100	97.59	90	110	
As	75	74	He	96.729	ug/l	1.0	33645	100	96.73	90	110	
Se	78	74	He	39.513	ug/l	2.2	1268	40	98.78	90	110	
Se	82	74	No Gas	39.240	ug/l	1.5	4888	40	98.1	90	110	
Mo	98	103	No Gas	39.289	ug/l	2.1	217542	40	98.22	90	110	
Ag	109	103	No Gas	39.520	ug/l	2.9	369632	40	98.8	90	110	
Cd	111	103	No Gas	92.557	ug/l	2.3	212808	100	92.56	90	110	
Sb	123	103	No Gas	41.616	ug/l	1.6	294504	40	104.04	90	110	
Ba	137	159	No Gas	105.018	ug/l	1.9	311737	100	105.02	90	110	
Hg	201	159	No Gas	768.903	ng/l	7.0	1049	800	96.11	90	110	
Tl	205	159	No Gas	38.309	ug/l	2.4	905076	40	95.77	90	110	
Pb	208	159	No Gas	93.287	ug/l	2.4	3021621	100	93.29	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66918	1.9	66581.48	100.51	70	120	
Ge	74	He	73221	0.9	71790.07	101.99	70	120	
Li	6	No Gas	260507	1.0	389940.86	66.81	70	120	Recovery Failed
Sc	45	No Gas	912849	0.4	1073548.11	85.03	70	120	
Ge	74	No Gas	347278	0.6	372836.81	93.14	70	120	
Rh	103	No Gas	382975	1.7	405307.18	94.49	70	120	
Tb	159	No Gas	821138	1.0	871308.14	94.24	70	120	
Bi	209	No Gas	564632	1.5	626349.34	90.15	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB8**	**Sample Type**	CCB
File Name	117_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 20:43:03	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.013	ug/l	29.3	27	0.09	
Na	23	45	He	-1.980	ug/l	N/A	3867	45	
Mg	24	45	No Gas	-10.539	ug/l	N/A	29508	22.5	
Al	27	45	He	0.307	ug/l	64.2	44	22.5	
K	39	45	He	-3.178	ug/l	N/A	8464	45	
Ca	44	45	He	-0.419	ug/l	N/A	17	45	
Ti	47	45	No Gas	-0.132	ug/l	N/A	49	0.45	
V	51	74	He	-0.216	ug/l	N/A	216	0.45	
Cr	52	74	He	-0.016	ug/l	N/A	41	0.45	
Mn	55	74	No Gas	-0.003	ug/l	N/A	1577	0.45	
Fe	56	74	He	-0.739	ug/l	N/A	2750	22.5	
Co	59	74	No Gas	0.004	ug/l	63.0	72	0.09	
Ni	60	74	He	-0.209	ug/l	N/A	67	0.45	
Cu	65	74	He	0.009	ug/l	130.3	40	0.45	
Zn	66	74	He	0.012	ug/l	109.4	32	1.8	
As	75	74	He	-0.005	ug/l	N/A	17	0.45	
Se	78	74	He	0.082	ug/l	26.7	12	0.45	
Se	82	74	No Gas	-0.107	ug/l	N/A	-1	0.45	
Mo	98	103	No Gas	0.012	ug/l	28.1	70	0.45	
Ag	109	103	No Gas	0.001	ug/l	50.2	23	0.09	
Cd	111	103	No Gas	0.001	ug/l	145.0	3	0.09	
Sb	123	103	No Gas	0.008	ug/l	50.2	87	0.45	
Ba	137	159	No Gas	0.007	ug/l	20.9	32	0.45	
Hg	201	159	No Gas	10.784	ng/l	21.9	16	36	
Tl	205	159	No Gas	0.007	ug/l	14.3	208	0.09	
Pb	208	159	No Gas	0.006	ug/l	15.7	286	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65902	1.1	66581.48	98.98	70	120	
Ge	74	He	73437	0.6	71790.07	102.29	70	120	
Li	6	No Gas	257474	1.1	389940.86	66.03	70	120	Recovery Failed
Sc	45	No Gas	869544	1.1	1073548.11	81	70	120	
Ge	74	No Gas	331379	1.0	372836.81	88.88	70	120	
Rh	103	No Gas	376428	1.0	405307.18	92.87	70	120	
Tb	159	No Gas	798241	0.4	871308.14	91.61	70	120	
Bi	209	No Gas	557002	0.7	626349.34	88.93	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL8**	**Sample Type**	CRL1
File Name	118CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 20:47:40	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E285 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.187	ug/l	9.3	283	103.89	70	130		
Na	23	45	He	6.980	ug/l	9.2	6825	77.56	70	130		
Mg	24	45	No Gas	-0.960	ug/l	N/A	73529	-10.67	70	130	CRL1 Failed	< MRL
Al	27	45	He	9.274	ug/l	12.5	849	103.04	70	130		
K	39	45	He	6.873	ug/l	23.8	10186	76.37	70	130		
Ca	44	45	He	8.762	ug/l	12.2	109	97.36	70	130		
Ti	47	45	No Gas	0.047	ug/l	51.4	166	26.11	70	130	CRL1 Failed	< MRL
V	51	74	He	-0.011	ug/l	N/A	567	-6.11	70	130	CRL1 Failed	
Cr	52	74	He	0.132	ug/l	9.8	360	73.33	70	130		
Mn	55	74	No Gas	0.156	ug/l	3.9	3717	86.67	70	130		
Fe	56	74	He	7.925	ug/l	2.5	19989	88.06	70	130		
Co	59	74	No Gas	0.176	ug/l	0.9	1618	97.78	70	130		
Ni	60	74	He	-0.024	ug/l	N/A	208	-13.33	70	130	CRL1 Failed	< MRL
Cu	65	74	He	0.236	ug/l	16.0	274	131.11	70	130	CRL1 Failed	
Zn	66	74	He	0.182	ug/l	8.1	117	101.11	70	130		
As	75	74	He	0.147	ug/l	6.0	69	81.67	70	130		
Se	78	74	He	0.294	ug/l	21.6	19	163.33	70	130	CRL1 Failed	< MRL
Se	82	74	No Gas	0.167	ug/l	54.5	31	92.78	70	130		
Mo	98	103	No Gas	0.180	ug/l	18.0	991	100	70	130		
Ag	109	103	No Gas	0.178	ug/l	2.7	1652	98.89	70	130		
Cd	111	103	No Gas	0.168	ug/l	5.0	382	93.33	70	130		
Sb	123	103	No Gas	0.170	ug/l	10.7	1215	94.44	70	130		
Ba	137	159	No Gas	0.182	ug/l	3.9	539	101.11	70	130		
Hg	201	159	No Gas	13.212	ng/l	24.0	19	73.4	70	130		
Tl	205	159	No Gas	0.183	ug/l	1.7	4245	101.67	70	130		
Pb	208	159	No Gas	0.168	ug/l	2.6	5379	93.33	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65363	1.6	66581.48	98.17	70	120	
Ge	74	He	72380	1.3	71790.07	100.82	70	120	
Li	6	No Gas	258345	0.3	389940.86	66.25	70	120	Recovery Failed
Sc	45	No Gas	875673	1.6	1073548.11	81.57	70	120	
Ge	74	No Gas	333977	1.0	372836.81	89.58	70	120	
Rh	103	No Gas	377259	0.7	405307.18	93.08	70	120	
Tb	159	No Gas	797393	1.6	871308.14	91.52	70	120	
Bi	209	No Gas	556734	0.8	626349.34	88.89	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRL9**	**Sample Type**	CRL2
File Name	119_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 20:52:17	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E286 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.924	ug/l	3.4	1346	102.67	70	130	
Na	23	45	He	41.243	ug/l	1.5	18574	91.65	70	130	
Mg	24	45	No Gas	38.111	ug/l	0.5	250336	84.69	70	130	
Al	27	45	He	44.004	ug/l	4.0	4035	97.79	70	130	
K	39	45	He	42.464	ug/l	2.3	16816	94.36	70	130	
Ca	44	45	He	42.022	ug/l	11.6	451	93.38	70	130	
Ti	47	45	No Gas	0.774	ug/l	9.0	634	86	70	130	
V	51	74	He	0.639	ug/l	3.2	1709	71	70	130	
Cr	52	74	He	0.868	ug/l	4.5	1969	96.44	70	130	
Mn	55	74	No Gas	0.843	ug/l	2.6	12815	93.67	70	130	
Fe	56	74	He	43.046	ug/l	0.6	91030	95.66	70	130	
Co	59	74	No Gas	0.895	ug/l	0.9	8024	99.44	70	130	
Ni	60	74	He	0.668	ug/l	7.3	749	74.22	70	130	
Cu	65	74	He	0.914	ug/l	11.6	988	101.56	70	130	
Zn	66	74	He	0.897	ug/l	9.3	478	99.67	70	130	
As	75	74	He	0.854	ug/l	4.3	315	94.89	70	130	
Se	78	74	He	0.948	ug/l	12.0	40	105.33	70	130	
Se	82	74	No Gas	0.781	ug/l	5.2	104	86.78	70	130	
Mo	98	103	No Gas	0.926	ug/l	3.4	5073	102.89	70	130	
Ag	109	103	No Gas	0.888	ug/l	1.6	8219	98.67	70	130	
Cd	111	103	No Gas	0.837	ug/l	2.9	1902	93	70	130	
Sb	123	103	No Gas	0.871	ug/l	8.0	6118	96.78	70	130	
Ba	137	159	No Gas	0.972	ug/l	0.8	2831	108	70	130	
Hg	201	159	No Gas	35.046	ng/l	11.7	48	97.35	70	130	
Tl	205	159	No Gas	0.897	ug/l	0.5	20758	99.67	70	130	
Pb	208	159	No Gas	0.844	ug/l	0.3	26813	93.78	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66482	0.5	66581.48	99.85	70	120	
Ge	74	He	73173	0.5	71790.07	101.93	70	120	
Li	6	No Gas	254340	1.1	389940.86	65.23	70	120	Recovery Failed
Sc	45	No Gas	868993	2.1	1073548.11	80.95	70	120	
Ge	74	No Gas	331772	1.6	372836.81	88.99	70	120	
Rh	103	No Gas	378377	2.1	405307.18	93.36	70	120	
Tb	159	No Gas	802219	1.1	871308.14	92.07	70	120	
Bi	209	No Gas	560385	1.7	626349.34	89.47	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRLA**	**Sample Type**	CRL3
File Name	120CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 20:56:53	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E287 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.835	ug/l	3.5	2690	101.94	70	130	
Na	23	45	He	82.223	ug/l	0.9	32271	91.36	70	130	
Mg	24	45	No Gas	86.001	ug/l	0.9	461150	95.56	70	130	
Al	27	45	He	85.737	ug/l	1.1	7794	95.26	70	130	
K	39	45	He	85.629	ug/l	1.7	24477	95.14	70	130	
Ca	44	45	He	84.359	ug/l	12.3	878	93.73	70	130	
Ti	47	45	No Gas	1.514	ug/l	6.1	1098	84.11	70	130	
V	51	74	He	1.531	ug/l	3.4	3283	85.06	70	130	
Cr	52	74	He	1.637	ug/l	5.0	3659	90.94	70	130	
Mn	55	74	No Gas	1.725	ug/l	2.0	24224	95.83	70	130	
Fe	56	74	He	86.939	ug/l	1.2	180330	96.6	70	130	
Co	59	74	No Gas	1.796	ug/l	1.1	15868	99.78	70	130	
Ni	60	74	He	1.657	ug/l	5.2	1526	92.06	70	130	
Cu	65	74	He	1.786	ug/l	3.6	1910	99.22	70	130	
Zn	66	74	He	1.812	ug/l	9.2	943	100.67	70	130	
As	75	74	He	1.741	ug/l	6.4	626	96.72	70	130	
Se	78	74	He	1.928	ug/l	12.5	71	107.11	70	130	
Se	82	74	No Gas	1.690	ug/l	16.7	209	93.89	70	130	
Mo	98	103	No Gas	1.749	ug/l	1.3	9366	97.17	70	130	
Ag	109	103	No Gas	1.783	ug/l	1.3	16126	99.06	70	130	
Cd	111	103	No Gas	1.669	ug/l	3.5	3710	92.72	70	130	
Sb	123	103	No Gas	1.709	ug/l	4.6	11711	94.94	70	130	
Ba	137	159	No Gas	1.880	ug/l	2.6	5387	104.44	70	130	
Hg	201	159	No Gas	69.695	ng/l	2.5	93	96.8	70	130	
Tl	205	159	No Gas	1.743	ug/l	1.2	39700	96.83	70	130	
Pb	208	159	No Gas	1.676	ug/l	0.4	52392	93.11	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66041	0.8	66581.48	99.19	70	120	
Ge	74	He	73497	0.7	71790.07	102.38	70	120	
Li	6	No Gas	256573	0.3	389940.86	65.8	70	120	Recovery Failed
Sc	45	No Gas	856832	1.4	1073548.11	79.81	70	120	
Ge	74	No Gas	327680	0.7	372836.81	87.89	70	120	
Rh	103	No Gas	370006	0.8	405307.18	91.29	70	120	
Tb	159	No Gas	790841	0.6	871308.14	90.76	70	120	
Bi	209	No Gas	553264	0.9	626349.34	88.33	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRLB**	**Sample Type**	CRL4
File Name	121CRL4.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 21:01:29	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E288 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	3.624	ug/l	0.9	5327	100.67	70	130	
Na	23	45	He	167.426	ug/l	1.2	61159	93.01	70	130	
Mg	24	45	No Gas	184.220	ug/l	1.6	896299	102.34	70	130	
Al	27	45	He	173.298	ug/l	0.8	15778	96.28	70	130	
K	39	45	He	174.094	ug/l	1.8	40514	96.72	70	130	
Ca	44	45	He	171.108	ug/l	2.5	1765	95.06	70	130	
Ti	47	45	No Gas	3.334	ug/l	3.7	2246	92.61	70	130	
V	51	74	He	3.340	ug/l	4.1	6348	92.78	70	130	
Cr	52	74	He	3.429	ug/l	2.5	7454	95.25	70	130	
Mn	55	74	No Gas	3.434	ug/l	1.1	46688	95.39	70	130	
Fe	56	74	He	176.224	ug/l	0.9	354948	97.9	70	130	
Co	59	74	No Gas	3.585	ug/l	2.6	31665	99.58	70	130	
Ni	60	74	He	3.265	ug/l	1.9	2734	90.69	70	130	
Cu	65	74	He	3.759	ug/l	2.1	3917	104.42	70	130	
Zn	66	74	He	3.556	ug/l	2.6	1795	98.78	70	130	
As	75	74	He	3.420	ug/l	2.3	1191	95	70	130	
Se	78	74	He	3.461	ug/l	9.2	118	96.14	70	130	
Se	82	74	No Gas	3.612	ug/l	2.8	435	100.33	70	130	
Mo	98	103	No Gas	3.575	ug/l	2.3	19086	99.31	70	130	
Ag	109	103	No Gas	3.550	ug/l	1.8	32022	98.61	70	130	
Cd	111	103	No Gas	3.315	ug/l	2.7	7350	92.08	70	130	
Sb	123	103	No Gas	3.422	ug/l	4.3	23361	95.06	70	130	
Ba	137	159	No Gas	3.830	ug/l	0.7	10928	106.39	70	130	
Hg	201	159	No Gas	133.441	ng/l	8.0	176	92.67	70	130	
Tl	205	159	No Gas	3.492	ug/l	1.6	79257	97	70	130	
Pb	208	159	No Gas	3.354	ug/l	1.7	104408	93.17	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66207	0.3	66581.48	99.44	70	120	
Ge	74	He	72233	1.0	71790.07	100.62	70	120	
Li	6	No Gas	257658	1.6	389940.86	66.08	70	120	Recovery Failed
Sc	45	No Gas	852623	1.1	1073548.11	79.42	70	120	
Ge	74	No Gas	327997	0.8	372836.81	87.97	70	120	
Rh	103	No Gas	369063	0.8	405307.18	91.06	70	120	
Tb	159	No Gas	788298	1.2	871308.14	90.47	70	120	
Bi	209	No Gas	553761	1.1	626349.34	88.41	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCV9**	**Sample Type**	CCV
File Name	132_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 21:52:03	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	41.950	ug/l	0.9	59691	40	104.88	90	110	
Na	23	45	He	3963.488	ug/l	1.3	1341509	4000	99.09	90	110	
Mg	24	45	No Gas	3983.404	ug/l	1.3	17633693	4000	99.59	90	110	
Al	27	45	He	3952.327	ug/l	0.8	358669	4000	98.81	90	110	
K	39	45	He	4076.822	ug/l	0.9	743549	4000	101.92	90	110	
Ca	44	45	He	4072.710	ug/l	1.1	41431	4000	101.82	90	110	
Ti	47	45	No Gas	96.951	ug/l	1.2	60984	100	96.95	90	110	
V	51	74	He	96.040	ug/l	0.9	165854	100	96.04	90	110	
Cr	52	74	He	95.652	ug/l	1.0	205391	100	95.65	90	110	
Mn	55	74	No Gas	94.663	ug/l	2.1	1237241	100	94.66	90	110	
Fe	56	74	He	4082.256	ug/l	0.8	8108769	4000	102.06	90	110	
Co	59	74	No Gas	100.041	ug/l	0.9	877477	100	100.04	90	110	
Ni	60	74	He	101.422	ug/l	0.4	77930	100	101.42	90	110	
Cu	65	74	He	102.219	ug/l	1.4	105430	100	102.22	90	110	
Zn	66	74	He	96.971	ug/l	1.1	48139	100	96.97	90	110	
As	75	74	He	96.586 ✓	ug/l	0.6 ✓	33056	100	96.59	90	110	
Se	78	74	He	39.424	ug/l	0.4	1245	40	98.56	90	110	
Se	82	74	No Gas	38.862	ug/l	5.1	4543	40	97.16	90	110	
Mo	98	103	No Gas	39.253	ug/l	1.5	205639	40	98.13	90	110	
Ag	109	103	No Gas	39.236	ug/l	2.4	347213	40	98.09	90	110	
Cd	111	103	No Gas	92.441	ug/l	3.2	201048	100	92.44	90	110	
Sb	123	103	No Gas	41.820	ug/l	2.3	279978	40	104.55	90	110	
Ba	137	159	No Gas	104.641	ug/l	1.7	297928	100	104.64	90	110	
Hg	201	159	No Gas	755.659	ng/l	2.8	989	800	94.46	90	110	
Tl	205	159	No Gas	38.639	ug/l	1.5	875647	40	96.6	90	110	
Pb	208	159	No Gas	93.198	ug/l	1.6	2895843	100	93.2	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66062	0.9	66581.48	99.22	70	120	
Ge	74	He	72042	0.6	71790.07	100.35	70	120	
Li	6	No Gas	249755	1.5	389940.86	64.05	70	120	Recovery Failed
Sc	45	No Gas	843960	1.9	1073548.11	78.61	70	120	
Ge	74	No Gas	326187	2.8	372836.81	87.49	70	120	
Rh	103	No Gas	362392	2.8	405307.18	89.41	70	120	
Tb	159	No Gas	787777	3.1	871308.14	90.41	70	120	
Bi	209	No Gas	545814	2.6	626349.34	87.14	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCB9**	**Sample Type**	CCB
File Name	133_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 21:56:37	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.009	ug/l	0.2	20	0.09	
Na	23	45	He	-3.725	ug/l	N/A	3270	45	
Mg	24	45	No Gas	-11.529	ug/l	N/A	24069	22.5	
Al	27	45	He	0.148	ug/l	146.3	30	22.5	
K	39	45	He	-2.266	ug/l	N/A	8607	45	
Ca	44	45	He	-0.517	ug/l	N/A	16	45	
Ti	47	45	No Gas	-0.111	ug/l	N/A	60	0.45	
V	51	74	He	-0.183	ug/l	N/A	270	0.45	
Cr	52	74	He	-0.008	ug/l	N/A	59	0.45	
Mn	55	74	No Gas	-0.022	ug/l	N/A	1272	0.45	
Fe	56	74	He	-1.008	ug/l	N/A	2180	22.5	
Co	59	74	No Gas	0.002	ug/l	82.4	59	0.09	
Ni	60	74	He	-0.201	ug/l	N/A	72	0.45	
Cu	65	74	He	-0.008	ug/l	N/A	22	0.45	
Zn	66	74	He	0.015	ug/l	115.4	33	1.8	
As	75	74	He	0.004	ug/l	456.2	20	0.45	
Se	78	74	He	0.066	ug/l	90.0	12	0.45	
Se	82	74	No Gas	0.105	ug/l	144.1	23	0.45	
Mo	98	103	No Gas	0.016	ug/l	31.6	90	0.45	
Ag	109	103	No Gas	0.000	ug/l	N/A	14	0.09	
Cd	111	103	No Gas	0.004	ug/l	43.7	10	0.09	
Sb	123	103	No Gas	0.004	ug/l	90.8	53	0.45	
Ba	137	159	No Gas	0.004	ug/l	18.3	24	0.45	
Hg	201	159	No Gas	9.388	ng/l	44.6	13	36	
Tl	205	159	No Gas	0.003	ug/l	41.4	117	0.09	
Pb	208	159	No Gas	0.004	ug/l	7.7	236	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65742	1.5	66581.48	98.74	70	120	
Ge	74	He	72638	0.6	71790.07	101.18	70	120	
Li	6	No Gas	251019	0.1	389940.86	64.37	70	120	Recovery Failed
Sc	45	No Gas	836774	1.7	1073548.11	77.94	70	120	
Ge	74	No Gas	318631	1.2	372836.81	85.46	70	120	
Rh	103	No Gas	362982	1.6	405307.18	89.56	70	120	
Tb	159	No Gas	772003	1.1	871308.14	88.6	70	120	
Bi	209	No Gas	537281	2.2	626349.34	85.78	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E23021-CCVA**	**Sample Type**	CCV
File Name	138_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 22:19:36	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	42.021	ug/l	1.5	58340	40	105.05	90	110	
Na	23	45	He	3965.786	ug/l	0.6	1329647	4000	99.14	90	110	
Mg	24	45	No Gas	4007.983	ug/l	1.2	17451068	4000	100.2	90	110	
Al	27	45	He	3994.093	ug/l	1.1	359026	4000	99.85	90	110	
K	39	45	He	4114.575	ug/l	0.9	743252	4000	102.86	90	110	
Ca	44	45	He	4096.893	ug/l	2.2	41279	4000	102.42	90	110	
Ti	47	45	No Gas	95.746	ug/l	0.5	59249	100	95.75	90	110	
V	51	74	He	96.534	ug/l	1.5	166227	100	96.53	90	110	
Cr	52	74	He	95.584	ug/l	1.5	204660	100	95.58	90	110	
Mn	55	74	No Gas	93.221	ug/l	1.2	1216336	100	93.22	90	110	
Fe	56	74	He	4076.800	ug/l	1.7	8074440	4000	101.92	90	110	
Co	59	74	No Gas	99.104	ug/l	0.8	867576	100	99.1	90	110	
Ni	60	74	He	101.615	ug/l	1.1	77857	100	101.62	90	110	
Cu	65	74	He	102.278	ug/l	2.0	105191	100	102.28	90	110	
Zn	66	74	He	97.210	ug/l	1.4	48119	100	97.21	90	110	
As	75	74	He	97.521	ug/l	1.3	33281	100	97.52	90	110	
Se	78	74	He	39.552	ug/l	1.2	1246	40	98.88	90	110	
Se	82	74	No Gas	39.386	ug/l	1.8	4599	40	98.46	90	110	
Mo	98	103	No Gas	39.077	ug/l	0.6	202249	40	97.69	90	110	
Ag	109	103	No Gas	39.549	ug/l	0.9	345814	40	98.87	90	110	
Cd	111	103	No Gas	92.811	ug/l	1.7	199485	100	92.81	90	110	
Sb	123	103	No Gas	41.449	ug/l	1.3	274174	40	103.62	90	110	
Ba	137	159	No Gas	103.347	ug/l	0.6	293302	100	103.35	90	110	
Hg	201	159	No Gas	748.602	ng/l	3.7	977	800	93.58	90	110	
Tl	205	159	No Gas	38.174	ug/l	1.3	862319	40	95.44	90	110	
Pb	208	159	No Gas	93.551	ug/l	0.6	2897157	100	93.55	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65436	0.7	66581.48	98.28	70	120	
Ge	74	He	71846	1.7	71790.07	100.08	70	120	
Li	6	No Gas	243673	0.9	389940.86	62.49	70	120	Recovery Failed
Sc	45	No Gas	830066	2.7	1073548.11	77.32	70	120	
Ge	74	No Gas	325511	0.9	372836.81	87.31	70	120	
Rh	103	No Gas	357914	0.2	405307.18	88.31	70	120	
Tb	159	No Gas	784958	0.9	871308.14	90.09	70	120	
Bi	209	No Gas	544413	1.3	626349.34	86.92	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E23021-CCBA**	**Sample Type**	CCB
File Name	139_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 22:24:10	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.009	ug/l	45.4	20	0.09	
Na	23	45	He	-3.448	ug/l	N/A	3385	45	
Mg	24	45	No Gas	-11.592	ug/l	N/A	23654	22.5	
Al	27	45	He	0.624	ug/l	19.4	73	22.5	
K	39	45	He	-3.509	ug/l	N/A	8433	45	
Ca	44	45	He	0.343	ug/l	273.9	24	45	
Ti	47	45	No Gas	-0.136	ug/l	N/A	44	0.45	
V	51	74	He	-0.183	ug/l	N/A	270	0.45	
Cr	52	74	He	-0.012	ug/l	N/A	50	0.45	
Mn	55	74	No Gas	-0.012	ug/l	N/A	1396	0.45	
Fe	56	74	He	-0.732	ug/l	N/A	2738	22.5	
Co	59	74	No Gas	0.006	ug/l	46.1	94	0.09	
Ni	60	74	He	-0.230	ug/l	N/A	50	0.45	
Cu	65	74	He	-0.001	ug/l	N/A	29	0.45	
Zn	66	74	He	0.017	ug/l	174.4	34	1.8	
As	75	74	He	0.029	ug/l	28.4	29	0.45	
Se	78	74	He	0.159	ug/l	45.2	15	0.45	
Se	82	74	No Gas	0.110	ug/l	45.8	23	0.45	
Mo	98	103	No Gas	0.015	ug/l	36.1	86	0.45	
Ag	109	103	No Gas	0.001	ug/l	66.0	22	0.09	
Cd	111	103	No Gas	0.005	ug/l	63.6	13	0.09	
Sb	123	103	No Gas	0.004	ug/l	41.1	57	0.45	
Ba	137	159	No Gas	0.005	ug/l	37.6	26	0.45	
Hg	201	159	No Gas	7.486	ng/l	22.1	11	36	
Tl	205	159	No Gas	0.002	ug/l	39.9	83	0.09	
Pb	208	159	No Gas	0.006	ug/l	11.6	274	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66132	1.6	66581.48	99.33	70	120	
Ge	74	He	72784	0.2	71790.07	101.38	70	120	
Li	6	No Gas	248257	0.4	389940.86	63.67	70	120	Recovery Failed
Sc	45	No Gas	831733	1.8	1073548.11	77.48	70	120	
Ge	74	No Gas	318463	1.1	372836.81	85.42	70	120	
Rh	103	No Gas	363670	0.9	405307.18	89.73	70	120	
Tb	159	No Gas	776270	1.4	871308.14	89.09	70	120	
Bi	209	No Gas	540536	1.8	626349.34	86.3	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRLC**	**Sample Type**	CRL1
File Name	140CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 22:28:47	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E285 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.184	ug/l	12.7	266	102.22	70	130		
Na	23	45	He	4.434	ug/l	9.9	6057	49.27	70	130	CRL1 Failed	< MRL
Mg	24	45	No Gas	-1.589	ug/l	N/A	66270	-17.66	70	130	CRL1 Failed	
Al	27	45	He	8.792	ug/l	5.9	817	97.69	70	130		
K	39	45	He	5.658	ug/l	21.3	10105	62.87	70	130	CRL1 Failed	< MRL
Ca	44	45	He	10.035	ug/l	13.6	123	111.5	70	130		
Ti	47	45	No Gas	0.124	ug/l	80.1	202	68.89	70	130	CRL1 Failed	< MRL
V	51	74	He	-0.005	ug/l	N/A	577	-2.78	70	130	CRL1 Failed	
Cr	52	74	He	0.142	ug/l	14.4	382	78.89	70	130		
Mn	55	74	No Gas	0.152	ug/l	7.7	3455	84.44	70	130		
Fe	56	74	He	7.589	ug/l	2.0	19351	84.32	70	130		
Co	59	74	No Gas	0.184	ug/l	4.1	1597	102.22	70	130		
Ni	60	74	He	-0.051	ug/l	N/A	188	-28.33	70	130	CRL1 Failed	< MRL
Cu	65	74	He	0.169	ug/l	21.8	206	93.89	70	130		
Zn	66	74	He	0.180	ug/l	12.4	116	100	70	130		
As	75	74	He	0.157	ug/l	9.0	73	87.22	70	130		
Se	78	74	He	0.293	ug/l	2.4	19	162.78	70	130	CRL1 Failed	
Se	82	74	No Gas	0.102	ug/l	62.2	22	56.67	70	130	CRL1 Failed	< MRL
Mo	98	103	No Gas	0.188	ug/l	12.4	981	104.44	70	130		
Ag	109	103	No Gas	0.180	ug/l	2.6	1597	100	70	130		
Cd	111	103	No Gas	0.172	ug/l	9.4	373	95.56	70	130		
Sb	123	103	No Gas	0.191	ug/l	2.7	1301	106.11	70	130		
Ba	137	159	No Gas	0.199	ug/l	3.5	563	110.56	70	130		
Hg	201	159	No Gas	11.945	ng/l	21.3	17	66.36	70	130	CRL1 Failed	< MRL
Tl	205	159	No Gas	0.170	ug/l	2.0	3791	94.44	70	130		
Pb	208	159	No Gas	0.172	ug/l	2.6	5314	95.56	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66249	1.0	66581.48	99.5	70	120	
Ge	74	He	72490	0.6	71790.07	100.98	70	120	
Li	6	No Gas	246509	0.5	389940.86	63.22	70	120	Recovery Failed
Sc	45	No Gas	821325	0.9	1073548.11	76.51	70	120	
Ge	74	No Gas	315571	1.0	372836.81	84.64	70	120	
Rh	103	No Gas	359564	0.7	405307.18	88.71	70	120	
Tb	159	No Gas	766461	0.7	871308.14	87.97	70	120	
Bi	209	No Gas	533541	1.1	626349.34	85.18	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRLD**	**Sample Type**	CRL2
File Name	141_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 22:33:24	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E286 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.916	ug/l	12.2	1326	101.78	70	130	
Na	23	45	He	39.199	ug/l	3.3	17664	87.11	70	130	
Mg	24	45	No Gas	36.001	ug/l	6.3	233165	80	70	130	
Al	27	45	He	43.813	ug/l	2.5	3971	97.36	70	130	
K	39	45	He	42.171	ug/l	3.5	16563	93.71	70	130	
Ca	44	45	He	43.199	ug/l	13.1	458	96	70	130	
Ti	47	45	No Gas	0.675	ug/l	10.1	552	75	70	130	
V	51	74	He	0.717	ug/l	7.5	1810	79.67	70	130	
Cr	52	74	He	0.818	ug/l	2.9	1825	90.89	70	130	
Mn	55	74	No Gas	0.815	ug/l	5.6	12128	90.56	70	130	
Fe	56	74	He	43.556	ug/l	0.6	90370	96.79	70	130	
Co	59	74	No Gas	0.871	ug/l	5.6	7604	96.78	70	130	
Ni	60	74	He	0.752	ug/l	15.5	799	83.56	70	130	
Cu	65	74	He	0.932	ug/l	6.4	988	103.56	70	130	
Zn	66	74	He	0.927	ug/l	9.0	484	103	70	130	
As	75	74	He	0.890	ug/l	5.9	322	98.89	70	130	
Se	78	74	He	1.036	ug/l	11.9	42	115.11	70	130	
Se	82	74	No Gas	0.902	ug/l	13.8	116	100.22	70	130	
Mo	98	103	No Gas	0.856	ug/l	4.5	4546	95.11	70	130	
Ag	109	103	No Gas	0.886	ug/l	4.3	7949	98.44	70	130	
Cd	111	103	No Gas	0.819	ug/l	3.2	1807	91	70	130	
Sb	123	103	No Gas	0.878	ug/l	5.4	5984	97.56	70	130	
Ba	137	159	No Gas	0.910	ug/l	3.5	2594	101.11	70	130	
Hg	201	159	No Gas	35.324	ng/l	17.1	47	98.12	70	130	
Tl	205	159	No Gas	0.853	ug/l	4.6	19289	94.78	70	130	
Pb	208	159	No Gas	0.829	ug/l	3.5	25740	92.11	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65687	1.1	66581.48	98.66	70	120	
Ge	74	He	71830	1.0	71790.07	100.06	70	120	
Li	6	No Gas	253485	3.7	389940.86	65.01	70	120	Recovery Failed
Sc	45	No Gas	842652	4.4	1073548.11	78.49	70	120	
Ge	74	No Gas	323715	5.1	372836.81	86.82	70	120	
Rh	103	No Gas	367213	4.3	405307.18	90.6	70	120	
Tb	159	No Gas	784867	5.0	871308.14	90.08	70	120	
Bi	209	No Gas	550605	5.0	626349.34	87.91	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRLE**	**Sample Type**	CRL3
File Name	142CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 22:38:00	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E287 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.762	ug/l	3.9	2542	97.89	70	130	
Na	23	45	He	83.306	ug/l	1.3	32010	92.56	70	130	
Mg	24	45	No Gas	82.812	ug/l	5.2	432108	92.01	70	130	
Al	27	45	He	87.346	ug/l	1.9	7788	97.05	70	130	
K	39	45	He	87.831	ug/l	3.5	24396	97.59	70	130	
Ca	44	45	He	92.448	ug/l	3.0	942	102.72	70	130	
Ti	47	45	No Gas	1.530	ug/l	7.6	1070	85	70	130	
V	51	74	He	1.534	ug/l	2.7	3184	85.22	70	130	
Cr	52	74	He	1.676	ug/l	0.9	3629	93.11	70	130	
Mn	55	74	No Gas	1.671	ug/l	5.0	22810	92.83	70	130	
Fe	56	74	He	88.004	ug/l	1.5	176757	97.78	70	130	
Co	59	74	No Gas	1.728	ug/l	3.6	14808	96	70	130	
Ni	60	74	He	1.527	ug/l	4.5	1379	84.83	70	130	
Cu	65	74	He	1.809	ug/l	2.2	1873	100.5	70	130	
Zn	66	74	He	1.816	ug/l	0.5	916	100.89	70	130	
As	75	74	He	1.706	ug/l	2.2	595	94.78	70	130	
Se	78	74	He	2.011	ug/l	14.2	72	111.72	70	130	
Se	82	74	No Gas	1.890	ug/l	8.4	226	105	70	130	
Mo	98	103	No Gas	1.676	ug/l	5.2	8715	93.11	70	130	
Ag	109	103	No Gas	1.738	ug/l	4.2	15269	96.56	70	130	
Cd	111	103	No Gas	1.618	ug/l	1.7	3495	89.89	70	130	
Sb	123	103	No Gas	1.712	ug/l	3.4	11407	95.11	70	130	
Ba	137	159	No Gas	1.811	ug/l	4.1	5060	100.61	70	130	
Hg	201	159	No Gas	69.823	ng/l	8.3	91	96.98	70	130	
Tl	205	159	No Gas	1.715	ug/l	5.4	38083	95.28	70	130	
Pb	208	159	No Gas	1.648	ug/l	3.6	50234	91.56	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64774	0.6	66581.48	97.29	70	120	
Ge	74	He	71193	1.1	71790.07	99.17	70	120	
Li	6	No Gas	252705	3.7	389940.86	64.81	70	120	Recovery Failed
Sc	45	No Gas	829409	4.4	1073548.11	77.26	70	120	
Ge	74	No Gas	318152	3.5	372836.81	85.33	70	120	
Rh	103	No Gas	359818	4.0	405307.18	88.78	70	120	
Tb	159	No Gas	771870	4.0	871308.14	88.59	70	120	
Bi	209	No Gas	543822	3.5	626349.34	86.82	70	120	

CRL Verification ICPMS6

Sample Name	**9E23021-CRLF**	**Sample Type**	CRL4
File Name	143CRL4.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E23021.b		
Acq Time	05/23/2019 22:42:37	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E288 - ESS 5/23		
ISTD Ref FileName	004CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	3.613	ug/l	2.2	5098	100.36	70	130	
Na	23	45	He	166.802	ug/l	0.3	60226	92.67	70	130	
Mg	24	45	No Gas	183.813	ug/l	0.2	846315	102.12	70	130	
Al	27	45	He	172.669	ug/l	0.6	15534	95.93	70	130	
K	39	45	He	175.992	ug/l	1.8	40371	97.77	70	130	
Ca	44	45	He	173.259	ug/l	7.0	1766	96.26	70	130	
Ti	47	45	No Gas	3.326	ug/l	2.3	2120	92.39	70	130	
V	51	74	He	3.308	ug/l	0.9	6255	91.89	70	130	
Cr	52	74	He	3.445	ug/l	2.7	7445	95.69	70	130	
Mn	55	74	No Gas	3.394	ug/l	2.3	43668	94.28	70	130	
Fe	56	74	He	176.778	ug/l	0.5	353995	98.21	70	130	
Co	59	74	No Gas	3.552	ug/l	0.3	29684	98.67	70	130	
Ni	60	74	He	3.376	ug/l	5.5	2803	93.78	70	130	
Cu	65	74	He	3.590	ug/l	2.2	3721	99.72	70	130	
Zn	66	74	He	3.487	ug/l	2.5	1750	96.86	70	130	
As	75	74	He	3.447	ug/l	0.9	1194	95.75	70	130	
Se	78	74	He	3.489	ug/l	3.1	118	96.92	70	130	
Se	82	74	No Gas	3.802	ug/l	7.0	433	105.61	70	130	
Mo	98	103	No Gas	3.599	ug/l	1.9	18364	99.97	70	130	
Ag	109	103	No Gas	3.594	ug/l	0.8	30969	99.83	70	130	
Cd	111	103	No Gas	3.318	ug/l	2.6	7030	92.17	70	130	
Sb	123	103	No Gas	3.429	ug/l	1.1	22375	95.25	70	130	
Ba	137	159	No Gas	3.812	ug/l	1.2	10444	105.89	70	130	
Hg	201	159	No Gas	137.345	ng/l	1.1	174	95.38	70	130	
Tl	205	159	No Gas	3.485	ug/l	0.6	75948	96.81	70	130	
Pb	208	159	No Gas	3.363	ug/l	0.4	100538	93.42	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65423	0.6	66581.48	98.26	70	120	
Ge	74	He	71812	0.4	71790.07	100.03	70	120	
Li	6	No Gas	247272	0.5	389940.86	63.41	70	120	Recovery Failed
Sc	45	No Gas	806656	1.8	1073548.11	75.14	70	120	
Ge	74	No Gas	310338	1.5	372836.81	83.24	70	120	
Rh	103	No Gas	352643	1.8	405307.18	87.01	70	120	
Tb	159	No Gas	756957	1.8	871308.14	86.88	70	120	
Bi	209	No Gas	535814	1.6	626349.34	85.55	70	120	

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

Total Metals by EPA 6020 A (ICPMS)

Benchsheet & Analysis Sequence Data (including calibration)

Sequence 9E24020

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9E24020** Instrument: **ICPMS6**

Date: **05/24/19 09:05** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E24020-CAL1	Water	QC	QC			A19D189	A19E285
2	9E24020-CAL2	Water	QC	QC			A19D189	A19E286
3	9E24020-CAL3	Water	QC	QC			A19D189	A19E287
4	9E24020-CAL4	Water	QC	QC			A19D189	A19E288
5	9E24020-CAL5	Water	QC	QC			A19D189	A19E083
6	9E24020-CAL6	Water	QC	QC			A19D189	A19E289
7	9E24020-CAL7	Water	QC	QC			A19D189	A19E082
8	9E24020-CAL8	Water	QC	QC			A19D189	A19D321
9	9E24020-CAL9	Water	QC	QC			A19D189	A19E164
10	9E24020-ICV1	Water	QC	QC			A19D189	A19E109
11	9E24020-ICB1	Water	QC	QC			A19D189	
12	9E24020-CRL1	Water	QC	QC			A19D189	A19E285
13	9E24020-CRL2	Water	QC	QC			A19D189	A19E286
14	9E24020-CRL3	Water	QC	QC			A19D189	A19E287
15	9E24020-IFA1	Water	QC	QC			A19D189	A19E234
16	9E24020-IFB1	Water	QC	QC			A19D189	A19E235
17	9051152-BLK2	Solid	QC	QC		9051152	A19D189	
18	9051152-BS2	Solid	QC	QC		9051152	A19D189	
19	A9E0672-01RE1	Solid	Be (Beryllium) - 6020 - Total	(QC Source)		9051152	A19D189	
20	9051152-DUP2	Solid	QC	QC		9051152	A19D189	
21	9051152-MS2	Solid	QC	QC		9051152	A19D189	
22	A9E0645-01RE1	Water	Be (Beryllium) - 6020 - Total		05/23/19	9051210	A19D189	
23	A9E0677-01RE1	Solid	Be (Beryllium) - 6020 - Total	Hahn and Associates	05/28/19	9051152	A19D189	
24	9051156-BLK2	Water	QC	QC		9051156	A19D189	
25	9051156-BS2	Water	QC	QC		9051156	A19D189	
26	A9E0440-01RE1	Water	Be (Beryllium) - 200.8 - Total	(QC Source)		9051156	A19D189	
27	9E24020-CCV1	Water	QC	QC			A19D189	A19E109
28	9E24020-CCB1	Water	QC	QC			A19D189	
29	9051156-DUP2	Water	QC	QC		9051156	A19D189	
30	9051156-MS3	Water	QC	QC		9051156	A19D189	
31	A9E0443-04RE1	Water	Be (Beryllium) - 200.8 - Total		05/28/19	9051156	A19D189	
32	A9E0636-01RE1	Water	Be (Beryllium) - 200.8 - Total	(QC Source)		9051156	A19D189	
33	9051156-MS4	Water	QC	QC		9051156	A19D189	
34	9E24020-CCV2	Water	QC	QC			A19D189	A19E109
35	9E24020-CCB2	Water	QC	QC			A19D189	
36	9E24020-CRL4	Water	QC	QC			A19D189	A19E285
37	9E24020-CRL5	Water	QC	QC			A19D189	A19E286
38	9E24020-CRL6	Water	QC	QC			A19D189	A19E287
39	A9E0441-01RE1	Water	Al (Aluminum) - 200.8 - Total		05/28/19	9051156	A19D189	
40	"	Water	Cu (Copper) - 200.8 - Total	"	05/28/19	9051156	A19D189	
41	"	Water	Fe (Iron) - 200.8 - Total	"	05/28/19	9051156	A19D189	
42	"	Water	Pb (Lead) - 200.8 - Total	"	05/28/19	9051156	A19D189	
43	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051156	A19D189	
44	A9E0443-01RE1	Water	As (Arsenic) - 200.8 - Total		05/28/19	9051156	A19D189	
45	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051156	A19D189	
46	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051156	A19D189	
47	9051167-BLK1	Water	QC	QC		9051167	A19D189	
48	9051167-BS1	Water	QC	QC		9051167	A19D189	
49	A9E0469-05	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
50	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
51	A9E0469-12	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	

Sequence: **9E24020** Instrument: **ICPMS6**

Date: **05/24/19 09:05** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
52	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
53	A9E0469-13	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
54	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
55	A9E0469-14	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
56	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
57	9051167-DUP1	Water	QC	QC		9051167	A19D189	
58	9051167-MS1	Water	QC	QC		9051167	A19D189	
59	9E24020-CCV3	Water	QC	QC			A19D189	A19E109
60	9E24020-CCB3	Water	QC	QC			A19D189	
61	A9E0469-15	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
62	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
63	A9E0469-16	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
64	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
65	A9E0469-17	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
66	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
67	A9E0469-18	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
68	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
69	A9E0469-19	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
70	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
71	A9E0469-20	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
72	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
73	A9E0469-21	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
74	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
75	A9E0469-22	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
76	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
77	A9E0469-23	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
78	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
79	9E24020-CCV4	Water	QC	QC			A19D189	A19E109
80	9E24020-CCB4	Water	QC	QC			A19D189	
81	A9E0469-24	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
82	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
83	A9E0469-25	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
84	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
85	A9E0469-26	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
86	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
87	A9E0469-27	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
88	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
89	A9E0469-28	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
90	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
91	A9E0469-29	Water	Cu (Copper) - 200.8 - Dissolved		05/28/19	9051167	A19D189	
92	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	05/28/19	9051167	A19D189	
93	9051167-MS2	Water	QC	QC		9051167	A19D189	
94	A9E0513-47RE1	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
95	A9E0513-53RE1	Sediment	As (Arsenic) - 6020 - Total		05/24/19	9051189	A19D189	
96	9E24020-CCV5	Water	QC	QC			A19D189	A19E109
97	9E24020-CCB5	Water	QC	QC			A19D189	
98	9051228-BLK1	Water	QC	QC		9051228	A19D189	
99	9051228-BS1	Water	QC	QC		9051228	A19D189	
100	A9E0417-01	Water	Cd (Cadmium) - 6020 - Dissolved		05/24/19	9051228	A19D189	
101	"	Water	Hg (Mercury) - 6020 - Dissolved	"	05/24/19	9051228	A19D189	
102	"	Water	Pb (Lead) - 6020 - Dissolved	"	05/24/19	9051228	A19D189	
103	A9E0436-01	Water	Fe (Iron) - 200.8 - Dissolved		05/28/19	9051228	A19D189	
104	A9E0436-02	Water	Fe (Iron) - 200.8 - Dissolved		05/28/19	9051228	A19D189	
105	A9E0440-01	Water	Fe (Iron) - 200.8 - Dissolved		05/28/19	9051228	A19D189	
106	A9E0440-02	Water	Cd (Cadmium) - 6020 - Dissolved	(QC Source)		9051228	A19D189	

Sequence: **9E24020** Instrument: **ICPMS6**

Date: **05/24/19 09:05** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
107	"	Water	Cu (Copper) - 200.8 - Dissolved	(QC Source)		9051228	A19D189	
108	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/28/19	9051228	A19D189	
109	"	Water	Hg (Mercury) - 6020 - Dissolved	(QC Source)		9051228	A19D189	
110	"	Water	Pb (Lead) - 6020 - Dissolved	(QC Source)		9051228	A19D189	
111	9051228-DUP1	Water	QC	QC		9051228	A19D189	
112	9051228-MS1	Water	QC	QC		9051228	A19D189	
113	A9E0440-03	Water	Fe (Iron) - 200.8 - Dissolved		05/28/19	9051228	A19D189	
114	9E24020-CCV6	Water	QC	QC			A19D189	A19E109
115	9E24020-CCB6	Water	QC	QC			A19D189	
116	9E24020-CRL7	Water	QC	QC			A19D189	A19E285
117	9E24020-CRL8	Water	QC	QC			A19D189	A19E286
118	9E24020-CRL9	Water	QC	QC			A19D189	A19E287
119	9E24020-CRLA	Water	QC	QC			A19D189	A19E288
120	A9E0440-04	Water	Fe (Iron) - 200.8 - Dissolved		05/28/19	9051228	A19D189	
121	A9E0440-05	Water	Fe (Iron) - 200.8 - Dissolved		05/28/19	9051228	A19D189	
122	A9E0440-06	Water	Fe (Iron) - 200.8 - Dissolved		05/28/19	9051228	A19D189	
123	A9E0440-07	Water	Cd (Cadmium) - 6020 - Dissolved	(QC Source)		9051228	A19D189	
124	"	Water	Cu (Copper) - 200.8 - Dissolved	(QC Source)		9051228	A19D189	
125	"	Water	Fe (Iron) - 200.8 - Dissolved	"	05/28/19	9051228	A19D189	
126	"	Water	Hg (Mercury) - 6020 - Dissolved	(QC Source)		9051228	A19D189	
127	"	Water	Pb (Lead) - 6020 - Dissolved	(QC Source)		9051228	A19D189	
128	9051228-MS2	Water	QC	QC		9051228	A19D189	
129	A9E0726-01	Water	Cu (Copper) - 200.8 - Dissolved		06/05/19	9051228	A19D189	
130	"	Water	Fe (Iron) - 200.8 - Dissolved	"	06/05/19	9051228	A19D189	
131	A9E0726-02	Water	Cu (Copper) - 200.8 - Dissolved		06/05/19	9051228	A19D189	
132	"	Water	Fe (Iron) - 200.8 - Dissolved	"	06/05/19	9051228	A19D189	
133	A9E0726-03	Water	Cu (Copper) - 200.8 - Dissolved		06/05/19	9051228	A19D189	
134	"	Water	Fe (Iron) - 200.8 - Dissolved	"	06/05/19	9051228	A19D189	
135	A9E0726-04	Water	Cu (Copper) - 200.8 - Dissolved		06/05/19	9051228	A19D189	
136	"	Water	Fe (Iron) - 200.8 - Dissolved	"	06/05/19	9051228	A19D189	
137	A9E0726-05	Water	Cu (Copper) - 200.8 - Dissolved		06/05/19	9051228	A19D189	
138	"	Water	Fe (Iron) - 200.8 - Dissolved	"	06/05/19	9051228	A19D189	
139	9E24020-CCV7	Water	QC	QC			A19D189	A19E109
140	9E24020-CCB7	Water	QC	QC			A19D189	
141	9051275-BLK1	Solid	QC	QC		9051275	A19D189	
142	9051275-BS1	Solid	QC	QC		9051275	A19D189	
143	A9E0815-01	Solid	Ag (Silver) - 6020 - Total		05/28/19	9051275	A19D189	
144	"	Solid	As (Arsenic) - 6020 - Total	"	05/28/19	9051275	A19D189	
145	"	Solid	Ba (Barium) - 6020 - Total	"	05/28/19	9051275	A19D189	
146	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/28/19	9051275	A19D189	
147	"	Solid	Cr (Chromium) - 6020 - Total	"	05/28/19	9051275	A19D189	
148	"	Solid	Hg (Mercury) - 6020 - Total	"	05/28/19	9051275	A19D189	
149	"	Solid	Pb (Lead) - 6020 - Total	"	05/28/19	9051275	A19D189	
150	"	Solid	Se (Selenium) - 6020 - Total	"	05/28/19	9051275	A19D189	
151	A9E0816-01	Solid	Ag (Silver) - 6020 - Total		05/28/19	9051275	A19D189	
152	"	Solid	As (Arsenic) - 6020 - Total	"	05/28/19	9051275	A19D189	
153	"	Solid	Ba (Barium) - 6020 - Total	"	05/28/19	9051275	A19D189	
154	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/28/19	9051275	A19D189	
155	"	Solid	Cr (Chromium) - 6020 - Total	"	05/28/19	9051275	A19D189	
156	"	Solid	Hg (Mercury) - 6020 - Total	"	05/28/19	9051275	A19D189	
157	"	Solid	Pb (Lead) - 6020 - Total	"	05/28/19	9051275	A19D189	
158	"	Solid	Se (Selenium) - 6020 - Total	"	05/28/19	9051275	A19D189	
159	9051275-DUP1	Solid	QC	QC		9051275	A19D189	
160	9051275-MS1	Solid	QC	QC		9051275	A19D189	
161	9051254-BLK1	Soil	QC	QC		9051254	A19D189	

Sequence: **9E24020** Instrument: **ICPMS6**

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
162	9051254-BS1	Soil	QC	QC		9051254	A19D189	
163	A9E0391-01	Soil	Pb (Lead) - 6020 - TCLP	NRC	05/28/19	9051254	A19D189	
164	9051254-MS1	Soil	QC	QC		9051254	A19D189	
165	9E24020-CCV8	Water	QC	QC			A19D189	A19E109
166	9E24020-CCB8	Water	QC	QC			A19D189	
167	9051255-BLK1	Water	QC	QC		9051255	A19D189	
168	9051255-BS1	Water	QC	QC		9051255	A19D189	
169	A9E0722-01	Water	Ag (Silver) - 6020 - TCLP		05/28/19	9051255	A19D189	
170	"	Water	As (Arsenic) - 6020 - TCLP	"	05/28/19	9051255	A19D189	
171	"	Water	Ba (Barium) - 6020 - TCLP	"	05/28/19	9051255	A19D189	
172	"	Water	Cd (Cadmium) - 6020 - TCLP	"	05/28/19	9051255	A19D189	
173	"	Water	Cr (Chromium) - 6020 - TCLP	"	05/28/19	9051255	A19D189	
174	"	Water	Hg (Mercury) - 6020 - TCLP	"	05/28/19	9051255	A19D189	
175	"	Water	Pb (Lead) - 6020 - TCLP	"	05/28/19	9051255	A19D189	
176	"	Water	Se (Selenium) - 6020 - TCLP	"	05/28/19	9051255	A19D189	
177	9051255-MS1	Water	QC	QC		9051255	A19D189	
178	9051273-BLK1	Solid	QC	QC		9051273	A19D189	
179	9051273-BS1	Solid	QC	QC		9051273	A19D189	
180	A9E0171-01	Solid	Ag (Silver) - 6020 - TCLP		05/28/19	9051273	A19D189	
181	"	Solid	As (Arsenic) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
182	"	Solid	Ba (Barium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
183	"	Solid	Cd (Cadmium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
184	"	Solid	Cr (Chromium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
185	"	Solid	Hg (Mercury) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
186	"	Solid	Pb (Lead) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
187	"	Solid	Se (Selenium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
188	9051273-MS1	Solid	QC	QC		9051273	A19D189	
189	A9E0171-02	Solid	Ag (Silver) - 6020 - TCLP		05/28/19	9051273	A19D189	
190	"	Solid	As (Arsenic) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
191	"	Solid	Ba (Barium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
192	"	Solid	Cd (Cadmium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
193	"	Solid	Cr (Chromium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
194	"	Solid	Hg (Mercury) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
195	"	Solid	Pb (Lead) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
196	"	Solid	Se (Selenium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
197	A9E0171-03	Solid	Ag (Silver) - 6020 - TCLP		05/28/19	9051273	A19D189	
198	"	Solid	As (Arsenic) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
199	"	Solid	Ba (Barium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
200	"	Solid	Cd (Cadmium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
201	"	Solid	Cr (Chromium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
202	"	Solid	Hg (Mercury) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
203	"	Solid	Pb (Lead) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
204	"	Solid	Se (Selenium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
205	9E24020-CCV9	Water	QC	QC			A19D189	A19E109
206	9E24020-CCB9	Water	QC	QC			A19D189	
207	A9E0171-04	Solid	Ag (Silver) - 6020 - TCLP		05/28/19	9051273	A19D189	
208	"	Solid	As (Arsenic) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
209	"	Solid	Ba (Barium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
210	"	Solid	Cd (Cadmium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
211	"	Solid	Cr (Chromium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
212	"	Solid	Hg (Mercury) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
213	"	Solid	Pb (Lead) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
214	"	Solid	Se (Selenium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
215	A9E0171-05	Solid	Ag (Silver) - 6020 - TCLP		05/28/19	9051273	A19D189	
216	"	Solid	As (Arsenic) - 6020 - TCLP	"	05/28/19	9051273	A19D189	

Sequence: **9E24020** Instrument: **ICPMS6**

Date: **05/24/19 09:05** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
217	"	Solid	Ba (Barium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
218	"	Solid	Cd (Cadmium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
219	"	Solid	Cr (Chromium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
220	"	Solid	Hg (Mercury) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
221	"	Solid	Pb (Lead) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
222	"	Solid	Se (Selenium) - 6020 - TCLP	"	05/28/19	9051273	A19D189	
223	9051211-BLK1	Water	QC	QC		9051211	A19D189	
224	9051211-BS1	Water	QC	QC		9051211	A19D189	
225	A9E0473-02	Water	As (Arsenic) - 200.8 - Total		05/29/19	9051211	A19D189	
226	"	Water	Cr (Chromium) - 200.8 - Total	"	05/29/19	9051211	A19D189	
227	"	Water	Cu (Copper) - 200.8 - Total	"	05/29/19	9051211	A19D189	
228	"	Water	Fe (Iron) - 200.8 - Total	"	05/29/19	9051211	A19D189	
229	"	Water	Ni (Nickel) - 200.8 - Total	"	05/29/19	9051211	A19D189	
230	"	Water	Pb (Lead) - 200.8 - Total	"	05/29/19	9051211	A19D189	
231	"	Water	Zn (Zinc) - 200.8 - Total	"	05/29/19	9051211	A19D189	
232	A9E0477-01	Water	Al (Aluminum) - 200.8 - Total		05/29/19	9051211	A19D189	
233	"	Water	Cu (Copper) - 200.8 - Total	"	05/29/19	9051211	A19D189	
234	"	Water	Fe (Iron) - 200.8 - Total	"	05/29/19	9051211	A19D189	
235	"	Water	Pb (Lead) - 200.8 - Total	"	05/29/19	9051211	A19D189	
236	"	Water	Zn (Zinc) - 200.8 - Total	"	05/29/19	9051211	A19D189	
237	A9E0477-02	Water	Al (Aluminum) - 200.8 - Total		05/29/19	9051211	A19D189	
238	"	Water	Cu (Copper) - 200.8 - Total	"	05/29/19	9051211	A19D189	
239	"	Water	Fe (Iron) - 200.8 - Total	"	05/29/19	9051211	A19D189	
240	"	Water	Pb (Lead) - 200.8 - Total	"	05/29/19	9051211	A19D189	
241	"	Water	Zn (Zinc) - 200.8 - Total	"	05/29/19	9051211	A19D189	
242	A9E0477-03	Water	Ag (Silver) - 200.8 - Total	(QC Source)		9051211	A19D189	
243	"	Water	Al (Aluminum) - 200.8 - Total	"	05/29/19	9051211	A19D189	
244	"	Water	As (Arsenic) - 200.8 - Total	(QC Source)		9051211	A19D189	
245	"	Water	Cd (Cadmium) - 200.8 - Total	(QC Source)		9051211	A19D189	
246	"	Water	Cr (Chromium) - 200.8 - Total	(QC Source)		9051211	A19D189	
247	"	Water	Cu (Copper) - 200.8 - Total	"	05/29/19	9051211	A19D189	
248	"	Water	Fe (Iron) - 200.8 - Total	"	05/29/19	9051211	A19D189	
249	"	Water	Ni (Nickel) - 200.8 - Total	(QC Source)		9051211	A19D189	
250	"	Water	Pb (Lead) - 200.8 - Total	"	05/29/19	9051211	A19D189	
251	"	Water	Zn (Zinc) - 200.8 - Total	"	05/29/19	9051211	A19D189	
252	9051211-DUP1	Water	QC	QC		9051211	A19D189	
253	9051211-MS1	Water	QC	QC		9051211	A19D189	
254	9E24020-CCVA	Water	QC	QC			A19D189	A19E109
255	9E24020-CCBA	Water	QC	QC			A19D189	
256	9E24020-CRLB	Water	QC	QC			A19D189	A19E285
257	9E24020-CRLC	Water	QC	QC			A19D189	A19E286
258	9E24020-CRLD	Water	QC	QC			A19D189	A19E287
259	9E24020-CRLE	Water	QC	QC			A19D189	A19E288
260	A9E0485-01	Water	Fe (Iron) - 200.8 - Total		05/28/19	9051211	A19D189	
261	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051211	A19D189	
262	A9E0487-01	Water	Fe (Iron) - 200.8 - Total		05/28/19	9051211	A19D189	
263	A9E0487-02	Water	Fe (Iron) - 200.8 - Total		05/28/19	9051211	A19D189	
264	A9E0490-01	Water	Fe (Iron) - 200.8 - Total		05/28/19	9051211	A19D189	
265	A9E0492-01	Water	Zn (Zinc) - 200.8 - Total		05/28/19	9051211	A19D189	
266	A9E0492-02	Water	Zn (Zinc) - 200.8 - Total		05/28/19	9051211	A19D189	
267	A9E0496-01	Water	Fe (Iron) - 200.8 - Total		05/28/19	9051211	A19D189	
268	A9E0498-02	Water	Cu (Copper) - 200.8 - Total		05/29/19	9051211	A19D189	
269	"	Water	Pb (Lead) - 200.8 - Total	"	05/29/19	9051211	A19D189	
270	"	Water	Zn (Zinc) - 200.8 - Total	"	05/29/19	9051211	A19D189	
271	A9E0524-01	Water	Zn (Zinc) - 200.8 - Total	PCC Structurals	05/29/19	9051211	A19D189	

Sequence: **9E24020** Instrument: **ICPMS6**

Date: **05/24/19 09:05** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
272	A9E0526-01	Water	Zn (Zinc) - 200.8 - Total		05/29/19	9051211	A19D189	
273	9E24020-CCVB	Water	QC	QC			A19D189	A19E109
274	9E24020-CCBB	Water	QC	QC			A19D189	
275	A9E0530-01	Water	Cu (Copper) - 200.8 - Total		05/29/19	9051211	A19D189	
276	A9E0531-01	Water	Zn (Zinc) - 200.8 - Total		05/29/19	9051211	A19D189	
277	A9E0608-01	Water	Cu (Copper) - 200.8 - Total		05/28/19	9051211	A19D189	
278	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051211	A19D189	
279	A9E0619-02	Water	Ag (Silver) - 200.8 - Total		05/28/19	9051211	A19D189	
280	"	Water	Cd (Cadmium) - 200.8 - Total	"	05/28/19	9051211	A19D189	
281	"	Water	Cr (Chromium) - 200.8 - Total	"	05/28/19	9051211	A19D189	
282	"	Water	Cu (Copper) - 200.8 - Total	"	05/28/19	9051211	A19D189	
283	"	Water	Ni (Nickel) - 200.8 - Total	"	05/28/19	9051211	A19D189	
284	"	Water	Pb (Lead) - 200.8 - Total	"	05/28/19	9051211	A19D189	
285	"	Water	Zn (Zinc) - 200.8 - Total	"	05/28/19	9051211	A19D189	
286	A9E0687-01	Water	Ag (Silver) - 200.8 - Total	(QC Source)		9051211	A19D189	
287	"	Water	Al (Aluminum) - 200.8 - Total	(QC Source)		9051211	A19D189	
288	"	Water	As (Arsenic) - 200.8 - Total			9051211	A19D189	
289	"	Water	Cd (Cadmium) - 200.8 - Total	(QC Source)		9051211	A19D189	
290	"	Water	Cr (Chromium) - 200.8 - Total	(QC Source)		9051211	A19D189	
291	"	Water	Cu (Copper) - 200.8 - Total	"	05/28/19	9051211	A19D189	
292	"	Water	Fe (Iron) - 200.8 - Total	(QC Source)		9051211	A19D189	
293	"	Water	Ni (Nickel) - 200.8 - Total	(QC Source)		9051211	A19D189	
294	"	Water	Pb (Lead) - 200.8 - Total	(QC Source)		9051211	A19D189	
295	"	Water	Zn (Zinc) - 200.8 - Total	(QC Source)		9051211	A19D189	
296	9051211-MS2	Water	QC	QC		9051211	A19D189	
297	9051247-BLK1	Soil	QC	QC		9051247	A19D189	
298	9051247-BS1	Soil	QC	QC		9051247	A19D189	
299	A9E0448-01	Soil	Pb (Lead) - 6020 - Total		05/28/19	9051247	A19D189	
300	A9E0515-01	Soil	Ag (Silver) - 6020 - Total		05/29/19	9051247	A19D189	
301	"	Soil	As (Arsenic) - 6020 - Total	"	05/29/19	9051247	A19D189	
302	"	Soil	Ba (Barium) - 6020 - Total	"	05/29/19	9051247	A19D189	
303	"	Soil	Cd (Cadmium) - 6020 - Total	"	05/29/19	9051247	A19D189	
304	"	Soil	Cr (Chromium) - 6020 - Total	"	05/29/19	9051247	A19D189	
305	"	Soil	Hg (Mercury) - 6020 - Total	"	05/29/19	9051247	A19D189	
306	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
307	"	Soil	Se (Selenium) - 6020 - Total	"	05/29/19	9051247	A19D189	
308	9E24020-CCVC	Water	QC	QC			A19D189	A19E109
309	9E24020-CCBC	Water	QC	QC			A19D189	
310	A9E0515-05	Soil	Ag (Silver) - 6020 - Total		05/29/19	9051247	A19D189	
311	"	Soil	As (Arsenic) - 6020 - Total	"	05/29/19	9051247	A19D189	
312	"	Soil	Ba (Barium) - 6020 - Total	"	05/29/19	9051247	A19D189	
313	"	Soil	Cd (Cadmium) - 6020 - Total	"	05/29/19	9051247	A19D189	
314	"	Soil	Cr (Chromium) - 6020 - Total	"	05/29/19	9051247	A19D189	
315	"	Soil	Hg (Mercury) - 6020 - Total	"	05/29/19	9051247	A19D189	
316	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
317	"	Soil	Se (Selenium) - 6020 - Total	"	05/29/19	9051247	A19D189	
318	A9E0515-06	Soil	Ag (Silver) - 6020 - Total		05/29/19	9051247	A19D189	
319	"	Soil	As (Arsenic) - 6020 - Total	"	05/29/19	9051247	A19D189	
320	"	Soil	Ba (Barium) - 6020 - Total	"	05/29/19	9051247	A19D189	
321	"	Soil	Cd (Cadmium) - 6020 - Total	"	05/29/19	9051247	A19D189	
322	"	Soil	Cr (Chromium) - 6020 - Total	"	05/29/19	9051247	A19D189	
323	"	Soil	Hg (Mercury) - 6020 - Total	"	05/29/19	9051247	A19D189	
324	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
325	"	Soil	Se (Selenium) - 6020 - Total	"	05/29/19	9051247	A19D189	
326	9051247-DUP1	Soil	QC	QC		9051247	A19D189	

Sequence: **9E24020** Instrument: **ICPMS6**

Date: **05/24/19 09:05** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
327	9051247-MS1	Soil	QC	QC		9051247	A19D189	
328	A9E0515-07	Soil	Ag (Silver) - 6020 - Total		05/29/19	9051247	A19D189	
329	"	Soil	As (Arsenic) - 6020 - Total	"	05/29/19	9051247	A19D189	
330	"	Soil	Ba (Barium) - 6020 - Total	"	05/29/19	9051247	A19D189	
331	"	Soil	Cd (Cadmium) - 6020 - Total	"	05/29/19	9051247	A19D189	
332	"	Soil	Cr (Chromium) - 6020 - Total	"	05/29/19	9051247	A19D189	
333	"	Soil	Hg (Mercury) - 6020 - Total	"	05/29/19	9051247	A19D189	
334	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
335	"	Soil	Se (Selenium) - 6020 - Total	"	05/29/19	9051247	A19D189	
336	A9E0706-01	Soil	Pb (Lead) - 6020 - Total		05/28/19	9051247	A19D189	
337	A9E0706-02	Soil	Pb (Lead) - 6020 - Total		05/28/19	9051247	A19D189	
338	A9E0706-03	Soil	Pb (Lead) - 6020 - Total		05/28/19	9051247	A19D189	
339	A9E0749-01	Soil	As (Arsenic) - 6020 - Total		05/29/19	9051247	A19D189	
340	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
341	A9E0749-03	Soil	As (Arsenic) - 6020 - Total		05/29/19	9051247	A19D189	
342	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
343	9E24020-CCVD	Water	QC	QC			A19D189	A19E109
344	9E24020-CCBD	Water	QC	QC			A19D189	
345	A9E0749-05	Soil	As (Arsenic) - 6020 - Total		05/29/19	9051247	A19D189	
346	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
347	A9E0749-07	Soil	Ag (Silver) - 6020 - Total	(QC Source)		9051247	A19D189	
348	"	Soil	As (Arsenic) - 6020 - Total	"	05/29/19	9051247	A19D189	
349	"	Soil	Ba (Barium) - 6020 - Total	(QC Source)		9051247	A19D189	
350	"	Soil	Cd (Cadmium) - 6020 - Total	(QC Source)		9051247	A19D189	
351	"	Soil	Cr (Chromium) - 6020 - Total	(QC Source)		9051247	A19D189	
352	"	Soil	Hg (Mercury) - 6020 - Total	(QC Source)		9051247	A19D189	
353	"	Soil	Pb (Lead) - 6020 - Total	"	05/29/19	9051247	A19D189	
354	"	Soil	Se (Selenium) - 6020 - Total	(QC Source)		9051247	A19D189	
355	9051247-MS2	Soil	QC	QC		9051247	A19D189	
356	9E24020-CCVE	Water	QC	QC			A19D189	A19E109
357	9E24020-CCBE	Water	QC	QC			A19D189	
358	9E24020-CRLF	Water	QC	QC			A19D189	A19E285
359	9E24020-CRLG	Water	QC	QC			A19D189	A19E286
360	9E24020-CRLH	Water	QC	QC			A19D189	A19E287
361	9E24020-CRLI	Water	QC	QC			A19D189	A19E288

Data Entered By: ESS 5/28/19 Comments:

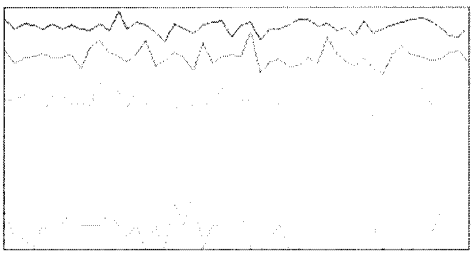
Data Reviewed By: [signature] 5/28/19

Standard Tune Check Report ICPMS6

Operator Name	ICPMS Analyst
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\9E24020.b
Acq. Date-Time	05/24/2019 09:17:09
Report Comment	9E24020 Std Multi-Mode Tune Report Std ID A19E047
Instrument Name	ICPMS6 JP17412047

[He]

Sensitivity



Sampling Period [sec]	0.412
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
59	500	400	4000.97	1000.00	
89	1000	624	6244.41	2000.00	
205	2000	1849	18493.04	1000.00	
75	20	1			

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
59	4.544	5.000	
89	5.110	5.000	Fail
205	2.705	5.000	
75	83.960		

see EPA report for RSDs ESS 5/28/19

Mass	Background	Background (Required)	Background (Flag)
59			
89			
205			
75			

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	2.0 V

Standard Tune Check Report ICPMS6

Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.3 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

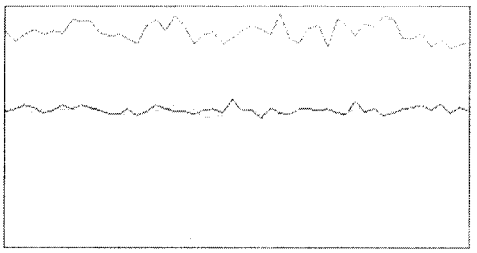
Torch H	-0.5 mm	Torch V	0.0 mm

EM

Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

[No Gas]

Sensitivity



Sampling Period [sec]	0.413
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
7	1000	897	8970.35	5000.00	
89	5000	2813	28127.31	10000.00	
205	5000	2862	28617.91	10000.00	
102	20	0			

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
7	0.32	0.20 - 1.00	
89	1.00	1.00 - 1.00	
205	1.02	0.50 - 1.50	
102		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
7	4.239	5.000	
89	2.519	5.000	
205	2.747	5.000	
102	399.830		

Mass	Background	Background (Required)	Background (Flag)
7			
89			
205			
102			

Standard Tune Check Report ICPMS6

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.699 % ✓
Doubly Charged	69 / 138 1.119 % ✓

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	16.0 V
Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	-0.5 mm	Torch V	0.0 mm		

EM

Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

EPA Tune Check Report ICPMS6

Operator Name	ICPMS Analyst
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\9E24020.b
Acq. Date-Time	05/24/2019 09:33:15
Report Comment	9E24020 EPA Multi-Mode Tune Report Std ID A19E047
Instrument Name	ICPMS6 JP17412047

[He]

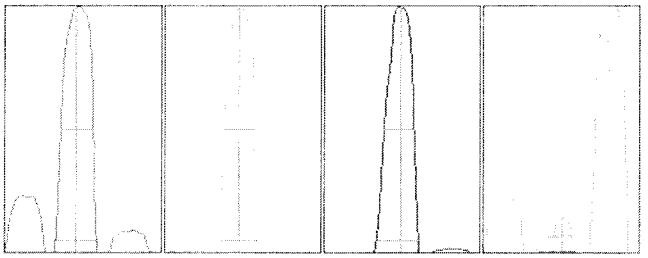
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Req) [cps/ug/l]	RSD%	Resp (Flag)	RSD% (Req)	RSD% (Flag)
59	1.00	228	2282.32	1000.00	1.105		5.000	
89	1.00	341	3410.42	2000.00	1.002		5.000	
205	1.00	1054	10540.60	1000.00	2.043		5.000	
75		1	5.50		21.320			

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	230	230	224	228	230
89	341	336	342	340	345
205	1078	1068	1055	1047	1022
75	0	0	1	1	1

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Ht	Axis	Axis (Req)	Axis (Flag)	W-50%	W-5%	W-X% (Req)	W-5% (Flag)
59	378.31	58.90	58.90 - 59.10		0.62	0.778	0.900	
89	595.59	88.95	88.90 - 89.10		0.59	0.732	0.900	
205	1870.24	205.00	204.90 - 205.10		0.59	0.804	0.900	
75	1.15	75.05	-		0.46	0.730		

Integration Time [sec] 0.1
Acquisition Time [sec] 134.8
Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min

EPA Tune Check Report ICPMS6

RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	2.0 V
Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.3 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	-0.5 mm	Torch V	0.0 mm

EM

Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

[No Gas]

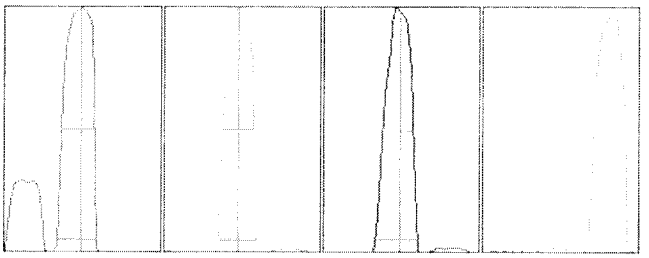
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Req) [cps/ug/l]	RSD%	Resp (Flag)	RSD% (Req)	RSD% (Flag)
7	1.00	563	5633.41	5000.00	1.343		5.000	
89	1.00	1530	15295.71	10000.00	0.881		5.000	
205	1.00	1498	14979.44	10000.00	1.235		5.000	
102		0	0.80		71.261			

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	574	567	563	558	555
89	1540	1528	1509	1543	1527
205	1470	1498	1498	1503	1521
102	0	0	0	0	0

Integration Time [sec] 0.1

Resolution/Axis



EPA Tune Check Report ICPMS6

Mass	Peak Ht	Axis	Axis (Req)	Axis (Flag)	W-50%	W-5%	W-X% (Req)	W-5% (Flag)
7	906.70	7.00	6.90 - 7.10		0.64	0.742	0.900	
89	2632.45	88.95	88.90 - 89.10		0.60	0.736	0.900	
205	2597.67	205.00	204.90 - 205.10		0.60	0.813	0.900	
102			-					

Integration Time [sec]	0.1
Acquisition Time [sec]	135.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	16.0 V
Extract 2	-185.0 V	Cell Entrance	-60 V	Plate Bias	-60 V
Omega Bias	-80 V	Cell Exit	-80 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	150 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9997	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	-0.5 mm	Torch V	0.0 mm		

EM

Discriminator	5.2 mV	Analog HV	2243 V	Pulse HV	1545 V

P/A Factor Tuning Report

========== Current Sample ==========

Sample Name: 9E24020-ICV1
Data File: 016_ICV.d
Acquired: 05/24/2019 10:53:15

========= Detector Parameters and P/A Factors =========

Discriminator: 5.2 mV
AnalogHV: 2243 V
PulseHV: 1545 V

Acquired: 05/23/2019 12:34:47

Mass[u]	Element	P/A Factor
23	Na	0.102906
24	Mg	0.107204
27	Al	0.110768
39	K	0.115102
44	Ca	0.115099
47	Ti	0.113772
51	V	0.117622
52	Cr	0.121354
55	Mn	0.122969
56	Fe	0.128323
59	Co	0.130625
98	Mo	0.131911
6	Li	Signal too low
7	[Li]	Signal too low
9	Be	Signal too low
10	B	Signal too low
45	Sc	Signal too low
60	Ni	Signal too low
65	Cu	Signal too low
66	Zn	Signal too low
74	Ge	Signal too low
75	As	Signal too low
78	Se	Signal too low
82	Se	Signal too low
99	[Mo]	Signal too low
103	Rh	Signal too low
108	[Cd]	Signal too low
109	Ag	Signal too low
111	Cd	Signal too low
123	Sb	Signal too low
137	Ba	Signal too low
159	Tb	Signal too low
186	W	Signal too low

201	Hg	Signal too low
202	Hg	Signal too low
205	Tl	Signal too low
206	[Pb]	Signal too low
207	[Pb]	Signal too low
208	Pb	Signal too low
209	Bi	Signal too low

=== Independent Detector Parameters and P/A Factors ===

Tune Mode Name: He
Discriminator: 5.2 mV
AnalogHV: 2243 V
PulseHV: 1545 V

Acquired: 05/24/2019 10:42:43

Mass[u]	Element	P/A Factor
23	Na	0.109718
27	Al	0.119509
39	K	0.124085
44	Ca	0.124328
51	V	0.127949
52	Cr	0.130718
56	Fe	0.133969
60	Ni	0.139046
65	Cu	0.141473
66	Zn	0.141126
45	Sc	Signal too low
74	Ge	Signal too low
75	As	Signal too low
78	Se	Signal too low

Tune Mode Name: No Gas
Discriminator: 5.2 mV
AnalogHV: 2243 V
PulseHV: 1545 V

Acquired: 05/24/2019 10:43:56

Mass[u]	Element	P/A Factor
6	Li	0.097299
24	Mg	0.114418
45	Sc	0.124255
47	Ti	0.124621
55	Mn	0.131702
59	Co	0.136834
65	Cu	0.141102

74	Ge	0.138272
98	Mo	0.137266
103	Rh	0.141454
109	Ag	0.147597
111	Cd	0.145835
123	Sb	0.145097
137	Ba	0.146202
159	Tb	0.147505
186	W	0.149663
205	Tl	0.155434
206	[Pb]	0.155436
207	[Pb]	0.155766
208	Pb	0.156254
209	Bi	0.154612
7	[Li]	Signal too low
9	Be	Signal too low
82	Se	Signal too low
83	[Se]	Signal too low
99	[Mo]	Signal too low
106	[Cd]	Signal too low
108	[Cd]	Signal too low
201	Hg	Signal too low

Created: 05/28/2019 09:29:00

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	001RINS.d	**Vial #**	1
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 09:36:45	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	398178	1.7	0		70	120	
Sc	45	He	8	107.8	0		70	120	RSD Warning
Sc	45	No Gas	1109349	1.9	0		70	120	
Ge	74	He	24	15.8	0		70	120	
Ge	74	No Gas	409552	0.6	0		70	120	
Rh	103	No Gas	442706	0.7	0		70	120	
Tb	159	No Gas	928069	0.6	0		70	120	
Bi	209	No Gas	656831	0.6	0		70	120	

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	002RINS.d	**Vial #**	1
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 09:41:22	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	389866	0.3	0		70	120	
Sc	45	He	72005	1.3	0		70	120	
Sc	45	No Gas	1118335	2.8	0		70	120	
Ge	74	He	78886	0.5	0		70	120	
Ge	74	No Gas	400532	0.3	0		70	120	
Rh	103	No Gas	436201	0.3	0		70	120	
Tb	159	No Gas	903154	0.4	0		70	120	
Bi	209	No Gas	629858	1.4	0		70	120	

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	003RINS.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 09:45:59	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	376616	3.6	0		70	120	
Sc	45	He	71164	1.4	0		70	120	
Sc	45	No Gas	1114132	0.3	0		70	120	
Ge	74	He	78052	0.1	0		70	120	
Ge	74	No Gas	397026	3.2	0		70	120	
Rh	103	No Gas	427506	2.6	0		70	120	
Tb	159	No Gas	889183	2.2	0		70	120	
Bi	209	No Gas	624560	2.1	0		70	120	

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	004CALB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 09:50:36	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1139062	9.1	0		70	120	
Sc	45	He	167160	10.9	0		70	120	
Sc	45	No Gas	2747419	9.4	0		70	120	
Ge	74	He	185051	11.3	0		70	120	
Ge	74	No Gas	1052316	10.1	0		70	120	
Rh	103	No Gas	1135592	10.1	0		70	120	
Tb	159	No Gas	2463002	8.7	0		70	120	
Bi	209	No Gas	1535192	7.5	0		70	120	

Sample Report ICPMS6

Sample Name	**rinse**	**Sample Type**	Rinse
File Name	005RINS.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 09:55:24	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	rinse		
ISTD Ref FileName	---	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	343882	0.9	0		70	120	
Sc	45	He	73699	1.1	0		70	120	
Sc	45	No Gas	1099301	0.5	0		70	120	
Ge	74	He	80628	1.4	0		70	120	
Ge	74	No Gas	391123	0.4	0		70	120	
Rh	103	No Gas	426548	0.2	0		70	120	
Tb	159	No Gas	890284	1.0	0		70	120	
Bi	209	No Gas	628221	1.6	0		70	120	

Calibration Blank Report ICPMS6

Sample Name	**9E24020-CAL0**	**Sample Type**	CalBlk
File Name	006CALB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:00:01	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	Cal Blank		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	CPS	CPS RSD
Be	9	6	No Gas	9	57.3
Na	23	45	He	4140	1.3
Mg	24	45	No Gas	72885	0.5
Al	27	45	He	24	20.8
K	39	45	He	9785	1.0
Ca	44	45	He	34	77.6
Ti	47	45	No Gas	101	11.6
V	51	74	He	433	14.4
Cr	52	74	He	93	23.4
Mn	55	74	No Gas	2139	4.3
Fe	56	74	He	5293	2.5
Co	59	74	No Gas	68	19.9
Ni	60	74	He	197	16.3
Cu	65	74	He	41	26.1
Zn	66	74	He	41	47.5
As	75	74	He	15	2.0
Se	78	74	He	14	9.4
Se	82	74	No Gas	16	3.7
Mo	98	103	No Gas	23	24.7
Ag	109	103	No Gas	8	39.8
Cd	111	103	No Gas	2	157.1
Sb	123	103	No Gas	7	86.6
Ba	137	159	No Gas	14	53.3
W	186	159	No Gas	13	43.3
Hg	201	159	No Gas	1	50.0
Tl	205	159	No Gas	31	6.2
Pb	208	159	No Gas	116	4.4

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Sc	45	He	74425	9.9
Ge	74	He	81443	10.1
Li	6	No Gas	328630	0.7
Sc	45	No Gas	1080969	0.8
Ge	74	No Gas	386166	0.5
Rh	103	No Gas	422155	0.8
Tb	159	No Gas	887047	0.4
Bi	209	No Gas	619480	1.2

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL1**	**Sample Type**	CalStd
File Name	007CALS.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:04:50	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E285 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.18	ug/l	361	19.2	3	0.3000	RSD Warning
Na	23	45	He	9.075	ug/l	7444	1.6	3	0.3000	
Mg	24	45	No Gas	10.69	ug/l	130355	1.2	3	0.0999	
Al	27	45	He	8.677	ug/l	867	4.7	3	0.3000	
K	39	45	He	10.569	ug/l	11774	2.2	3	0.3000	
Ca	44	45	He	6.354	ug/l	103	28.1	3	0.3000	RSD Warning
Ti	47	45	No Gas	0.168	ug/l	238	2.9	3	0.3000	
V	51	74	He	0.182	ug/l	791	2.1	3	0.3000	
Cr	52	74	He	0.171	ug/l	509	7.6	3	0.3000	
Mn	55	74	No Gas	0.176	ug/l	4798	1.6	3	0.3000	
Fe	56	74	He	9.096	ug/l	25454	1.4	3	0.3000	
Co	59	74	No Gas	0.2	ug/l	2138	1.7	3	0.3000	
Ni	60	74	He	0.221	ug/l	390	8.7	3	0.3000	
Cu	65	74	He	0.189	ug/l	266	11.7	3	0.3000	
Zn	66	74	He	0.149	ug/l	126	11.1	3	0.3000	
As	75	74	He	0.182	ug/l	87	6.0	3	2.0001	
Se	78	74	He	0.122	ug/l	18	6.9	3	2.0001	
Se	82	74	No Gas	0.097	ug/l	29	41.4	3	0.9999	RSD Warning
Mo	98	103	No Gas	0.174	ug/l	1114	12.3	3	0.0999	
Ag	109	103	No Gas	0.183	ug/l	1921	1.5	3	0.9999	
Cd	111	103	No Gas	0.159	ug/l	396	3.1	3	0.3000	
Sb	123	103	No Gas	0.156	ug/l	1205	5.9	3	0.0999	
Ba	137	159	No Gas	0.185	ug/l	618	4.0	3	0.3000	
Hg	201	159	No Gas	7.225	ng/l	12	8.7	3	2.0001	
Tl	205	159	No Gas	0.18	ug/l	4616	3.1	3	0.3000	
Pb	208	159	No Gas	0.178	ug/l	6280	1.1	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	324506	0.8	3	328630.38	98.74	70	120	
Sc	45	He	73050	1.0	3	74425.24	98.15	70	120	
Sc	45	No Gas	1091343	0.4	3	1080968.53	100.96	70	120	
Ge	74	He	80828	0.9	3	81443.29	99.24	70	120	
Ge	74	No Gas	387897	0.4	3	386165.82	100.45	70	120	
Rh	103	No Gas	426920	0.6	3	422155.36	101.13	70	120	
Tb	159	No Gas	894547	0.8	3	887046.79	100.85	70	120	
Bi	209	No Gas	632229	0.5	3	619480.15	102.06	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL2**	**Sample Type**	CalStd
File Name	008CALS.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:09:39	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E286 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.857	ug/l	1666	7.3	3	0.3000	
Na	23	45	He	43.992	ug/l	20476	1.2	3	0.3000	
Mg	24	45	No Gas	53.034	ug/l	352480	0.7	3	0.0999	
Al	27	45	He	44.912	ug/l	4414	2.1	3	0.3000	
K	39	45	He	44.398	ug/l	18644	1.5	3	0.3000	
Ca	44	45	He	40.72	ug/l	490	7.7	3	0.3000	
Ti	47	45	No Gas	0.811	ug/l	751	12.0	3	0.3000	
V	51	74	He	0.895	ug/l	2202	2.6	3	0.3000	
Cr	52	74	He	0.873	ug/l	2222	3.2	3	0.3000	
Mn	55	74	No Gas	0.918	ug/l	16145	1.8	3	0.3000	
Fe	56	74	He	45.04	ug/l	105470	0.3	3	0.3000	
Co	59	74	No Gas	0.949	ug/l	9976	2.4	3	0.3000	
Ni	60	74	He	0.961	ug/l	1049	8.4	3	0.3000	
Cu	65	74	He	0.92	ug/l	1142	6.7	3	0.3000	
Zn	66	74	He	0.873	ug/l	533	3.1	3	0.3000	
As	75	74	He	0.888	ug/l	367	5.0	3	2.0001	
Se	78	74	He	0.789	ug/l	42	11.0	3	2.0001	
Se	82	74	No Gas	0.831	ug/l	131	6.9	3	0.9999	
Mo	98	103	No Gas	0.871	ug/l	5483	6.1	3	0.0999	
Ag	109	103	No Gas	0.904	ug/l	9498	0.6	3	0.9999	
Cd	111	103	No Gas	0.845	ug/l	2105	2.2	3	0.3000	
Sb	123	103	No Gas	0.859	ug/l	6622	1.2	3	0.0999	
Ba	137	159	No Gas	0.975	ug/l	3213	4.6	3	0.3000	
Hg	201	159	No Gas	34.91	ng/l	52	8.2	3	2.0001	
Tl	205	159	No Gas	0.9	ug/l	23107	2.1	3	0.3000	
Pb	208	159	No Gas	0.879	ug/l	30684	1.3	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	320673	0.6	3	328630.38	97.58	70	120	
Sc	45	He	73501	1.0	3	74425.24	98.76	70	120	
Sc	45	No Gas	1082962	0.9	3	1080968.53	100.18	70	120	
Ge	74	He	81085	1.4	3	81443.29	99.56	70	120	
Ge	74	No Gas	391250	0.8	3	386165.82	101.32	70	120	
Rh	103	No Gas	427742	0.8	3	422155.36	101.32	70	120	
Tb	159	No Gas	899598	0.7	3	887046.79	101.41	70	120	
Bi	209	No Gas	638337	1.9	3	619480.15	103.04	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL3**	**Sample Type**	CalStd
File Name	009CALS.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:14:27	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E287 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	1.75	ug/l	3359	3.6	3	0.3000	
Na	23	45	He	89.091	ug/l	36628	1.1	3	0.3000	
Mg	24	45	No Gas	107.533	ug/l	633107	0.9	3	0.0999	
Al	27	45	He	89.408	ug/l	8619	1.2	3	0.3000	
K	39	45	He	91.034	ug/l	27548	1.1	3	0.3000	
Ca	44	45	He	87.829	ug/l	1002	5.6	3	0.3000	
Ti	47	45	No Gas	1.715	ug/l	1461	2.2	3	0.3000	
V	51	74	He	1.724	ug/l	3769	4.5	3	0.3000	
Cr	52	74	He	1.778	ug/l	4345	2.9	3	0.3000	
Mn	55	74	No Gas	1.857	ug/l	30231	0.5	3	0.3000	
Fe	56	74	He	91.711	ug/l	205419	2.2	3	0.3000	
Co	59	74	No Gas	1.902	ug/l	19791	0.9	3	0.3000	
Ni	60	74	He	1.792	ug/l	1753	8.7	3	0.3000	
Cu	65	74	He	1.968	ug/l	2354	3.3	3	0.3000	
Zn	66	74	He	1.807	ug/l	1039	3.7	3	0.3000	
As	75	74	He	1.766	ug/l	702	5.3	3	2.0001	
Se	78	74	He	1.858	ug/l	77	3.9	3	2.0001	
Se	82	74	No Gas	1.743	ug/l	255	4.5	3	0.9999	
Mo	98	103	No Gas	1.766	ug/l	11049	1.0	3	0.0999	
Ag	109	103	No Gas	1.788	ug/l	18716	1.0	3	0.9999	
Cd	111	103	No Gas	1.668	ug/l	4142	2.9	3	0.3000	
Sb	123	103	No Gas	1.727	ug/l	13264	3.1	3	0.0999	
Ba	137	159	No Gas	1.919	ug/l	6253	2.5	3	0.3000	
Hg	201	159	No Gas	72.35	ng/l	106	7.8	3	2.0001	
Tl	205	159	No Gas	1.816	ug/l	46171	1.5	3	0.3000	
Pb	208	159	No Gas	1.761	ug/l	60797	1.4	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	317773	0.7	3	328630.38	96.7	70	120	
Sc	45	He	72290	2.0	3	74425.24	97.13	70	120	
Sc	45	No Gas	1071916	1.5	3	1080968.53	99.16	70	120	
Ge	74	He	79580	1.7	3	81443.29	97.71	70	120	
Ge	74	No Gas	388720	1.1	3	386165.82	100.66	70	120	
Rh	103	No Gas	426409	1.5	3	422155.36	101.01	70	120	
Tb	159	No Gas	891598	1.6	3	887046.79	100.51	70	120	
Bi	209	No Gas	629850	2.8	3	619480.15	101.67	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL4**	**Sample Type**	CalStd
File Name	010CALS.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:19:15	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E288 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	3.536	ug/l	6658	1.7	3	0.3000	
Na	23	45	He	173.822	ug/l	70059	0.9	3	0.3000	
Mg	24	45	No Gas	196.149	ug/l	1070216	0.7	3	0.0999	
Al	27	45	He	177.079	ug/l	17670	0.9	3	0.3000	
K	39	45	He	179.237	ug/l	46594	1.3	3	0.3000	
Ca	44	45	He	173.335	ug/l	2017	4.7	3	0.3000	
Ti	47	45	No Gas	3.728	ug/l	2989	4.7	3	0.3000	
V	51	74	He	3.439	ug/l	7320	3.5	3	0.3000	
Cr	52	74	He	3.377	ug/l	8428	0.3	3	0.3000	
Mn	55	74	No Gas	3.685	ug/l	58366	0.3	3	0.3000	
Fe	56	74	He	179.542	ug/l	409762	0.5	3	0.3000	
Co	59	74	No Gas	3.794	ug/l	39744	1.5	3	0.3000	
Ni	60	74	He	3.6	ug/l	3430	4.1	3	0.3000	
Cu	65	74	He	3.725	ug/l	4559	0.5	3	0.3000	
Zn	66	74	He	3.718	ug/l	2164	5.9	3	0.3000	
As	75	74	He	3.485	ug/l	1416	1.4	3	2.0001	
Se	78	74	He	3.447	ug/l	136	1.7	3	2.0001	
Se	82	74	No Gas	3.629	ug/l	519	8.6	3	0.9999	
Mo	98	103	No Gas	3.525	ug/l	22120	2.3	3	0.0999	
Ag	109	103	No Gas	3.596	ug/l	37750	0.2	3	0.9999	
Cd	111	103	No Gas	3.494	ug/l	8702	2.0	3	0.3000	
Sb	123	103	No Gas	3.462	ug/l	26681	1.5	3	0.0999	
Ba	137	159	No Gas	3.918	ug/l	12902	1.9	3	0.3000	
Hg	201	159	No Gas	145.558	ng/l	214	4.7	3	2.0001	
Tl	205	159	No Gas	3.62	ug/l	93157	1.3	3	0.3000	
Pb	208	159	No Gas	3.525	ug/l	123073	1.3	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	312296	1.9	3	328630.38	95.03	70	120	
Sc	45	He	74935	2.6	3	74425.24	100.68	70	120	
Sc	45	No Gas	1047408	1.4	3	1080968.53	96.9	70	120	
Ge	74	He	82193	3.7	3	81443.29	100.92	70	120	
Ge	74	No Gas	392088	2.6	3	386165.82	101.53	70	120	
Rh	103	No Gas	428191	3.4	3	422155.36	101.43	70	120	
Tb	159	No Gas	902802	2.9	3	887046.79	101.78	70	120	
Bi	209	No Gas	634140	3.5	3	619480.15	102.37	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL5**	**Sample Type**	CalStd
File Name	011CALS.d	**Vial #**	2105
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:23:55	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E083 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	10.035	ug/l	18612	0.8	3	0.3000	
Na	23	45	He	391.006	ug/l	154121	0.4	3	0.3000	
Mg	24	45	No Gas	435.176	ug/l	2318750	1.1	3	0.0999	
Al	27	45	He	395.598	ug/l	39895	1.5	3	0.3000	
K	39	45	He	399.491	ug/l	92747	0.3	3	0.3000	
Ca	44	45	He	405.507	ug/l	4728	2.9	3	0.3000	
Ti	47	45	No Gas	20.246	ug/l	16003	0.2	3	0.3000	
V	51	74	He	19.457	ug/l	39604	1.1	3	0.3000	
Cr	52	74	He	19.685	ug/l	48939	0.9	3	0.3000	
Mn	55	74	No Gas	20.956	ug/l	317319	1.1	3	0.3000	
Fe	56	74	He	407.382	ug/l	928328	0.6	3	0.3000	
Co	59	74	No Gas	21.053	ug/l	217214	0.5	3	0.3000	
Ni	60	74	He	20.458	ug/l	18684	0.4	3	0.3000	
Cu	65	74	He	21.235	ug/l	25941	0.8	3	0.3000	
Zn	66	74	He	19.912	ug/l	11455	2.6	3	0.3000	
As	75	74	He	19.565	ug/l	7924	0.4	3	2.0001	
Se	78	74	He	9.842	ug/l	364	1.3	3	2.0001	
Se	82	74	No Gas	10.049	ug/l	1388	2.5	3	0.9999	
Mo	98	103	No Gas	9.756	ug/l	60438	1.0	3	0.0999	
Ag	109	103	No Gas	10.057	ug/l	104302	0.8	3	0.9999	
Cd	111	103	No Gas	19.713	ug/l	48509	0.4	3	0.3000	
Sb	123	103	No Gas	10.248	ug/l	78032	0.6	3	0.0999	
Ba	137	159	No Gas	21.455	ug/l	69218	0.8	3	0.3000	
Hg	201	159	No Gas	415.688	ng/l	598	4.2	3	2.0001	
Tl	205	159	No Gas	10.228	ug/l	257972	2.4	3	0.3000	
Pb	208	159	No Gas	20.905	ug/l	715056	1.0	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	307722	0.7	3	328630.38	93.64	70	120	
Sc	45	He	75781	2.1	3	74425.24	101.82	70	120	
Sc	45	No Gas	1061305	1.4	3	1080968.53	98.18	70	120	
Ge	74	He	82589	0.2	3	81443.29	101.41	70	120	
Ge	74	No Gas	386549	1.1	3	386165.82	100.1	70	120	
Rh	103	No Gas	422706	0.2	3	422155.36	100.13	70	120	
Tb	159	No Gas	884715	0.8	3	887046.79	99.74	70	120	
Bi	209	No Gas	628792	1.6	3	619480.15	101.5	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL6**	**Sample Type**	CalStd
File Name	012CALS.d	**Vial #**	2106
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:28:43	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E289		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	51.124	ug/l	92424	0.8	3	0.3000	
Na	23	45	He	2500.848	ug/l	923972	0.9	3	0.3000	
Mg	24	45	No Gas	2622.118	ug/l	13363148	1.2	3	0.0999	
Al	27	45	He	2508.055	ug/l	242577	1.1	3	0.3000	
K	39	45	He	2537.687	ug/l	513903	0.8	3	0.3000	
Ca	44	45	He	2496.649	ug/l	27766	1.2	3	0.3000	
Ti	47	45	No Gas	50.065	ug/l	38712	1.7	3	0.3000	
V	51	74	He	49.961	ug/l	96411	0.5	3	0.3000	
Cr	52	74	He	49.513	ug/l	117377	1.4	3	0.3000	
Mn	55	74	No Gas	51.429	ug/l	771356	1.4	3	0.3000	
Fe	56	74	He	2545.58	ug/l	5510099	0.6	3	0.3000	
Co	59	74	No Gas	52.467	ug/l	538312	1.4	3	0.3000	
Ni	60	74	He	52.446	ug/l	45428	1.4	3	0.3000	
Cu	65	74	He	52.424	ug/l	61080	1.3	3	0.3000	
Zn	66	74	He	51.034	ug/l	27966	1.8	3	0.3000	
As	75	74	He	50.731	ug/l	19590	0.5	3	2.0001	
Se	78	74	He	51.763	ug/l	1770	0.8	3	2.0001	
Se	82	74	No Gas	50.487	ug/l	6873	1.0	3	0.9999	
Mo	98	103	No Gas	50.21	ug/l	303163	1.2	3	0.0999	
Ag	109	103	No Gas	50.952	ug/l	515144	0.6	3	0.9999	
Cd	111	103	No Gas	48.766	ug/l	116990	1.2	3	0.3000	
Sb	123	103	No Gas	49.964	ug/l	370868	0.5	3	0.0999	
Ba	137	159	No Gas	54.147	ug/l	173043	1.5	3	0.3000	
Hg	201	159	No Gas	2037.117	ng/l	2901	0.7	3	2.0001	
Tl	205	159	No Gas	51.153	ug/l	1277932	1.3	3	0.3000	
Pb	208	159	No Gas	49.088	ug/l	1663171	1.0	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	300068	1.1	3	328630.38	91.31	70	120	
Sc	45	He	72710	1.6	3	74425.24	97.7	70	120	
Sc	45	No Gas	1041977	1.9	3	1080968.53	96.39	70	120	
Ge	74	He	78856	2.1	3	81443.29	96.82	70	120	
Ge	74	No Gas	384492	2.0	3	386165.82	99.57	70	120	
Rh	103	No Gas	412166	1.8	3	422155.36	97.63	70	120	
Tb	159	No Gas	876552	2.1	3	887046.79	98.82	70	120	
Bi	209	No Gas	616652	2.5	3	619480.15	99.54	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL7**	**Sample Type**	CalStd
File Name	013CALS.d	**Vial #**	2107
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:33:23	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A18E082		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	99.438	ug/l	173089	0.5	3	0.3000	
Na	23	45	He	4041.634	ug/l	1438842	0.2	3	0.3000	
Mg	24	45	No Gas	4181.362	ug/l	20399751	1.1	3	0.0999	
Al	27	45	He	4027.129	ug/l	375917	0.6	3	0.3000	
K	39	45	He	4065.226	ug/l	788984	0.8	3	0.3000	
Ca	44	45	He	4019.581	ug/l	43128	0.8	3	0.3000	
Ti	47	45	No Gas	197.424	ug/l	146141	1.1	3	0.3000	
V	51	74	He	196.664	ug/l	368133	0.2	3	0.3000	
Cr	52	74	He	195.497	ug/l	450709	0.4	3	0.3000	
Mn	55	74	No Gas	202.127	ug/l	2923838	1.0	3	0.3000	
Fe	56	74	He	4011.092	ug/l	8446978	0.5	3	0.3000	
Co	59	74	No Gas	203.638	ug/l	2018964	1.2	3	0.3000	
Ni	60	74	He	204.597	ug/l	171921	0.7	3	0.3000	
Cu	65	74	He	208.767	ug/l	236577	0.4	3	0.3000	
Zn	66	74	He	202.76	ug/l	107995	0.1	3	0.3000	
As	75	74	He	197.971	ug/l	74358	0.2	3	2.0001	
Se	78	74	He	99.14	ug/l	3286	1.4	3	2.0001	
Se	82	74	No Gas	99.752	ug/l	13109	1.3	3	0.9999	
Mo	98	103	No Gas	99.923	ug/l	584908	0.6	3	0.0999	
Ag	109	103	No Gas	99.518	ug/l	975547	0.9	3	0.9999	
Cd	111	103	No Gas	198.57	ug/l	461868	0.9	3	0.3000	
Sb	123	103	No Gas	103.309	ug/l	743488	0.8	3	0.0999	
Ba	137	159	No Gas	209.853	ug/l	669651	1.3	3	0.3000	
Hg	201	159	No Gas	3979.82	ng/l	5657	0.1	3	2.0001	
Tl	205	159	No Gas	99.4	ug/l	2479410	1.3	3	0.3000	
Pb	208	159	No Gas	201.555	ug/l	6818734	0.5	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	288914	0.6	3	328630.38	87.91	70	120	
Sc	45	He	70175	0.6	3	74425.24	94.29	70	120	
Sc	45	No Gas	999339	0.5	3	1080968.53	92.45	70	120	
Ge	74	He	76725	0.4	3	81443.29	94.21	70	120	
Ge	74	No Gas	371524	1.0	3	386165.82	96.21	70	120	
Rh	103	No Gas	399561	0.4	3	422155.36	94.65	70	120	
Tb	159	No Gas	875209	1.3	3	887046.79	98.67	70	120	
Bi	209	No Gas	610223	0.8	3	619480.15	98.51	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL8**	**Sample Type**	CalStd
File Name	014CALS.d	**Vial #**	2108
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:38:03	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19D321		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.034	ug/l	63	19.0	3	0.3000	RSD Warning
Na	23	45	He	10204.644	ug/l	3424127	0.5	3	0.3000	
Mg	24	45	No Gas	10334.298	ug/l	48382709	0.5	3	0.0999	
Al	27	45	He	10267.638	ug/l	904767	0.8	3	0.3000	
K	39	45	He	10456.475	ug/l	1902209	0.5	3	0.3000	
Ca	44	45	He	10167.715	ug/l	102951	0.1	3	0.3000	
Ti	47	45	No Gas	498.285	ug/l	354513	0.7	3	0.3000	
V	51	74	He	501.361	ug/l	892218	0.4	3	0.3000	
Cr	52	74	He	494.728	ug/l	1084981	0.2	3	0.3000	
Mn	55	74	No Gas	508.676	ug/l	7009504	0.6	3	0.3000	
Fe	56	74	He	10036.428	ug/l	20099615	0.8	3	0.3000	
Co	59	74	No Gas	498.254	ug/l	4707700	0.9	3	0.3000	
Ni	60	74	He	509.415	ug/l	406978	0.5	3	0.3000	
Cu	65	74	He	518.539	ug/l	558995	0.2	3	0.3000	
Zn	66	74	He	511.13	ug/l	258937	0.3	3	0.3000	
As	75	74	He	500.757	ug/l	178920	0.1	3	2.0001	
Se	78	74	He	0.097	ug/l	16	24.8	3	2.0001	RSD Warning
Se	82	74	No Gas	0.01	ug/l	16	189.4	3	0.9999	RSD Warning
Mo	98	103	No Gas	0.077	ug/l	453	8.8	3	0.0999	
Ag	109	103	No Gas	0.023	ug/l	220	5.4	3	0.9999	
Cd	111	103	No Gas	506.721	ug/l	1130337	0.3	3	0.3000	
Sb	123	103	No Gas	0.093	ug/l	651	6.7	3	0.0999	
Ba	137	159	No Gas	518.129	ug/l	1622751	0.4	3	0.3000	
Hg	201	159	No Gas	135.473	ng/l	190	3.4	3	2.0001	
Tl	205	159	No Gas	0.03	ug/l	768	11.6	3	0.3000	
Pb	208	159	No Gas	499.434	ug/l	16584420	1.6	3	0.3000	

QC ISTD Table

Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	272318	0.3	3	328630.38	82.86	70	120	
Sc	45	He	66257	1.4	3	74425.24	89.03	70	120	
Sc	45	No Gas	960894	0.6	3	1080968.53	88.89	70	120	
Ge	74	He	73006	1.6	3	81443.29	89.64	70	120	
Ge	74	No Gas	354081	0.6	3	386165.82	91.69	70	120	
Rh	103	No Gas	383200	0.2	3	422155.36	90.77	70	120	
Tb	159	No Gas	859024	0.5	3	887046.79	96.84	70	120	
Bi	209	No Gas	587712	1.4	3	619480.15	94.87	70	120	

Calibration Standard Report ICPMS6

Sample Name	**9E24020-CAL9**	**Sample Type**	CalStd
File Name	015CALS.d	**Vial #**	2109
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:42:40	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E164		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Raw Conc.	Units	CPS	CPS RSD	Rep	Int. sec	QC Flag
Be	9	6	No Gas	0.023	ug/l	41	26.1	3	0.3000	RSD Warning
Na	23	45	He	49955.795	ug/l	16591971	0.3	3	0.3000	
Mg	24	45	No Gas	49912.147	ug/l	230231962	1.1	3	0.0999	
Al	27	45	He	49943.946	ug/l	4360069	0.3	3	0.3000	
K	39	45	He	49901.608	ug/l	8960049	0.4	3	0.3000	
Ca	44	45	He	49965.046	ug/l	501066	0.6	3	0.3000	
Ti	47	45	No Gas	2500.546	ug/l	1754367	0.8	3	0.3000	
V	51	74	He	-0.043	ug/l	302	17.0	3	0.3000	RSD Warning
Cr	52	74	He	1003.568	ug/l	2117764	0.2	3	0.3000	
Mn	55	74	No Gas	2498.058	ug/l	33127244	0.9	3	0.3000	
Fe	56	74	He	49989.487	ug/l	96326234	0.6	3	0.3000	
Co	59	74	No Gas	0.299	ug/l	2781	3.6	3	0.3000	
Ni	60	74	He	994.241	ug/l	764173	0.2	3	0.3000	
Cu	65	74	He	988.831	ug/l	1025610	0.7	3	0.3000	
Zn	66	74	He	2497.533	ug/l	1217313	0.4	3	0.3000	
As	75	74	He	0.115	ug/l	52	1.1	3	2.0001	
Se	78	74	He	-0.015	ug/l	12	6.5	3	2.0001	
Se	82	74	No Gas	-0.131	ug/l	-2	-217.9	3	0.9999	
Mo	98	103	No Gas	0.156	ug/l	847	9.5	3	0.0999	
Ag	109	103	No Gas	0.1	ug/l	890	2.0	3	0.9999	
Cd	111	103	No Gas	996.994	ug/l	2095430	0.4	3	0.3000	
Sb	123	103	No Gas	0.052	ug/l	347	14.5	3	0.0999	
Ba	137	159	No Gas	2495.491	ug/l	7657902	1.3	3	0.3000	
Hg	201	159	No Gas	49.407	ng/l	69	10.1	3	2.0001	
Tl	205	159	No Gas	0.012	ug/l	319	10.9	3	0.3000	
Pb	208	159	No Gas	0.162	ug/l	5365	1.3	3	0.3000	

QC ISTD Table

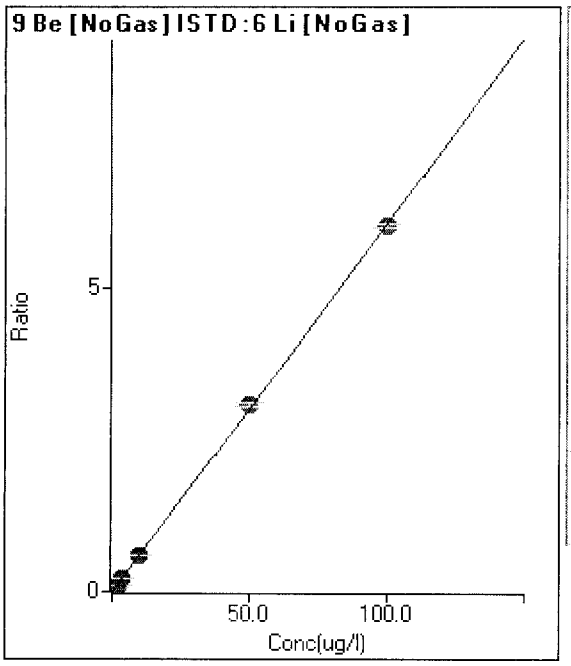
Name	Mass	Tune	CPS	CPS RSD	Rep	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	250584	0.8	3	328630.38	76.25	70	120	
Sc	45	He	65649	2.0	3	74425.24	88.21	70	120	
Sc	45	No Gas	947741	0.7	3	1080968.53	87.68	70	120	
Ge	74	He	70254	1.9	3	81443.29	86.26	70	120	
Ge	74	No Gas	340823	0.8	3	386165.82	88.26	70	120	
Rh	103	No Gas	361049	0.1	3	422155.36	85.53	70	120	
Tb	159	No Gas	841687	1.5	3	887046.79	94.89	70	120	
Bi	209	No Gas	568223	1.9	3	619480.15	91.73	70	120	

Calibration for 016_ICV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\9E24020.b\
Analysis File: 9E24020.batch.bin
DA Date-Time: 05/24/2019 10:55:12
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	006CALB.d	9E24020-CAL0	05/24/2019 10:00:01
2	007CALS.d	9E24020-CAL1	05/24/2019 10:04:50
3	008CALS.d	9E24020-CAL2	05/24/2019 10:09:39
4	009CALS.d	9E24020-CAL3	05/24/2019 10:14:27
5	010CALS.d	9E24020-CAL4	05/24/2019 10:19:15
6	011CALS.d	9E24020-CAL5	05/24/2019 10:23:55
7	012CALS.d	9E24020-CAL6	05/24/2019 10:28:43
8	013CALS.d	9E24020-CAL7	05/24/2019 10:33:23
9	014CALS.d	9E24020-CAL8	05/24/2019 10:38:03
10	015CALS.d	9E24020-CAL9	05/24/2019 10:42:40

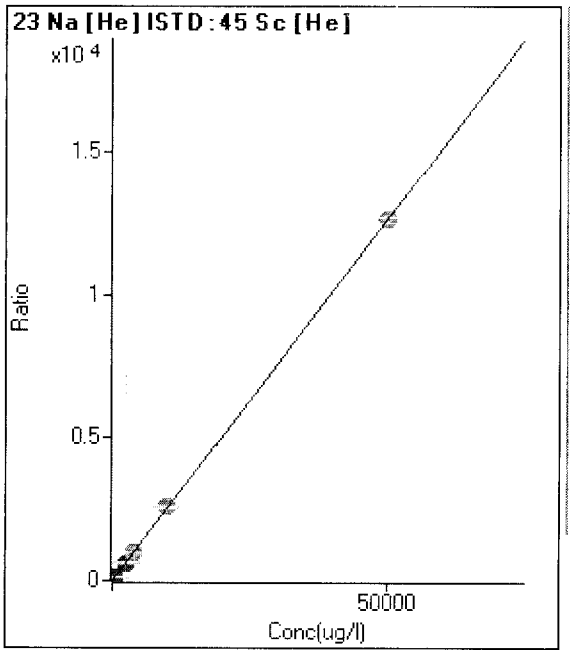
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9	0.000	P	57.7
2	☐	0.180	0.180	361	0.011	P	18.8
3	☐	0.900	0.857	1666	0.052	P	6.8
4	☐	1.800	1.750	3359	0.106	P	3.1
5	☐	3.600	3.536	6658	0.213	P	3.6
6	☐	10.000	10.035	18612	0.605	P	0.3
7	☐	50.000	51.124	92424	3.080	P	1.5
8	☐	100.000	99.438	173089	5.991	P	1.0
9	☐			63	0.002	P	19.0
10	☐			41	0.002	P	26.5

y = 0.0602 * x + 2.7093E-004
R = 0.9999
DL = 0.00779
BEC = 0.004497

Weight: <None>
Min Conc: <None>

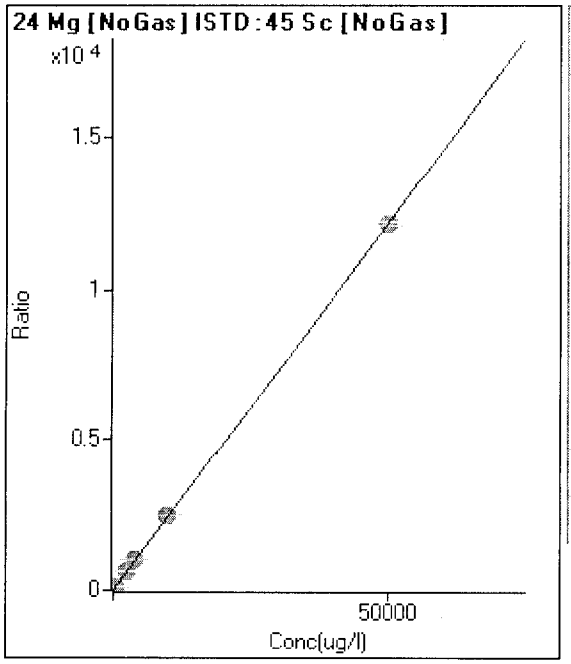


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4140	2.801	P	10.6
2	☐			7444	5.096	P	2.6
3	☐	45.000	43.992	20476	13.929	P	0.5
4	☐	90.000	89.091	36628	25.338	P	1.2
5	☐	180.000	173.822	70059	46.772	P	3.2
6	☐	400.000	391.006	154121	101.712	P	1.7
7	☐	2500.000	2500.848	923972	635.434	P	0.8
8	☐	4000.000	4041.634	1438842	1,025.203	A	0.5
9	☐	10000.000	10204.644	3424127	2,584.245	A	1.3
10	☐	50000.000	49955.795	16591971	12,639.998	A	1.8

y = 0.2530 * x + 2.8005
R = 1.0000
DL = 3.516
BEC = 11.07

Weight: <None>
Min Conc: <None>

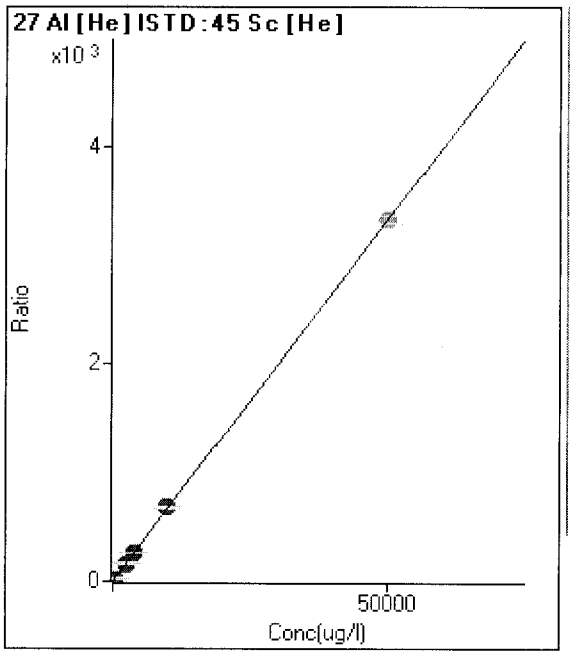
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	72885	3.372	P	1.2
2	☐			130355	5.972	P	1.0
3	☐	45.000	53.034	352480	16.274	P	0.3
4	☐	90.000	107.533	633107	29.533	P	0.6
5	☐	180.000	196.149	1070216	51.093	A	1.0
6	☐	400.000	435.176	2318750	109.246	A	0.8
7	☐	2500.000	2622.118	13363148	641.307	A	0.8
8	☐	4000.000	4181.362	20399751	1,020.656	A	0.9
9	☐	10000.000	10334.298	48382709	2,517.604	A	0.1
10	☐	50000.000	49912.147	230231962	12,146.504	A	1.0

y = 0.2433 * x + 3.3715
R = 1.0000
DL = 0.5035
BEC = 13.86

Weight: <None>
Min Conc: <None>

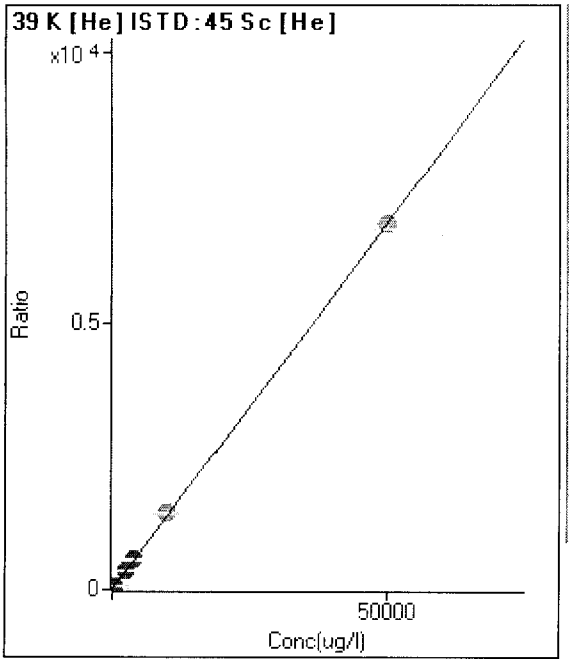


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24	0.016	P	12.6
2	☐			867	0.593	P	5.7
3	☐	45.000	44.912	4414	3.003	P	3.1
4	☐	90.000	89.408	8619	5.963	P	1.7
5	☐	180.000	177.079	17670	11.794	P	1.7
6	☐	400.000	395.598	39895	26.327	P	1.8
7	☐	2500.000	2508.055	242577	166.825	P	1.0
8	☐	4000.000	4027.129	375917	267.857	P	1.2
9	☐	10000.000	10267.638	904767	682.907	P	2.2
10	☐	50000.000	49943.946	4360069	3,321.739	A	2.2

y = 0.0665 * x + 0.0163
R = 1.0000
DL = 0.0931
BEC = 0.2456

Weight: <None>
Min Conc: <None>

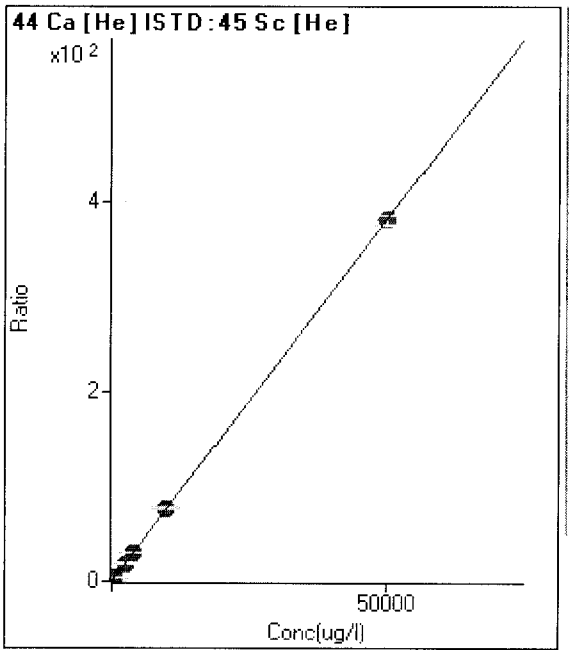
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9785	6.615	P	9.5
2	☐			11774	8.059	P	2.4
3	☐	45.000	44.398	18644	12.683	P	1.1
4	☐	90.000	91.034	27548	19.056	P	0.9
5	☐	180.000	179.237	46594	31.110	P	3.8
6	☐	400.000	399.491	92747	61.211	P	2.1
7	☐	2500.000	2537.687	513903	353.429	P	1.0
8	☐	4000.000	4065.226	788984	562.190	P	1.5
9	☐	10000.000	10456.475	1902209	1,435.652	A	1.4
10	☐	50000.000	49901.608	8960049	6,826.433	A	2.4

y = 0.1367 * x + 6.6149
R = 1.0000
DL = 13.85
BEC = 48.4

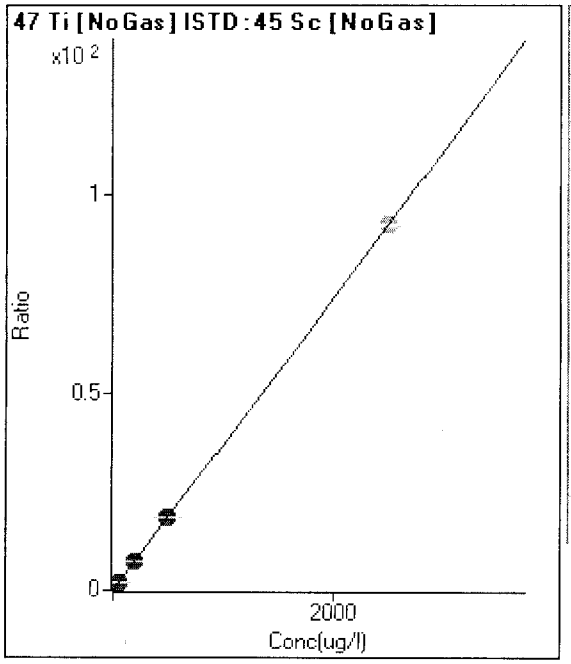
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34	0.022	P	71.8
2	☐			103	0.071	P	28.5
3	☐	45.000	40.720	490	0.333	P	7.7
4	☐	90.000	87.829	1002	0.693	P	5.3
5	☐	180.000	173.335	2017	1.347	P	5.7
6	☐	400.000	405.507	4728	3.120	P	3.7
7	☐	2500.000	2496.649	27766	19.096	P	1.5
8	☐	4000.000	4019.581	43128	30.731	P	1.5
9	☐	10000.000	10167.715	102951	77.701	P	1.5
10	☐	50000.000	49965.046	501066	381.745	P	2.4

y = 0.0076 * x + 0.0223
R = 1.0000
DL = 6.278
BEC = 2.915

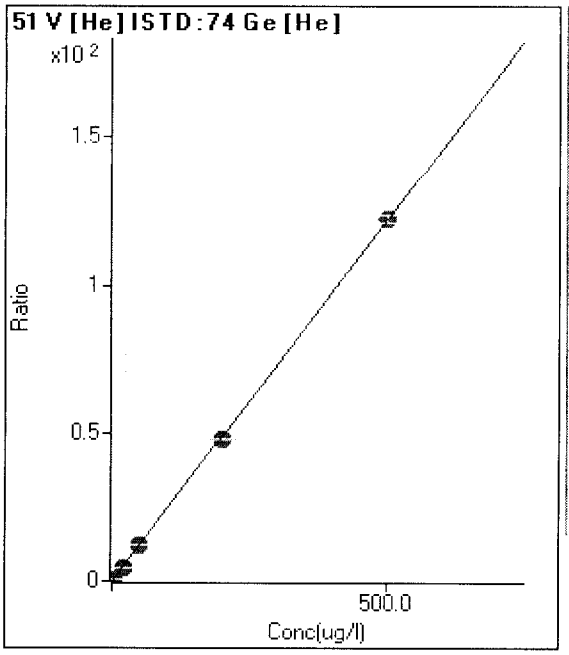
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	101	0.005	P	12.3
2	☐	0.180	0.168	238	0.011	P	2.5
3	☐	0.900	0.811	751	0.035	P	12.2
4	☐	1.800	1.715	1461	0.068	P	1.5
5	☐	3.600	3.728	2989	0.143	P	3.4
6	☐	20.000	20.246	16003	0.754	P	1.6
7	☐	50.000	50.065	38712	1.858	P	0.2
8	☐	200.000	197.424	146141	7.312	P	0.7
9	☐	500.000	498.285	354513	18.447	P	0.5
10	☐	2500.000	2500.546	1754367	92.555	A	0.2

y = 0.0370 * x + 0.0047
R = 1.0000
DL = 0.0468
BEC = 0.1264

Weight: <None>
Min Conc: <None>

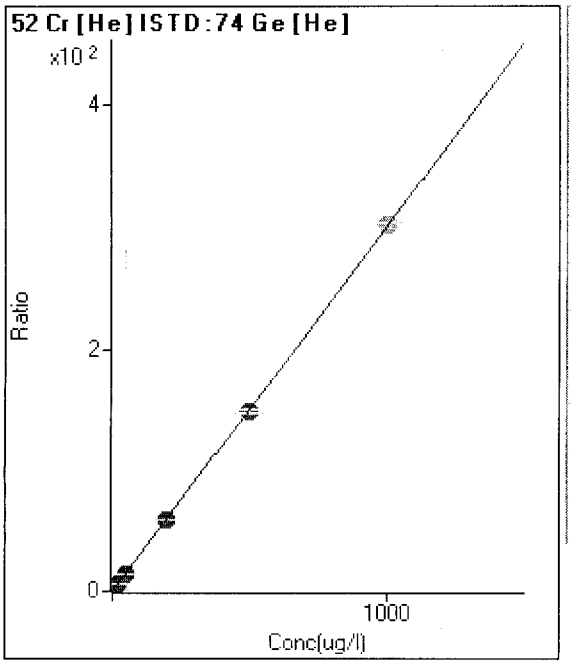


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	433	0.053	P	16.2
2	☐	0.180	0.182	791	0.098	P	1.5
3	☐	0.900	0.895	2202	0.272	P	3.7
4	☐	1.800	1.724	3769	0.474	P	3.8
5	☐	3.600	3.439	7320	0.891	P	5.4
6	☐	20.000	19.457	39604	4.795	P	1.3
7	☐	50.000	49.961	96411	12.229	P	1.7
8	☐	200.000	196.664	368133	47.982	P	0.4
9	☐	500.000	501.361	892218	122.238	P	2.0
10	☐			302	0.043	P	16.8

y = 0.2437 * x + 0.0535
R = 1.0000
DL = 0.1068
BEC = 0.2194

Weight: <None>
Min Conc: <None>

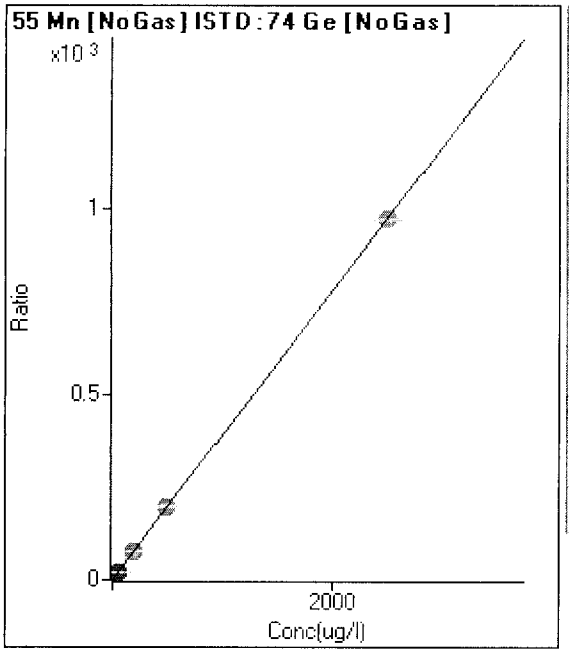
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93	0.012	P	28.8
2	☐	0.180	0.171	509	0.063	P	8.4
3	☐	0.900	0.873	2222	0.274	P	2.0
4	☐	1.800	1.778	4345	0.546	P	1.3
5	☐	3.600	3.377	8428	1.026	P	3.4
6	☐	20.000	19.685	48939	5.926	P	0.8
7	☐	50.000	49.513	117377	14.887	P	1.2
8	☐	200.000	195.497	450709	58.745	P	0.9
9	☐	500.000	494.728	1084981	148.644	P	1.8
10	☐	1000.000	1003.568	2117764	301.515	A	1.9

y = 0.3004 * x + 0.0116
R = 1.0000
DL = 0.03348
BEC = 0.03873

Weight: <None>
Min Conc: <None>

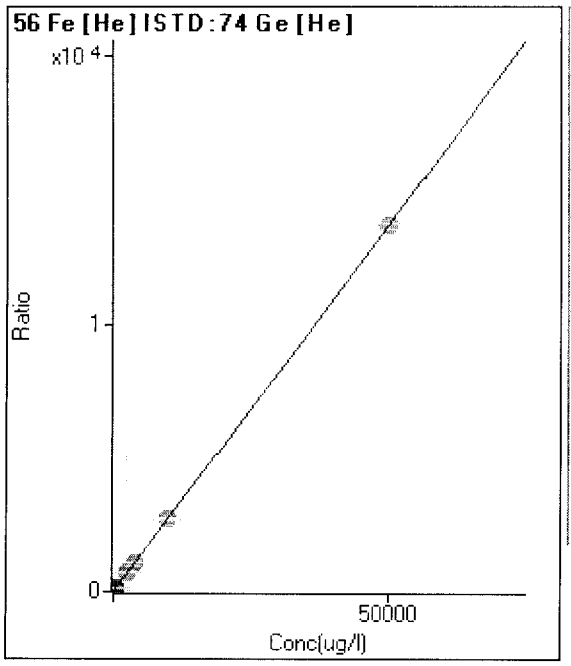


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2139	0.055	P	4.0
2	☐	0.180	0.176	4798	0.124	P	1.2
3	☐	0.900	0.918	16145	0.413	P	1.1
4	☐	1.800	1.857	30231	0.778	P	1.0
5	☐	3.600	3.685	58366	1.489	P	2.4
6	☐	20.000	20.956	317319	8.209	P	0.2
7	☐	50.000	51.429	771356	20.065	P	1.7
8	☐	200.000	202.127	2923838	78.698	A	0.1
9	☐	500.000	508.676	7009504	197.969	A	1.0
10	☐	2500.000	2498.058	33127244	971.993	A	0.7

y = 0.3891 * x + 0.0554
R = 1.0000
DL = 0.0172
BEC = 0.1424

Weight: <None>
Min Conc: <None>

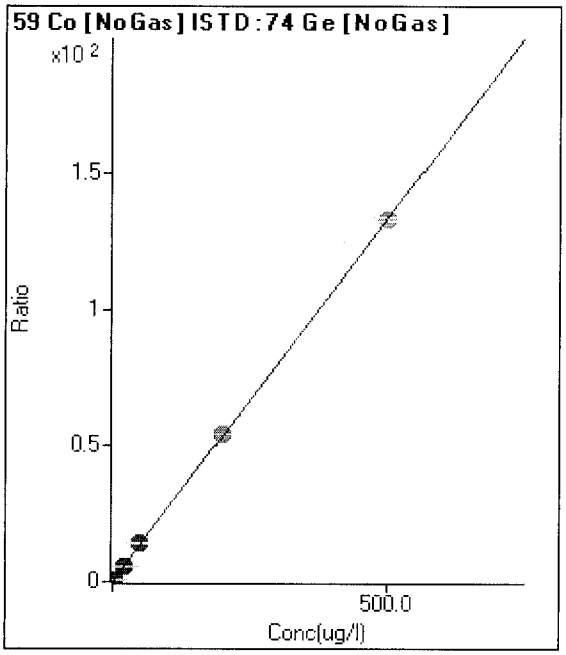
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5293	0.654	P	9.7
2	☐			25454	3.149	P	0.8
3	☐	45.000	45.040	105470	13.009	P	1.4
4	☐	90.000	91.711	205419	25.812	P	0.7
5	☐	180.000	179.542	409762	49.905	P	4.2
6	☐	400.000	407.382	928328	112.404	P	0.8
7	☐	2500.000	2545.580	5510099	698.938	A	1.9
8	☐	4000.000	4011.092	8446978	1,100.946	A	0.2
9	☐	10000.000	10036.428	20099615	2,753.770	A	2.2
10	☐	50000.000	49989.487	96326234	13,713.388	A	1.3

y = 0.2743 * x + 0.6541
R = 1.0000
DL = 0.6961
BEC = 2.385

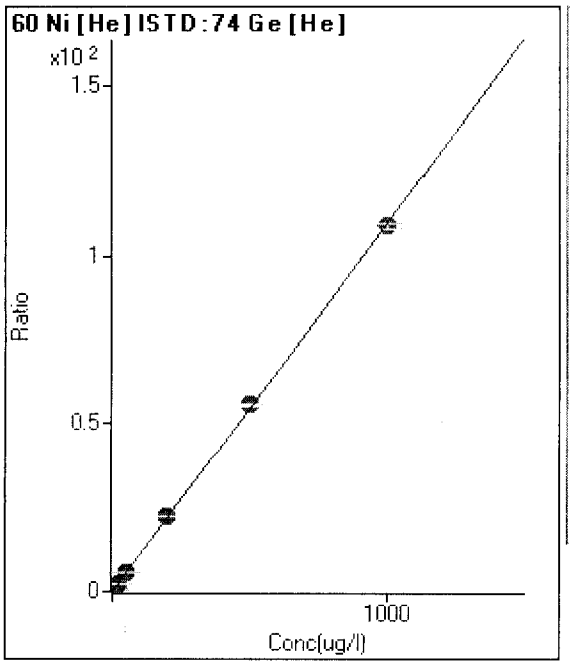
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	68	0.002	P	19.4
2	☐	0.180	0.200	2138	0.055	P	2.0
3	☐	0.900	0.949	9976	0.255	P	2.9
4	☐	1.800	1.902	19791	0.509	P	1.7
5	☐	3.600	3.794	39744	1.014	P	3.6
6	☐	20.000	21.053	217214	5.620	P	0.6
7	☐	50.000	52.467	538312	14.002	P	1.2
8	☐	200.000	203.638	2018964	54.342	A	0.3
9	☐	500.000	498.254	4707700	132.959	A	1.1
10	☐			2781	0.082	P	2.9

y = 0.2668 * x + 0.0018
R = 1.0000
DL = 0.003832
BEC = 0.006574

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	197	0.024	P	10.7
2	☐	0.180	0.221	390	0.048	P	7.8
3	☐	0.900	0.961	1049	0.129	P	7.1
4	☐	1.800	1.792	1753	0.220	P	7.1
5	☐	3.600	3.600	3430	0.418	P	6.7
6	☐	20.000	20.458	18684	2.262	P	0.7
7	☐	50.000	52.446	45428	5.762	P	1.4
8	☐	200.000	204.597	171921	22.407	P	0.4
9	☐	500.000	509.415	406978	55.755	P	1.6
10	☐	1000.000	994.241	764173	108.796	P	1.7

y = 0.1094 * x + 0.0241

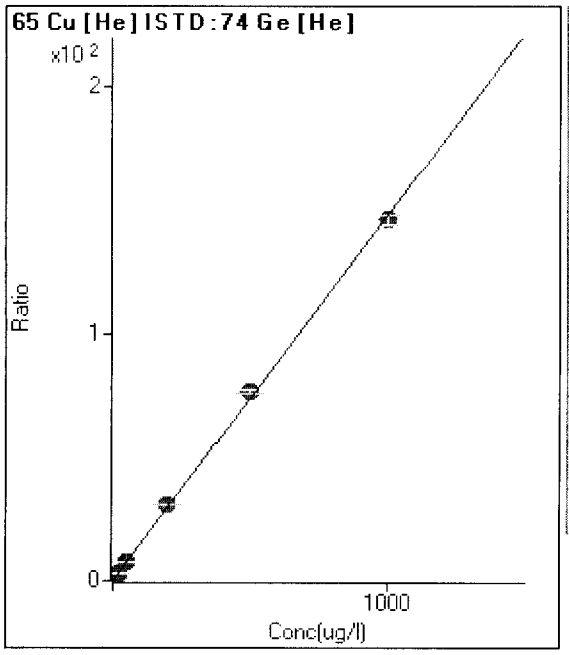
R = 0.9999

DL = 0.07068

BEC = 0.2202

Weight: <None>

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	41	0.005	P	16.8
2	☐	0.180	0.189	266	0.033	P	11.1
3	☐	0.900	0.920	1142	0.141	P	5.4
4	☐	1.800	1.968	2354	0.296	P	1.7
5	☐	3.600	3.725	4559	0.555	P	3.5
6	☐	20.000	21.235	25941	3.141	P	0.6
7	☐	50.000	52.424	61080	7.747	P	0.9
8	☐	200.000	208.767	236577	30.835	P	0.4
9	☐	500.000	518.539	558995	76.581	P	1.5
10	☐	1000.000	988.831	1025610	146.031	P	2.5

y = 0.1477 * x + 0.0050

R = 0.9997

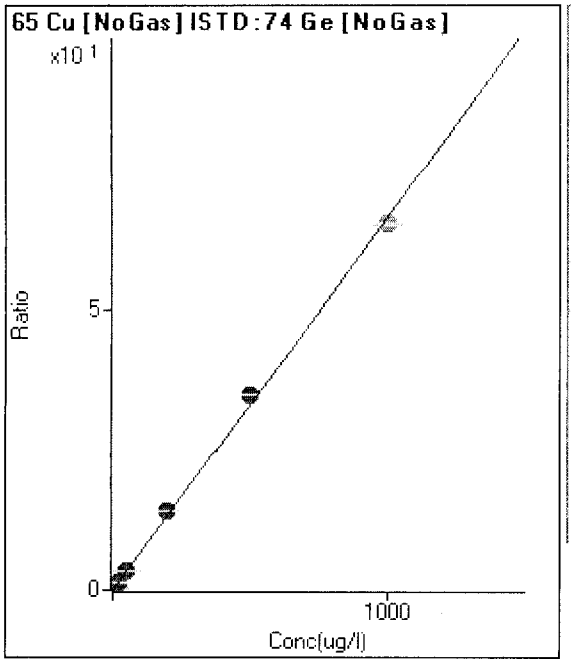
DL = 0.01704

BEC = 0.03389

Weight: <None>

Min Conc: <None>

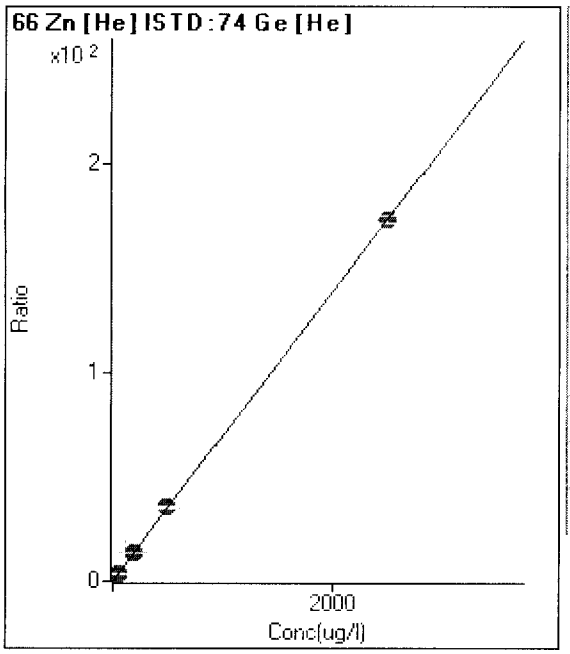
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90	0.002	P	23.9
2	☐	0.180	0.189	573	0.015	P	9.2
3	☐	0.900	0.961	2575	0.066	P	1.8
4	☐	1.800	1.956	5112	0.132	P	1.6
5	☐	3.600	3.994	10430	0.266	P	3.7
6	☐	20.000	22.621	57843	1.496	P	0.6
7	☐	50.000	53.558	136075	3.540	P	1.4
8	☐	200.000	213.420	523795	14.098	P	0.3
9	☐	500.000	526.380	1231093	34.769	P	0.3
10	☐	1000.000	983.894	2214969	64.987	A	0.6

y = 0.0660 * x + 0.0023
R = 0.9995
DL = 0.02524
BEC = 0.03526

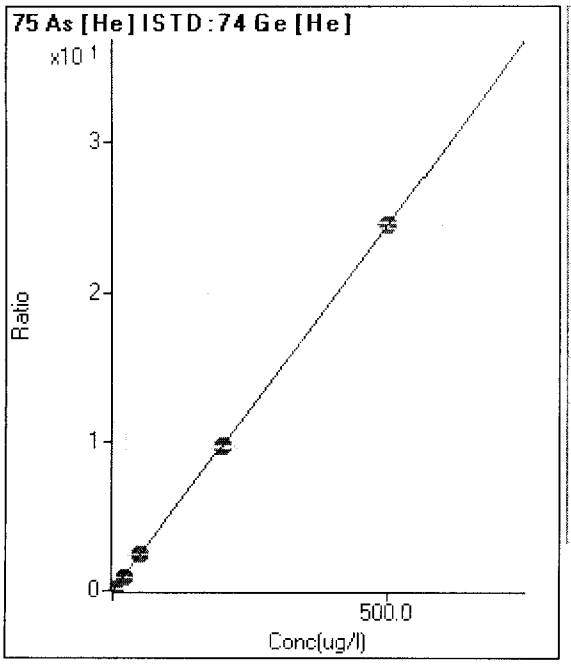
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	41	0.005	P	55.3
2	☐			126	0.016	P	10.2
3	☐	0.900	0.873	533	0.066	P	2.0
4	☐	1.800	1.807	1039	0.131	P	3.5
5	☐	3.600	3.718	2164	0.263	P	4.3
6	☐	20.000	19.912	11455	1.387	P	2.7
7	☐	50.000	51.034	27966	3.547	P	0.6
8	☐	200.000	202.760	107995	14.076	P	0.4
9	☐	500.000	511.130	258937	35.475	P	1.9
10	☐	2500.000	2497.533	1217313	173.323	P	2.3

y = 0.0694 * x + 0.0052
R = 1.0000
DL = 0.1238
BEC = 0.07461

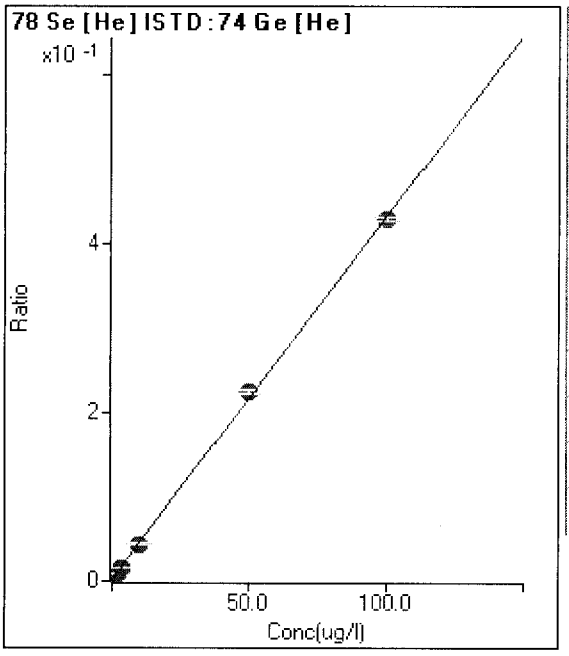
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15	0.002	P	11.3
2	☐	0.180	0.182	87	0.011	P	6.9
3	☐	0.900	0.888	367	0.045	P	3.6
4	☐	1.800	1.766	702	0.088	P	6.2
5	☐	3.600	3.485	1416	0.172	P	3.5
6	☐	20.000	19.565	7924	0.959	P	0.6
7	☐	50.000	50.731	19590	2.485	P	1.9
8	☐	200.000	197.971	74358	9.692	P	0.6
9	☐	500.000	500.757	178920	24.512	P	1.7
10	☐			52	0.007	P	2.8

y = 0.0489 * x + 0.0018
R = 1.0000
DL = 0.01255
BEC = 0.03707

Weight: <None>
Min Conc: <None>

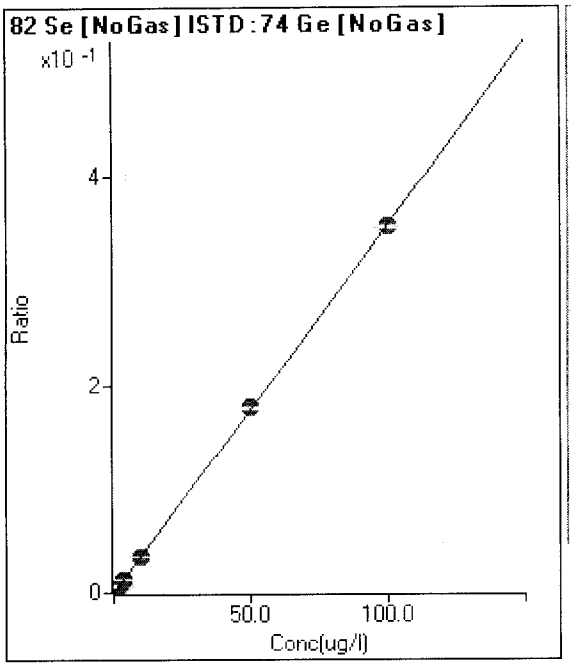


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14	0.002	P	9.0
2	☐	0.180	0.122	18	0.002	P	7.2
3	☐	0.900	0.789	42	0.005	P	10.7
4	☐	1.800	1.858	77	0.010	P	3.7
5	☐	3.600	3.447	136	0.017	P	2.6
6	☐	10.000	9.842	364	0.044	P	1.3
7	☐	50.000	51.763	1770	0.224	P	1.6
8	☐	100.000	99.140	3286	0.428	P	1.0
9	☐			16	0.002	P	23.4
10	☐			12	0.002	P	5.0

y = 0.0043 * x + 0.0017
R = 0.9998
DL = 0.108
BEC = 0.4007

Weight: <None>
Min Conc: <None>

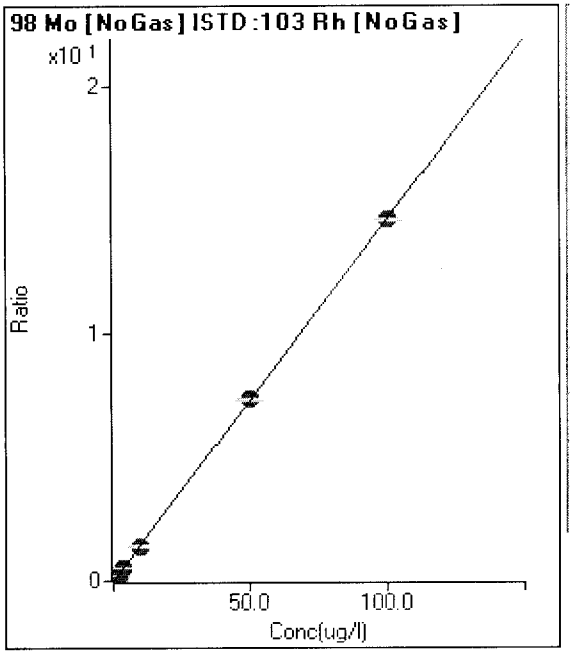
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16	0.000	P	3.3
2	☑	0.180		29	0.001	P	41.8
3	☐	0.900	0.831 ✓	131	0.003	P	7.5
4	☐	1.800	1.743 ✓	255	0.007	P	5.6
5	☐	3.600	3.629 ✓	519	0.013	P	6.4
6	☐	10.000	10.049 ✓	1388	0.036	P	1.4
7	☐	50.000	50.487 ✓	6873	0.179	P	1.1
8	☐	100.000	99.752 ✓	13109	0.353	P	0.7
9	☐			16	0.000	P	190.2
10	☐			-2	0.000	P	-218.7

y = 0.0035 * x + 4.0567E-004
R = 1.0000 ✓
DL = 0.01144
BEC = 0.1148

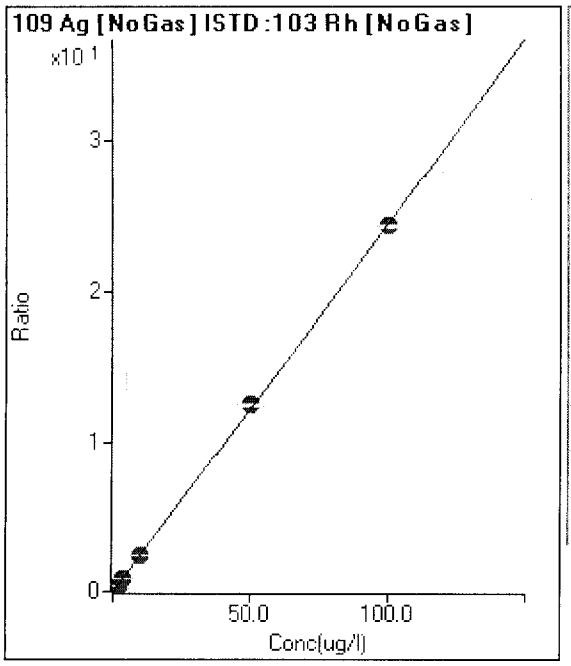
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23	0.001	P	23.9
2	☐	0.180	0.174 ✓	1114	0.026	P	12.8
3	☐	0.900	0.871 ✓	5483	0.128	P	6.4
4	☐	1.800	1.766 ✓	11049	0.259	P	2.5
5	☐	3.600	3.525 ✓	22120	0.517	P	3.6
6	☐	10.000	9.756 ✓	60438	1.430	P	0.8
7	☐	50.000	50.210 ✓	303163	7.356	P	1.0
8	☐	100.000	99.923 ✓	584908	14.639	P	0.2
9	☐			453	0.012	P	8.6
10	☐			847	0.023	P	9.4

y = 0.1465 * x + 5.5258E-004
R = 1.0000 ✓
DL = 0.002702
BEC = 0.003772

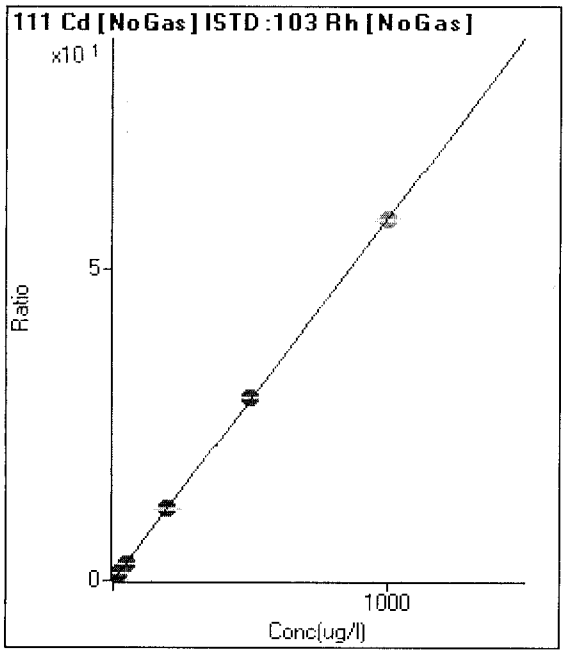
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8	0.000	P	40.3
2	☐	0.180	0.183	1921	0.045	P	1.0
3	☐	0.900	0.904	9498	0.222	P	0.8
4	☐	1.800	1.788	18716	0.439	P	0.6
5	☐	3.600	3.596	37750	0.882	P	3.4
6	☐	10.000	10.057	104302	2.467	P	0.6
7	☐	50.000	50.952	515144	12.500	P	1.4
8	☐	100.000	99.518	975547	24.415	P	0.5
9	☐			220	0.006	P	5.4
10	☐			890	0.025	P	2.1

y = 0.2453 * x + 1.8177E-004
R = 0.9999
DL = 0.0008962
BEC = 0.0007409

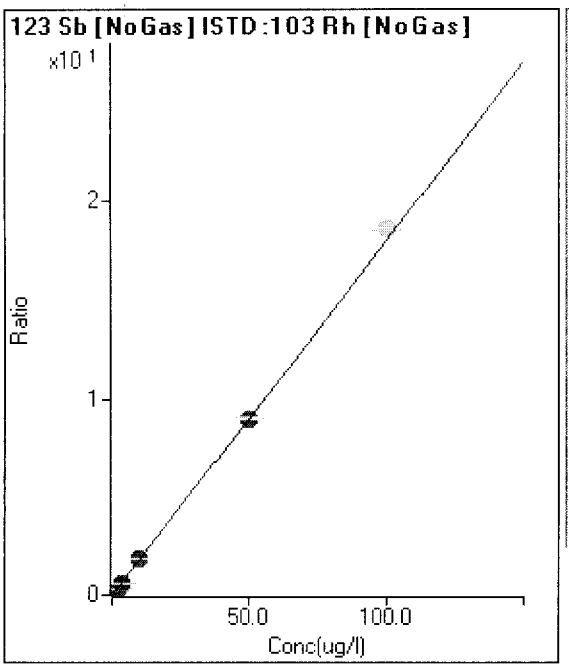
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2	0.000	P	157.9
2	☐	0.180	0.159	396	0.009	P	2.7
3	☐	0.900	0.845	2105	0.049	P	2.0
4	☐	1.800	1.668	4142	0.097	P	3.7
5	☐	3.600	3.494	8702	0.203	P	4.6
6	☐	20.000	19.713	48509	1.148	P	0.4
7	☐	50.000	48.766	116990	2.839	P	1.6
8	☐	200.000	198.570	461868	11.559	P	0.7
9	☐	500.000	506.721	1130337	29.498	P	0.5
10	☐	1000.000	996.994	2095430	58.037	A	0.4

y = 0.0582 * x + 5.0210E-005
R = 1.0000
DL = 0.004086
BEC = 0.0008625

Weight: <None>
Min Conc: <None>

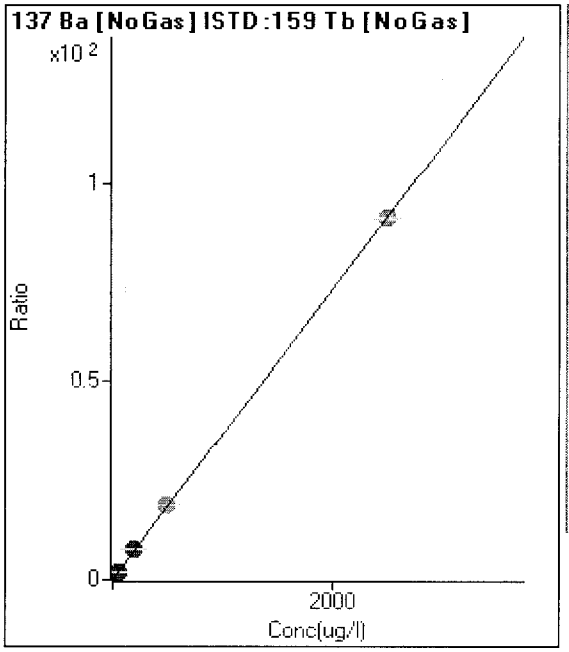


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7	0.000	P	86.6
2	☐	0.180	0.156	1205	0.028	P	5.4
3	☐	0.900	0.859	6622	0.155	P	1.3
4	☐	1.800	1.727	13264	0.311	P	4.3
5	☐	3.600	3.462	26681	0.624	P	4.0
6	☐	10.000	10.248	78032	1.846	P	0.5
7	☐	50.000	49.964	370868	8.999	P	1.3
8	☑	100.000		743488	18.607	P	0.4
9	☐			651	0.017	P	6.8
10	☐			347	0.010	P	14.6

y = 0.1801 * x + 1.5759E-004
R = 1.0000
DL = 0.002273
BEC = 0.0008749

Weight: <None>
Min Conc: <None>

Sb LDR = 50 ppb
ESS 5/28/19

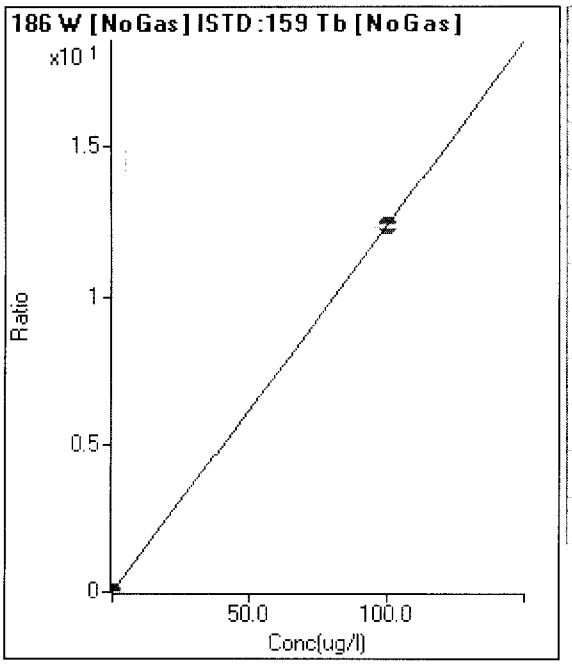


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14	0.000	P	53.5
2	☐	0.180	0.185	618	0.007	P	4.8
3	☐	0.900	0.975	3213	0.036	P	4.2
4	☐	1.800	1.919	6253	0.070	P	3.1
5	☐	3.600	3.918	12902	0.143	P	4.5
6	☐	20.000	21.455	69218	0.782	P	0.6
7	☐	50.000	54.147	173043	1.974	P	1.0
8	☐	200.000	209.853	669651	7.651	P	0.5
9	☐	500.000	518.129	1622751	18.891	A	0.7
10	☐	2500.000	2495.491	7657902	90.985	A	0.6

y = 0.0365 * x + 1.6292E-004
R = 1.0000
DL = 0.007166
BEC = 0.004468

Weight: <None>
Min Conc: <None>

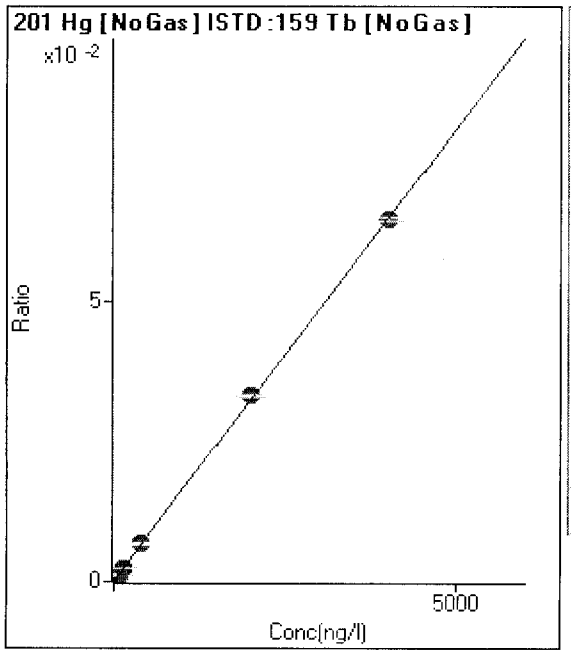
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13	0.000	P	43.5
2	☐			7	0.000	P	86.6
3	☐			3	0.000	P	173.2
4	☐			17	0.000	P	70.0
5	☐			13	0.000	P	116.5
6	☐			40	0.000	P	66.4
7	☐			133	0.002	P	12.0
8	☐			194	0.002	P	19.4
9	☐	100.000	100.000	1063835	12.384	P	0.5
10	☐			1335	0.016	P	7.9

y = 0.1238 * x + 1.5053E-004
R = 1.0000
DL = 0.001585
BEC = 0.001216

Weight: <None>
Min Conc: <None>

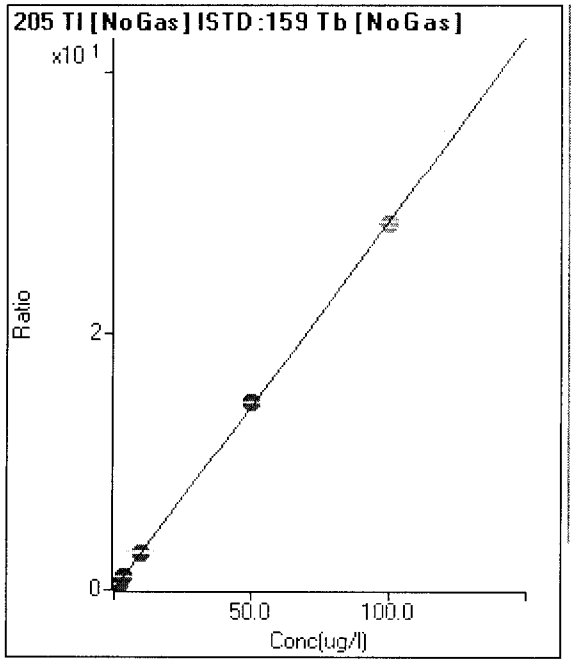


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1	0.000	P	49.7
2	☐			12	0.000	P	9.2
3	☐	36.000	34.910 ✓	52	0.001	P	8.8
4	☐	72.000	72.350 ✓	106	0.001	P	6.3
5	☐	144.000	145.558 ✓	214	0.002	P	2.5
6	☐	400.000	415.688 ✓	598	0.007	P	3.9
7	☐	2000.000	2037.117 ✓	2901	0.033	P	1.4
8	☐	4000.000	3979.820 ✓	5657	0.065	P	1.2
9	☐			190	0.002	P	2.9
10	☐			69	0.001	P	9.7

y = 1.6241E-005 * x + 1.1261E-005
R = 0.9999 ✓
DL = 1.033
BEC = 0.6934

Weight: <None>
Min Conc: <None>

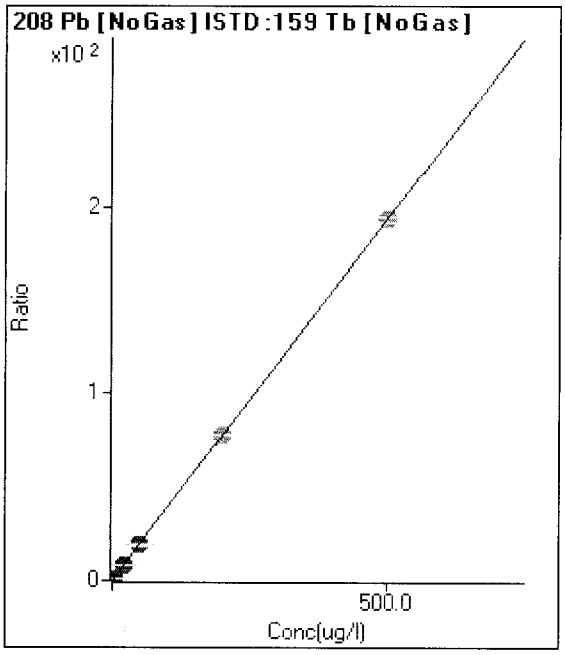
Calibration for 016_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31	0.000	P	5.8
2	☐	0.180	0.180	4616	0.052	P	2.6
3	☐	0.900	0.900	23107	0.257	P	1.5
4	☐	1.800	1.816	46171	0.518	P	0.0
5	☐	3.600	3.620	93157	1.032	P	2.2
6	☐	10.000	10.228	257972	2.916	P	1.6
7	☐	50.000	51.153	1277932	14.581	P	0.8
8	☐	100.000	99.400	2479410	28.333	A	1.9
9	☐			768	0.009	P	11.4
10	☐			319	0.004	P	12.1

y = 0.2850 * x + 3.5066E-004
R = 0.9999
DL = 0.0002127
BEC = 0.00123

Weight: <None>
Min Conc: <None>

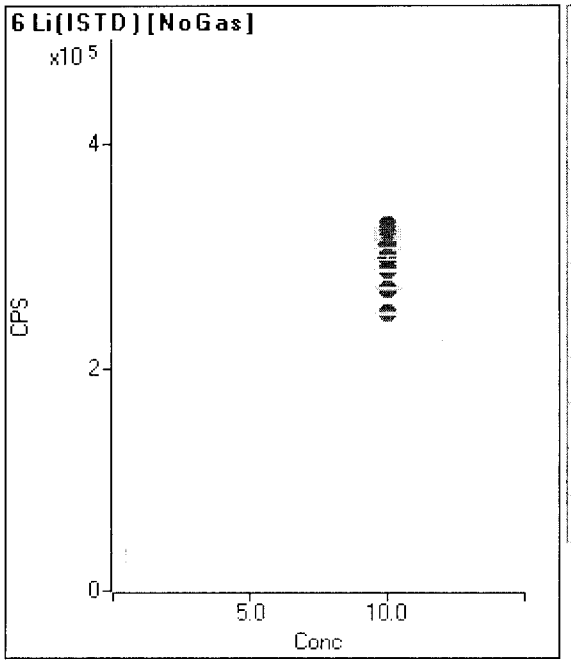


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116	0.001	P	4.8
2	☐	0.180	0.178	6280	0.070	P	0.3
3	☐	0.900	0.879	30684	0.341	P	1.2
4	☐	1.800	1.761	60797	0.682	P	1.2
5	☐	3.600	3.525	123073	1.364	P	2.2
6	☐	20.000	20.905	715056	8.082	P	0.2
7	☐	50.000	49.088	1663171	18.977	P	1.1
8	☐	200.000	201.555	6818734	77.915	A	0.8
9	☐	500.000	499.434	16584420	193.063	A	1.6
10	☐			5365	0.064	P	2.7

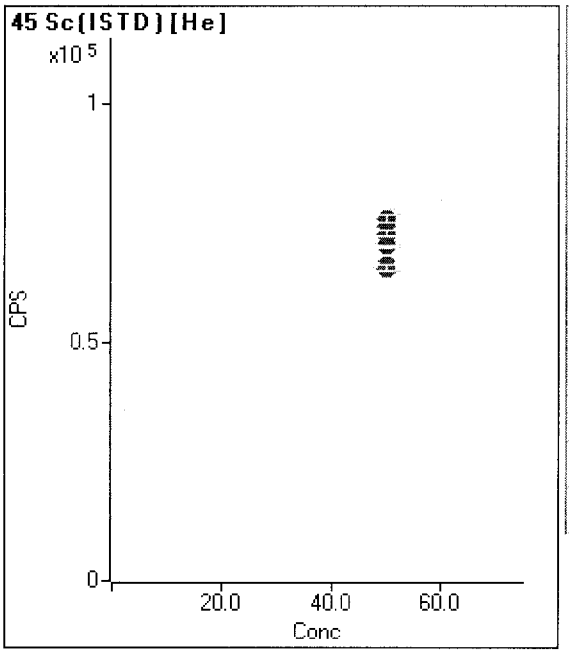
y = 0.3866 * x + 0.0013
R = 1.0000
DL = 0.0004852
BEC = 0.00337

Weight: <None>
Min Conc: <None>

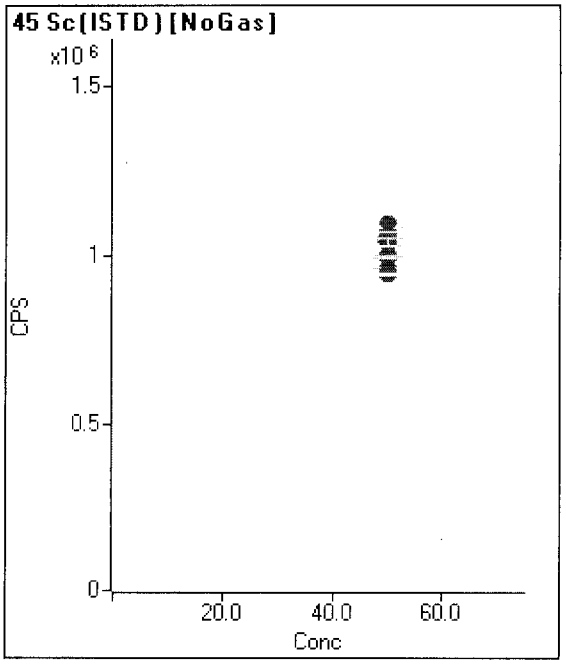
Calibration for 016_ICV.d



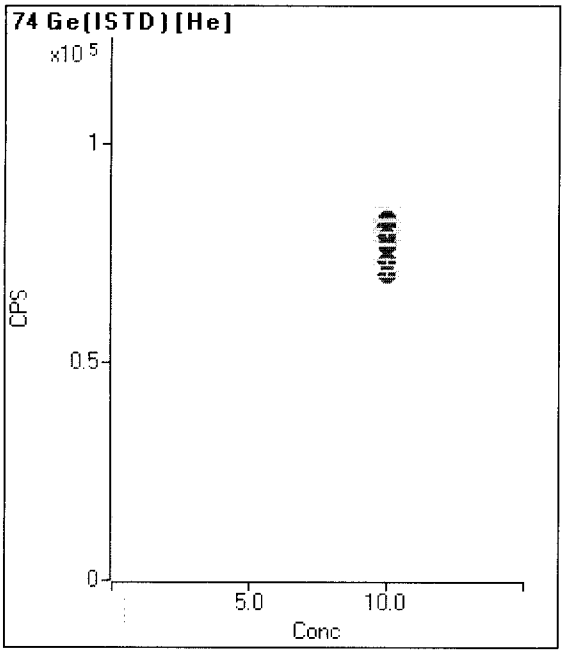
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		328630		P	0.7
2	☐	10.000		324506		P	0.8
3	☐	10.000		320673		P	0.6
4	☐	10.000		317773		P	0.7
5	☐	10.000		312296		P	1.9
6	☐	10.000		307722		P	0.7
7	☐	10.000		300068		P	1.1
8	☐	10.000		288914		P	0.6
9	☐	10.000		272318		P	0.3
10	☐	10.000		250584		P	0.8



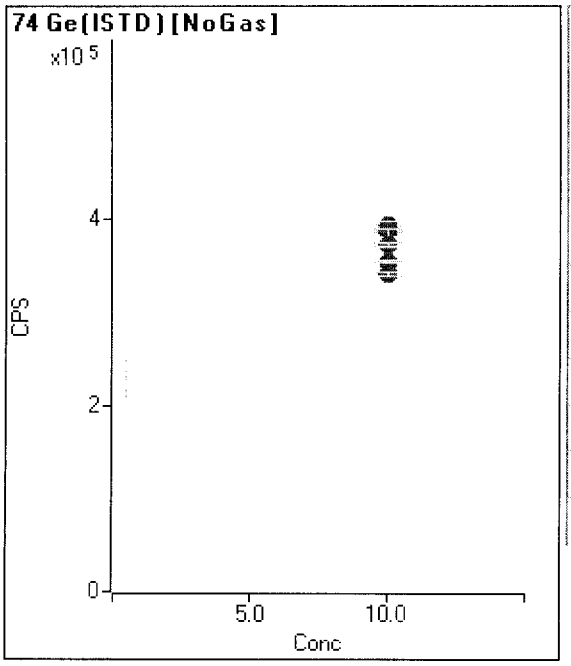
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	50.000		74425		P	9.9
2	☐	50.000		73050		P	1.0
3	☐	50.000		73501		P	1.0
4	☐	50.000		72290		P	2.0
5	☐	50.000		74935		P	2.6
6	☐	50.000		75781		P	2.1
7	☐	50.000		72710		P	1.6
8	☐	50.000		70175		P	0.6
9	☐	50.000		66257		P	1.4
10	☐	50.000		65649		P	2.0



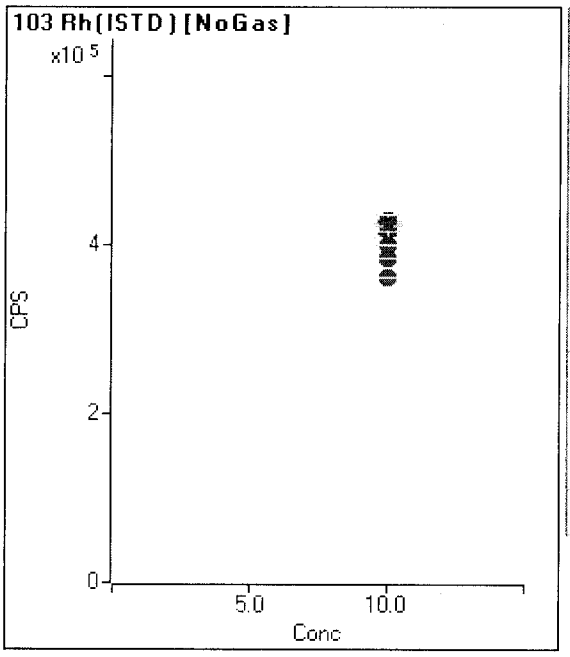
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	50.000		1080969		P	0.8
2	☐	50.000		1091343		P	0.4
3	☐	50.000		1082962		P	0.9
4	☐	50.000		1071916		P	1.5
5	☐	50.000		1047408		M	1.4
6	☐	50.000		1061305		P	1.4
7	☐	50.000		1041977		P	1.9
8	☐	50.000		999339		P	0.5
9	☐	50.000		960894		P	0.6
10	☐	50.000		947741		P	0.7



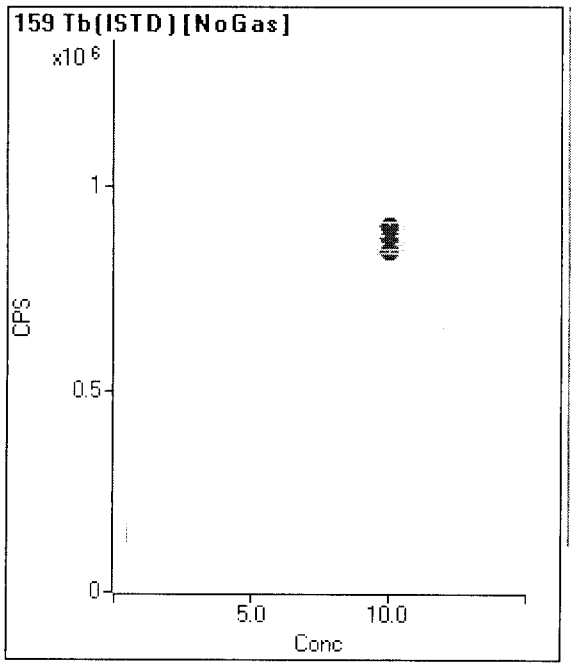
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		81443		P	10.1
2	☐	10.000		80828		P	0.9
3	☐	10.000		81085		P	1.4
4	☐	10.000		79580		P	1.7
5	☐	10.000		82193		P	3.7
6	☐	10.000		82589		P	0.2
7	☐	10.000		78856		P	2.1
8	☐	10.000		76725		P	0.4
9	☐	10.000		73006		P	1.6
10	☐	10.000		70254		P	1.9



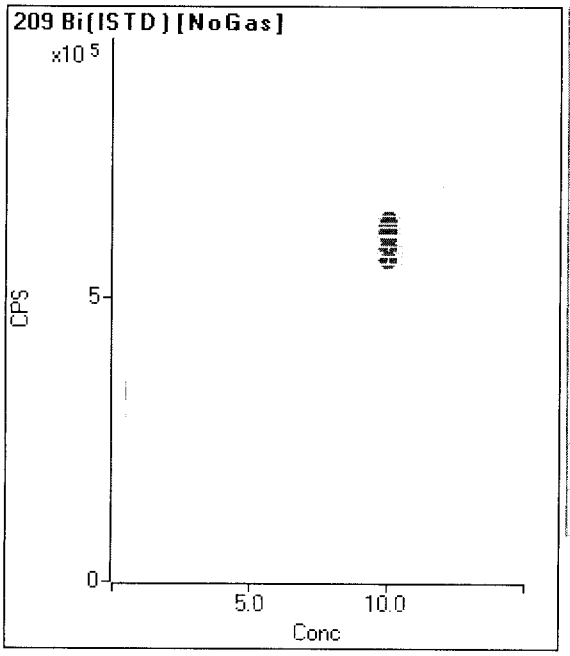
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		386166		P	0.5
2	☐	10.000		387897		P	0.4
3	☐	10.000		391250		P	0.8
4	☐	10.000		388720		P	1.1
5	☐	10.000		392088		P	2.6
6	☐	10.000		386549		P	1.1
7	☐	10.000		384492		P	2.0
8	☐	10.000		371524		P	1.0
9	☐	10.000		354081		P	0.6
10	☐	10.000		340823		P	0.8



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		422155		P	0.8
2	☐	10.000		426920		P	0.6
3	☐	10.000		427742		P	0.8
4	☐	10.000		426409		P	1.5
5	☐	10.000		428191		P	3.4
6	☐	10.000		422706		P	0.2
7	☐	10.000		412166		P	1.8
8	☐	10.000		399561		P	0.4
9	☐	10.000		383200		P	0.2
10	☐	10.000		361049		P	0.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		887047		P	0.4
2	☐	10.000		894547		P	0.8
3	☐	10.000		899598		P	0.7
4	☐	10.000		891598		P	1.6
5	☐	10.000		902802		P	2.9
6	☐	10.000		884715		P	0.8
7	☐	10.000		876552		P	2.1
8	☐	10.000		875209		P	1.3
9	☐	10.000		859024		P	0.5
10	☐	10.000		841687		P	1.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	10.000		619480		P	1.2
2	☐	10.000		632229		P	0.5
3	☐	10.000		638337		P	1.9
4	☐	10.000		629850		P	2.8
5	☐	10.000		634140		P	3.5
6	☐	10.000		628792		P	1.6
7	☐	10.000		616652		P	2.5
8	☐	10.000		610223		P	0.8
9	☐	10.000		587712		P	1.4
10	☐	10.000		568223		P	1.9

Initial Calibration Verification (ICV) Report ICPMS6

Sample Name	**9E24020-ICV1**	**Sample Type**	ICV
File Name	016_ICV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:53:15	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpValue	% Rec	%QC Low	%QC High	QC Flag
Be	9	6	No Gas	40.010	ug/l	1.5	62563	40	100.02	90	110	
Na	23	45	He	4033.270	ug/l	2.3	1405832	4000	100.83	90	110	
Mg	24	45	No Gas	4191.222	ug/l	0.6	19348157	4000	104.78	90	110	
Al	27	45	He	4058.555	ug/l	2.1	370946	4000	101.46	90	110	
K	39	45	He	4082.623	ug/l	2.3	775798	4000	102.07	90	110	
Ca	44	45	He	4070.842	ug/l	2.5	42765	4000	101.77	90	110	
Ti	47	45	No Gas	99.401	ug/l	1.5	69664	100	99.4	90	110	
V	51	74	He	98.070	ug/l	2.5	177875	100	98.07	90	110	
Cr	52	74	He	98.985	ug/l	2.7	220911	100	98.98	90	110	
Mn	55	74	No Gas	101.891	ug/l	1.0	1416490	100	101.89	90	110	
Fe	56	74	He	4135.929	ug/l	2.3	8429943	4000	103.4	90	110	
Co	59	74	No Gas	103.857	ug/l	0.5	988996	100	103.86	90	110	
Ni	60	74	He	103.583	ug/l	2.6	84329	100	103.58	90	110	
Cu	65	74	He	104.063	ug/l	2.6	114153	100	104.06	90	110	
Zn	66	74	He	99.098	ug/l	2.2	51109	100	99.1	90	110	
As	75	74	He	97.421	ug/l	2.7	35422	100	97.42	90	110	
Se	78	74	He	39.052	ug/l	4.5	1260	40	97.63	90	110	
Se	82	74	No Gas	39.779	ug/l	0.9	5029	40	99.45	90	110	
Mo	98	103	No Gas	38.774	ug/l	1.0	222102	40	96.94	90	110	
Ag	109	103	No Gas	39.250	ug/l	0.2	376458	40	98.12	90	110	
Cd	111	103	No Gas	97.171	ug/l	0.9	221147	100	97.17	90	110	
Sb	123	103	No Gas	43.209	ug/l	0.6	304256	40	108.02	90	110	
Ba	137	159	No Gas	105.650	ug/l	0.5	328990	100	105.65	90	110	
Hg	201	159	No Gas	802.362	ng/l	4.1	1114	800	100.3	90	110	
Tl	205	159	No Gas	38.583	ug/l	1.0	939367	40	96.46	90	110	
Pb	208	159	No Gas	96.423	ug/l	0.7	3183460	100	96.42	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	68726	1.9	74425.24	92.34	70	120	
Ge	74	He	74286	2.2	81443.29	91.21	70	120	
Li	6	No Gas	259538	1.5	328630.38	78.98	70	120	
Sc	45	No Gas	945565	1.2	1080968.53	87.47	70	120	
Ge	74	No Gas	356830	1.2	386165.82	92.4	70	120	
Rh	103	No Gas	390954	0.9	422155.36	92.61	70	120	
Tb	159	No Gas	854075	1.4	887046.79	96.28	70	120	
Bi	209	No Gas	587186	1.7	619480.15	94.79	70	120	

Initial Calibration Blank (ICB) Report ICPMS6

Sample Name	**9E24020-ICB1**	**Sample Type**	ICB
File Name	017_ICB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 10:57:49	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	ICB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.017	ug/l	39.0	34	0.09	
Na	23	45	He	-0.523	ug/l	N/A	3676	45	
Mg	24	45	No Gas	-3.972	ug/l	N/A	45071	22.5	
Al	27	45	He	0.214	ug/l	52.0	42	22.5	
K	39	45	He	0.294	ug/l	367.8	9169	45	
Ca	44	45	He	-0.675	ug/l	N/A	23	45	
Ti	47	45	No Gas	-0.026	ug/l	N/A	70	0.45	
V	51	74	He	-0.086	ug/l	N/A	249	0.45	
Cr	52	74	He	-0.001	ug/l	N/A	87	0.45	
Mn	55	74	No Gas	-0.025	ug/l	N/A	1623	0.45	
Fe	56	74	He	-0.770	ug/l	N/A	3382	22.5	
Co	59	74	No Gas	0.005	ug/l	50.1	111	0.09	
Ni	60	74	He	-0.062	ug/l	N/A	132	0.45	
Cu	65	74	He	0.016	ug/l	100.5	57	0.45	
Zn	66	74	He	0.028	ug/l	57.0	54	1.8	
As	75	74	He	0.020	ug/l	32.4	21	0.45	
Se	78	74	He	-0.081	ug/l	N/A	11	0.45	
Se	82	74	No Gas	-0.118	ug/l	N/A	0	0.45	
Mo	98	103	No Gas	0.015	ug/l	56.1	110	0.45	
Ag	109	103	No Gas	0.001	ug/l	50.0	20	0.09	
Cd	111	103	No Gas	0.011	ug/l	21.0	27	0.09	
Sb	123	103	No Gas	0.009	ug/l	53.3	70	0.45	
Ba	137	159	No Gas	0.005	ug/l	17.9	30	0.45	
Hg	201	159	No Gas	15.584	ng/l	15.0	23	36	
Tl	205	159	No Gas	0.004	ug/l	19.5	126	0.09	
Pb	208	159	No Gas	0.006	ug/l	6.6	324	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	68903	2.1	74425.24	92.58	70	120	
Ge	74	He	76377	0.3	81443.29	93.78	70	120	
Li	6	No Gas	264833	1.1	328630.38	80.59	70	120	
Sc	45	No Gas	937067	1.5	1080968.53	86.69	70	120	
Ge	74	No Gas	355596	2.0	386165.82	92.08	70	120	
Rh	103	No Gas	399817	1.1	422155.36	94.71	70	120	
Tb	159	No Gas	855992	1.7	887046.79	96.5	70	120	
Bi	209	No Gas	607628	2.3	619480.15	98.09	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL1**	**Sample Type**	CRL1
File Name	018CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 11:03:42	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E285 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.174	ug/l	17.5	284	96.67	70	130	
Na	23	45	He	8.158	ug/l	8.6	6763	90.64	70	130	
Mg	24	45	No Gas	6.654	ug/l	3.7	93791	73.93	70	130	
Al	27	45	He	8.852	ug/l	2.2	841	98.36	70	130	
K	39	45	He	9.917	ug/l	11.7	11080	110.19	70	130	
Ca	44	45	He	8.588	ug/l	21.7	122	95.42	70	130	
Ti	47	45	No Gas	0.204	ug/l	17.6	230	113.33	70	130	
V	51	74	He	0.080	ug/l	24.7	557	44.44	70	130	CRL1 Failed
Cr	52	74	He	0.171	ug/l	6.5	482	95	70	130	
Mn	55	74	No Gas	0.154	ug/l	3.1	4114	85.56	70	130	
Fe	56	74	He	8.112	ug/l	2.4	21990	90.13	70	130	
Co	59	74	No Gas	0.187	ug/l	4.0	1842	103.89	70	130	
Ni	60	74	He	0.125	ug/l	44.6	288	69.44	70	130	CRL1 Failed
Cu	65	74	He	0.219	ug/l	8.8	286	121.67	70	130	
Zn	66	74	He	0.175	ug/l	23.3	132	97.22	70	130	
As	75	74	He	0.190	ug/l	7.4	85	105.56	70	130	
Se	78	74	He	0.264	ug/l	78.1	22	146.67	70	130	CRL1 Failed
Se	82	74	No Gas	0.163	ug/l	28.2	35	90.56	70	130	
Mo	98	103	No Gas	0.161	ug/l	12.5	967	89.44	70	130	
Ag	109	103	No Gas	0.179	ug/l	1.8	1771	99.44	70	130	
Cd	111	103	No Gas	0.182	ug/l	10.5	427	101.11	70	130	
Sb	123	103	No Gas	0.190	ug/l	2.9	1378	105.56	70	130	
Ba	137	159	No Gas	0.200	ug/l	13.0	634	111.11	70	130	
Hg	201	159	No Gas	14.726	ng/l	7.0	21	81.81	70	130	
Tl	205	159	No Gas	0.190	ug/l	1.3	4640	105.56	70	130	
Pb	208	159	No Gas	0.179	ug/l	4.5	6022	99.44	70	130	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	69508	0.5	74425.24	93.39	70	120	
Ge	74	He	76381	1.0	81443.29	93.78	70	120	
Li	6	No Gas	264183	0.9	328630.38	80.39	70	120	
Sc	45	No Gas	939798	1.9	1080968.53	86.94	70	120	
Ge	74	No Gas	356374	1.4	386165.82	92.29	70	120	
Rh	103	No Gas	401188	1.6	422155.36	95.03	70	120	
Tb	159	No Gas	852292	2.1	887046.79	96.08	70	120	
Bi	209	No Gas	604021	2.6	619480.15	97.5	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL2**	**Sample Type**	CRL2
File Name	019_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 11:08:19	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E286 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.878	ug/l	5.2	1405	97.56	70	130	
Na	23	45	He	44.405	ug/l	3.5	19398	98.68	70	130	
Mg	24	45	No Gas	48.456	ug/l	0.9	289666	107.68	70	130	
Al	27	45	He	46.188	ug/l	5.8	4268	102.64	70	130	
K	39	45	He	47.694	ug/l	4.8	18154	105.99	70	130	
Ca	44	45	He	45.446	ug/l	6.3	511	100.99	70	130	
Ti	47	45	No Gas	0.870	ug/l	15.8	706	96.67	70	130	
V	51	74	He	0.791	ug/l	3.3	1888	87.89	70	130	
Cr	52	74	He	0.888	ug/l	3.2	2134	98.67	70	130	
Mn	55	74	No Gas	0.896	ug/l	0.2	14626	99.56	70	130	
Fe	56	74	He	44.607	ug/l	1.6	98818	99.13	70	130	
Co	59	74	No Gas	0.932	ug/l	0.2	9065	103.56	70	130	
Ni	60	74	He	0.879	ug/l	1.6	922	97.67	70	130	
Cu	65	74	He	0.907	ug/l	7.3	1066	100.78	70	130	
Zn	66	74	He	0.930	ug/l	4.1	534	103.33	70	130	
As	75	74	He	0.848	ug/l	1.7	332	94.22	70	130	
Se	78	74	He	0.862	ug/l	7.9	42	95.78	70	130	
Se	82	74	No Gas	0.725	ug/l	10.7	107	80.56	70	130	
Mo	98	103	No Gas	0.900	ug/l	2.2	5356	100	70	130	
Ag	109	103	No Gas	0.898	ug/l	0.5	8922	99.78	70	130	
Cd	111	103	No Gas	0.856	ug/l	3.9	2018	95.11	70	130	
Sb	123	103	No Gas	0.884	ug/l	4.3	6452	98.22	70	130	
Ba	137	159	No Gas	0.959	ug/l	1.9	3044	106.56	70	130	
Hg	201	159	No Gas	50.047	ng/l	18.1	71	139.02	70	130	CRL2 Failed
Tl	205	159	No Gas	0.913	ug/l	1.9	22584	101.44	70	130	
Pb	208	159	No Gas	0.877	ug/l	1.6	29462	97.44	70	130	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	69136	1.9	74425.24	92.89	70	120	
Ge	74	He	76666	0.8	81443.29	94.13	70	120	
Li	6	No Gas	264066	0.9	328630.38	80.35	70	120	
Sc	45	No Gas	955385	1.2	1080968.53	88.38	70	120	
Ge	74	No Gas	362061	1.4	386165.82	93.76	70	120	
Rh	103	No Gas	404570	1.3	422155.36	95.83	70	120	
Tb	159	No Gas	866086	1.4	887046.79	97.64	70	120	
Bi	209	No Gas	610909	2.2	619480.15	98.62	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL3**	**Sample Type**	CRL3
File Name	020CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 11:12:56	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E287 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.767	ug/l	8.6	2850	98.17	70	130	
Na	23	45	He	87.643	ug/l	1.4	35055	97.38	70	130	
Mg	24	45	No Gas	101.091	ug/l	1.1	533322	112.32	70	130	
Al	27	45	He	88.952	ug/l	1.0	8328	98.84	70	130	
K	39	45	He	91.888	ug/l	3.4	26917	102.1	70	130	
Ca	44	45	He	89.296	ug/l	0.3	989	99.22	70	130	
Ti	47	45	No Gas	1.839	ug/l	6.8	1387	102.17	70	130	
V	51	74	He	1.690	ug/l	1.8	3624	93.89	70	130	
Cr	52	74	He	1.746	ug/l	2.2	4176	97	70	130	
Mn	55	74	No Gas	1.802	ug/l	1.1	27259	100.11	70	130	
Fe	56	74	He	90.482	ug/l	0.7	198393	100.54	70	130	
Co	59	74	No Gas	1.881	ug/l	0.9	18145	104.5	70	130	
Ni	60	74	He	1.881	ug/l	5.3	1790	104.5	70	130	
Cu	65	74	He	1.872	ug/l	3.4	2192	104	70	130	
Zn	66	74	He	1.887	ug/l	5.7	1060	104.83	70	130	
As	75	74	He	1.789	ug/l	2.7	696	99.39	70	130	
Se	78	74	He	1.783	ug/l	9.2	73	99.06	70	130	
Se	82	74	No Gas	1.826	ug/l	4.4	247	101.44	70	130	
Mo	98	103	No Gas	1.774	ug/l	2.0	10508	98.56	70	130	
Ag	109	103	No Gas	1.803	ug/l	1.0	17853	100.17	70	130	
Cd	111	103	No Gas	1.728	ug/l	2.8	4060	96	70	130	
Sb	123	103	No Gas	1.768	ug/l	4.3	12863	98.22	70	130	
Ba	137	159	No Gas	1.913	ug/l	3.5	6045	106.28	70	130	
Hg	201	159	No Gas	81.188	ng/l	5.4	115	112.76	70	130	
Tl	205	159	No Gas	1.830	ug/l	0.5	45151	101.67	70	130	
Pb	208	159	No Gas	1.779	ug/l	0.5	59614	98.83	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	70191	0.5	74425.24	94.31	70	120	
Ge	74	He	77880	0.7	81443.29	95.62	70	120	
Li	6	No Gas	267037	0.4	328630.38	81.26	70	120	
Sc	45	No Gas	953474	0.8	1080968.53	88.21	70	120	
Ge	74	No Gas	360293	1.1	386165.82	93.3	70	120	
Rh	103	No Gas	403546	1.0	422155.36	95.59	70	120	
Tb	159	No Gas	865058	1.8	887046.79	97.52	70	120	
Bi	209	No Gas	616751	1.8	619480.15	99.56	70	120	

Sample Report ICPMS6

Sample Name	**9051152-BLK2**	**Sample Type**	Sample
File Name	024SMPL.d	**Vial #**	3302
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 11:31:20	**Sample QC Pass/Fail**	Pass
Total Dilution	10.0000	**ISTD QC Pass/Fail**	Pass
Comment	9051152 Solid Be Q-14/Q-06		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag
Be	9	6	No Gas	ug/l	0.007	72.5	20	44.1	100	
Na	23	45	He	ug/l	7.727	5.2	5769	2.5	50000	
Mg	24	45	No Gas	ug/l	-7.384	N/A	29461	2.0	50000	
Al	27	45	He	ug/l	1.613	15.9	150	13.9	50000	
K	39	45	He	ug/l	1.166	229.0	8217	5.0	50000	
Ca	44	45	He	ug/l	4.04	14.2	64	7.9	50000	
Ti	47	45	No Gas	ug/l	0.043	56.7	118	15.6	2500	
V	51	74	He	ug/l	-0.073	N/A	243	2.7	500	
Cr	52	74	He	ug/l	-0.011	N/A	57	5.9	1000	
Mn	55	74	No Gas	ug/l	-0.046	N/A	1317	2.5	2500	
Fe	56	74	He	ug/l	3.653	8.4	11272	3.6	50000	
Co	59	74	No Gas	ug/l	0.002	38.0	76	6.7	500	
Ni	60	74	He	ug/l	-0.064	N/A	117	7.6	1000	
Cu	65	74	He	ug/l	0.037	33.9	71	16.5	1000	
Zn	66	74	He	ug/l	0.013	188.0	41	26.1	2500	
As	75	74	He	ug/l	0.006	239.0	14	30.0	500	
Se	78	74	He	ug/l	-0.014	N/A	11	9.2	100	
Se	82	74	No Gas	ug/l	-0.102	N/A	2	366.6	100	
Mo	98	103	No Gas	ug/l	0.115	12.7	687	11.9	100	
Ag	109	103	No Gas	ug/l	0.001	32.1	19	20.9	100	
Cd	111	103	No Gas	ug/l	0.005	89.8	13	75.2	1000	
Sb	123	103	No Gas	ug/l	0.006	44.2	50	40.0	100	
Ba	137	159	No Gas	ug/l	0.006	102.8	32	57.0	2500	
W	186	159	No Gas	ug/l	0.016	27.2	184	25.8	100	
Hg	201	159	No Gas	ng/l	9.342	15.4	14	12.9	4000	
Tl	205	159	No Gas	ug/l	0.002	52.8	68	28.8	100	
Pb	208	159	No Gas	ug/l	0.003	52.9	212	26.7	500	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	284810	1.2	328630.38	86.67	70	120	
Sc	45	He	60657	0.4	74425.24	81.5	70	120	
Sc	45	No Gas	935411	1.5	1080968.53	86.53	70	120	
Ge	74	He	68094	1.5	81443.29	83.61	70	120	
Ge	74	No Gas	350297	1.6	386165.82	90.71	70	120	
Rh	103	No Gas	395279	1.5	422155.36	93.63	70	120	
Tb	159	No Gas	860346	1.8	887046.79	96.99	70	120	
Bi	209	No Gas	609773	1.8	619480.15	98.43	70	120	

Sample Report ICPMS6

Sample Name	**9051152-BS2**	**Sample Type**	Sample
File Name	025SMPL.d	**Vial #**	3303
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 11:35:58	**Sample QC Pass/Fail**	Pass
Total Dilution	10.0000	**ISTD QC Pass/Fail**	Pass
Comment	9051152 Solid Be Q-14/Q-06		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag
Be	9	6	No Gas	ug/l	22.545	0.5	37303	0.8	100	
Na	23	45	He	ug/l	2398.381	0.5	750020	1.1	50000	
Mg	24	45	No Gas	ug/l	2502.251	0.5	11623627	0.3	50000	
Al	27	45	He	ug/l	2403.867	0.6	196749	0.8	50000	
K	39	45	He	ug/l	2477.928	0.3	424842	0.6	50000	
Ca	44	45	He	ug/l	2429.848	1.5	22870	1.7	50000	
Ti	47	45	No Gas	ug/l	49.729	0.2	35039	1.0	2500	
V	51	74	He	ug/l	45.844	1.2	77955	0.4	500	
Cr	52	74	He	ug/l	46.762	1.5	97645	1.6	1000	
Mn	55	74	No Gas	ug/l	51.03	0.8	714915	0.7	2500	
Fe	56	74	He	ug/l	2419.659	1.2	4613761	0.3	50000	
Co	59	74	No Gas	ug/l	50.411	1.5	483062	0.2	500	
Ni	60	74	He	ug/l	49.282	1.9	37607	1.5	1000	
Cu	65	74	He	ug/l	49.216	2.2	50503	1.3	1000	
Zn	66	74	He	ug/l	48.884	0.9	23596	1.7	2500	
As	75	74	He	ug/l	47.625	1.4	16200	0.5	500	
Se	78	74	He	ug/l	23.09	4.0	702	3.1	100	
Se	82	74	No Gas	ug/l	23.367	2.4	2979	1.8	100	
Mo	98	103	No Gas	ug/l	23.908	1.6	137780	1.2	100	
Ag	109	103	No Gas	ug/l	23.622	0.9	227957	0.5	100	
Cd	111	103	No Gas	ug/l	49.324	1.6	112934	0.6	1000	
Sb	123	103	No Gas	ug/l	23.616	0.7	167315	0.4	100	
Ba	137	159	No Gas	ug/l	51.92	1.3	164136	0.4	2500	
W	186	159	No Gas	ug/l	0.015	19.0	170	17.6	100	
Hg	201	159	No Gas	ng/l	975.992	1.8	1375	0.2	4000	
Tl	205	159	No Gas	ug/l	23.534	0.4	581679	1.5	100	
Pb	208	159	No Gas	ug/l	48.662	0.2	1631213	1.5	500	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	274574	0.6	328630.38	83.55	70	120	
Sc	45	He	61525	0.7	74425.24	82.67	70	120	
Sc	45	No Gas	949444	0.8	1080968.53	87.83	70	120	
Ge	74	He	69448	0.9	81443.29	85.27	70	120	
Ge	74	No Gas	359093	1.2	386165.82	92.99	70	120	
Rh	103	No Gas	393360	1.1	422155.36	93.18	70	120	
Tb	159	No Gas	867109	1.6	887046.79	97.75	70	120	
Bi	209	No Gas	605526	2.1	619480.15	97.75	70	120	

Sample Report ICPMS6

Sample Name	**A9E0677-01RE1**	**Sample Type**	Sample
File Name	030SMPL.d	**Vial #**	3311
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 11:58:58	**Sample QC Pass/Fail**	Pass
Total Dilution	10.0000	**ISTD QC Pass/Fail**	Pass
Comment	9051152 Solid Be Q-14/Q-06		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Units	Raw Conc.	Conc RSD	CPS	CPS RSD	LDR	QC Flag
Be	9	6	No Gas	ug/l	0.015	28.7	31	22.3	100	
Na	23	45	He	ug/l	147.274	4.1	50657	1.4	50000	
Mg	24	45	No Gas	ug/l	12.206	3.3	118219	0.6	50000	
Al	27	45	He	ug/l	43.523	2.8	3685	4.9	50000	
K	39	45	He	ug/l	3.834	39.9	9030	0.6	50000	
Ca	44	45	He	ug/l	35.534	12.4	372	13.2	50000	
Ti	47	45	No Gas	ug/l	3.099	2.4	2226	1.1	2500	
V	51	74	He	ug/l	1.117	2.3	2337	3.4	500	
Cr	52	74	He	ug/l	0.097	24.0	292	16.1	1000	
Mn	55	74	No Gas	ug/l	8.062	0.4	113073	1.0	2500	
Fe	56	74	He	ug/l	1117.969	2.2	2203817	0.6	50000	
Co	59	74	No Gas	ug/l	0.272	7.9	2631	6.9	500	
Ni	60	74	He	ug/l	0.35	6.6	448	4.8	1000	
Cu	65	74	He	ug/l	1.583	5.8	1712	5.5	1000	
Zn	66	74	He	ug/l	30.447	2.9	15187	1.3	2500	
As	75	74	He	ug/l	0.281	4.0	112	4.9	500	
Se	78	74	He	ug/l	0.225	17.7	19	7.9	100	
Se	82	74	No Gas	ug/l	0.219	32.9	42	20.7	100	
Mo	98	103	No Gas	ug/l	0.031	25.9	203	22.6	100	
Ag	109	103	No Gas	ug/l	0.016	7.9	161	6.8	100	
Cd	111	103	No Gas	ug/l	0.308	3.6	714	4.3	1000	
Sb	123	103	No Gas	ug/l	0.034	30.9	250	30.2	100	
Ba	137	159	No Gas	ug/l	2.094	2.8	6627	3.8	2500	
W	186	159	No Gas	ug/l	0.015	35.1	174	31.8	100	
Hg	201	159	No Gas	ng/l	38.978	10.0	56	10.6	4000	
Tl	205	159	No Gas	ug/l	0.076	3.1	1896	4.0	100	
Pb	208	159	No Gas	ug/l	25.631	0.5	858225	1.4	500	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	263569	0.4	328630.38	80.2	70	120	
Sc	45	He	63274	2.5	74425.24	85.02	70	120	
Sc	45	No Gas	932275	1.3	1080968.53	86.24	70	120	
Ge	74	He	71726	1.6	81443.29	88.07	70	120	
Ge	74	No Gas	354236	0.9	386165.82	91.73	70	120	
Rh	103	No Gas	397682	0.9	422155.36	94.2	70	120	
Tb	159	No Gas	866073	1.0	887046.79	97.64	70	120	
Bi	209	No Gas	693584	1.1	619480.15	111.96	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV1**	**Sample Type**	CCV
File Name	034_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 12:17:23	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	38.993	ug/l	1.1	61101	40	97.48	90	110	
Na	23	45	He	4006.206	ug/l	2.1	1314719	4000	100.16	90	110	
Mg	24	45	No Gas	4186.369	ug/l	1.5	19305317	4000	104.66	90	110	
Al	27	45	He	4035.679	ug/l	0.6	347302	4000	100.89	90	110	
K	39	45	He	4093.220	ug/l	1.1	732322	4000	102.33	90	110	
Ca	44	45	He	4111.391	ug/l	1.0	40672	4000	102.78	90	110	
Ti	47	45	No Gas	97.892	ug/l	2.5	68527	100	97.89	90	110	
V	51	74	He	96.262	ug/l	1.0	169160	100	96.26	90	110	
Cr	52	74	He	96.635	ug/l	1.7	208935	100	96.64	90	110	
Mn	55	74	No Gas	102.238	ug/l	1.3	1414157	100	102.24	90	110	
Fe	56	74	He	4063.842	ug/l	1.3	8024461	4000	101.6	90	110	
Co	59	74	No Gas	103.699	ug/l	1.3	982469	100	103.7	90	110	
Ni	60	74	He	101.783	ug/l	2.0	80276	100	101.78	90	110	
Cu	65	74	He	102.856	ug/l	1.4	109316	100	102.86	90	110	
Zn	66	74	He	99.175	ug/l	1.9	49546	100	99.18	90	110	
As	75	74	He	96.718	ug/l	1.3	34070	100	96.72	90	110	
Se	78	74	He	39.288	ug/l	1.6	1229	40	98.22	90	110	
Se	82	74	No Gas	39.542	ug/l	1.0	4974	40	98.86	90	110	
Mo	98	103	No Gas	38.930	ug/l	1.1	223058	40	97.32	90	110	
Ag	109	103	No Gas	39.264	ug/l	0.8	376735	40	98.16	90	110	
Cd	111	103	No Gas	97.335	ug/l	1.1	221590	100	97.34	90	110	
Sb	123	103	No Gas	43.682	ug/l	1.5	307686	40	109.2	90	110	
Ba	137	159	No Gas	104.732	ug/l	2.8	330764	100	104.73	90	110	
Hg	201	159	No Gas	801.569	ng/l	0.9	1129	800	100.2	90	110	
Tl	205	159	No Gas	38.883	ug/l	1.5	960219	40	97.21	90	110	
Pb	208	159	No Gas	97.004	ug/l	2.4	3248356	100	97	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64694	1.0	74425.24	86.93	70	120	
Ge	74	He	71951	1.7	81443.29	88.35	70	120	
Li	6	No Gas	260078	1.2	328630.38	79.14	70	120	
Sc	45	No Gas	944750	1.9	1080968.53	87.4	70	120	
Ge	74	No Gas	355049	1.3	386165.82	91.94	70	120	
Rh	103	No Gas	391121	1.5	422155.36	92.65	70	120	
Tb	159	No Gas	866602	2.6	887046.79	97.7	70	120	
Bi	209	No Gas	600501	2.1	619480.15	96.94	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB1**	**Sample Type**	CCB
File Name	035_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 12:21:57	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.014	ug/l	46.4	29	0.09	
Na	23	45	He	-0.527	ug/l	N/A	3497	45	
Mg	24	45	No Gas	-6.429	ug/l	N/A	33367	22.5	
Al	27	45	He	0.034	ug/l	271.1	24	22.5	
K	39	45	He	0.432	ug/l	422.6	8747	45	
Ca	44	45	He	-0.810	ug/l	N/A	21	45	
Ti	47	45	No Gas	-0.030	ug/l	N/A	66	0.45	
V	51	74	He	-0.068	ug/l	N/A	269	0.45	
Cr	52	74	He	-0.007	ug/l	N/A	70	0.45	
Mn	55	74	No Gas	-0.039	ug/l	N/A	1403	0.45	
Fe	56	74	He	-0.835	ug/l	N/A	3094	22.5	
Co	59	74	No Gas	0.002	ug/l	17.8	77	0.09	
Ni	60	74	He	-0.118	ug/l	N/A	81	0.45	
Cu	65	74	He	0.001	ug/l	1418.3	38	0.45	
Zn	66	74	He	-0.009	ug/l	N/A	33	1.8	
As	75	74	He	0.019	ug/l	36.1	20	0.45	
Se	78	74	He	0.004	ug/l	1728.1	13	0.45	
Se	82	74	No Gas	-0.126	ug/l	N/A	-1	0.45	
Mo	98	103	No Gas	0.011	ug/l	61.5	86	0.45	
Ag	109	103	No Gas	0.001	ug/l	15.0	20	0.09	
Cd	111	103	No Gas	0.000	ug/l	N/A	1	0.09	
Sb	123	103	No Gas	0.009	ug/l	67.7	73	0.45	
Ba	137	159	No Gas	0.002	ug/l	229.0	19	0.45	
Hg	201	159	No Gas	14.596	ng/l	10.8	21	36	
Tl	205	159	No Gas	0.007	ug/l	8.7	188	0.09	
Pb	208	159	No Gas	0.003	ug/l	20.9	223	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65556	1.5	74425.24	88.08	70	120	
Ge	74	He	72766	0.4	81443.29	89.35	70	120	
Li	6	No Gas	263049	0.4	328630.38	80.04	70	120	
Sc	45	No Gas	922902	1.0	1080968.53	85.38	70	120	
Ge	74	No Gas	348972	1.0	386165.82	90.37	70	120	
Rh	103	No Gas	394903	0.6	422155.36	93.54	70	120	
Tb	159	No Gas	845367	1.4	887046.79	95.3	70	120	
Bi	209	No Gas	597898	1.4	619480.15	96.52	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV2**	**Sample Type**	CCV
File Name	041_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 12:52:06	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	37.892	ug/l	0.5	65538	40	94.73	90	110	
Na	23	45	He	4023.772	ug/l	0.5	1347522	4000	100.59	90	110	
Mg	24	45	No Gas	4214.600	ug/l	0.4	20782008	4000	105.37	90	110	
Al	27	45	He	4025.612	ug/l	1.1	353475	4000	100.64	90	110	
K	39	45	He	4090.899	ug/l	0.9	746811	4000	102.27	90	110	
Ca	44	45	He	4142.631	ug/l	1.4	41810	4000	103.57	90	110	
Ti	47	45	No Gas	99.827	ug/l	1.2	74727	100	99.83	90	110	
V	51	74	He	96.071	ug/l	0.9	173136	100	96.07	90	110	
Cr	52	74	He	96.563	ug/l	0.6	214130	100	96.56	90	110	
Mn	55	74	No Gas	102.543	ug/l	2.0	1520450	100	102.54	90	110	
Fe	56	74	He	4057.092	ug/l	1.0	8215810	4000	101.43	90	110	
Co	59	74	No Gas	104.013	ug/l	1.0	1056406	100	104.01	90	110	
Ni	60	74	He	101.866	ug/l	0.3	82404	100	101.87	90	110	
Cu	65	74	He	102.981	ug/l	0.9	112240	100	102.98	90	110	
Zn	66	74	He	97.721	ug/l	0.6	50072	100	97.72	90	110	
As	75	74	He	96.226	ug/l	0.8	34763	100	96.23	90	110	
Se	78	74	He	38.518	ug/l	1.2	1236	40	96.3	90	110	
Se	82	74	No Gas	40.002	ug/l	2.7	5394	40	100.01	90	110	
Mo	98	103	No Gas	39.359	ug/l	0.6	238221	40	98.4	90	110	
Ag	109	103	No Gas	39.341	ug/l	1.3	398726	40	98.35	90	110	
Cd	111	103	No Gas	97.697	ug/l	0.5	234949	100	97.7	90	110	
Sb	123	103	No Gas	43.174	ug/l	0.7	321259	40	107.94	90	110	
Ba	137	159	No Gas	106.269	ug/l	1.2	345533	100	106.27	90	110	
Hg	201	159	No Gas	796.330	ng/l	3.3	1155	800	99.54	90	110	
Tl	205	159	No Gas	38.865	ug/l	0.8	988010	40	97.16	90	110	
Pb	208	159	No Gas	96.724	ug/l	0.3	3334629	100	96.72	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66011	0.8	74425.24	88.69	70	120	
Ge	74	He	73784	0.8	81443.29	90.59	70	120	
Li	6	No Gas	287053	0.8	328630.38	87.35	70	120	
Sc	45	No Gas	1010050	1.1	1080968.53	93.44	70	120	
Ge	74	No Gas	380613	1.1	386165.82	98.56	70	120	
Rh	103	No Gas	413120	0.3	422155.36	97.86	70	120	
Tb	159	No Gas	891809	1.0	887046.79	100.54	70	120	
Bi	209	No Gas	613151	1.5	619480.15	98.98	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB2**	**Sample Type**	CCB
File Name	042_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 12:56:40	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.012	ug/l	74.2	29	0.09	
Na	23	45	He	12.359	ug/l	1.6	7821	45	
Mg	24	45	No Gas	-6.407	ug/l	N/A	36571	22.5	
Al	27	45	He	0.146	ug/l	121.1	34	22.5	
K	39	45	He	0.639	ug/l	250.7	8845	45	
Ca	44	45	He	-0.379	ug/l	N/A	26	45	
Ti	47	45	No Gas	-0.051	ug/l	N/A	57	0.45	
V	51	74	He	-0.058	ug/l	N/A	289	0.45	
Cr	52	74	He	-0.015	ug/l	N/A	53	0.45	
Mn	55	74	No Gas	-0.030	ug/l	N/A	1657	0.45	
Fe	56	74	He	-0.641	ug/l	N/A	3517	22.5	
Co	59	74	No Gas	0.001	ug/l	149.0	74	0.09	
Ni	60	74	He	-0.044	ug/l	N/A	142	0.45	
Cu	65	74	He	0.005	ug/l	178.1	42	0.45	
Zn	66	74	He	0.027	ug/l	188.0	52	1.8	
As	75	74	He	0.018	ug/l	84.2	20	0.45	
Se	78	74	He	0.009	ug/l	594.2	13	0.45	
Se	82	74	No Gas	-0.043	ug/l	N/A	10	0.45	
Mo	98	103	No Gas	0.017	ug/l	55.4	127	0.45	
Ag	109	103	No Gas	0.002	ug/l	19.1	26	0.09	
Cd	111	103	No Gas	0.003	ug/l	157.4	9	0.09	
Sb	123	103	No Gas	0.007	ug/l	64.3	57	0.45	
Ba	137	159	No Gas	0.003	ug/l	95.1	26	0.45	
Hg	201	159	No Gas	13.900	ng/l	12.6	21	36	
Tl	205	159	No Gas	0.010	ug/l	3.2	272	0.09	
Pb	208	159	No Gas	0.005	ug/l	9.2	284	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	65979	0.9	74425.24	88.65	70	120	
Ge	74	He	73585	2.8	81443.29	90.35	70	120	
Li	6	No Gas	289463	0.5	328630.38	88.08	70	120	
Sc	45	No Gas	1009065	2.3	1080968.53	93.35	70	120	
Ge	74	No Gas	377727	1.0	386165.82	97.81	70	120	
Rh	103	No Gas	420787	2.2	422155.36	99.68	70	120	
Tb	159	No Gas	880721	2.5	887046.79	99.29	70	120	
Bi	209	No Gas	611458	2.9	619480.15	98.71	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL4**	**Sample Type**	CRL1
File Name	043CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 13:01:18	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E285 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.181	ug/l	5.1	320	100.56	70	130		
Na	23	45	He	16.320	ug/l	3.9	9342	181.33	70	130	CRL1 Failed	
Mg	24	45	No Gas	3.592	ug/l	8.2	85484	39.91	70	130	CRL1 Failed	< MRL
Al	27	45	He	9.011	ug/l	2.1	830	100.12	70	130		
K	39	45	He	9.451	ug/l	3.3	10660	105.01	70	130		
Ca	44	45	He	9.487	ug/l	16.3	128	105.41	70	130		
Ti	47	45	No Gas	0.105	ug/l	24.8	172	58.33	70	130	CRL1 Failed	< MRL
V	51	74	He	0.135	ug/l	9.1	647	75	70	130		
Cr	52	74	He	0.171	ug/l	3.4	471	95	70	130		
Mn	55	74	No Gas	0.156	ug/l	2.4	4374	86.67	70	130		
Fe	56	74	He	8.146	ug/l	1.6	21635	90.51	70	130		
Co	59	74	No Gas	0.192	ug/l	2.4	1998	106.67	70	130		
Ni	60	74	He	0.081	ug/l	15.1	247	45	70	130	CRL1 Failed	< MRL
Cu	65	74	He	0.176	ug/l	11.7	232	97.78	70	130		
Zn	66	74	He	0.135	ug/l	10.6	109	75	70	130		
As	75	74	He	0.180	ug/l	9.2	80	100	70	130		
Se	78	74	He	0.220	ug/l	43.7	20	122.22	70	130		
Se	82	74	No Gas	0.135	ug/l	35.6	33	75	70	130		
Mo	98	103	No Gas	0.166	ug/l	18.1	1051	92.22	70	130		
Ag	109	103	No Gas	0.176	ug/l	1.9	1832	97.78	70	130		
Cd	111	103	No Gas	0.189	ug/l	3.8	466	105	70	130		
Sb	123	103	No Gas	0.177	ug/l	17.3	1352	98.33	70	130		
Ba	137	159	No Gas	0.189	ug/l	6.7	627	105	70	130		
Hg	201	159	No Gas	13.764	ng/l	8.3	21	76.47	70	130		
Tl	205	159	No Gas	0.177	ug/l	1.0	4501	98.33	70	130		
Pb	208	159	No Gas	0.173	ug/l	0.4	6061	96.11	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	67412	0.4	74425.24	90.58	70	120	
Ge	74	He	74895	0.7	81443.29	91.96	70	120	
Li	6	No Gas	285803	0.9	328630.38	86.97	70	120	
Sc	45	No Gas	1006939	1.3	1080968.53	93.15	70	120	
Ge	74	No Gas	376776	0.9	386165.82	97.57	70	120	
Rh	103	No Gas	422050	0.7	422155.36	99.97	70	120	
Tb	159	No Gas	887449	1.4	887046.79	100.05	70	120	
Bi	209	No Gas	615102	2.3	619480.15	99.29	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL5**	**Sample Type**	CRL2
File Name	044_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 13:05:55	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E286 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.896	ug/l	1.9	1533	99.56	70	130	
Na	23	45	He	49.429	ug/l	2.8	20468	109.84	70	130	
Mg	24	45	No Gas	44.826	ug/l	3.2	282132	99.61	70	130	
Al	27	45	He	45.710	ug/l	2.2	4088	101.58	70	130	
K	39	45	He	46.903	ug/l	4.6	17418	104.23	70	130	
Ca	44	45	He	44.545	ug/l	13.3	484	98.99	70	130	
Ti	47	45	No Gas	0.893	ug/l	10.5	746	99.22	70	130	
V	51	74	He	0.814	ug/l	4.3	1878	90.44	70	130	
Cr	52	74	He	0.837	ug/l	2.6	1962	93	70	130	
Mn	55	74	No Gas	0.864	ug/l	2.0	14677	96	70	130	
Fe	56	74	He	44.356	ug/l	0.9	95661	98.57	70	130	
Co	59	74	No Gas	0.930	ug/l	3.3	9372	103.33	70	130	
Ni	60	74	He	0.851	ug/l	7.2	874	94.56	70	130	
Cu	65	74	He	0.941	ug/l	10.4	1075	104.56	70	130	
Zn	66	74	He	0.925	ug/l	6.4	518	102.78	70	130	
As	75	74	He	0.870	ug/l	4.2	331	96.67	70	130	
Se	78	74	He	0.835	ug/l	8.9	40	92.78	70	130	
Se	82	74	No Gas	0.829	ug/l	13.3	125	92.11	70	130	
Mo	98	103	No Gas	0.868	ug/l	1.5	5370	96.44	70	130	
Ag	109	103	No Gas	0.878	ug/l	1.4	9060	97.56	70	130	
Cd	111	103	No Gas	0.868	ug/l	5.2	2124	96.44	70	130	
Sb	123	103	No Gas	0.840	ug/l	4.8	6365	93.33	70	130	
Ba	137	159	No Gas	0.922	ug/l	1.3	2963	102.44	70	130	
Hg	201	159	No Gas	40.943	ng/l	6.6	59	113.73	70	130	
Tl	205	159	No Gas	0.887	ug/l	3.6	22222	98.56	70	130	
Pb	208	159	No Gas	0.866	ug/l	1.8	29485	96.22	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	66889	2.9	74425.24	89.87	70	120	
Ge	74	He	74615	1.5	81443.29	91.62	70	120	
Li	6	No Gas	282809	0.7	328630.38	86.06	70	120	
Sc	45	No Gas	988616	3.6	1080968.53	91.46	70	120	
Ge	74	No Gas	374821	0.5	386165.82	97.06	70	120	
Rh	103	No Gas	420172	1.0	422155.36	99.53	70	120	
Tb	159	No Gas	877226	1.6	887046.79	98.89	70	120	
Bi	209	No Gas	616766	1.8	619480.15	99.56	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL6**	**Sample Type**	CRL3
File Name	045CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 13:10:32	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E287 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.640	ug/l	4.3	2805	91.11	70	130	
Na	23	45	He	91.788	ug/l	2.3	34918	101.99	70	130	
Mg	24	45	No Gas	96.401	ug/l	1.1	528968	107.11	70	130	
Al	27	45	He	88.457	ug/l	2.1	7919	98.29	70	130	
K	39	45	He	90.956	ug/l	2.1	25561	101.06	70	130	
Ca	44	45	He	94.028	ug/l	7.4	993	104.48	70	130	
Ti	47	45	No Gas	1.732	ug/l	5.5	1357	96.22	70	130	
V	51	74	He	1.704	ug/l	5.3	3542	94.67	70	130	
Cr	52	74	He	1.728	ug/l	1.8	4008	96	70	130	
Mn	55	74	No Gas	1.750	ug/l	5.8	28002	97.22	70	130	
Fe	56	74	He	89.882	ug/l	1.6	191148	99.87	70	130	
Co	59	74	No Gas	1.805	ug/l	3.4	18397	100.28	70	130	
Ni	60	74	He	1.666	ug/l	6.8	1558	92.56	70	130	
Cu	65	74	He	1.815	ug/l	4.4	2061	100.83	70	130	
Zn	66	74	He	1.881	ug/l	8.7	1025	104.5	70	130	
As	75	74	He	1.717	ug/l	0.7	648	95.39	70	130	
Se	78	74	He	1.750	ug/l	9.9	70	97.22	70	130	
Se	82	74	No Gas	1.702	ug/l	4.2	244	94.56	70	130	
Mo	98	103	No Gas	1.704	ug/l	8.0	10559	94.67	70	130	
Ag	109	103	No Gas	1.765	ug/l	4.2	18299	98.06	70	130	
Cd	111	103	No Gas	1.661	ug/l	6.0	4087	92.28	70	130	
Sb	123	103	No Gas	1.669	ug/l	2.4	12709	92.72	70	130	
Ba	137	159	No Gas	1.895	ug/l	4.0	6147	105.28	70	130	
Hg	201	159	No Gas	76.072	ng/l	1.7	111	105.66	70	130	
Tl	205	159	No Gas	1.760	ug/l	4.3	44567	97.78	70	130	
Pb	208	159	No Gas	1.707	ug/l	4.4	58689	94.83	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	67115	1.8	74425.24	90.18	70	120	
Ge	74	He	75535	1.8	81443.29	92.75	70	120	
Li	6	No Gas	283191	4.2	328630.38	86.17	70	120	
Sc	45	No Gas	985991	0.7	1080968.53	91.21	70	120	
Ge	74	No Gas	380978	5.1	386165.82	98.66	70	120	
Rh	103	No Gas	422843	3.6	422155.36	100.16	70	120	
Tb	159	No Gas	888911	4.8	887046.79	100.21	70	120	
Bi	209	No Gas	625877	5.1	619480.15	101.03	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV3**	**Sample Type**	CCV
File Name	056_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 14:02:57	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	39.323	ug/l	1.0	60378	40	98.31	90	110	
Na	23	45	He	4047.980	ug/l	1.9	1320234	4000	101.2	90	110	
Mg	24	45	No Gas	4213.940	ug/l	1.0	18476350	4000	105.35	90	110	
Al	27	45	He	4035.753	ug/l	1.5	345139	4000	100.89	90	110	
K	39	45	He	4055.979	ug/l	1.8	721211	4000	101.4	90	110	
Ca	44	45	He	4090.059	ug/l	0.9	40208	4000	102.25	90	110	
Ti	47	45	No Gas	98.340	ug/l	1.9	65458	100	98.34	90	110	
V	51	74	He	95.663	ug/l	0.4	166693	100	95.66	90	110	
Cr	52	74	He	96.299	ug/l	0.8	206465	100	96.3	90	110	
Mn	55	74	No Gas	101.432	ug/l	1.6	1339423	100	101.43	90	110	
Fe	56	74	He	4043.846	ug/l	0.9	7917745	4000	101.1	90	110	
Co	59	74	No Gas	102.898	ug/l	1.3	930608	100	102.9	90	110	
Ni	60	74	He	101.100	ug/l	0.7	79074	100	101.1	90	110	
Cu	65	74	He	101.628	ug/l	0.7	107096	100	101.63	90	110	
Zn	66	74	He	98.733	ug/l	0.5	48915	100	98.73	90	110	
As	75	74	He	95.413	ug/l	0.6	33328	100	95.41	90	110	
Se	78	74	He	38.386	ug/l	2.4	1190	40	95.97	90	110	
Se	82	74	No Gas	39.260	ug/l	1.1	4715	40	98.15	90	110	
Mo	98	103	No Gas	39.169	ug/l	0.8	214289	40	97.92	90	110	
Ag	109	103	No Gas	39.629	ug/l	0.6	363058	40	99.07	90	110	
Cd	111	103	No Gas	98.055	ug/l	1.2	213140	100	98.06	90	110	
Sb	123	103	No Gas	43.699	ug/l	1.0	293914	40	109.25	90	110	
Ba	137	159	No Gas	104.955	ug/l	1.4	318178	100	104.96	90	110	
Hg	201	159	No Gas	809.628	ng/l	2.9	1094	800	101.2	90	110	
Tl	205	159	No Gas	39.254	ug/l	0.7	930414	40	98.14	90	110	
Pb	208	159	No Gas	98.164	ug/l	1.0	3155530	100	98.16	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64294	0.9	74425.24	86.39	70	120	
Ge	74	He	71337	0.5	81443.29	87.59	70	120	
Li	6	No Gas	254832	0.6	328630.38	77.54	70	120	
Sc	45	No Gas	898230	1.5	1080968.53	83.09	70	120	
Ge	74	No Gas	338938	1.6	386165.82	87.77	70	120	
Rh	103	No Gas	373436	1.2	422155.36	88.46	70	120	
Tb	159	No Gas	831582	1.9	887046.79	93.75	70	120	
Bi	209	No Gas	581361	2.3	619480.15	93.85	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB3**	**Sample Type**	CCB
File Name	057_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 14:07:30	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.010	ug/l	42.7	23	0.09	
Na	23	45	He	1.826	ug/l	23.8	4220	45	
Mg	24	45	No Gas	-6.218	ug/l	N/A	34166	22.5	
Al	27	45	He	0.142	ug/l	80.9	33	22.5	
K	39	45	He	1.701	ug/l	83.7	8855	45	
Ca	44	45	He	-1.111	ug/l	N/A	18	45	
Ti	47	45	No Gas	-0.051	ug/l	N/A	51	0.45	
V	51	74	He	-0.039	ug/l	N/A	316	0.45	
Cr	52	74	He	-0.004	ug/l	N/A	74	0.45	
Mn	55	74	No Gas	-0.033	ug/l	N/A	1503	0.45	
Fe	56	74	He	-0.880	ug/l	N/A	2963	22.5	
Co	59	74	No Gas	0.004	ug/l	66.7	96	0.09	
Ni	60	74	He	-0.090	ug/l	N/A	102	0.45	
Cu	65	74	He	0.007	ug/l	117.4	43	0.45	
Zn	66	74	He	0.010	ug/l	189.1	42	1.8	
As	75	74	He	0.026	ug/l	34.6	22	0.45	
Se	78	74	He	-0.061	ug/l	N/A	11	0.45	
Se	82	74	No Gas	-0.091	ug/l	N/A	3	0.45	
Mo	98	103	No Gas	0.019	ug/l	59.3	130	0.45	
Ag	109	103	No Gas	0.001	ug/l	38.6	21	0.09	
Cd	111	103	No Gas	0.005	ug/l	80.7	13	0.09	
Sb	123	103	No Gas	0.009	ug/l	44.6	67	0.45	
Ba	137	159	No Gas	0.007	ug/l	44.2	34	0.45	
Hg	201	159	No Gas	13.368	ng/l	25.4	19	36	
Tl	205	159	No Gas	0.004	ug/l	18.2	119	0.09	
Pb	208	159	No Gas	0.004	ug/l	18.5	257	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	64669	0.7	74425.24	86.89	70	120	
Ge	74	He	71788	0.4	81443.29	88.14	70	120	
Li	6	No Gas	270412	3.2	328630.38	82.28	70	120	
Sc	45	No Gas	919350	2.6	1080968.53	85.05	70	120	
Ge	74	No Gas	352192	4.0	386165.82	91.2	70	120	
Rh	103	No Gas	397885	4.2	422155.36	94.25	70	120	
Tb	159	No Gas	851961	4.3	887046.79	96.04	70	120	
Bi	209	No Gas	600343	4.9	619480.15	96.91	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV4**	**Sample Type**	CCV
File Name	068_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 14:58:11	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	39.055	ug/l	0.8	58735	40	97.64	90	110	
Na	23	45	He	4104.416	ug/l	0.7	1299206	4000	102.61	90	110	
Mg	24	45	No Gas	4215.686	ug/l	0.3	18015834	4000	105.39	90	110	
Al	27	45	He	4135.850	ug/l	0.7	343280	4000	103.4	90	110	
K	39	45	He	4123.780	ug/l	0.7	711540	4000	103.09	90	110	
Ca	44	45	He	4142.345	ug/l	2.1	39516	4000	103.56	90	110	
Ti	47	45	No Gas	97.584	ug/l	0.9	63316	100	97.58	90	110	
V	51	74	He	97.009	ug/l	0.2	163923	100	97.01	90	110	
Cr	52	74	He	97.430	ug/l	1.2	202579	100	97.43	90	110	
Mn	55	74	No Gas	100.929	ug/l	2.4	1301186	100	100.93	90	110	
Fe	56	74	He	4088.603	ug/l	0.8	7763502	4000	102.22	90	110	
Co	59	74	No Gas	101.732	ug/l	2.2	898325	100	101.73	90	110	
Ni	60	74	He	101.889	ug/l	0.9	77282	100	101.89	90	110	
Cu	65	74	He	102.557	ug/l	1.1	104811	100	102.56	90	110	
Zn	66	74	He	100.076	ug/l	0.6	48081	100	100.08	90	110	
As	75	74	He	96.711	ug/l	0.4	32760	100	96.71	90	110	
Se	78	74	He	40.585	ug/l	1.2	1220	40	101.46	90	110	
Se	82	74	No Gas	39.810	ug/l	1.0	4668	40	99.52	90	110	
Mo	98	103	No Gas	38.971	ug/l	1.4	208153	40	97.43	90	110	
Ag	109	103	No Gas	39.791	ug/l	0.7	355899	40	99.48	90	110	
Cd	111	103	No Gas	98.818	ug/l	1.1	209717	100	98.82	90	110	
Sb	123	103	No Gas	43.826	ug/l	1.1	287784	40	109.56	90	110	
Ba	137	159	No Gas	103.485	ug/l	0.7	309852	100	103.48	90	110	
Hg	201	159	No Gas	811.978	ng/l	4.4	1084	800	101.5	90	110	
Tl	205	159	No Gas	39.367	ug/l	1.0	921509	40	98.42	90	110	
Pb	208	159	No Gas	98.348	ug/l	0.4	3122153	100	98.35	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	62398	1.3	74425.24	83.84	70	120	
Ge	74	He	69180	0.3	81443.29	84.94	70	120	
Li	6	No Gas	249598	0.9	328630.38	75.95	70	120	
Sc	45	No Gas	875407	0.4	1080968.53	80.98	70	120	
Ge	74	No Gas	330957	1.4	386165.82	85.7	70	120	
Rh	103	No Gas	364585	0.8	422155.36	86.36	70	120	
Tb	159	No Gas	821204	0.9	887046.79	92.58	70	120	
Bi	209	No Gas	575040	0.4	619480.15	92.83	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB4**	**Sample Type**	CCB
File Name	069_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 15:02:44	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.009	ug/l	68.2	20	0.09	
Na	23	45	He	1.298	ug/l	29.3	3907	45	
Mg	24	45	No Gas	-6.362	ug/l	N/A	32294	22.5	
Al	27	45	He	0.206	ug/l	115.6	38	22.5	
K	39	45	He	2.606	ug/l	71.1	8703	45	
Ca	44	45	He	-1.049	ug/l	N/A	18	45	
Ti	47	45	No Gas	-0.049	ug/l	N/A	51	0.45	
V	51	74	He	-0.001	ug/l	N/A	371	0.45	
Cr	52	74	He	-0.011	ug/l	N/A	58	0.45	
Mn	55	74	No Gas	-0.046	ug/l	N/A	1266	0.45	
Fe	56	74	He	-1.098	ug/l	N/A	2459	22.5	
Co	59	74	No Gas	0.001	ug/l	309.0	68	0.09	
Ni	60	74	He	-0.099	ug/l	N/A	92	0.45	
Cu	65	74	He	0.006	ug/l	227.3	41	0.45	
Zn	66	74	He	-0.013	ug/l	N/A	30	1.8	
As	75	74	He	0.025	ug/l	59.5	21	0.45	
Se	78	74	He	-0.007	ug/l	N/A	12	0.45	
Se	82	74	No Gas	-0.050	ug/l	N/A	8	0.45	
Mo	98	103	No Gas	0.012	ug/l	58.6	87	0.45	
Ag	109	103	No Gas	0.001	ug/l	36.7	18	0.09	
Cd	111	103	No Gas	0.004	ug/l	56.3	11	0.09	
Sb	123	103	No Gas	0.009	ug/l	24.2	67	0.45	
Ba	137	159	No Gas	0.005	ug/l	52.1	30	0.45	
Hg	201	159	No Gas	9.712	ng/l	30.4	14	36	
Tl	205	159	No Gas	0.002	ug/l	15.6	81	0.09	
Pb	208	159	No Gas	0.004	ug/l	11.7	224	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	62471	3.6	74425.24	83.94	70	120	
Ge	74	He	69710	3.1	81443.29	85.59	70	120	
Li	6	No Gas	255363	0.5	328630.38	77.71	70	120	
Sc	45	No Gas	885357	2.0	1080968.53	81.9	70	120	
Ge	74	No Gas	337858	2.1	386165.82	87.49	70	120	
Rh	103	No Gas	384270	1.4	422155.36	91.03	70	120	
Tb	159	No Gas	828693	1.0	887046.79	93.42	70	120	
Bi	209	No Gas	583153	2.3	619480.15	94.14	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV5**	**Sample Type**	CCV
File Name	080_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 16:05:42	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	39.656	ug/l	0.7	54058	40	99.14	90	110	
Na	23	45	He	4136.380	ug/l	1.3	1265948	4000	103.41	90	110	
Mg	24	45	No Gas	4314.415	ug/l	0.9	16356837	4000	107.86	90	110	
Al	27	45	He	4094.147	ug/l	0.3	328593	4000	102.35	90	110	
K	39	45	He	4087.486	ug/l	0.3	682049	4000	102.19	90	110	
Ca	44	45	He	4129.955	ug/l	0.5	38099	4000	103.25	90	110	
Ti	47	45	No Gas	98.881	ug/l	1.1	56931	100	98.88	90	110	
V	51	74	He	94.849	ug/l	1.5	155914	100	94.85	90	110	
Cr	52	74	He	96.147	ug/l	1.1	194468	100	96.15	90	110	
Mn	55	74	No Gas	99.794	ug/l	1.3	1190671	100	99.79	90	110	
Fe	56	74	He	4057.451	ug/l	1.4	7494433	4000	101.44	90	110	
Co	59	74	No Gas	100.955	ug/l	1.0	824998	100	100.96	90	110	
Ni	60	74	He	100.545	ug/l	1.3	74187	100	100.54	90	110	
Cu	65	74	He	101.076	ug/l	1.1	100484	100	101.08	90	110	
Zn	66	74	He	98.395	ug/l	0.6	45987	100	98.4	90	110	
As	75	74	He	95.359	ug/l	0.8	31423	100	95.36	90	110	
Se	78	74	He	38.774	ug/l	2.8	1134	40	96.94	90	110	
Se	82	74	No Gas	40.751	ug/l	1.7	4422	40	101.88	90	110	
Mo	98	103	No Gas	39.055	ug/l	0.5	195523	40	97.64	90	110	
Ag	109	103	No Gas	39.903	ug/l	1.2	334494	40	99.76	90	110	
Cd	111	103	No Gas	99.628	ug/l	1.4	198165	100	99.63	90	110	
Sb	123	103	No Gas	44.699	ug/l	1.4	275104	40	111.75	90	110	≥ +/- 10%
Ba	137	159	No Gas	103.072	ug/l	1.0	297345	100	103.07	90	110	
Hg	201	159	No Gas	814.547	ng/l	3.7	1048	800	101.82	90	110	
Ti	205	159	No Gas	39.714	ug/l	0.6	895642	40	99.28	90	110	
Pb	208	159	No Gas	99.567	ug/l	0.3	3045393	100	99.57	90	110	

Sb Q-41

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	60334	0.8	74425.24	81.07	70	120	
Ge	74	He	67301	0.9	81443.29	82.64	70	120	
Li	6	No Gas	226234	0.5	328630.38	68.84	70	120	Recovery Failed
Sc	45	No Gas	776729	1.7	1080968.53	71.85	70	120	
Ge	74	No Gas	306249	1.6	386165.82	79.31	70	120	
Rh	103	No Gas	341725	1.6	422155.36	80.95	70	120	
Tb	159	No Gas	791243	2.1	887046.79	89.2	70	120	
Bi	209	No Gas	554791	2.0	619480.15	89.56	70	120	

Li Q-06 - No Be reported for remainder of sequence ESS 5/28/19

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB5**	**Sample Type**	CCB
File Name	081_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 16:10:16	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.013	ug/l	52.2	24	0.09	
Na	23	45	He	-0.133	ug/l	N/A	3382	45	
Mg	24	45	No Gas	-6.907	ug/l	N/A	27395	22.5	
Al	27	45	He	0.014	ug/l	347.5	21	22.5	
K	39	45	He	0.885	ug/l	120.8	8235	45	
Ca	44	45	He	-1.483	ug/l	N/A	13	45	
Ti	47	45	No Gas	-0.041	ug/l	N/A	51	0.45	
V	51	74	He	-0.035	ug/l	N/A	302	0.45	
Cr	52	74	He	-0.016	ug/l	N/A	46	0.45	
Mn	55	74	No Gas	-0.054	ug/l	N/A	1062	0.45	
Fe	56	74	He	-1.362	ug/l	N/A	1885	22.5	
Co	59	74	No Gas	0.001	ug/l	236.5	61	0.09	
Ni	60	74	He	-0.128	ug/l	N/A	68	0.45	
Cu	65	74	He	0.001	ug/l	2094.6	34	0.45	
Zn	66	74	He	0.006	ug/l	96.4	38	1.8	
As	75	74	He	0.034	ug/l	9.0	23	0.45	
Se	78	74	He	0.054	ug/l	100.1	13	0.45	
Se	82	74	No Gas	0.047	ug/l	43.2	18	0.45	
Mo	98	103	No Gas	0.009	ug/l	24.6	66	0.45	
Ag	109	103	No Gas	0.001	ug/l	33.8	15	0.09	
Cd	111	103	No Gas	0.004	ug/l	30.6	10	0.09	
Sb	123	103	No Gas	0.009	ug/l	20.9	63	0.45	
Ba	137	159	No Gas	0.003	ug/l	61.4	21	0.45	
Hg	201	159	No Gas	11.197	ng/l	20.2	15	36	
Tl	205	159	No Gas	0.002	ug/l	15.8	63	0.09	
Pb	208	159	No Gas	0.003	ug/l	4.5	187	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	61141	2.4	74425.24	82.15	70	120	
Ge	74	He	67286	3.3	81443.29	82.62	70	120	
Li	6	No Gas	237370	1.8	328630.38	72.23	70	120	
Sc	45	No Gas	809940	0.4	1080968.53	74.93	70	120	
Ge	74	No Gas	310125	0.7	386165.82	80.31	70	120	
Rh	103	No Gas	355626	1.0	422155.36	84.24	70	120	
Tb	159	No Gas	793939	0.3	887046.79	89.5	70	120	
Bi	209	No Gas	565078	1.1	619480.15	91.22	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV6**	**Sample Type**	CCV
File Name	092_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 17:02:29	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	39.144	ug/l	1.7	53728	40	97.86	90	110	
Na	23	45	He	3864.809	ug/l	9.2	1222241	4000	96.62	90	110	
Mg	24	45	No Gas	4291.974	ug/l	1.9	16541434	4000	107.3	90	110	
Al	27	45	He	3868.875	ug/l	8.0	320970	4000	96.72	90	110	
K	39	45	He	3831.409	ug/l	7.8	661453	4000	95.79	90	110	
Ca	44	45	He	3912.117	ug/l	6.6	37334	4000	97.8	90	110	
Ti	47	45	No Gas	99.409	ug/l	2.0	58171	100	99.41	90	110	
V	51	74	He	90.344	ug/l	7.0	152465	100	90.34	90	110	
Cr	52	74	He	90.649	ug/l	8.0	188120	100	90.65	90	110	
Mn	55	74	No Gas	99.790	ug/l	1.1	1200238	100	99.79	90	110	
Fe	56	74	He	3833.232	ug/l	7.8	7265543	4000	95.83	90	110	
Co	59	74	No Gas	100.736	ug/l	0.4	829872	100	100.74	90	110	
Ni	60	74	He	95.206	ug/l	6.9	72122	100	95.21	90	110	
Cu	65	74	He	96.910	ug/l	6.9	98903	100	96.91	90	110	
Zn	66	74	He	94.580	ug/l	7.7	45360	100	94.58	90	110	
As	75	74	He	90.733	ug/l	7.7	30680	100	90.73	90	110	
Se	78	74	He	36.865	ug/l	10.0	1106	40	92.16	90	110	
Se	82	74	No Gas	40.362	ug/l	2.1	4416	40	100.9	90	110	
Mo	98	103	No Gas	39.026	ug/l	0.9	198113	40	97.57	90	110	
Ag	109	103	No Gas	39.558	ug/l	1.9	336269	40	98.9	90	110	
Cd	111	103	No Gas	99.231	ug/l	0.9	200155	100	99.23	90	110	
Sb	123	103	No Gas	44.270	ug/l	0.9	276291	40	110.68	90	110	> +/- 10%
Ba	137	159	No Gas	102.309	ug/l	0.5	297898	100	102.31	90	110	
Hg	201	159	No Gas	840.812	ng/l	3.1	1091	800	105.1	90	110	
Tl	205	159	No Gas	39.939	ug/l	2.4	909072	40	99.85	90	110	
Pb	208	159	No Gas	100.115	ug/l	1.8	3090576	100	100.12	90	110	

Be Q-06

ESS 5/20/19

Sb Q-41

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	62622	7.7	74425.24	84.14	70	120	
Ge	74	He	69317	7.3	81443.29	85.11	70	120	
Li	6	No Gas	227808	0.9	328630.38	69.32	70	120	Recovery Failed
Sc	45	No Gas	789617	1.7	1080968.53	73.05	70	120	
Ge	74	No Gas	308710	1.3	386165.82	79.94	70	120	
Rh	103	No Gas	346499	0.2	422155.36	82.08	70	120	
Tb	159	No Gas	798594	0.5	887046.79	90.03	70	120	
Bi	209	No Gas	569287	0.9	619480.15	91.9	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB6**	**Sample Type**	CCB
File Name	093_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 17:07:04	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.002	ug/l	199.6	9	0.09	
Na	23	45	He	-0.667	ug/l	N/A	3203	45	
Mg	24	45	No Gas	-7.489	ug/l	N/A	24767	22.5	
Al	27	45	He	0.125	ug/l	118.7	30	22.5	
K	39	45	He	-1.425	ug/l	N/A	7816	45	
Ca	44	45	He	-1.239	ug/l	N/A	16	45	
Ti	47	45	No Gas	-0.044	ug/l	N/A	49	0.45	
V	51	74	He	-0.039	ug/l	N/A	297	0.45	
Cr	52	74	He	-0.015	ug/l	N/A	48	0.45	
Mn	55	74	No Gas	-0.047	ug/l	N/A	1140	0.45	
Fe	56	74	He	-1.386	ug/l	N/A	1845	22.5	
Co	59	74	No Gas	0.000	ug/l	63.1	58	0.09	
Ni	60	74	He	-0.154	ug/l	N/A	49	0.45	
Cu	65	74	He	0.012	ug/l	113.6	46	0.45	
Zn	66	74	He	0.013	ug/l	240.8	41	1.8	
As	75	74	He	0.033	ug/l	24.6	23	0.45	
Se	78	74	He	-0.038	ug/l	N/A	11	0.45	
Se	82	74	No Gas	-0.115	ug/l	N/A	0	0.45	
Mo	98	103	No Gas	0.008	ug/l	56.2	62	0.45	
Ag	109	103	No Gas	0.002	ug/l	32.0	21	0.09	
Cd	111	103	No Gas	-0.001	ug/l	N/A	0	0.09	
Sb	123	103	No Gas	0.011	ug/l	34.4	77	0.45	
Ba	137	159	No Gas	0.002	ug/l	173.4	19	0.45	
Hg	201	159	No Gas	7.935	ng/l	38.7	11	36	
Tl	205	159	No Gas	0.003	ug/l	19.5	91	0.09	
Pb	208	159	No Gas	0.003	ug/l	14.2	201	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	60863	0.7	74425.24	81.78	70	120	
Ge	74	He	67353	0.1	81443.29	82.7	70	120	
Li	6	No Gas	233206	1.7	328630.38	70.96	70	120	
Sc	45	No Gas	799246	0.8	1080968.53	73.94	70	120	
Ge	74	No Gas	307475	1.0	386165.82	79.62	70	120	
Rh	103	No Gas	353094	1.1	422155.36	83.64	70	120	
Tb	159	No Gas	795127	1.1	887046.79	89.64	70	120	
Bi	209	No Gas	569898	0.6	619480.15	92	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL7**	**Sample Type**	CRL1
File Name	094CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 17:11:40	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E285 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.175	ug/l	8.2	257	97.22	70	130		
Na	23	45	He	8.227	ug/l	4.8	5841	91.41	70	130		
Mg	24	45	No Gas	2.917	ug/l	5.6	65359	32.41	70	130	CRL1 Failed	< MRL
Al	27	45	He	9.091	ug/l	7.6	743	101.01	70	130		
K	39	45	He	7.790	ug/l	9.7	9190	86.56	70	130		
Ca	44	45	He	9.732	ug/l	21.2	116	108.13	70	130		
Ti	47	45	No Gas	0.141	ug/l	29.6	159	78.33	70	130		
V	51	74	He	0.117	ug/l	21.2	550	65	70	130	CRL1 Failed	< MRL
Cr	52	74	He	0.149	ug/l	3.7	379	82.78	70	130		
Mn	55	74	No Gas	0.131	ug/l	6.4	3285	72.78	70	130		
Fe	56	74	He	7.307	ug/l	1.6	17854	81.19	70	130		
Co	59	74	No Gas	0.171	ug/l	11.7	1465	95	70	130		
Ni	60	74	He	0.048	ug/l	30.3	197	26.67	70	130	CRL1 Failed	< MRL
Cu	65	74	He	0.181	ug/l	13.2	213	100.56	70	130		
Zn	66	74	He	0.163	ug/l	31.4	111	90.56	70	130		
As	75	74	He	0.190	ug/l	10.3	75	105.56	70	130		
Se	78	74	He	0.222	ug/l	81.5	18	123.33	70	130		
Se	82	74	No Gas	0.074	ug/l	78.4	21	41.11	70	130	CRL1 Failed	< MRL
Mo	98	103	No Gas	0.186	ug/l	18.1	988	103.33	70	130		
Ag	109	103	No Gas	0.180	ug/l	4.4	1576	100	70	130		
Cd	111	103	No Gas	0.168	ug/l	3.2	350	93.33	70	130		
Sb	123	103	No Gas	0.184	ug/l	4.7	1185	102.22	70	130		
Ba	137	159	No Gas	0.188	ug/l	2.7	557	104.44	70	130		
Hg	201	159	No Gas	14.726	ng/l	14.2	20	81.81	70	130		
Tl	205	159	No Gas	0.186	ug/l	2.8	4224	103.33	70	130		
Pb	208	159	No Gas	0.182	ug/l	2.1	5692	101.11	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59837	0.8	74425.24	80.4	70	120	
Ge	74	He	67155	0.9	81443.29	82.46	70	120	
Li	6	No Gas	236538	2.5	328630.38	71.98	70	120	
Sc	45	No Gas	800766	2.0	1080968.53	74.08	70	120	
Ge	74	No Gas	309265	1.4	386165.82	80.09	70	120	
Rh	103	No Gas	355480	1.5	422155.36	84.21	70	120	
Tb	159	No Gas	793116	1.6	887046.79	89.41	70	120	
Bi	209	No Gas	568896	1.9	619480.15	91.83	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL8**	**Sample Type**	CRL2
File Name	095_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 17:16:58	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E286 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.877	ug/l	2.4	1259	97.44	70	130	
Na	23	45	He	43.481	ug/l	5.3	16572	96.62	70	130	
Mg	24	45	No Gas	44.906	ug/l	1.5	226135	99.79	70	130	
Al	27	45	He	44.586	ug/l	4.7	3582	99.08	70	130	
K	39	45	He	43.618	ug/l	5.5	15108	96.93	70	130	
Ca	44	45	He	43.582	ug/l	5.0	427	96.85	70	130	
Ti	47	45	No Gas	0.808	ug/l	10.5	547	89.78	70	130	
V	51	74	He	0.766	ug/l	7.8	1619	85.11	70	130	
Cr	52	74	He	0.844	ug/l	5.6	1787	93.78	70	130	
Mn	55	74	No Gas	0.861	ug/l	0.9	11863	95.67	70	130	
Fe	56	74	He	42.266	ug/l	3.7	82587	93.92	70	130	
Co	59	74	No Gas	0.913	ug/l	1.5	7460	101.44	70	130	
Ni	60	74	He	0.629	ug/l	2.2	627	69.89	70	130	CRL2 Failed
Cu	65	74	He	0.872	ug/l	8.1	901	96.89	70	130	
Zn	66	74	He	0.826	ug/l	4.6	422	91.78	70	130	
As	75	74	He	0.853	ug/l	7.2	293	94.78	70	130	
Se	78	74	He	0.896	ug/l	5.3	38	99.56	70	130	
Se	82	74	No Gas	0.829	ug/l	4.4	101	92.11	70	130	
Mo	98	103	No Gas	0.860	ug/l	7.2	4415	95.56	70	130	
Ag	109	103	No Gas	0.898	ug/l	3.2	7694	99.78	70	130	
Cd	111	103	No Gas	0.869	ug/l	4.5	1768	96.56	70	130	
Sb	123	103	No Gas	0.958	ug/l	3.4	6028	106.44	70	130	
Ba	137	159	No Gas	0.985	ug/l	3.8	2837	109.44	70	130	
Hg	201	159	No Gas	40.332	ng/l	15.2	52	112.03	70	130	
Tl	205	159	No Gas	0.904	ug/l	1.2	20295	100.44	70	130	
Pb	208	159	No Gas	0.878	ug/l	2.4	26781	97.56	70	130	

ok - rounds to 70.
ESS 5/28/19

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	60104	3.5	74425.24	80.76	70	120	
Ge	74	He	67488	3.8	81443.29	82.86	70	120	
Li	6	No Gas	237071	0.9	328630.38	72.14	70	120	
Sc	45	No Gas	790906	0.8	1080968.53	73.17	70	120	
Ge	74	No Gas	303888	0.5	386165.82	78.69	70	120	
Rh	103	No Gas	349103	1.8	422155.36	82.7	70	120	
Tb	159	No Gas	786276	1.1	887046.79	88.64	70	120	
Bi	209	No Gas	561664	0.7	619480.15	90.67	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRL9**	**Sample Type**	CRL3
File Name	096CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 17:21:35	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E287 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.774	ug/l	0.9	2536	98.56	70	130	
Na	23	45	He	90.123	ug/l	5.6	30107	100.14	70	130	
Mg	24	45	No Gas	97.071	ug/l	0.8	426480	107.86	70	130	
Al	27	45	He	92.590	ug/l	5.8	7261	102.88	70	130	
K	39	45	He	92.550	ug/l	8.5	22654	102.83	70	130	
Ca	44	45	He	83.793	ug/l	9.2	780	93.1	70	130	
Ti	47	45	No Gas	1.988	ug/l	5.9	1237	110.44	70	130	
V	51	74	He	1.692	ug/l	3.9	3074	94	70	130	
Cr	52	74	He	1.681	ug/l	5.7	3408	93.39	70	130	
Mn	55	74	No Gas	1.708	ug/l	4.1	22142	94.89	70	130	
Fe	56	74	He	90.244	ug/l	5.9	167604	100.27	70	130	
Co	59	74	No Gas	1.759	ug/l	3.3	14488	97.72	70	130	
Ni	60	74	He	1.563	ug/l	8.0	1287	86.83	70	130	
Cu	65	74	He	1.815	ug/l	4.7	1801	100.83	70	130	
Zn	66	74	He	1.768	ug/l	11.5	843	98.22	70	130	
As	75	74	He	1.704	ug/l	2.6	562	94.67	70	130	
Se	78	74	He	1.847	ug/l	10.9	64	102.61	70	130	
Se	82	74	No Gas	1.735	ug/l	4.5	201	96.39	70	130	
Mo	98	103	No Gas	1.721	ug/l	1.7	8829	95.61	70	130	
Ag	109	103	No Gas	1.807	ug/l	0.5	15497	100.39	70	130	
Cd	111	103	No Gas	1.826	ug/l	2.6	3716	101.44	70	130	
Sb	123	103	No Gas	1.766	ug/l	3.2	11123	98.11	70	130	
Ba	137	159	No Gas	1.878	ug/l	3.4	5429	104.33	70	130	
Hg	201	159	No Gas	81.692 ✓	ng/l	11.1 ✓	106	113.46	70	130	
Tl	205	159	No Gas	1.823	ug/l	2.1	41114	101.28	70	130	
Pb	208	159	No Gas	1.775	ug/l	1.9	54375	98.61	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58863	2.9	74425.24	79.09	70	120	
Ge	74	He	66052	3.6	81443.29	81.1	70	120	
Li	6	No Gas	236677	1.6	328630.38	72.02	70	120	
Sc	45	No Gas	790128	0.6	1080968.53	73.09	70	120	
Ge	74	No Gas	307588	1.5	386165.82	79.65	70	120	
Rh	103	No Gas	349455	0.2	422155.36	82.78	70	120	
Tb	159	No Gas	790768	0.3	887046.79	89.15	70	120	
Bi	209	No Gas	571961	1.9	619480.15	92.33	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLA**	**Sample Type**	CRL4
File Name	097CRL4.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 17:26:12	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E288 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	3.630	ug/l	4.7	5079	100.83	70	130	
Na	23	45	He	183.142	ug/l	1.9	57781	101.75	70	130	
Mg	24	45	No Gas	209.379	ug/l	2.2	844853	116.32	70	130	
Al	27	45	He	187.682	ug/l	2.1	14699	104.27	70	130	
K	39	45	He	183.110	ug/l	0.5	37216	101.73	70	130	
Ca	44	45	He	178.784	ug/l	3.4	1632	99.32	70	130	
Ti	47	45	No Gas	3.574	ug/l	2.8	2130	99.28	70	130	
V	51	74	He	3.330	ug/l	1.7	5743	92.5	70	130	
Cr	52	74	He	3.397	ug/l	0.3	6854	94.36	70	130	
Mn	55	74	No Gas	3.629	ug/l	1.4	44451	100.81	70	130	
Fe	56	74	He	178.851	ug/l	0.7	330073	99.36	70	130	
Co	59	74	No Gas	3.703	ug/l	1.7	29987	102.86	70	130	
Ni	60	74	He	3.391	ug/l	3.8	2623	94.19	70	130	
Cu	65	74	He	3.784	ug/l	2.0	3743	105.11	70	130	
Zn	66	74	He	3.532	ug/l	5.5	1661	98.11	70	130	
As	75	74	He	3.420	ug/l	1.0	1123	95	70	130	
Se	78	74	He	3.671	ug/l	3.8	116	101.97	70	130	
Se	82	74	No Gas	3.674	ug/l	8.1	405	102.06	70	130	
Mo	98	103	No Gas	3.533	ug/l	2.9	18003	98.14	70	130	
Ag	109	103	No Gas	3.690	ug/l	1.9	31470	102.5	70	130	
Cd	111	103	No Gas	3.657	ug/l	0.5	7401	101.58	70	130	
Sb	123	103	No Gas	3.685	ug/l	3.1	23074	102.36	70	130	
Ba	137	159	No Gas	3.737	ug/l	2.3	10710	103.81	70	130	
Hg	201	159	No Gas	151.430	ng/l	3.6	194	105.16	70	130	
Tl	205	159	No Gas	3.740	ug/l	1.8	83734	103.89	70	130	
Pb	208	159	No Gas	3.641	ug/l	1.5	110614	101.14	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58811	1.2	74425.24	79.02	70	120	
Ge	74	He	66394	0.5	81443.29	81.52	70	120	
Li	6	No Gas	232052	1.6	328630.38	70.61	70	120	
Sc	45	No Gas	777876	1.4	1080968.53	71.96	70	120	
Ge	74	No Gas	302976	1.7	386165.82	78.46	70	120	
Rh	103	No Gas	347622	1.7	422155.36	82.34	70	120	
Tb	159	No Gas	785287	2.0	887046.79	88.53	70	120	
Bi	209	No Gas	566389	2.5	619480.15	91.43	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV7**	**Sample Type**	CCV
File Name	108_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 18:16:43	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	37.664	ug/l	1.7	56860	40	94.16	90	110	
Na	23	45	He	4179.191	ug/l	2.0	1197818	4000	104.48	90	110	
Mg	24	45	No Gas	4272.278	ug/l	2.1	17412061	4000	106.81	90	110	
Al	27	45	He	4184.965	ug/l	2.2	314542	4000	104.62	90	110	
K	39	45	He	4166.169	ug/l	2.7	650819	4000	104.15	90	110	
Ca	44	45	He	4261.597	ug/l	1.9	36816	4000	106.54	90	110	
Ti	47	45	No Gas	98.783	ug/l	2.1	61129	100	98.78	90	110	
V	51	74	He	95.378	ug/l	2.7	148631	100	95.38	90	110	
Cr	52	74	He	97.098	ug/l	2.3	186186	100	97.1	90	110	
Mn	55	74	No Gas	100.944	ug/l	1.4	1261891	100	100.94	90	110	
Fe	56	74	He	4111.474	ug/l	1.7	7200175	4000	102.79	90	110	
Co	59	74	No Gas	100.822	ug/l	1.0	863313	100	100.82	90	110	
Ni	60	74	He	101.333	ug/l	2.2	70888	100	101.33	90	110	
Cu	65	74	He	101.540	ug/l	2.3	95702	100	101.54	90	110	
Zn	66	74	He	100.613	ug/l	1.1	44586	100	100.61	90	110	
As	75	74	He	96.719	ug/l	1.8	30216	100	96.72	90	110	
Se	78	74	He	40.100	ug/l	2.9	1112	40	100.25	90	110	
Se	82	74	No Gas	40.050	ug/l	3.4	4552	40	100.12	90	110	
Mo	98	103	No Gas	38.867	ug/l	2.3	203900	40	97.17	90	110	
Ag	109	103	No Gas	39.742	ug/l	2.8	349069	40	99.35	90	110	
Cd	111	103	No Gas	99.599	ug/l	2.3	207583	100	99.6	90	110	
Sb	123	103	No Gas	45.089	ug/l	1.7	290815	40	112.72	90	110	+/- 10%
Ba	137	159	No Gas	102.546	ug/l	1.8	310184	100	102.55	90	110	
Hg	201	159	No Gas	796.049	ng/l	4.5	1073	800	99.51	90	110	
Tl	205	159	No Gas	39.654	ug/l	1.1	937728	40	99.14	90	110	
Pb	208	159	No Gas	98.736	ug/l	1.0	3166642	100	98.74	90	110	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	56515	1.9	74425.24	75.93	70	120	
Ge	74	He	63817	1.8	81443.29	78.36	70	120	
Li	6	No Gas	250580	1.2	328630.38	76.25	70	120	
Sc	45	No Gas	835017	1.3	1080968.53	77.25	70	120	
Ge	74	No Gas	320872	1.3	386165.82	83.09	70	120	
Rh	103	No Gas	358129	1.9	422155.36	84.83	70	120	
Tb	159	No Gas	829722	2.1	887046.79	93.54	70	120	
Bi	209	No Gas	583848	2.0	619480.15	94.25	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB7**	**Sample Type**	CCB
File Name	109_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 18:21:18	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.013	ug/l	58.1	27	0.09	
Na	23	45	He	0.484	ug/l	28.7	3438	45	
Mg	24	45	No Gas	-7.570	ug/l	N/A	25523	22.5	
Al	27	45	He	-0.047	ug/l	N/A	16	22.5	
K	39	45	He	0.516	ug/l	230.5	7863	45	
Ca	44	45	He	-0.933	ug/l	N/A	18	45	
Ti	47	45	No Gas	-0.060	ug/l	N/A	41	0.45	
V	51	74	He	-0.062	ug/l	N/A	254	0.45	
Cr	52	74	He	-0.011	ug/l	N/A	56	0.45	
Mn	55	74	No Gas	-0.048	ug/l	N/A	1183	0.45	
Fe	56	74	He	-1.470	ug/l	N/A	1666	22.5	
Co	59	74	No Gas	0.000	ug/l	N/A	56	0.09	
Ni	60	74	He	-0.177	ug/l	N/A	31	0.45	
Cu	65	74	He	-0.008	ug/l	N/A	26	0.45	
Zn	66	74	He	0.029	ug/l	78.2	48	1.8	
As	75	74	He	0.008	ug/l	85.9	15	0.45	
Se	78	74	He	0.008	ug/l	1792.6	12	0.45	
Se	82	74	No Gas	0.013	ug/l	552.4	15	0.45	
Mo	98	103	No Gas	0.013	ug/l	66.3	89	0.45	
Ag	109	103	No Gas	0.002	ug/l	40.6	23	0.09	
Cd	111	103	No Gas	0.002	ug/l	102.0	6	0.09	
Sb	123	103	No Gas	0.009	ug/l	50.1	67	0.45	
Ba	137	159	No Gas	0.004	ug/l	141.2	24	0.45	
Hg	201	159	No Gas	8.309	ng/l	28.5	12	36	
Tl	205	159	No Gas	0.002	ug/l	49.3	71	0.09	
Pb	208	159	No Gas	0.003	ug/l	32.4	197	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58819	1.1	74425.24	79.03	70	120	
Ge	74	He	66377	0.5	81443.29	81.5	70	120	
Li	6	No Gas	252952	0.2	328630.38	76.97	70	120	
Sc	45	No Gas	834223	1.3	1080968.53	77.17	70	120	
Ge	74	No Gas	323396	1.3	386165.82	83.75	70	120	
Rh	103	No Gas	370965	0.5	422155.36	87.87	70	120	
Tb	159	No Gas	831647	0.6	887046.79	93.75	70	120	
Bi	209	No Gas	591702	1.5	619480.15	95.52	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV8**	**Sample Type**	CCV
File Name	120_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 19:11:45	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	38.698	ug/l	0.5	56261	40	96.74	90	110	
Na	23	45	He	4091.492	ug/l	1.4	1235099	4000	102.29	90	110	
Mg	24	45	No Gas	4294.731	ug/l	1.1	17458921	4000	107.37	90	110	
Al	27	45	He	4017.876	ug/l	0.5	318046	4000	100.45	90	110	
K	39	45	He	4010.966	ug/l	0.3	660238	4000	100.27	90	110	
Ca	44	45	He	4065.119	ug/l	1.5	36986	4000	101.63	90	110	
Ti	47	45	No Gas	98.763	ug/l	1.7	60967	100	98.76	90	110	
V	51	74	He	94.362	ug/l	1.2	152750	100	94.36	90	110	
Cr	52	74	He	95.990	ug/l	0.5	191193	100	95.99	90	110	
Mn	55	74	No Gas	100.744	ug/l	4.7	1272996	100	100.74	90	110	
Fe	56	74	He	4038.283	ug/l	1.2	7345284	4000	100.96	90	110	
Co	59	74	No Gas	101.074	ug/l	1.9	875130	100	101.07	90	110	
Ni	60	74	He	100.202	ug/l	2.0	72802	100	100.2	90	110	
Cu	65	74	He	100.748	ug/l	1.3	98634	100	100.75	90	110	
Zn	66	74	He	98.839	ug/l	1.9	45488	100	98.84	90	110	
As	75	74	He	94.723	ug/l	1.0	30737	100	94.72	90	110	
Se	78	74	He	38.679	ug/l	2.1	1114	40	96.7	90	110	
Se	82	74	No Gas	40.353	ug/l	3.0	4639	40	100.88	90	110	
Mo	98	103	No Gas	39.183	ug/l	2.3	208587	40	97.96	90	110	
Ag	109	103	No Gas	39.781	ug/l	0.5	354674	40	99.45	90	110	
Cd	111	103	No Gas	98.981	ug/l	2.6	209359	100	98.98	90	110	
Sb	123	103	No Gas	44.521	ug/l	2.3	291355	40	111.3	90	110	+/- 10%
Ba	137	159	No Gas	103.291	ug/l	1.8	314880	100	103.29	90	110	
Hg	201	159	No Gas	849.914	ng/l	1.6	1155	800	106.24	90	110	
Tl	205	159	No Gas	39.787	ug/l	0.2	948293	40	99.47	90	110	
Pb	208	159	No Gas	100.285	ug/l	0.8	3241382	100	100.28	90	110	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59505	0.2	74425.24	79.95	70	120	
Ge	74	He	66274	0.9	81443.29	81.37	70	120	
Li	6	No Gas	241284	0.6	328630.38	73.42	70	120	
Sc	45	No Gas	832877	1.7	1080968.53	77.05	70	120	
Ge	74	No Gas	324540	2.2	386165.82	84.04	70	120	
Rh	103	No Gas	363425	1.8	422155.36	86.09	70	120	
Tb	159	No Gas	836150	1.1	887046.79	94.26	70	120	
Bi	209	No Gas	593477	2.0	619480.15	95.8	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB8**	**Sample Type**	CCB
File Name	121_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 19:16:18	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.016	ug/l	54.3	30	0.09	
Na	23	45	He	0.561	ug/l	135.5	3378	45	
Mg	24	45	No Gas	-8.623	ug/l	N/A	21244	22.5	
Al	27	45	He	0.145	ug/l	69.5	30	22.5	
K	39	45	He	-0.009	ug/l	N/A	7608	45	
Ca	44	45	He	-1.542	ug/l	N/A	12	45	
Ti	47	45	No Gas	-0.070	ug/l	N/A	34	0.45	
V	51	74	He	-0.079	ug/l	N/A	223	0.45	
Cr	52	74	He	-0.016	ug/l	N/A	44	0.45	
Mn	55	74	No Gas	-0.051	ug/l	N/A	1139	0.45	
Fe	56	74	He	-1.194	ug/l	N/A	2111	22.5	
Co	59	74	No Gas	0.002	ug/l	74.1	70	0.09	
Ni	60	74	He	-0.152	ug/l	N/A	49	0.45	
Cu	65	74	He	0.016	ug/l	6.3	48	0.45	
Zn	66	74	He	0.026	ug/l	115.1	46	1.8	
As	75	74	He	0.014	ug/l	64.8	16	0.45	
Se	78	74	He	-0.047	ug/l	N/A	10	0.45	
Se	82	74	No Gas	-0.117	ug/l	N/A	0	0.45	
Mo	98	103	No Gas	0.019	ug/l	41.8	123	0.45	
Ag	109	103	No Gas	0.001	ug/l	71.0	16	0.09	
Cd	111	103	No Gas	0.004	ug/l	127.0	11	0.09	
Sb	123	103	No Gas	0.011	ug/l	51.3	77	0.45	
Ba	137	159	No Gas	0.006	ug/l	36.0	32	0.45	
Hg	201	159	No Gas	25.395	ng/l	2.3	35	36	
Tl	205	159	No Gas	0.011	ug/l	12.6	287	0.09	
Pb	208	159	No Gas	0.004	ug/l	24.6	251	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	57561	6.3	74425.24	77.34	70	120	
Ge	74	He	64909	6.6	81443.29	79.7	70	120	
Li	6	No Gas	245074	2.4	328630.38	74.57	70	120	
Sc	45	No Gas	834535	2.2	1080968.53	77.2	70	120	
Ge	74	No Gas	321700	1.8	386165.82	83.31	70	120	
Rh	103	No Gas	367609	2.0	422155.36	87.08	70	120	
Tb	159	No Gas	830039	1.4	887046.79	93.57	70	120	
Bi	209	No Gas	592825	1.9	619480.15	95.7	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCV9**	**Sample Type**	CCV
File Name	132_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 20:06:54	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	38.117	ug/l	0.1	55901	40	95.29	90	110	
Na	23	45	He	4104.196	ug/l	0.7	1216310	4000	102.6	90	110	
Mg	24	45	No Gas	4255.691	ug/l	0.9	17290409	4000	106.39	90	110	
Al	27	45	He	4055.568	ug/l	0.5	315160	4000	101.39	90	110	
K	39	45	He	4028.790	ug/l	0.7	651011	4000	100.72	90	110	
Ca	44	45	He	4117.520	ug/l	0.9	36778	4000	102.94	90	110	
Ti	47	45	No Gas	98.231	ug/l	0.9	60592	100	98.23	90	110	
V	51	74	He	94.413	ug/l	0.4	149837	100	94.41	90	110	
Cr	52	74	He	95.446	ug/l	0.6	186380	100	95.45	90	110	
Mn	55	74	No Gas	101.342	ug/l	2.8	1242450	100	101.34	90	110	
Fe	56	74	He	4057.999	ug/l	0.6	7236257	4000	101.45	90	110	
Co	59	74	No Gas	100.552	ug/l	1.2	844481	100	100.55	90	110	
Ni	60	74	He	99.644	ug/l	1.1	70978	100	99.64	90	110	
Cu	65	74	He	100.674	ug/l	0.3	96624	100	100.67	90	110	
Zn	66	74	He	98.203	ug/l	0.8	44308	100	98.2	90	110	
As	75	74	He	94.415	ug/l	0.5	30036	100	94.42	90	110	
Se	78	74	He	38.698	ug/l	1.3	1093	40	96.74	90	110	
Se	82	74	No Gas	41.406	ug/l	0.5	4617	40	103.52	90	110	
Mo	98	103	No Gas	39.245	ug/l	0.7	202135	40	98.11	90	110	
Ag	109	103	No Gas	40.483	ug/l	2.8	349044	40	101.21	90	110	
Cd	111	103	No Gas	101.290	ug/l	3.2	207200	100	101.29	90	110	
Sb	123	103	No Gas	45.052	ug/l	1.8	285199	40	112.63	90	110	+/- 10%
Ba	137	159	No Gas	102.148	ug/l	0.9	303800	100	102.15	90	110	
Hg	201	159	No Gas	831.642	ng/l	0.9	1103	800	103.96	90	110	
Tl	205	159	No Gas	40.035	ug/l	1.2	930830	40	100.09	90	110	
Pb	208	159	No Gas	99.731	ug/l	1.0	3144865	100	99.73	90	110	

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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58419	0.6	74425.24	78.49	70	120	
Ge	74	He	64970	0.6	81443.29	79.77	70	120	
Li	6	No Gas	243389	0.3	328630.38	74.06	70	120	
Sc	45	No Gas	832252	1.3	1080968.53	76.99	70	120	
Ge	74	No Gas	314730	1.4	386165.82	81.5	70	120	
Rh	103	No Gas	351532	1.8	422155.36	83.27	70	120	
Tb	159	No Gas	815706	1.0	887046.79	91.96	70	120	
Bi	209	No Gas	576646	2.4	619480.15	93.09	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCB9**	**Sample Type**	CCB
File Name	133_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 20:11:27	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.022	ug/l	35.8	40	0.09	
Na	23	45	He	1.183	ug/l	11.3	3678	45	
Mg	24	45	No Gas	-9.123	ug/l	N/A	18839	22.5	
Al	27	45	He	-0.049	ug/l	N/A	16	22.5	
K	39	45	He	-1.375	ug/l	N/A	7627	45	
Ca	44	45	He	-1.444	ug/l	N/A	13	45	
Ti	47	45	No Gas	-0.066	ug/l	N/A	37	0.45	
V	51	74	He	-0.070	ug/l	N/A	239	0.45	
Cr	52	74	He	-0.014	ug/l	N/A	49	0.45	
Mn	55	74	No Gas	-0.048	ug/l	N/A	1158	0.45	
Fe	56	74	He	-1.459	ug/l	N/A	1667	22.5	
Co	59	74	No Gas	0.002	ug/l	38.1	74	0.09	
Ni	60	74	He	-0.169	ug/l	N/A	37	0.45	
Cu	65	74	He	0.008	ug/l	115.9	41	0.45	
Zn	66	74	He	-0.002	ug/l	N/A	33	1.8	
As	75	74	He	0.031	ug/l	29.0	22	0.45	
Se	78	74	He	0.030	ug/l	295.8	12	0.45	
Se	82	74	No Gas	-0.005	ug/l	N/A	12	0.45	
Mo	98	103	No Gas	0.017	ug/l	19.5	110	0.45	
Ag	109	103	No Gas	0.001	ug/l	43.2	16	0.09	
Cd	111	103	No Gas	0.000	ug/l	264.2	3	0.09	
Sb	123	103	No Gas	0.009	ug/l	24.6	67	0.45	
Ba	137	159	No Gas	0.005	ug/l	12.9	28	0.45	
Hg	201	159	No Gas	21.084	ng/l	0.3	29	36	
Tl	205	159	No Gas	0.009	ug/l	7.2	228	0.09	
Pb	208	159	No Gas	0.006	ug/l	22.5	304	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59333	1.1	74425.24	79.72	70	120	
Ge	74	He	65692	0.5	81443.29	80.66	70	120	
Li	6	No Gas	249049	0.4	328630.38	75.78	70	120	
Sc	45	No Gas	817530	1.7	1080968.53	75.63	70	120	
Ge	74	No Gas	315702	0.6	386165.82	81.75	70	120	
Rh	103	No Gas	361688	0.5	422155.36	85.68	70	120	
Tb	159	No Gas	815221	0.9	887046.79	91.9	70	120	
Bi	209	No Gas	583785	1.5	619480.15	94.24	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCVA**	**Sample Type**	CCV
File Name	144_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 21:02:01	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	37.818	ug/l	1.7	57585	40	94.54	90	110	
Na	23	45	He	4220.005	ug/l	2.9	1234851	4000	105.5	90	110	
Mg	24	45	No Gas	4260.303	ug/l	2.7	17758912	4000	106.51	90	110	
Al	27	45	He	4193.639	ug/l	2.3	321834	4000	104.84	90	110	
K	39	45	He	4156.470	ug/l	2.2	663063	4000	103.91	90	110	
Ca	44	45	He	4152.061	ug/l	1.6	36630	4000	103.8	90	110	
Ti	47	45	No Gas	97.689	ug/l	3.8	61817	100	97.69	90	110	
V	51	74	He	97.028	ug/l	1.9	152332	100	97.03	90	110	
Cr	52	74	He	98.059	ug/l	2.2	189423	100	98.06	90	110	
Mn	55	74	No Gas	100.076	ug/l	2.8	1271563	100	100.08	90	110	
Fe	56	74	He	4138.708	ug/l	2.2	7301295	4000	103.47	90	110	
Co	59	74	No Gas	99.758	ug/l	1.5	868329	100	99.76	90	110	
Ni	60	74	He	102.335	ug/l	2.7	72109	100	102.34	90	110	
Cu	65	74	He	103.471	ug/l	2.5	98239	100	103.47	90	110	
Zn	66	74	He	102.284	ug/l	2.3	45654	100	102.28	90	110	
As	75	74	He	97.364	ug/l	1.8	30643	100	97.36	90	110	
Se	78	74	He	39.464	ug/l	6.3	1102	40	98.66	90	110	
Se	82	74	No Gas	40.084	ug/l	2.5	4632	40	100.21	90	110	
Mo	98	103	No Gas	39.030	ug/l	1.9	206803	40	97.58	90	110	
Ag	109	103	No Gas	39.522	ug/l	1.5	350659	40	98.8	90	110	
Cd	111	103	No Gas	98.540	ug/l	1.6	207452	100	98.54	90	110	
Sb	123	103	No Gas	43.949	ug/l	2.3	286264	40	109.87	90	110	
Ba	137	159	No Gas	101.947	ug/l	2.4	308101	100	101.95	90	110	
Hg	201	159	No Gas	820.297	ng/l	2.3	1105	800	102.54	90	110	
Tl	205	159	No Gas	39.269	ug/l	2.1	927875	40	98.17	90	110	
Pb	208	159	No Gas	98.566	ug/l	2.0	3158474	100	98.57	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	57709	2.1	74425.24	77.54	70	120	
Ge	74	He	64289	1.7	81443.29	78.94	70	120	
Li	6	No Gas	252756	1.8	328630.38	76.91	70	120	
Sc	45	No Gas	854331	2.8	1080968.53	79.03	70	120	
Ge	74	No Gas	326204	1.8	386165.82	84.47	70	120	
Rh	103	No Gas	361717	1.9	422155.36	85.68	70	120	
Tb	159	No Gas	829132	2.3	887046.79	93.47	70	120	
Bi	209	No Gas	582873	2.5	619480.15	94.09	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCBA**	**Sample Type**	CCB
File Name	145_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 21:06:34	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.021	ug/l	50.3	39	0.09	
Na	23	45	He	0.791	ug/l	50.5	3548	45	
Mg	24	45	No Gas	-9.474	ug/l	N/A	17623	22.5	
Al	27	45	He	0.108	ug/l	81.6	28	22.5	
K	39	45	He	-1.444	ug/l	N/A	7588	45	
Ca	44	45	He	0.162	ug/l	805.8	28	45	
Ti	47	45	No Gas	-0.052	ug/l	N/A	46	0.45	
V	51	74	He	-0.088	ug/l	N/A	212	0.45	
Cr	52	74	He	-0.022	ug/l	N/A	33	0.45	
Mn	55	74	No Gas	-0.057	ug/l	N/A	1058	0.45	
Fe	56	74	He	-1.461	ug/l	N/A	1672	22.5	
Co	59	74	No Gas	0.002	ug/l	35.4	74	0.09	
Ni	60	74	He	-0.168	ug/l	N/A	38	0.45	
Cu	65	74	He	0.010	ug/l	27.3	43	0.45	
Zn	66	74	He	0.015	ug/l	166.9	41	1.8	
As	75	74	He	0.031	ug/l	23.5	22	0.45	
Se	78	74	He	0.051	ug/l	111.3	13	0.45	
Se	82	74	No Gas	0.016	ug/l	766.7	15	0.45	
Mo	98	103	No Gas	0.018	ug/l	10.5	116	0.45	
Ag	109	103	No Gas	0.001	ug/l	58.5	15	0.09	
Cd	111	103	No Gas	0.003	ug/l	77.4	9	0.09	
Sb	123	103	No Gas	0.010	ug/l	71.3	70	0.45	
Ba	137	159	No Gas	0.006	ug/l	19.1	30	0.45	
Hg	201	159	No Gas	16.685	ng/l	3.0	23	36	
Tl	205	159	No Gas	0.006	ug/l	17.3	172	0.09	
Pb	208	159	No Gas	0.005	ug/l	4.7	256	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59112	0.9	74425.24	79.42	70	120	
Ge	74	He	66085	1.3	81443.29	81.14	70	120	
Li	6	No Gas	251748	1.9	328630.38	76.61	70	120	
Sc	45	No Gas	826197	1.1	1080968.53	76.43	70	120	
Ge	74	No Gas	316745	0.6	386165.82	82.02	70	120	
Rh	103	No Gas	361675	0.6	422155.36	85.67	70	120	
Tb	159	No Gas	808917	0.6	887046.79	91.19	70	120	
Bi	209	No Gas	581149	1.3	619480.15	93.81	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLB**	**Sample Type**	CRL1
File Name	146CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 21:11:11	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E285 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.182	ug/l	9.3	283	101.11	70	130		
Na	23	45	He	10.008	ug/l	4.9	6177	111.2	70	130		
Mg	24	45	No Gas	1.077	ug/l	64.8	59896	11.97	70	130	CRL1 Failed	< MRL
Al	27	45	He	8.701	ug/l	10.5	689	96.68	70	130		
K	39	45	He	7.345	ug/l	20.5	8825	81.61	70	130		
Ca	44	45	He	7.496	ug/l	24.9	92	83.29	70	130		
Ti	47	45	No Gas	0.128	ug/l	15.0	156	71.11	70	130		
V	51	74	He	0.105	ug/l	24.3	511	58.33	70	130	CRL1 Failed	< MRL
Cr	52	74	He	0.161	ug/l	14.1	388	89.44	70	130		
Mn	55	74	No Gas	0.130	ug/l	4.0	3306	72.22	70	130		
Fe	56	74	He	7.400	ug/l	1.0	17338	82.22	70	130		
Co	59	74	No Gas	0.178	ug/l	10.3	1540	98.89	70	130		
Ni	60	74	He	0.030	ug/l	57.1	177	16.67	70	130	CRL1 Failed	< MRL
Cu	65	74	He	0.183	ug/l	16.5	207	101.67	70	130		
Zn	66	74	He	0.173	ug/l	19.9	111	96.11	70	130		
As	75	74	He	0.160	ug/l	6.5	62	88.89	70	130		
Se	78	74	He	0.115	ug/l	59.1	14	63.89	70	130	CRL1 Failed	< MRL
Se	82	74	No Gas	0.181	ug/l	38.9	33	100.56	70	130		
Mo	98	103	No Gas	0.171	ug/l	6.7	914	95	70	130		
Ag	109	103	No Gas	0.179	ug/l	5.0	1573	99.44	70	130		
Cd	111	103	No Gas	0.183	ug/l	15.7	383	101.67	70	130		
Sb	123	103	No Gas	0.192	ug/l	5.6	1241	106.67	70	130		
Ba	137	159	No Gas	0.178	ug/l	11.9	538	98.89	70	130		
Hg	201	159	No Gas	18.855	ng/l	19.7	26	104.75	70	130		
Tl	205	159	No Gas	0.189	ug/l	1.9	4381	105	70	130		
Pb	208	159	No Gas	0.181	ug/l	0.6	5775	100.56	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	57925	0.8	74425.24	77.83	70	120	
Ge	74	He	64599	0.1	81443.29	79.32	70	120	
Li	6	No Gas	251776	1.9	328630.38	76.61	70	120	
Sc	45	No Gas	824929	2.9	1080968.53	76.31	70	120	
Ge	74	No Gas	312281	1.5	386165.82	80.87	70	120	
Rh	103	No Gas	357281	3.0	422155.36	84.63	70	120	
Tb	159	No Gas	808090	3.3	887046.79	91.1	70	120	
Bi	209	No Gas	579120	3.0	619480.15	93.48	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLC**	**Sample Type**	CRL2
File Name	147_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 21:15:47	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E286 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.869	ug/l	1.8	1309	96.56	70	130	
Na	23	45	He	44.937	ug/l	2.4	16530	99.86	70	130	
Mg	24	45	No Gas	43.033	ug/l	0.7	227372	95.63	70	130	
Al	27	45	He	45.452	ug/l	0.7	3546	101	70	130	
K	39	45	He	45.686	ug/l	2.9	15001	101.52	70	130	
Ca	44	45	He	44.186	ug/l	5.4	420	98.19	70	130	
Ti	47	45	No Gas	0.811	ug/l	7.7	570	90.11	70	130	
V	51	74	He	0.796	ug/l	1.1	1596	88.44	70	130	
Cr	52	74	He	0.820	ug/l	4.2	1665	91.11	70	130	
Mn	55	74	No Gas	0.847	ug/l	0.5	12125	94.11	70	130	
Fe	56	74	He	43.554	ug/l	1.7	81278	96.79	70	130	
Co	59	74	No Gas	0.908	ug/l	0.2	7689	100.89	70	130	
Ni	60	74	He	0.717	ug/l	11.6	661	79.67	70	130	
Cu	65	74	He	0.947	ug/l	10.8	934	105.22	70	130	
Zn	66	74	He	0.820	ug/l	11.3	400	91.11	70	130	
As	75	74	He	0.869	ug/l	5.8	286	96.56	70	130	
Se	78	74	He	0.994	ug/l	21.3	39	110.44	70	130	
Se	82	74	No Gas	0.802	ug/l	5.0	102	89.11	70	130	
Mo	98	103	No Gas	0.891	ug/l	10.0	4705	99	70	130	
Ag	109	103	No Gas	0.906	ug/l	0.9	7977	100.67	70	130	
Cd	111	103	No Gas	0.861	ug/l	4.7	1800	95.67	70	130	
Sb	123	103	No Gas	0.904	ug/l	3.0	5844	100.44	70	130	
Ba	137	159	No Gas	0.953	ug/l	1.0	2824	105.89	70	130	
Hg	201	159	No Gas	45.881	ng/l	3.9	61	127.45	70	130	
Tl	205	159	No Gas	0.905	ug/l	2.1	20885	100.56	70	130	
Pb	208	159	No Gas	0.897	ug/l	1.5	28139	99.67	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58338	1.1	74425.24	78.39	70	120	
Ge	74	He	64504	1.0	81443.29	79.2	70	120	
Li	6	No Gas	248697	0.5	328630.38	75.68	70	120	
Sc	45	No Gas	821410	2.1	1080968.53	75.99	70	120	
Ge	74	No Gas	315059	1.1	386165.82	81.59	70	120	
Rh	103	No Gas	358758	0.7	422155.36	84.98	70	120	
Tb	159	No Gas	809023	1.9	887046.79	91.2	70	120	
Bi	209	No Gas	577136	2.8	619480.15	93.16	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLD**	**Sample Type**	CRL3
File Name	148CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 21:20:23	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E287 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.719	ug/l	3.3	2547	95.5	70	130	
Na	23	45	He	88.492	ug/l	3.0	29960	98.32	70	130	
Mg	24	45	No Gas	95.769	ug/l	0.7	436414	106.41	70	130	
Al	27	45	He	89.469	ug/l	1.8	7099	99.41	70	130	
K	39	45	He	87.027	ug/l	2.8	22018	96.7	70	130	
Ca	44	45	He	87.427	ug/l	1.5	821	97.14	70	130	
Ti	47	45	No Gas	1.696	ug/l	4.3	1103	94.22	70	130	
V	51	74	He	1.593	ug/l	3.4	2918	88.5	70	130	
Cr	52	74	He	1.723	ug/l	5.7	3496	95.72	70	130	
Mn	55	74	No Gas	1.763	ug/l	1.5	23313	97.94	70	130	
Fe	56	74	He	89.373	ug/l	3.9	166227	99.3	70	130	
Co	59	74	No Gas	1.793	ug/l	2.2	15097	99.61	70	130	
Ni	60	74	He	1.637	ug/l	6.8	1341	90.94	70	130	
Cu	65	74	He	1.827	ug/l	4.7	1817	101.5	70	130	
Zn	66	74	He	1.909	ug/l	3.6	909	106.06	70	130	
As	75	74	He	1.682	ug/l	1.8	556	93.44	70	130	
Se	78	74	He	1.622	ug/l	4.8	58	90.11	70	130	
Se	82	74	No Gas	1.664	ug/l	7.8	198	92.44	70	130	
Mo	98	103	No Gas	1.773	ug/l	4.8	9273	98.5	70	130	
Ag	109	103	No Gas	1.829	ug/l	0.3	15995	101.61	70	130	
Cd	111	103	No Gas	1.737	ug/l	1.2	3606	96.5	70	130	
Sb	123	103	No Gas	1.773	ug/l	4.3	11380	98.5	70	130	
Ba	137	159	No Gas	1.957	ug/l	1.1	5749	108.72	70	130	
Hg	201	159	No Gas	84.313	ng/l	9.6	111	117.1	70	130	
Tl	205	159	No Gas	1.841	ug/l	1.3	42221	102.28	70	130	
Pb	208	159	No Gas	1.806	ug/l	1.7	56243	100.33	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59489	1.0	74425.24	79.93	70	120	
Ge	74	He	66075	2.0	81443.29	81.13	70	120	
Li	6	No Gas	245378	0.9	328630.38	74.67	70	120	
Sc	45	No Gas	818141	0.5	1080968.53	75.69	70	120	
Ge	74	No Gas	314431	0.6	386165.82	81.42	70	120	
Rh	103	No Gas	356338	0.9	422155.36	84.41	70	120	
Tb	159	No Gas	804081	0.3	887046.79	90.65	70	120	
Bi	209	No Gas	580933	1.3	619480.15	93.78	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLE**	**Sample Type**	CRL4
File Name	149CRL4.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 21:24:59	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E288 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	3.633	ug/l	3.0	5331	100.92	70	130	
Na	23	45	He	176.522	ug/l	1.8	56331	98.07	70	130	
Mg	24	45	No Gas	204.482	ug/l	2.1	862158	113.6	70	130	
Al	27	45	He	179.420	ug/l	3.0	14186	99.68	70	130	
K	39	45	He	176.087	ug/l	3.6	36417	97.83	70	130	
Ca	44	45	He	183.901	ug/l	5.1	1695	102.17	70	130	
Ti	47	45	No Gas	3.418	ug/l	2.7	2129	94.94	70	130	
V	51	74	He	3.347	ug/l	1.5	5697	92.97	70	130	
Cr	52	74	He	3.393	ug/l	5.7	6758	94.25	70	130	
Mn	55	74	No Gas	3.631	ug/l	2.3	45884	100.86	70	130	
Fe	56	74	He	178.724	ug/l	2.3	325633	99.29	70	130	
Co	59	74	No Gas	3.633	ug/l	2.4	30349	100.92	70	130	
Ni	60	74	He	3.378	ug/l	5.9	2580	93.83	70	130	
Cu	65	74	He	3.746	ug/l	3.2	3659	104.06	70	130	
Zn	66	74	He	3.485	ug/l	4.0	1619	96.81	70	130	
As	75	74	He	3.461	ug/l	0.6	1122	96.14	70	130	
Se	78	74	He	3.618	ug/l	11.1	113	100.5	70	130	
Se	82	74	No Gas	3.630	ug/l	5.6	413	100.83	70	130	
Mo	98	103	No Gas	3.546	ug/l	0.6	18378	98.5	70	130	
Ag	109	103	No Gas	3.675	ug/l	1.6	31861	102.08	70	130	
Cd	111	103	No Gas	3.579	ug/l	1.8	7363	99.42	70	130	
Sb	123	103	No Gas	3.725	ug/l	1.6	23719	103.47	70	130	
Ba	137	159	No Gas	3.863	ug/l	1.2	11215	107.31	70	130	
Hg	201	159	No Gas	162.874	ng/l	5.5	211	113.11	70	130	
Tl	205	159	No Gas	3.736	ug/l	1.8	84720	103.78	70	130	
Pb	208	159	No Gas	3.628	ug/l	1.0	111643	100.78	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59353	0.8	74425.24	79.75	70	120	
Ge	74	He	65547	0.5	81443.29	80.48	70	120	
Li	6	No Gas	243305	1.1	328630.38	74.04	70	120	
Sc	45	No Gas	811617	1.0	1080968.53	75.08	70	120	
Ge	74	No Gas	312556	1.1	386165.82	80.94	70	120	
Rh	103	No Gas	353379	1.3	422155.36	83.71	70	120	
Tb	159	No Gas	795331	1.2	887046.79	89.66	70	120	
Bi	209	No Gas	572216	2.2	619480.15	92.37	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCVB**	**Sample Type**	CCV
File Name	160_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 22:15:31	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	38.972	ug/l	1.7	55258	40	97.43	90	110	
Na	23	45	He	3925.039	ug/l	9.0	1185009	4000	98.13	90	110	
Mg	24	45	No Gas	4284.765	ug/l	1.2	16765593	4000	107.12	90	110	
Al	27	45	He	3928.211	ug/l	9.3	310887	4000	98.21	90	110	
K	39	45	He	3891.337	ug/l	9.0	640812	4000	97.28	90	110	
Ca	44	45	He	3935.302	ug/l	9.2	35802	4000	98.38	90	110	
Ti	47	45	No Gas	98.149	ug/l	1.5	58316	100	98.15	90	110	
V	51	74	He	91.075	ug/l	9.9	146830	100	91.08	90	110	
Cr	52	74	He	91.937	ug/l	10.0	182343	100	91.94	90	110	
Mn	55	74	No Gas	99.607	ug/l	1.5	1205018	100	99.61	90	110	
Fe	56	74	He	3902.843	ug/l	10.0	7068990	4000	97.57	90	110	
Co	59	74	No Gas	100.101	ug/l	0.6	829468	100	100.1	90	110	
Ni	60	74	He	96.309	ug/l	9.6	69707	100	96.31	90	110	
Cu	65	74	He	96.695	ug/l	10.7	94216	100	96.7	90	110	
Zn	66	74	He	95.035	ug/l	9.9	43556	100	95.04	90	110	
As	75	74	He	90.948	ug/l	9.9	29389	100	90.95	90	110	
Se	78	74	He	38.711	ug/l	12.0	1109	40	96.78	90	110	
Se	82	74	No Gas	40.281	ug/l	2.4	4431	40	100.7	90	110	
Mo	98	103	No Gas	39.211	ug/l	0.8	198906	40	98.03	90	110	
Ag	109	103	No Gas	39.757	ug/l	1.6	337711	40	99.39	90	110	
Cd	111	103	No Gas	98.700	ug/l	1.7	198936	100	98.7	90	110	
Sb	123	103	No Gas	44.175	ug/l	1.7	275493	40	110.44	90	110	> +/- 10%
Ba	137	159	No Gas	101.339	ug/l	0.7	296440	100	101.34	90	110	
Hg	201	159	No Gas	810.796	ng/l	3.9	1057	800	101.35	90	110	
Tl	205	159	No Gas	39.828	ug/l	1.4	910801	40	99.57	90	110	
Pb	208	159	No Gas	100.064	ug/l	0.9	3103393	100	100.06	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59798	8.2	74425.24	80.35	70	120	
Ge	74	He	66408	9.5	81443.29	81.54	70	120	
Li	6	No Gas	235319	0.3	328630.38	71.61	70	120	
Sc	45	No Gas	801699	2.3	1080968.53	74.16	70	120	
Ge	74	No Gas	310507	1.1	386165.82	80.41	70	120	
Rh	103	No Gas	346246	0.5	422155.36	82.02	70	120	
Tb	159	No Gas	802256	0.7	887046.79	90.44	70	120	
Bi	209	No Gas	566661	1.5	619480.15	91.47	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCBB**	**Sample Type**	CCB
File Name	161_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 22:20:05	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Pass
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.010	ug/l	48.6	21	0.09	
Na	23	45	He	-0.392	ug/l	N/A	3169	45	
Mg	24	45	No Gas	-9.652	ug/l	N/A	16343	22.5	
Al	27	45	He	0.182	ug/l	28.3	33	22.5	
K	39	45	He	-2.054	ug/l	N/A	7429	45	
Ca	44	45	He	-0.928	ug/l	N/A	18	45	
Ti	47	45	No Gas	-0.081	ug/l	N/A	27	0.45	
V	51	74	He	-0.079	ug/l	N/A	221	0.45	
Cr	52	74	He	-0.016	ug/l	N/A	44	0.45	
Mn	55	74	No Gas	-0.052	ug/l	N/A	1086	0.45	
Fe	56	74	He	-1.451	ug/l	N/A	1656	22.5	
Co	59	74	No Gas	0.002	ug/l	131.5	74	0.09	
Ni	60	74	He	-0.180	ug/l	N/A	29	0.45	
Cu	65	74	He	0.000	ug/l	N/A	32	0.45	
Zn	66	74	He	0.010	ug/l	326.0	38	1.8	
As	75	74	He	0.023	ug/l	24.0	19	0.45	
Se	78	74	He	0.006	ug/l	2003.9	11	0.45	
Se	82	74	No Gas	-0.009	ug/l	N/A	11	0.45	
Mo	98	103	No Gas	0.014	ug/l	22.5	90	0.45	
Ag	109	103	No Gas	0.001	ug/l	3.3	18	0.09	
Cd	111	103	No Gas	0.006	ug/l	57.0	15	0.09	
Sb	123	103	No Gas	0.010	ug/l	48.6	70	0.45	
Ba	137	159	No Gas	0.007	ug/l	44.5	33	0.45	
Hg	201	159	No Gas	8.733	ng/l	11.1	12	36	
Tl	205	159	No Gas	0.003	ug/l	17.1	97	0.09	
Pb	208	159	No Gas	0.004	ug/l	28.6	237	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58654	2.8	74425.24	78.81	70	120	
Ge	74	He	64689	1.1	81443.29	79.43	70	120	
Li	6	No Gas	242965	0.9	328630.38	73.93	70	120	
Sc	45	No Gas	799340	3.0	1080968.53	73.95	70	120	
Ge	74	No Gas	307849	2.3	386165.82	79.72	70	120	
Rh	103	No Gas	351884	2.1	422155.36	83.35	70	120	
Tb	159	No Gas	793224	3.0	887046.79	89.42	70	120	
Bi	209	No Gas	569598	2.6	619480.15	91.95	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCVC**	**Sample Type**	CCV
File Name	172_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 23:10:38	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	39.213	ug/l	1.7	59144	40	98.03	90	110	
Na	23	45	He	4102.600	ug/l	0.7	872319	4000	102.57	90	110	
Mg	24	45	No Gas	4351.120	ug/l	2.1	17558093	4000	108.78	90	110	
Al	27	45	He	4219.446	ug/l	0.5	235258	4000	105.49	90	110	
K	39	45	He	4081.146	ug/l	0.2	473034	4000	102.03	90	110	
Ca	44	45	He	4093.793	ug/l	1.1	26241	4000	102.34	90	110	
Ti	47	45	No Gas	100.491	ug/l	2.5	61580	100	100.49	90	110	
V	51	74	He	97.219	ug/l	1.5	108325	100	97.22	90	110	
Cr	52	74	He	98.129	ug/l	1.1	134512	100	98.13	90	110	
Mn	55	74	No Gas	98.102	ug/l	4.3	1232650	100	98.1	90	110	
Fe	56	74	He	4134.927	ug/l	1.2	5176710	4000	103.37	90	110	
Co	59	74	No Gas	102.412	ug/l	2.4	881497	100	102.41	90	110	
Ni	60	74	He	104.111	ug/l	0.6	52066	100	104.11	90	110	
Cu	65	74	He	104.599	ug/l	0.5	70481	100	104.6	90	110	
Zn	66	74	He	99.053	ug/l	0.5	31377	100	99.05	90	110	
As	75	74	He	98.043	ug/l	1.1	21894	100	98.04	90	110	
Se	78	74	He	38.530	ug/l	1.4	764	40	96.32	90	110	
Se	82	74	No Gas	40.985	ug/l	0.5	4685	40	102.46	90	110	
Mo	98	103	No Gas	39.121	ug/l	2.8	208768	40	97.8	90	110	
Ag	109	103	No Gas	40.259	ug/l	0.5	359812	40	100.65	90	110	
Cd	111	103	No Gas	100.265	ug/l	2.9	212605	100	100.26	90	110	
Sb	123	103	No Gas	45.342	ug/l	2.6	297486	40	113.36	90	110	> +/- 10%
Ba	137	159	No Gas	104.439	ug/l	2.0	327260	100	104.44	90	110	
Hg	201	159	No Gas	822.552	ng/l	0.6	1149	800	102.82	90	110	
Tl	205	159	No Gas	39.905	ug/l	3.0	977736	40	99.76	90	110	
Pb	208	159	No Gas	100.236	ug/l	1.2	3330599	100	100.24	90	110	

Na, Al, K, Ca, V, Cr, Fe, Ni, Cu, Zn, As Q-06

ESS 5/20/19

Sb Q-41

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	41910	3.8	74425.24	56.31	70	120	Recovery Failed
Ge	74	He	45616	3.0	81443.29	56.01	70	120	Recovery Failed
Li	6	No Gas	250349	1.3	328630.38	76.18	70	120	
Sc	45	No Gas	826869	1.6	1080968.53	76.49	70	120	
Ge	74	No Gas	322605	1.5	386165.82	83.54	70	120	
Rh	103	No Gas	364307	1.1	422155.36	86.3	70	120	
Tb	159	No Gas	859573	1.9	887046.79	96.9	70	120	
Bi	209	No Gas	604228	2.6	619480.15	97.54	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCBC**	**Sample Type**	CCB
File Name	173_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/24/2019 23:15:14	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.021	ug/l	46.7	34	0.09	
Na	23	45	He	-1.093	ug/l	N/A	3169	45	
Mg	24	45	No Gas	-10.000	ug/l	N/A	14426	22.5	
Al	27	45	He	0.301	ug/l	35.0	46	22.5	
K	39	45	He	-0.577	ug/l	N/A	8208	45	
Ca	44	45	He	0.564	ug/l	166.3	33	45	
Ti	47	45	No Gas	-0.017	ug/l	N/A	62	0.45	
V	51	74	He	-0.082	ug/l	N/A	234	0.45	
Cr	52	74	He	-0.012	ug/l	N/A	56	0.45	
Mn	55	74	No Gas	-0.058	ug/l	N/A	976	0.45	
Fe	56	74	He	-1.010	ug/l	N/A	2639	22.5	
Co	59	74	No Gas	0.000	ug/l	249.9	56	0.09	
Ni	60	74	He	-0.184	ug/l	N/A	28	0.45	
Cu	65	74	He	0.011	ug/l	129.2	47	0.45	
Zn	66	74	He	-0.013	ug/l	N/A	30	1.8	
As	75	74	He	0.007	ug/l	91.0	15	0.45	
Se	78	74	He	-0.030	ug/l	N/A	11	0.45	
Se	82	74	No Gas	-0.013	ug/l	N/A	11	0.45	
Mo	98	103	No Gas	0.011	ug/l	61.6	73	0.45	
Ag	109	103	No Gas	0.001	ug/l	22.6	13	0.09	
Cd	111	103	No Gas	0.005	ug/l	67.5	13	0.09	
Sb	123	103	No Gas	0.002	ug/l	68.5	20	0.45	
Ba	137	159	No Gas	0.008	ug/l	64.8	34	0.45	
Hg	201	159	No Gas	14.318	ng/l	6.7	19	36	
Tl	205	159	No Gas	0.006	ug/l	27.2	159	0.09	
Pb	208	159	No Gas	0.004	ug/l	19.3	224	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	62786	0.9	74425.24	84.36	70	120	
Ge	74	He	69981	0.6	81443.29	85.93	70	120	
Li	6	No Gas	222917	1.7	328630.38	67.83	70	120	Recovery Failed
Sc	45	No Gas	768391	0.6	1080968.53	71.08	70	120	
Ge	74	No Gas	297295	0.3	386165.82	76.99	70	120	
Rh	103	No Gas	344157	0.6	422155.36	81.52	70	120	
Tb	159	No Gas	779117	0.8	887046.79	87.83	70	120	
Bi	209	No Gas	551050	1.0	619480.15	88.95	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCVD**	**Sample Type**	CCV
File Name	184_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:05:39	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	39.774	ug/l	0.7	54095	40	99.44	90	110	
Na	23	45	He	4066.188	ug/l	1.3	1209141	4000	101.65	90	110	
Mg	24	45	No Gas	4297.024	ug/l	0.7	16383072	4000	107.43	90	110	
Al	27	45	He	4099.785	ug/l	2.0	319657	4000	102.49	90	110	
K	39	45	He	4111.408	ug/l	1.2	666457	4000	102.79	90	110	
Ca	44	45	He	4151.056	ug/l	1.1	37205	4000	103.78	90	110	
Ti	47	45	No Gas	99.084	ug/l	1.3	57358	100	99.08	90	110	
V	51	74	He	95.174	ug/l	2.7	152449	100	95.17	90	110	
Cr	52	74	He	96.021	ug/l	2.1	189256	100	96.02	90	110	
Mn	55	74	No Gas	98.995	ug/l	1.1	1180461	100	99	90	110	
Fe	56	74	He	4046.062	ug/l	2.0	7282860	4000	101.15	90	110	
Co	59	74	No Gas	101.165	ug/l	0.5	826302	100	101.17	90	110	
Ni	60	74	He	100.531	ug/l	1.1	72294	100	100.53	90	110	
Cu	65	74	He	101.276	ug/l	1.5	98120	100	101.28	90	110	
Zn	66	74	He	98.116	ug/l	2.0	44688	100	98.12	90	110	
As	75	74	He	95.580	ug/l	2.1	30691	100	95.58	90	110	
Se	78	74	He	39.989	ug/l	0.4	1140	40	99.97	90	110	
Se	82	74	No Gas	39.951	ug/l	1.3	4332	40	99.88	90	110	
Mo	98	103	No Gas	38.778	ug/l	1.1	193263	40	96.94	90	110	
Ag	109	103	No Gas	39.711	ug/l	0.9	331401	40	99.28	90	110	
Cd	111	103	No Gas	98.080	ug/l	0.8	194214	100	98.08	90	110	
Sb	123	103	No Gas	44.141	ug/l	1.2	270433	40	110.35	90	110	> +/- 10%
Ba	137	159	No Gas	103.862	ug/l	0.7	290906	100	103.86	90	110	
Hg	201	159	No Gas	797.633	ng/l	0.8	996	800	99.7	90	110	
Tl	205	159	No Gas	39.228	ug/l	0.5	859002	40	98.07	90	110	
Pb	208	159	No Gas	97.683	ug/l	0.5	2900879	100	97.68	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58622	1.6	74425.24	78.77	70	120	
Ge	74	He	65599	2.3	81443.29	80.55	70	120	
Li	6	No Gas	225724	0.7	328630.38	68.69	70	120	Recovery Failed
Sc	45	No Gas	781074	0.9	1080968.53	72.26	70	120	
Ge	74	No Gas	306086	2.1	386165.82	79.26	70	120	
Rh	103	No Gas	340156	0.8	422155.36	80.58	70	120	
Tb	159	No Gas	768196	0.8	887046.79	86.6	70	120	
Bi	209	No Gas	536453	1.6	619480.15	86.6	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCBD**	**Sample Type**	CCB
File Name	185_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:10:13	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.007	ug/l	51.0	17	0.09	
Na	23	45	He	-2.615	ug/l	N/A	2544	45	
Mg	24	45	No Gas	-10.108	ug/l	N/A	14212	22.5	
Al	27	45	He	0.500	ug/l	51.2	59	22.5	
K	39	45	He	-1.150	ug/l	N/A	7676	45	
Ca	44	45	He	-1.327	ug/l	N/A	14	45	
Ti	47	45	No Gas	-0.051	ug/l	N/A	43	0.45	
V	51	74	He	-0.116	ug/l	N/A	168	0.45	
Cr	52	74	He	-0.025	ug/l	N/A	27	0.45	
Mn	55	74	No Gas	-0.045	ug/l	N/A	1136	0.45	
Fe	56	74	He	-0.814	ug/l	N/A	2868	22.5	
Co	59	74	No Gas	0.002	ug/l	102.7	71	0.09	
Ni	60	74	He	-0.176	ug/l	N/A	32	0.45	
Cu	65	74	He	0.005	ug/l	174.2	38	0.45	
Zn	66	74	He	-0.015	ug/l	N/A	28	1.8	
As	75	74	He	0.012	ug/l	59.1	16	0.45	
Se	78	74	He	-0.005	ug/l	N/A	11	0.45	
Se	82	74	No Gas	-0.015	ug/l	N/A	10	0.45	
Mo	98	103	No Gas	0.007	ug/l	59.1	56	0.45	
Ag	109	103	No Gas	0.002	ug/l	60.7	19	0.09	
Cd	111	103	No Gas	0.002	ug/l	11.0	6	0.09	
Sb	123	103	No Gas	0.004	ug/l	43.4	30	0.45	
Ba	137	159	No Gas	0.004	ug/l	104.2	22	0.45	
Hg	201	159	No Gas	9.857	ng/l	5.1	13	36	
Tl	205	159	No Gas	0.004	ug/l	29.0	122	0.09	
Pb	208	159	No Gas	0.004	ug/l	26.9	219	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59432	1.8	74425.24	79.85	70	120	
Ge	74	He	66557	0.5	81443.29	81.72	70	120	
Li	6	No Gas	228845	3.9	328630.38	69.64	70	120	Recovery Failed
Sc	45	No Gas	780537	4.2	1080968.53	72.21	70	120	
Ge	74	No Gas	301786	3.9	386165.82	78.15	70	120	
Rh	103	No Gas	345177	4.1	422155.36	81.77	70	120	
Tb	159	No Gas	759301	4.2	887046.79	85.6	70	120	
Bi	209	No Gas	536758	3.8	619480.15	86.65	70	120	

Continuing Calibration Verification (CCV) Report ICPMS6

Sample Name	**9E24020-CCVE**	**Sample Type**	CCV
File Name	189_CCV.d	**Vial #**	1102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:28:33	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E109 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Low	High	Flag
Be	9	6	No Gas	39.394	ug/l	2.6	53057	40	98.48	90	110	
Na	23	45	He	4024.357	ug/l	1.0	1177714	4000	100.61	90	110	
Mg	24	45	No Gas	4221.245	ug/l	2.0	15883517	4000	105.53	90	110	
Al	27	45	He	4066.552	ug/l	0.7	312039	4000	101.66	90	110	
K	39	45	He	4069.912	ug/l	0.7	649305	4000	101.75	90	110	
Ca	44	45	He	4168.101	ug/l	1.3	36761	4000	104.2	90	110	
Ti	47	45	No Gas	97.428	ug/l	2.9	55668	100	97.43	90	110	
V	51	74	He	94.996	ug/l	0.7	149944	100	95	90	110	
Cr	52	74	He	95.130	ug/l	0.3	184762	100	95.13	90	110	
Mn	55	74	No Gas	96.968	ug/l	2.7	1169290	100	96.97	90	110	
Fe	56	74	He	4053.144	ug/l	0.5	7188868	4000	101.33	90	110	
Co	59	74	No Gas	99.609	ug/l	2.3	822669	100	99.61	90	110	
Ni	60	74	He	100.262	ug/l	1.5	71038	100	100.26	90	110	
Cu	65	74	He	100.728	ug/l	0.6	96156	100	100.73	90	110	
Zn	66	74	He	98.350	ug/l	0.3	44137	100	98.35	90	110	
As	75	74	He	95.161	ug/l	0.7	30110	100	95.16	90	110	
Se	78	74	He	39.842	ug/l	1.4	1119	40	99.6	90	110	
Se	82	74	No Gas	38.239	ug/l	2.3	4193	40	95.6	90	110	
Mo	98	103	No Gas	37.730	ug/l	1.5	192138	40	94.32	90	110	
Ag	109	103	No Gas	37.705	ug/l	2.2	321513	40	94.26	90	110	
Cd	111	103	No Gas	93.644	ug/l	2.2	189477	100	93.64	90	110	
Sb	123	103	No Gas	42.551	ug/l	2.6	266403	40	106.38	90	110	
Ba	137	159	No Gas	101.935	ug/l	1.3	291740	100	101.94	90	110	
Hg	201	159	No Gas	811.226	ng/l	1.2	1035	800	101.4	90	110	
Tl	205	159	No Gas	38.246	ug/l	2.1	855681	40	95.62	90	110	
Pb	208	159	No Gas	97.086	ug/l	1.6	2945844	100	97.09	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	57683	0.3	74425.24	77.5	70	120	
Ge	74	He	64620	0.5	81443.29	79.34	70	120	
Li	6	No Gas	223571	1.4	328630.38	68.03	70	120	Recovery Failed
Sc	45	No Gas	770899	1.8	1080968.53	71.32	70	120	
Ge	74	No Gas	309530	1.3	386165.82	80.15	70	120	
Rh	103	No Gas	347623	1.0	422155.36	82.34	70	120	
Tb	159	No Gas	784967	1.7	887046.79	88.49	70	120	
Bi	209	No Gas	547742	1.2	619480.15	88.42	70	120	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	**9E24020-CCBE**	**Sample Type**	CCB
File Name	190_CCB.d	**Vial #**	1101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:33:07	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	CCB		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.016	ug/l	60.0	28	0.09	
Na	23	45	He	-2.812	ug/l	N/A	2434	45	
Mg	24	45	No Gas	-10.199	ug/l	N/A	13541	22.5	
Al	27	45	He	0.529	ug/l	21.5	60	22.5	
K	39	45	He	-1.605	ug/l	N/A	7448	45	
Ca	44	45	He	-1.039	ug/l	N/A	17	45	
Ti	47	45	No Gas	-0.073	ug/l	N/A	30	0.45	
V	51	74	He	-0.088	ug/l	N/A	207	0.45	
Cr	52	74	He	-0.018	ug/l	N/A	40	0.45	
Mn	55	74	No Gas	-0.043	ug/l	N/A	1141	0.45	
Fe	56	74	He	-0.907	ug/l	N/A	2611	22.5	
Co	59	74	No Gas	0.002	ug/l	29.6	66	0.09	
Ni	60	74	He	-0.176	ug/l	N/A	31	0.45	
Cu	65	74	He	0.008	ug/l	38.9	40	0.45	
Zn	66	74	He	0.007	ug/l	194.5	37	1.8	
As	75	74	He	0.007	ug/l	9.4	14	0.45	
Se	78	74	He	-0.040	ug/l	N/A	10	0.45	
Se	82	74	No Gas	-0.131	ug/l	N/A	-2	0.45	
Mo	98	103	No Gas	0.011	ug/l	44.5	73	0.45	
Ag	109	103	No Gas	0.001	ug/l	19.0	17	0.09	
Cd	111	103	No Gas	0.000	ug/l	985.8	2	0.09	
Sb	123	103	No Gas	0.011	ug/l	53.5	70	0.45	
Ba	137	159	No Gas	0.007	ug/l	67.1	30	0.45	
Hg	201	159	No Gas	13.213	ng/l	8.6	17	36	
Tl	205	159	No Gas	0.010	ug/l	10.9	230	0.09	
Pb	208	159	No Gas	0.004	ug/l	36.9	216	0.09	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	58231	0.5	74425.24	78.24	70	120	
Ge	74	He	64424	0.8	81443.29	79.1	70	120	
Li	6	No Gas	223984	1.7	328630.38	68.16	70	120	Recovery Failed
Sc	45	No Gas	760662	1.2	1080968.53	70.37	70	120	
Ge	74	No Gas	293983	0.6	386165.82	76.13	70	120	
Rh	103	No Gas	337134	0.6	422155.36	79.86	70	120	
Tb	159	No Gas	744969	1.1	887046.79	83.98	70	120	
Bi	209	No Gas	527659	0.2	619480.15	85.18	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLF**	**Sample Type**	CRL1
File Name	191CRL.d	**Vial #**	2101
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:37:43	**Sample QC Pass/Fail**	Fail
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E285 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag	
Be	9	6	No Gas	0.177	ug/l	14.6	246	98.33	70	130		
Na	23	45	He	6.094	ug/l	19.5	4912	67.71	70	130	CRL1 Failed	< MRL
Mg	24	45	No Gas	0.369	ug/l	41.3	52788	4.1	70	130	CRL1 Failed	
Al	27	45	He	9.867	ug/l	13.4	760	109.63	70	130		
K	39	45	He	9.825	ug/l	43.0	9001	109.17	70	130		
Ca	44	45	He	6.272	ug/l	45.8	79	69.69	70	130	CRL1 Failed	< MRL
Ti	47	45	No Gas	0.088	ug/l	33.6	121	48.89	70	130	CRL1 Failed	
V	51	74	He	0.105	ug/l	40.0	499	58.33	70	130	CRL1 Failed	
Cr	52	74	He	0.145	ug/l	17.7	348	80.56	70	130		
Mn	55	74	No Gas	0.126	ug/l	9.0	3109	70	70	130	CRL1 Failed	< MRL
Fe	56	74	He	8.049	ug/l	8.3	18084	89.43	70	130		
Co	59	74	No Gas	0.191	ug/l	4.5	1571	106.11	70	130		
Ni	60	74	He	0.043	ug/l	100.9	181	23.89	70	130	CRL1 Failed	< MRL
Cu	65	74	He	0.186	ug/l	15.6	204	103.33	70	130		
Zn	66	74	He	0.178	ug/l	37.7	110	98.89	70	130		
As	75	74	He	0.163	ug/l	10.4	62	90.56	70	130		
Se	78	74	He	0.171	ug/l	84.9	16	95	70	130		
Se	82	74	No Gas	0.069	ug/l	43.5	19	38.33	70	130	CRL1 Failed	< MRL
Mo	98	103	No Gas	0.172	ug/l	11.1	878	95.56	70	130		
Ag	109	103	No Gas	0.183	ug/l	4.2	1539	101.67	70	130		
Cd	111	103	No Gas	0.153	ug/l	18.0	304	85	70	130		
Sb	123	103	No Gas	0.182	ug/l	4.8	1125	101.11	70	130		
Ba	137	159	No Gas	0.181	ug/l	4.3	506	100.56	70	130		
Hg	201	159	No Gas	18.638	ng/l	1.1	24	103.54	70	130		
Tl	205	159	No Gas	0.184	ug/l	4.0	3964	102.22	70	130		
Pb	208	159	No Gas	0.179	ug/l	3.3	5275	99.44	70	130		

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	56712	5.8	74425.24	76.2	70	120	
Ge	74	He	63318	4.9	81443.29	77.75	70	120	
Li	6	No Gas	223952	0.6	328630.38	68.15	70	120	Recovery Failed
Sc	45	No Gas	762553	2.1	1080968.53	70.54	70	120	
Ge	74	No Gas	297774	2.0	386165.82	77.11	70	120	
Rh	103	No Gas	340853	2.1	422155.36	80.74	70	120	
Tb	159	No Gas	748515	2.2	887046.79	84.38	70	120	
Bi	209	No Gas	532049	2.3	619480.15	85.89	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLG**	**Sample Type**	CRL2
File Name	192_CRL.d	**Vial #**	2102
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:42:20	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E286 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	0.852	ug/l	2.7	1168	94.67	70	130	
Na	23	45	He	40.483	ug/l	3.9	15439	89.96	70	130	
Mg	24	45	No Gas	40.114	ug/l	0.7	204827	89.14	70	130	
Al	27	45	He	46.060	ug/l	4.0	3648	102.36	70	130	
K	39	45	He	43.155	ug/l	5.5	14813	95.9	70	130	
Ca	44	45	He	43.032	ug/l	10.2	416	95.63	70	130	
Ti	47	45	No Gas	0.805	ug/l	6.8	538	89.44	70	130	
V	51	74	He	0.770	ug/l	5.2	1610	85.56	70	130	
Cr	52	74	He	0.798	ug/l	4.4	1679	88.67	70	130	
Mn	55	74	No Gas	0.794	ug/l	1.1	11031	88.22	70	130	
Fe	56	74	He	42.539	ug/l	1.2	82260	94.53	70	130	
Co	59	74	No Gas	0.884	ug/l	1.4	7194	98.22	70	130	
Ni	60	74	He	0.681	ug/l	3.4	658	75.67	70	130	
Cu	65	74	He	0.903	ug/l	1.4	923	100.33	70	130	
Zn	66	74	He	0.821	ug/l	11.7	414	91.22	70	130	
As	75	74	He	0.827	ug/l	5.1	282	91.89	70	130	
Se	78	74	He	1.096	ug/l	18.2	43	121.78	70	130	
Se	82	74	No Gas	0.910	ug/l	22.2	110	101.11	70	130	
Mo	98	103	No Gas	0.845	ug/l	1.0	4305	93.89	70	130	
Ag	109	103	No Gas	0.872	ug/l	2.2	7414	96.89	70	130	
Cd	111	103	No Gas	0.880	ug/l	3.6	1775	97.78	70	130	
Sb	123	103	No Gas	0.884	ug/l	3.1	5520	98.22	70	130	
Ba	137	159	No Gas	0.934	ug/l	2.9	2600	103.78	70	130	
Hg	201	159	No Gas	42.251	ng/l	18.6	53	117.36	70	130	
Tl	205	159	No Gas	0.908	ug/l	2.1	19690	100.89	70	130	
Pb	208	159	No Gas	0.861	ug/l	0.9	25391	95.67	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59213	1.9	74425.24	79.56	70	120	
Ge	74	He	66755	0.7	81443.29	81.96	70	120	
Li	6	No Gas	226350	0.4	328630.38	68.88	70	120	Recovery Failed
Sc	45	No Gas	779982	1.4	1080968.53	72.16	70	120	
Ge	74	No Gas	302863	1.4	386165.82	78.43	70	120	
Rh	103	No Gas	346241	1.2	422155.36	82.02	70	120	
Tb	159	No Gas	760074	1.2	887046.79	85.69	70	120	
Bi	209	No Gas	541643	1.9	619480.15	87.44	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLH**	**Sample Type**	CRL3
File Name	193CRL_.d	**Vial #**	2103
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:46:56	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E287 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	1.757	ug/l	3.6	2375	97.61	70	130	
Na	23	45	He	87.337	ug/l	9.4	28601	97.04	70	130	
Mg	24	45	No Gas	91.145	ug/l	1.5	397136	101.27	70	130	
Al	27	45	He	88.505	ug/l	3.9	6794	98.34	70	130	
K	39	45	He	89.349	ug/l	11.1	21641	99.28	70	130	
Ca	44	45	He	88.700	ug/l	11.1	803	98.56	70	130	
Ti	47	45	No Gas	1.534	ug/l	5.2	956	85.22	70	130	
V	51	74	He	1.565	ug/l	7.5	2805	86.94	70	130	
Cr	52	74	He	1.733	ug/l	5.7	3434	96.28	70	130	
Mn	55	74	No Gas	1.733	ug/l	1.3	21918	96.28	70	130	
Fe	56	74	He	91.922	ug/l	6.0	166891	102.14	70	130	
Co	59	74	No Gas	1.776	ug/l	0.3	14290	98.67	70	130	
Ni	60	74	He	1.660	ug/l	8.5	1327	92.22	70	130	
Cu	65	74	He	1.777	ug/l	5.8	1728	98.72	70	130	
Zn	66	74	He	1.791	ug/l	5.8	838	99.5	70	130	
As	75	74	He	1.758	ug/l	4.5	567	97.67	70	130	
Se	78	74	He	1.924	ug/l	3.5	65	106.89	70	130	
Se	82	74	No Gas	1.658	ug/l	17.3	188	92.11	70	130	
Mo	98	103	No Gas	1.709	ug/l	4.7	8625	94.94	70	130	
Ag	109	103	No Gas	1.765	ug/l	1.8	14890	98.06	70	130	
Cd	111	103	No Gas	1.732	ug/l	3.5	3468	96.22	70	130	
Sb	123	103	No Gas	1.756	ug/l	2.8	10876	97.56	70	130	
Ba	137	159	No Gas	1.922	ug/l	2.3	5362	106.78	70	130	
Hg	201	159	No Gas	79.133	ng/l	6.0	99	109.91	70	130	
Tl	205	159	No Gas	1.777	ug/l	1.1	38675	98.72	70	130	
Pb	208	159	No Gas	1.738	ug/l	0.5	51386	96.56	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	57641	6.1	74425.24	77.45	70	120	
Ge	74	He	64651	5.5	81443.29	79.38	70	120	
Li	6	No Gas	223641	1.3	328630.38	68.05	70	120	Recovery Failed
Sc	45	No Gas	777402	2.0	1080968.53	71.92	70	120	
Ge	74	No Gas	300328	1.5	386165.82	77.77	70	120	
Rh	103	No Gas	343852	1.6	422155.36	81.45	70	120	
Tb	159	No Gas	763253	1.2	887046.79	86.04	70	120	
Bi	209	No Gas	542354	2.0	619480.15	87.55	70	120	

CRL Verification ICPMS6

Sample Name	**9E24020-CRLI**	**Sample Type**	CRL4
File Name	194CRL4.d	**Vial #**	2104
Data Path Name	D:\Agilent\ICPMH\1\DATA\9E24020.b		
Acq Time	05/25/2019 00:51:32	**Sample QC Pass/Fail**	Pass
Total Dilution	1.0000	**ISTD QC Pass/Fail**	Fail
Comment	A19E288 - ESS 5/24		
ISTD Ref FileName	006CALB.d	**Operator**	ICPMS Analyst

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Be	9	6	No Gas	3.549	ug/l	2.8	4784	98.58	70	130	
Na	23	45	He	170.396	ug/l	1.8	55024	94.66	70	130	
Mg	24	45	No Gas	199.384	ug/l	0.9	800252	110.77	70	130	
Al	27	45	He	179.661	ug/l	2.4	14341	99.81	70	130	
K	39	45	He	174.681	ug/l	3.1	36539	97.04	70	130	
Ca	44	45	He	174.479	ug/l	3.6	1625	96.93	70	130	
Ti	47	45	No Gas	3.384	ug/l	5.7	2004	94	70	130	
V	51	74	He	3.232	ug/l	3.0	5655	89.78	70	130	
Cr	52	74	He	3.333	ug/l	2.4	6814	92.58	70	130	
Mn	55	74	No Gas	3.534	ug/l	0.5	43237	98.17	70	130	
Fe	56	74	He	176.610	ug/l	1.6	330148	98.12	70	130	
Co	59	74	No Gas	3.601	ug/l	0.5	29096	100.03	70	130	
Ni	60	74	He	3.429	ug/l	2.0	2685	95.25	70	130	
Cu	65	74	He	3.748	ug/l	2.4	3755	104.11	70	130	
Zn	66	74	He	3.551	ug/l	0.8	1692	98.64	70	130	
As	75	74	He	3.321	ug/l	0.8	1105	92.25	70	130	
Se	78	74	He	3.291	ug/l	6.3	107	91.42	70	130	
Se	82	74	No Gas	3.507	ug/l	6.6	387	97.42	70	130	
Mo	98	103	No Gas	3.520	ug/l	1.3	17696	97.78	70	130	
Ag	109	103	No Gas	3.646	ug/l	0.7	30673	101.28	70	130	
Cd	111	103	No Gas	3.531	ug/l	1.0	7048	98.08	70	130	
Sb	123	103	No Gas	3.637	ug/l	2.0	22459	101.03	70	130	
Ba	137	159	No Gas	3.741	ug/l	1.3	10354	103.92	70	130	
Hg	201	159	No Gas	147.469	ng/l	3.6	182	102.41	70	130	
Tl	205	159	No Gas	3.661	ug/l	0.2	79154	101.69	70	130	
Pb	208	159	No Gas	3.537	ug/l	1.3	103761	98.25	70	130	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	He	59948	2.4	74425.24	80.55	70	120	
Ge	74	He	67251	1.7	81443.29	82.57	70	120	
Li	6	No Gas	223521	1.0	328630.38	68.02	70	120	Recovery Failed
Sc	45	No Gas	771310	1.2	1080968.53	71.35	70	120	
Ge	74	No Gas	302236	0.8	386165.82	78.27	70	120	
Rh	103	No Gas	342817	1.0	422155.36	81.21	70	120	
Tb	159	No Gas	758190	1.1	887046.79	85.47	70	120	
Bi	209	No Gas	542542	0.8	619480.15	87.58	70	120	

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

Metals IFA/IFB Metals Internal Standards Recovery Summary

A19E234 IFA

A19E235 IFB

A9E0677 (I.S Tables)

Analytical Standard Record

Apex Laboratories

A19E234

Description:	ICSA working std	Expires:	06/01/19
Standard Type:	Calibration Standa	Prepared:	05/20/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	John P. Beck
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	06/10/19 16:51 by jsj

Prepare as needed.

Analyte	CAS Number	Concentration	Units
Aluminum	7429-90-5	100	ug/mL
Calcium	7440-70-2	300	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
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	02/08/19 14:53 by arf	5
A19C191	Conc. HCl - Omnitrace	03/04/19	Kevin Taucher	03/04/22	03/22/19 15:55 by jsj	0.2
A19C372	Conc. HNO3 - Omnitrace	03/29/19	Kevin Taucher	03/29/24	04/02/19 14:01 by jsj	1.75
A19D312	1 W 10 ppm intermediate	04/23/19	John P. Beck	06/01/19	06/10/19 16:51 by jsj	0.5

Reviewed By Date

Analytical Standard Record

Apex Laboratories

A19E235

Description:	ICSA+B working std	Expires:	06/01/19
Standard Type:	Calibration Standa	Prepared:	05/20/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	John P. Beck
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	06/10/19 16:51 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
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
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

A19E235

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	02/08/19 14:53 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
A19C372	Conc. HNO3 - Omnitrace	03/29/19	Kevin Taucher	03/29/24	04/02/19 14:01 by jsj	1.75
A19D217	Hg Stock 1.00ppm Std Primary	04/15/19	Emily S. Stefansson	08/10/19	04/15/19 18:15 by mnp	0.1
A19D312	1 W 10 ppm intermediate	04/23/19	John P. Beck	06/01/19	06/10/19 16:51 by jsj	0.5

Reviewed By Date

		6 Li (ISTD) [No Gas]	45 Sc (ISTD) [He]	45 Sc (ISTD) [No Gas]	74 Ge (ISTD) [He]	74 Ge (ISTD) [No Gas]	103 Rh (ISTD) [No Gas]	159 Tb (ISTD) [No Gas]	209 Bi (ISTD) [No Gas]
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
05/24/2019 09:36	rinse								
05/24/2019 09:41	rinse								
05/24/2019 09:45	rinse								
05/24/2019 09:50	rinse								
05/24/2019 09:55	rinse								
05/24/2019 10:00	9E24020-CAL0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
05/24/2019 10:04	9E24020-CAL1	98.74	98.15	100.96	99.24	100.45	101.13	100.85	102.06
05/24/2019 10:09	9E24020-CAL2	97.58	98.76	100.18	99.56	101.32	101.32	101.41	103.04
05/24/2019 10:14	9E24020-CAL3	96.70	97.13	99.16	97.71	100.66	101.01	100.51	101.67
05/24/2019 10:19	9E24020-CAL4	95.03	100.68	96.90	100.92	101.53	101.43	101.78	102.37
05/24/2019 10:23	9E24020-CAL5	93.64	101.82	98.18	101.41	100.10	100.13	99.74	101.50
05/24/2019 10:28	9E24020-CAL6	91.31	97.70	96.39	96.82	99.57	97.63	98.82	99.54
05/24/2019 10:33	9E24020-CAL7	87.91	94.29	92.45	94.21	96.21	94.65	98.67	98.51
05/24/2019 10:38	9E24020-CAL8	82.86	89.03	88.89	89.64	91.69	90.77	96.84	94.87
05/24/2019 10:42	9E24020-CAL9	76.25	88.21	87.68	86.26	88.26	85.53	94.89	91.73
05/24/2019 10:53	9E24020-ICV1	78.98	92.34	87.47	91.21	92.40	92.61	96.28	94.79
05/24/2019 10:57	9E24020-ICB1	80.59	92.58	86.69	93.78	92.08	94.71	96.50	98.09
05/24/2019 11:03	9E24020-CRL1	80.39	93.39	86.94	93.78	92.29	95.03	96.08	97.50
05/24/2019 11:08	9E24020-CRL2	80.35	92.89	88.38	94.13	93.76	95.83	97.64	98.62
05/24/2019 11:12	9E24020-CRL3	81.26	94.31	88.21	95.62	93.30	95.59	97.52	99.56
05/24/2019 11:17	9E24020-IFA1	58.64	77.62	72.10	76.00	73.56	69.43	82.87	76.64
05/24/2019 11:22	9E24020-IFB1	64.12	74.98	74.46	74.86	75.25	70.92	83.93	77.04
05/24/2019 11:26	rinse	88.96	79.71	87.38	81.96	91.82	95.17	98.32	100.18
05/24/2019 11:31	9051152-BLK2	86.67	81.50	86.53	83.61	90.71	93.63	96.99	98.43
05/24/2019 11:35	9051152-BS2	83.55	82.67	87.83	85.27	92.99	93.18	97.75	97.75
05/24/2019 11:40	A9E0672-01RE1	82.26	82.19	87.52	84.97	91.66	92.51	97.22	98.29
05/24/2019 11:45	9051152-DUP2	82.08	84.30	86.82	86.35	91.50	92.92	97.10	98.16
05/24/2019 11:49	9051152-MS2	80.71	86.14	87.99	88.25	93.19	93.83	98.02	97.30
05/24/2019 11:54	A9E0645-01RE1	86.97	89.51	90.27	92.64	95.36	96.40	96.97	99.61
05/24/2019 11:58	A9E0677-01RE1	80.20	85.02	86.24	88.07	91.73	94.20	97.64	111.96
05/24/2019 12:03	9051156-BLK2	78.71	84.27	83.37	85.51	89.19	92.32	95.62	97.13
05/24/2019 12:08	9051156-BS2	79.75	86.53	87.54	88.51	92.56	93.79	97.87	96.95
05/24/2019 12:12	A9E0440-01RE1	78.98	84.78	85.62	85.71	89.59	90.46	95.86	95.17
05/24/2019 12:17	9E24020-CCV1	79.14	86.93	87.40	88.35	91.94	92.65	97.70	96.94
05/24/2019 12:21	9E24020-CCB1	80.04	88.08	85.38	89.35	90.37	93.54	95.30	96.52
05/24/2019 12:26	9051156-DUP2	75.41	87.66	85.45	88.37	89.26	90.65	95.57	94.89
05/24/2019 12:33	9051156-MS3	73.30	87.64	84.87	88.10	89.57	90.47	94.86	93.13
05/24/2019 12:38	A9E0443-04RE1	65.36	81.86	76.60	82.02	80.88	80.56	95.10	87.42
05/24/2019 12:42	A9E0636-01RE1	70.55	81.17	80.67	81.58	83.10	80.39	89.79	84.86
05/24/2019 12:47	9051156-MS4	76.12	82.06	86.43	82.98	87.29	83.35	92.00	86.42
05/24/2019 12:52	9E24020-CCV2	87.35	88.69	93.44	90.59	98.56	97.86	100.54	98.98
05/24/2019 12:56	9E24020-CCB2	88.08	88.65	93.35	90.35	97.81	99.68	99.29	98.71
05/24/2019 13:01	9E24020-CRL4	86.97	90.58	93.15	91.96	97.57	99.97	100.05	99.29
05/24/2019 13:05	9E24020-CRL5	86.06	89.87	91.46	91.62	97.06	99.53	98.89	99.56
05/24/2019 13:10	9E24020-CRL6	86.17	90.18	91.21	92.75	98.66	100.16	100.21	101.03
05/24/2019 13:16	A9E0441-01RE1	78.75	90.97	89.31	91.66	94.66	92.34	96.81	93.23
05/24/2019 13:21	A9E0443-01RE1	78.63	88.39	90.60	89.66	93.14	91.14	95.80	95.39
05/24/2019 13:26	9051167-BLK1	79.40	91.82	86.62	93.77	91.94	93.93	95.63	95.61
05/24/2019 13:30	9051167-BS1	79.50	90.64	88.18	91.43	93.17	93.69	96.41	96.11
05/24/2019 13:35	A9E0469-05	74.76	88.51	85.66	88.47	90.85	91.31	95.95	93.33
05/24/2019 13:39	A9E0469-12	75.58	90.60	86.80	90.35	91.44	91.49	96.93	94.18
05/24/2019 13:44	A9E0469-13	77.04	87.95	88.38	90.01	93.02	92.63	98.06	95.50
05/24/2019 13:49	A9E0469-14	76.21	89.01	86.15	90.27	90.92	91.05	96.02	94.34
05/24/2019 13:53	9051167-DUP1	75.13	89.28	85.32	90.40	90.82	90.06	95.65	92.76
05/24/2019 13:58	9051167-MS1	73.60	86.04	83.57	87.60	89.49	88.53	95.64	92.48
05/24/2019 14:02	9E24020-CCV3	77.54	86.39	83.09	87.59	87.77	88.46	93.75	93.85
05/24/2019 14:07	9E24020-CCB3	82.28	86.89	85.05	88.14	91.20	94.25	96.04	96.91
05/24/2019 14:12	A9E0469-15	74.11	81.97	84.16	83.95	88.93	89.48	95.45	92.89
05/24/2019 14:16	A9E0469-16	74.53	88.55	84.46	89.15	90.27	90.00	96.12	93.43
05/24/2019 14:21	A9E0469-17	74.25	88.07	84.84	90.14	90.40	89.79	95.41	92.88
05/24/2019 14:25	A9E0469-18	76.34	91.03	86.60	92.57	91.88	91.92	97.79	95.40
05/24/2019 14:30	A9E0469-19	76.03	84.07	86.79	85.34	92.42	91.88	98.01	94.87
05/24/2019 14:35	A9E0469-20	74.89	91.43	85.87	91.84	90.71	90.89	96.13	94.40
05/24/2019 14:39	A9E0469-21	74.96	86.91	85.14	88.08	90.24	89.63	95.22	93.16
05/24/2019 14:44	A19E299	79.90	93.25	85.08	94.11	90.27	93.23	95.01	96.03
05/24/2019 14:48	A9E0469-22	73.59	90.50	83.73	91.07	88.41	88.48	95.01	92.25
05/24/2019 14:53	A9E0469-23	73.67	87.72	83.61	89.39	89.78	89.14	95.05	92.94
05/24/2019 14:58	9E24020-CCV4	75.95	83.84	80.98	84.94	85.70	86.36	92.58	92.83
05/24/2019 15:02	9E24020-CCB4	77.71	83.94	81.90	85.59	87.49	91.03	93.42	94.14
05/24/2019 15:07	A9E0469-24	72.65	86.94	81.92	87.07	88.15	88.19	95.04	92.21
05/24/2019 15:17	A9E0469-25	65.18	85.55	76.33	84.80	82.45	83.57	90.46	87.55
05/24/2019 15:22	A9E0469-26	67.58	90.32	78.25	90.70	85.11	85.97	92.91	91.16
05/24/2019 15:26	A9E0469-27	70.24	88.02	79.79	87.94	86.16	86.14	93.44	91.53
05/24/2019 15:31	A9E0469-28	71.70	84.15	82.72	85.43	88.87	89.54	96.83	94.05
05/24/2019 15:35	A9E0469-29	71.21	89.10	82.35	90.26	88.63	89.18	96.07	93.50
05/24/2019 15:40	9051167-MS2	70.07	85.65	81.10	86.62	87.38	87.90	96.54	94.49
05/24/2019 15:51	A19E301	67.39	84.85	73.54	83.95	80.65	84.20	88.55	89.42
05/24/2019 15:56	A9E0513-47RE1	68.81	84.96	73.97	85.38	80.49	83.95	89.65	92.21
05/24/2019 16:01	A9E0513-53RE1	71.47	86.13	75.12	86.42	81.08	85.89	90.15	93.44
05/24/2019 16:05	9E24020-CCV5	68.84	81.07	71.85	82.64	79.31	80.95	89.20	89.56
05/24/2019 16:10	9E24020-CCB5	72.23	82.15	74.93	82.62	80.31	84.24	89.50	91.22
05/24/2019 16:14	9051228-BLK1	72.40	85.86	74.56	86.36	80.57	84.24	89.62	91.70
05/24/2019 16:19	9051228-BS1	71.02	82.20	75.29	83.11	80.98	83.94	90.86	92.32
05/24/2019 16:24	A9E0417-01	68.41	79.48	74.34	80.34	78.61	79.50	88.83	89.65
05/24/2019 16:28	A9E0436-01	70.20	79.47	74.93	80.42	79.30	80.40	89.33	90.31
05/24/2019 16:33	A9E0436-02	72.60	82.16	74.58	83.55	79.95	83.94	89.71	92.04
05/24/2019 16:37	A9E0440-01	71.75	78.17	73.35	80.12	78.57	81.31	89.76	90.29
05/24/2019 16:42	A9E0440-02	73.70	82.10	74.95	82.64	80.51	83.95	89.67	92.22
05/24/2019 16:47	9051228-DUP1	73.14	79.96	73.81	80.75	79.21	82.51	88.96	91.61
05/24/2019 16:53	9051228-MS1	71.01	80.77	73.21	82.12	80.62	83.74	90.50	92.17
05/24/2019 16:57	A9E0440-03	67.03	79.17	70.57	79.97	76.80	79.37	88.64	90.31
05/24/2019 17:02	9E24020-CCV6	69.32	84.14	73.05	85.11	79.94	82.08	90.03	91.90
05/24/2019 17:07	9E24020-CCB6	70.96	81.78	73.94	82.70	79.62	83.64	89.64	92.00
05/24/2019 17:11	9E24020-CRL7	71.98	80.40	74.08	82.46	80.09	84.21	89.41	91.83
05/24/2019 17:16	9E24020-CRL8	72.14	80.76	73.17	82.86	78.69	82.70	88.64	90.67
05/24/2019 17:21	9E24020-CRL9	72.02	79.09	73.09	81.10	79.65	82.78	89.15	92.33
05/24/2019 17:26	9E24020-CRLA	70.61	79.02	71.96	81.52	78.46	82.34	88.53	91.43
05/24/2019 17:30	A9E0440-04	67.82	74.39	70.16	75.69	75.75	78.22	88.38	90.62
05/24/2019 17:35	A9E0440-05	69.46	76.57	70.99	79.01	77.29	79.84	89.93	91.80

05/24/2019 17:40	A9E0440-06	69.45	76.51	72.41	77.27	77.32	80.20	89.37	91.30
05/24/2019 17:44	A9E0440-07	71.80	81.54	73.81	82.54	80.43	84.04	91.16	93.72
05/24/2019 17:49	9051228-MS2	70.18	79.39	72.61	80.01	79.28	81.84	90.70	92.19
05/24/2019 17:53	A9E0726-01	70.40	81.00	74.53	81.63	79.91	79.88	90.94	89.82
05/24/2019 17:58	A9E0726-02	71.96	81.17	76.94	81.97	82.06	81.01	92.26	91.10
05/24/2019 18:03	A9E0726-03	72.88	81.91	77.10	84.04	83.26	82.61	93.12	91.32
05/24/2019 18:07	A9E0726-04	73.86	81.45	77.52	83.00	83.14	82.87	92.61	91.76
05/24/2019 18:12	A9E0726-05	75.34	79.89	79.17	81.44	83.56	83.13	94.25	93.08
05/24/2019 18:16	9E24020-CCV7	76.25	75.93	77.25	78.36	83.09	84.83	93.54	94.25
05/24/2019 18:21	9E24020-CCB7	76.97	79.03	77.17	81.50	83.75	87.87	93.75	95.52
05/24/2019 18:25	9051275-BLK1	74.48	79.70	75.38	81.09	81.11	85.23	91.68	93.26
05/24/2019 18:30	9051275-BS1	73.29	77.87	75.20	78.94	81.51	84.34	93.12	94.72
05/24/2019 18:35	A9E0815-01	73.35	77.74	74.52	79.92	80.51	82.70	91.47	94.88
05/24/2019 18:39	A9E0816-01	71.16	77.42	72.68	78.36	79.50	82.24	90.72	92.41
05/24/2019 18:44	9051275-DUP1	72.43	78.45	74.95	80.17	81.70	84.38	93.02	94.74
05/24/2019 18:48	9051275-MS1	72.87	80.13	76.36	82.18	81.94	85.54	92.61	95.60
05/24/2019 18:53	9051254-BLK1	73.31	78.89	78.42	81.73	84.38	85.51	93.16	94.20
05/24/2019 18:58	9051254-BS1	72.95	80.06	78.70	81.97	84.57	89.15	96.97	95.97
05/24/2019 19:02	A9E0391-01	72.13	80.40	77.48	82.33	83.72	85.22	93.77	93.68
05/24/2019 19:07	9051254-MS1	71.46	77.90	76.36	78.96	82.53	84.41	93.82	93.97
05/24/2019 19:11	9E24020-CCV8	73.42	79.95	77.05	81.37	84.04	86.09	94.26	95.80
05/24/2019 19:16	9E24020-CCB8	74.57	77.34	77.20	79.70	83.31	87.08	93.57	95.70
05/24/2019 19:20	9051255-BLK1	75.10	80.08	77.08	81.79	82.82	87.01	92.93	95.37
05/24/2019 19:25	9051255-BS1	73.88	78.09	75.92	80.48	83.18	86.86	93.30	96.29
05/24/2019 19:30	A9E0722-01	75.72	79.33	78.15	81.25	84.64	88.28	94.99	99.19
05/24/2019 19:34	9051255-MS1	72.74	78.93	74.48	81.08	81.40	84.64	91.85	94.88
05/24/2019 19:39	9051273-BLK1	71.61	79.39	74.94	81.24	80.58	82.49	90.87	91.66
05/24/2019 19:43	9051273-BS1	71.55	76.80	75.41	78.72	81.57	82.30	91.01	92.16
05/24/2019 19:48	A9E0171-01	75.49	79.18	78.26	80.53	84.28	85.11	95.29	96.11
05/24/2019 19:53	9051273-MS1	72.68	77.92	75.06	79.76	82.71	82.46	92.31	93.16
05/24/2019 19:57	A9E0171-02	73.28	78.65	74.98	80.10	80.81	81.57	91.37	90.63
05/24/2019 20:02	A9E0171-03	73.60	78.23	75.24	80.11	80.49	80.83	90.96	90.39
05/24/2019 20:06	9E24020-CCV9	74.06	78.49	76.99	79.77	81.50	83.27	91.96	93.09
05/24/2019 20:11	9E24020-CCB9	75.78	79.72	75.63	80.66	81.75	85.68	91.90	94.24
05/24/2019 20:16	A9E0171-04	75.61	78.49	77.67	79.67	83.89	84.30	93.41	92.59
05/24/2019 20:20	A9E0171-05	74.06	77.70	75.34	78.59	80.26	81.57	90.25	89.74
05/24/2019 20:25	9051211-BLK1	73.86	76.03	74.83	77.70	80.72	84.79	91.53	94.74
05/24/2019 20:29	9051211-BS1	72.20	81.45	74.99	82.19	81.96	84.29	93.01	94.43
05/24/2019 20:34	A9E0473-02	70.02	78.67	75.52	82.59	83.53	77.19	87.76	83.63
05/24/2019 20:39	A9E0477-01	80.11	76.23	78.41	77.93	83.91	87.39	94.11	96.16
05/24/2019 20:43	A9E0477-02	79.07	76.05	77.38	78.39	83.08	86.96	93.45	95.11
05/24/2019 20:48	A9E0477-03	76.59	77.34	76.11	78.81	81.29	84.80	91.52	94.02
05/24/2019 20:52	9051211-DUP1	77.16	75.02	77.34	77.26	82.32	85.87	93.15	94.92
05/24/2019 20:57	9051211-MS1	76.26	78.21	78.44	78.70	83.65	86.31	94.40	94.66
05/24/2019 21:02	9E24020-CCVA	76.91	77.54	79.03	78.94	84.47	85.68	93.47	94.09
05/24/2019 21:06	9E24020-CCBA	76.61	79.42	76.43	81.14	82.02	85.67	91.19	93.81
05/24/2019 21:11	9E24020-CRLB	76.61	77.83	76.31	79.32	80.87	84.63	91.10	93.48
05/24/2019 21:15	9E24020-CRLC	75.68	78.39	75.99	79.20	81.59	84.98	91.20	93.16
05/24/2019 21:20	9E24020-CRLD	74.67	79.93	75.69	81.13	81.42	84.41	90.65	93.78
05/24/2019 21:24	9E24020-CRLE	74.04	79.75	75.08	80.48	80.94	83.71	89.66	92.37
05/24/2019 21:29	A9E0485-01	71.86	75.75	75.39	77.16	81.18	83.40	93.25	93.20
05/24/2019 21:34	A9E0487-01	71.21	78.38	74.55	79.55	80.04	83.78	92.61	93.62
05/24/2019 21:38	A9E0487-02	69.81	76.65	74.07	78.41	78.39	79.49	89.59	89.88
05/24/2019 21:43	A9E0490-01	72.27	76.55	74.85	78.09	80.00	81.78	90.60	92.61
05/24/2019 21:47	A9E0492-01	72.86	77.21	73.45	77.58	79.19	82.95	90.45	93.97
05/24/2019 21:52	A9E0492-02	72.61	77.47	72.86	78.62	79.24	83.10	90.55	93.47
05/24/2019 21:57	A9E0496-01	69.48	76.11	72.72	76.74	78.08	78.93	89.15	88.49
05/24/2019 22:01	A9E0498-02	74.14	76.95	73.92	77.90	79.91	82.82	89.84	93.72
05/24/2019 22:06	A9E0524-01	71.50	76.30	71.49	78.06	78.78	80.02	88.77	90.00
05/24/2019 22:10	A9E0526-01	70.59	76.44	70.24	78.45	77.12	79.49	87.11	89.45
05/24/2019 22:15	9E24020-CCVB	71.61	80.35	74.16	81.54	80.41	82.02	90.44	91.47
05/24/2019 22:20	9E24020-CCBB	73.93	78.81	73.95	79.43	79.72	83.35	89.42	91.95
05/24/2019 22:24	A9E0530-01	69.02	73.75	72.27	74.73	77.45	77.24	88.25	86.30
05/24/2019 22:29	A9E0531-01	71.03	77.72	72.45	78.40	77.14	80.23	89.32	90.40
05/24/2019 22:33	A9E0608-01	71.00	74.76	73.93	76.15	78.27	79.92	90.74	90.38
05/24/2019 22:38	A9E0619-02	73.40	75.63	74.33	75.74	77.52	77.40	86.50	86.46
05/24/2019 22:43	A9E0687-01	70.60	76.23	73.77	77.12	78.57	78.41	88.29	86.15
05/24/2019 22:47	9051211-MS2	69.55	79.92	73.74	80.61	78.33	79.17	90.14	87.90
05/24/2019 22:52	9051247-BLK1	71.69	80.25	74.20	81.14	80.03	83.98	89.66	90.64
05/24/2019 22:56	9051247-BS1	71.12	78.21	73.78	79.56	80.43	82.74	91.08	92.82
05/24/2019 23:01	A9E0448-01	71.72	79.66	76.97	77.77	79.93	83.28	93.10	93.47
05/24/2019 23:06	A9E0515-01	71.32	85.50	81.57	79.68	81.35	83.26	92.34	93.67
05/24/2019 23:10	9E24020-CCVC	76.18	56.31	76.49	56.01	83.54	86.30	96.90	97.54
05/24/2019 23:15	9E24020-CCBC	67.83	84.36	71.08	85.93	76.99	81.52	87.83	88.95
05/24/2019 23:19	A9E0515-05	65.01	90.03	78.86	80.93	75.99	78.84	88.87	86.83
05/24/2019 23:24	A9E0515-06	66.20	89.13	76.83	82.36	77.76	79.68	87.87	85.90
05/24/2019 23:29	9051247-DUP1	68.50	88.89	79.66	82.61	80.78	83.62	91.18	89.09
05/24/2019 23:33	9051247-MS1	68.47	89.93	80.56	83.53	79.89	81.70	90.38	87.58
05/24/2019 23:38	A9E0515-07	69.15	88.51	79.93	82.89	79.57	81.47	89.06	87.43
05/24/2019 23:42	A9E0706-01	69.66	89.47	80.39	84.38	80.51	82.21	88.84	87.91
05/24/2019 23:47	A9E0706-02	69.84	89.58	83.42	83.04	82.04	84.20	90.41	88.88
05/24/2019 23:51	A9E0706-03	69.89	87.54	80.26	83.28	79.49	81.90	88.81	87.76
05/24/2019 23:56	A9E0749-01	69.16	85.12	76.21	82.61	79.53	81.13	87.43	87.24
05/25/2019 00:01	A9E0749-03	70.30	84.87	77.82	81.20	80.36	82.54	87.45	87.38
05/25/2019 00:05	9E24020-CCVD	68.69	78.77	72.26	80.55	79.26	80.58	86.60	86.60
05/25/2019 00:10	9E24020-CCBD	69.64	79.85	72.21	81.72	78.15	81.77	85.60	86.65
05/25/2019 00:14	A9E0749-05	68.58	83.20	75.53	81.17	79.23	81.74	87.72	86.62
05/25/2019 00:19	A9E0749-07	68.97	83.19	78.00	79.97	80.38	82.90	87.99	88.33
05/25/2019 00:23	9051247-MS2	66.88	84.31	76.24	81.59	79.06	81.77	88.00	87.08
05/25/2019 00:28	9E24020-CCVE	68.03	77.50	71.32	79.34	80.15	82.34	88.49	88.42
05/25/2019 00:33	9E24020-CCBE	68.16	78.24	70.37	79.10	76.13	79.86	83.98	85.18
05/25/2019 00:37	9E24020-CRLF	68.15	76.20	70.54	77.75	77.11	80.74	84.38	85.89
05/25/2019 00:42	9E24020-CRLG	68.88	79.56	72.16	81.96	78.43	82.02	85.69	87.44
05/25/2019 00:46	9E24020-CRLH	68.05	77.45	71.92	79.38	77.77	81.45	86.04	87.55
05/25/2019 00:51	9E24020-CRLI	68.02	80.55	71.35	82.57	78.27	81.21	85.47	87.58
05/25/2019 00:56	rinse	61.13	76.16	67.05	79.00	75.26	80.35	87.76	87.85
05/25/2019 01:00	rinse	70.61	80.61	72.96	83.19	79.82	83.66	88.29	89.84
05/25/2019 01:05	rinse	68.77	80.76	71.81	82.20	77.36	81.18	85.21	86.65

		6 Li (ISTD) [No Gas]	45 Sc (ISTD) [He]	45 Sc (ISTD) [No Gas]	74 Ge (ISTD) [He]	74 Ge (ISTD) [No Gas]	103 Rh (ISTD) [No Gas]	159 Tb (ISTD) [No Gas]	209 Bi (ISTD) [No Gas]
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
05/23/2019 11:36	rinse								
05/23/2019 11:41	rinse								
05/23/2019 11:45	rinse								
05/23/2019 11:50	9E23021-CAL0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
05/23/2019 11:55	9E23021-CAL1	97.72	100.58	99.39	102.03	99.36	99.54	99.80	99.66
05/23/2019 12:00	9E23021-CAL2	96.13	102.29	97.36	102.19	97.87	98.20	98.78	99.38
05/23/2019 12:05	9E23021-CAL3	94.35	98.37	96.30	100.39	97.53	97.51	98.09	98.41
05/23/2019 12:09	9E23021-CAL4	93.21	101.68	94.97	100.76	97.79	97.37	98.25	99.26
05/23/2019 12:14	9E23021-CAL5	91.80	100.35	94.05	100.76	96.97	97.91	98.93	98.84
05/23/2019 12:19	9E23021-CAL6	90.96	100.49	94.12	98.83	97.52	96.10	98.17	98.63
05/23/2019 12:24	9E23021-CAL7	86.22	99.00	91.92	99.75	95.25	94.63	98.45	97.23
05/23/2019 12:28	9E23021-CAL8	82.84	96.15	89.57	96.71	92.62	90.89	96.95	94.52
05/23/2019 12:33	9E23021-CAL9	76.93	94.52	87.80	93.13	87.67	84.85	93.09	89.57
05/23/2019 12:41	9E23021-ICV1	263.61	236.26	211.28	239.70	241.92	246.66	258.98	236.61
05/23/2019 12:46	9E23021-ICB1	79.41	96.50	87.25	98.69	92.12	96.04	97.84	97.93
05/23/2019 12:51	9E23021-ICV2	78.73	96.33	88.01	97.99	93.86	94.28	98.28	96.79
05/23/2019 12:56	9E23021-CRL1	80.70	99.70	89.27	101.41	93.97	96.40	99.36	98.68
05/23/2019 13:00	9E23021-CRL2	80.55	98.25	87.65	99.57	91.95	94.41	97.10	97.05
05/23/2019 13:05	9E23021-CRL3	81.04	99.41	88.59	100.15	93.22	95.72	97.97	99.21
05/23/2019 13:11	9E23021-IFA1	59.74	84.52	76.12	82.91	76.99	72.78	85.63	76.94
05/23/2019 13:15	9E23021-IFB1	62.90	84.88	79.84	83.34	80.41	75.52	88.08	78.19
05/23/2019 13:20	rinse	85.45	91.53	93.16	96.36	98.30	101.32	102.83	102.43
05/23/2019 13:25	9051099-BLK2	82.70	91.22	91.96	94.94	97.14	101.29	102.08	99.98
05/23/2019 13:29	9051099-BS2	83.78	95.00	95.77	97.42	101.07	103.29	105.25	102.07
05/23/2019 13:33	A9E0513-22RE1	84.12	94.26	94.30	97.95	98.51	97.36	99.33	96.43
05/23/2019 13:38	9051099-DUP2	82.75	96.39	93.51	99.65	97.41	96.83	97.39	93.96
05/23/2019 13:43	A9E0513-23RE1	81.54	97.68	92.83	101.01	98.31	98.80	97.95	95.35
05/23/2019 13:47	9051099-MS3	80.38	99.18	92.59	100.60	96.74	97.01	96.98	95.63
05/23/2019 13:52	A9E0513-24RE1	79.02	98.02	91.55	100.60	95.14	98.11	96.85	95.20
05/23/2019 13:56	9051099-MS4	78.64	98.14	90.18	99.98	94.93	96.02	96.36	95.22
05/23/2019 14:01	A9E0513-25RE1	78.06	99.46	90.51	100.41	93.58	94.55	97.08	92.85
05/23/2019 14:06	A9E0513-26RE1	75.90	96.66	87.32	98.87	92.57	93.12	97.39	91.05
05/23/2019 14:10	9E23021-CCV1	78.75	105.08	94.21	106.17	99.89	99.85	98.51	94.73
05/23/2019 14:15	9E23021-CCB1	78.24	106.03	93.93	107.89	99.84	101.91	98.37	96.82
05/23/2019 14:19	A9E0513-27RE1	74.29	101.30	89.93	102.72	95.33	96.42	97.79	95.46
05/23/2019 14:24	A9E0513-28RE1	73.60	100.14	88.32	101.81	92.81	93.98	97.13	92.91
05/23/2019 14:29	A9E0513-29RE1	75.69	101.32	88.86	103.49	93.86	95.34	96.20	94.44
05/23/2019 14:33	A9E0513-30RE1	76.78	101.89	89.31	103.31	95.31	96.92	96.15	94.80
05/23/2019 14:38	A9E0513-31RE1	75.52	105.25	90.68	105.99	96.30	97.57	97.73	95.57
05/23/2019 14:43	A9E0513-32RE1	71.71	103.07	87.17	103.57	93.66	94.37	97.21	90.94
05/23/2019 14:48	A9E0513-33RE1	72.86	102.39	88.80	107.07	96.39	98.89	98.14	97.24
05/23/2019 14:52	A9E0513-35RE1	76.49	109.60	95.53	109.42	100.13	104.98	102.27	98.00
05/23/2019 14:57	A9E0513-37RE1	72.50	110.45	91.98	109.03	97.80	100.32	99.51	97.35
05/23/2019 15:02	A9E0513-38RE1	74.66	105.64	91.31	104.01	96.94	101.86	101.74	98.86
05/23/2019 15:06	9E23021-CCV2	73.11	104.36	90.89	107.33	98.19	98.99	100.76	96.83
05/23/2019 15:11	9E23021-CCB2	73.84	106.27	90.85	108.34	98.92	101.68	100.33	98.03
05/23/2019 15:15	A9E0513-41RE1	73.91	104.64	89.99	106.82	95.91	99.86	99.54	97.49
05/23/2019 15:20	A9E0513-43RE1	70.40	103.95	87.50	104.07	92.90	97.33	97.53	96.31
05/23/2019 15:25	A9E0453-02RE1	71.10	98.60	85.08	100.73	90.95	93.53	95.91	94.96
05/23/2019 15:29	9051150-BLK1	70.35	97.04	81.98	98.30	89.74	92.93	95.01	95.22
05/23/2019 15:34	9051150-BSD1	71.17	99.15	87.38	101.89	94.62	96.22	98.01	95.84
05/23/2019 15:38	9051150-BS1	71.69	102.03	87.68	103.62	95.48	97.02	99.36	95.87
05/23/2019 15:43	A9E0513-14	72.20	100.36	85.25	102.67	90.65	91.50	94.17	91.42
05/23/2019 15:48	A9E0513-20	71.66	99.99	83.89	100.99	90.52	90.33	93.01	90.02
05/23/2019 15:52	A9E0513-34	73.19	101.58	85.64	101.68	91.91	95.37	95.16	94.05
05/23/2019 15:57	A9E0513-36	71.33	103.01	85.89	103.30	91.50	95.01	96.22	94.54
05/23/2019 16:02	9E23021-CCV3	70.04	103.36	86.26	105.35	93.44	94.18	95.80	92.16
05/23/2019 16:06	9E23021-CCB3	71.12	104.48	85.34	106.00	92.70	95.91	95.43	93.32
05/23/2019 16:11	A9E0513-42	72.31	103.38	86.25	104.00	93.02	96.15	96.82	95.48
05/23/2019 16:15	9051152-BLK1	70.00	96.42	83.20	98.41	90.65	93.60	95.28	93.32
05/23/2019 16:20	9051152-BS1	69.77	101.56	84.02	103.50	91.46	93.22	95.26	92.45
05/23/2019 16:25	A9E0453-02	55.59	82.56	72.97	84.50	76.53	77.58	87.87	84.78
05/23/2019 16:30	A9E0453-04	65.24	86.43	81.79	87.86	87.72	86.29	93.16	85.98
05/23/2019 16:34	A9E0453-06	63.93	91.82	79.27	94.15	86.36	87.84	94.83	92.10
05/23/2019 16:40	A9E0672-01	64.74	93.68	77.97	95.18	85.82	89.39	92.79	91.79
05/23/2019 16:45	9051152-DUP1	65.83	95.29	78.34	97.35	86.26	89.41	93.19	92.37
05/23/2019 16:50	9051152-MS1	65.27	93.36	78.23	95.94	86.13	88.25	93.27	90.28
05/23/2019 16:54	A9E0645-01	71.38	101.64	83.65	103.70	90.60	93.73	94.23	93.41
05/23/2019 17:00	9E23021-CCV4	69.96	97.25	83.61	99.58	91.54	92.12	96.30	93.99
05/23/2019 17:05	9E23021-CCB4	69.95	98.19	82.63	100.96	90.57	93.91	95.05	93.30
05/23/2019 17:10	9E23021-CRL4	69.02	97.11	81.36	99.13	89.05	92.77	93.99	92.03
05/23/2019 17:14	9E23021-CRL5	68.41	97.67	81.02	99.52	88.97	92.25	93.54	92.80
05/23/2019 17:19	9E23021-CRL6	68.24	97.69	80.56	97.64	88.77	92.34	93.76	92.93
05/23/2019 17:23	9E23021-CRL7	67.54	97.43	79.63	98.86	87.89	91.05	92.55	91.45
05/23/2019 17:28	A9E0675-01	67.24	100.17	81.88	98.51	88.11	91.51	95.57	93.28
05/23/2019 17:33	A9E0677-01	68.49	97.67	80.20	99.05	88.49	92.11	94.17	104.10
05/23/2019 17:37	9051152-MSD1	68.06	96.78	80.00	97.63	87.58	90.12	92.89	91.51
05/23/2019 17:42	9051057-DUP4	66.56	94.71	77.74	96.58	85.45	89.36	91.11	91.05
05/23/2019 17:46	9051057-MS4	66.59	95.02	78.46	96.88	85.32	88.72	90.49	91.10
05/23/2019 17:51	9051156-BLK1	66.40	94.88	77.30	96.02	84.80	88.90	91.40	90.56
05/23/2019 17:56	9051156-BS1	66.54	96.96	79.12	98.36	86.40	88.78	92.71	90.18
05/23/2019 18:00	A9E0436-01	63.85	93.73	78.60	95.94	84.00	84.38	90.88	87.74
05/23/2019 18:05	A9E0436-02	67.49	100.27	78.10	101.30	85.52	89.40	92.27	91.20
05/23/2019 18:10	A9E0438-01	65.85	93.24	77.44	95.02	84.52	86.70	92.77	90.76
05/23/2019 18:14	9E23021-CCV5	65.94	96.09	78.33	97.43	86.49	88.29	92.27	89.45
05/23/2019 18:19	9E23021-CCB5	66.80	95.47	77.74	97.63	85.12	88.55	90.30	88.69
05/23/2019 18:23	A9E0440-01	64.23	89.05	75.80	89.95	83.58	86.01	91.77	88.71
05/23/2019 18:28	9051156-DUP1	64.27	95.26	78.10	95.43	85.19	88.31	93.77	90.67
05/23/2019 18:32	9051156-MS1	64.10	94.98	80.08	97.55	87.85	89.39	94.93	91.10
05/23/2019 18:37	A9E0440-02	65.01	94.00	77.86	95.60	85.78	88.58	93.54	91.00
05/23/2019 18:42	A9E0440-03	63.35	93.27	79.18	95.09	84.01	86.18	93.75	91.04
05/23/2019 18:46	A9E0440-04	64.11	93.85	78.19	94.49	83.73	85.94	92.78	90.48
05/23/2019 18:51	A9E0440-05	65.81	95.14	78.24	95.85	85.22	88.38	93.28	91.09
05/23/2019 18:55	A9E0440-06	65.43	95.59	82.25	95.95	86.70	88.77	93.94	91.89
05/23/2019 19:00	A9E0440-07	66.43	98.50	79.31	99.49	87.73	90.79	94.50	92.53
05/23/2019 19:04	A9E0441-01	66.38	97.78	79.97	99.02	88.45	90.46	93.47	90.78
05/23/2019 19:09	9E23021-CCV6	64.05	98.03	78.65	99.56	86.76	87.22	90.51	87.91
05/23/2019 19:14	9E23021-CCB6	66.93	97.64	79.63	98.61	86.67	91.33	92.54	90.36
05/23/2019 19:18	A9E0443-01	64.11	92.98	75.60	96.14	83.00	85.87	89.88	89.07

05/23/2019 19:23	A9E0443-02	59.99	90.35	75.11	92.24	80.52	79.04	91.48	81.50
05/23/2019 19:27	A9E0443-03	61.70	91.82	76.80	94.63	84.94	82.45	90.58	86.09
05/23/2019 19:32	A9E0443-04	57.81	87.25	74.36	88.27	81.87	81.02	93.16	83.88
05/23/2019 19:38	A9E0443-05	59.47	92.12	76.55	93.29	82.23	81.35	92.96	81.46
05/23/2019 19:43	A9E0443-06	59.94	97.90	78.38	99.38	84.86	84.08	95.89	83.99
05/23/2019 19:47	A9E0449-01	64.79	101.43	84.92	102.60	92.18	89.89	95.46	87.79
05/23/2019 19:52	A9E0636-01	63.36	96.44	83.23	97.28	87.62	84.51	90.13	82.03
05/23/2019 19:57	9051156-MS2	66.29	92.42	85.87	93.92	90.15	86.21	91.23	82.73
05/23/2019 20:01	A9E0513-36RE1	76.15	100.07	90.43	103.07	97.15	100.92	97.23	94.26
05/23/2019 20:06	9E23021-CCV7	69.64	97.20	84.28	100.48	91.49	92.61	92.41	88.19
05/23/2019 20:10	9E23021-CCB7	72.05	98.38	86.64	100.58	93.51	96.74	93.75	91.46
05/23/2019 20:15	A9E0513-42RE1	71.47	99.76	85.87	100.71	91.78	95.86	92.81	90.59
05/23/2019 20:20	A9E0453-02RE1	68.77	97.76	81.37	99.76	89.30	92.03	91.66	89.64
05/23/2019 20:24	A9E0401-09RE1	65.55	101.50	87.19	94.92	87.71	89.36	93.53	88.24
05/23/2019 20:29	A9E0595-01RE1	65.27	99.94	84.45	97.60	87.86	90.74	93.38	88.42
05/23/2019 20:33	9051090-MS3	64.56	100.56	84.44	99.02	88.36	91.39	94.19	88.63
05/23/2019 20:38	9E23021-CCV8	66.81	100.51	85.03	101.99	93.14	94.49	94.24	90.15
05/23/2019 20:43	9E23021-CCB8	66.03	98.98	81.00	102.29	88.88	92.87	91.61	88.93
05/23/2019 20:47	9E23021-CRL8	66.25	98.17	81.57	100.82	89.58	93.08	91.52	88.89
05/23/2019 20:52	9E23021-CRL9	65.23	99.85	80.95	101.93	88.99	93.36	92.07	89.47
05/23/2019 20:56	9E23021-CRLA	65.80	99.19	79.81	102.38	87.89	91.29	90.76	88.33
05/23/2019 21:01	9E23021-CRLB	66.08	99.44	79.42	100.62	87.97	91.06	90.47	88.41
05/23/2019 21:06	9051189-BLK1	64.12	96.73	78.33	97.87	85.13	90.48	90.29	86.84
05/23/2019 21:10	9051189-BSD1	63.43	94.67	79.55	96.27	87.56	90.34	92.11	87.79
05/23/2019 21:15	9051189-BS1	63.47	99.27	80.55	100.84	88.71	91.15	92.35	88.37
05/23/2019 21:19	A9E0513-45	64.17	101.40	80.01	102.17	87.40	91.25	93.45	90.78
05/23/2019 21:24	A9E0513-46	64.58	96.14	77.38	96.82	84.95	89.14	90.00	87.87
05/23/2019 21:29	A9E0513-47	62.48	97.64	78.98	95.57	83.80	86.57	90.26	85.78
05/23/2019 21:33	A9E0513-48	64.58	98.98	79.63	100.19	86.28	91.04	91.71	88.92
05/23/2019 21:38	A9E0513-49	64.50	97.82	78.39	99.32	85.82	90.87	90.57	87.96
05/23/2019 21:42	A9E0513-50	63.94	98.03	77.91	99.00	85.24	90.19	89.90	87.18
05/23/2019 21:47	A9E0513-51	64.17	97.82	78.09	98.52	85.17	88.98	89.98	87.02
05/23/2019 21:52	9E23021-CCV9	64.05	99.22	78.61	100.35	87.49	89.41	90.41	87.14
05/23/2019 21:56	9E23021-CCB9	64.37	98.74	77.94	101.18	85.46	89.56	88.60	85.78
05/23/2019 22:01	A9E0513-52	60.65	96.04	73.86	97.46	82.53	87.20	89.15	87.24
05/23/2019 22:05	A9E0513-53	61.34	96.42	75.08	96.02	83.52	86.90	89.81	87.60
05/23/2019 22:10	A9E0513-54	62.23	93.55	74.61	93.80	81.94	87.11	88.68	86.63
05/23/2019 22:15	A9E0513-55	62.89	91.85	75.91	94.00	84.33	88.47	88.08	86.24
05/23/2019 22:19	9E23021-CCVA	62.49	98.28	77.32	100.08	87.31	88.31	90.09	86.92
05/23/2019 22:24	9E23021-CCBA	63.67	99.33	77.48	101.38	85.42	89.73	89.09	86.30
05/23/2019 22:28	9E23021-CRLC	63.22	99.50	76.51	100.98	84.64	88.71	87.97	85.18
05/23/2019 22:33	9E23021-CRLD	65.01	98.66	78.49	100.06	86.82	90.60	90.08	87.91
05/23/2019 22:38	9E23021-CRLE	64.81	97.29	77.26	99.17	85.33	88.78	88.59	86.82
05/23/2019 22:42	9E23021-CRLF	63.41	98.26	75.14	100.03	83.24	87.01	86.88	85.55
05/23/2019 22:47	rinse	54.79	91.95	67.44	91.71	75.44	80.43	83.27	80.50
05/23/2019 22:51	rinse	63.95	99.17	76.48	100.41	84.16	88.48	87.68	85.78
05/23/2019 22:56	rinse	63.33	98.27	76.19	100.38	83.96	87.99	87.30	84.71

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

Cyanide – Total (aqueous) by EPA 335.4

Benchsheet & Analysis Sequence Data (Includes Calibration unless noted)

Batch 9051240

Sequence 9E24012 (A9E0677-01RE2)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051240 (Solid)

Prep Method: ASTM D7511-12mod (S)

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9051240-BLK1		QC	05/24/19 07:10	2.5	50									
	9051240-BS1		QC	05/24/19 07:10	2.5	50	A19B182		100.						
	A9E0677-01	A	Cyanide, Total (ASTM D7511, OIA)	05/24/19 07:10	2.5415	50					2708-190520-006	Strong Odor			
	9051240-MS1		QC	05/24/19 07:10	2.5839	50	A19A242	A9E0677-01	200						
	9051240-MSD1		QC	05/24/19 07:10	2.5924	50	A19A242	A9E0677-01	200						
	A9E0677-01RE1	A	Cyanide, Total (ASTM D7511, OIA)	05/24/19 07:10	2.5415	50					2708-190520-006	Strong Odor			
	9051240-MS2		QC	05/24/19 07:10	2.5839	50	A19A242	A9E0677-01RE1	200						
	9051240-MSD2		QC	05/24/19 07:10	2.5924	50	A19A242	A9E0677-01RE1	200						
	A9E0677-01RE2	A	Cyanide, Total (ASTM D7511, OIA)	05/24/19 07:10	2.5415	50					2708-190520-006	Strong Odor			
	9051240-MS3		QC	05/24/19 07:10	2.5839	50	A19A242	A9E0677-01RE2	200						
	9051240-MSD3		QC	05/24/19 07:10	2.5924	50	A19A242	A9E0677-01RE2	200						

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A19C175	09/09/19	0.1 N NaOH
A19C292	03/26/24	Syringe Filters 0.45um.
A19D009	09/29/19	Total CN-TA1 working
A19D010	09/29/19	Total CN-TA2/SAR-working

Analyte Spike(s)

Std ID	Exp. Date	Description
A19A242	07/14/19	Cyanide working -1-
A19B182	07/07/19	Cyanide working -2- TOTAL

Surrogate(s)

Std ID	Exp. Date	Description

JKP 5-24-19
Prepared By: Date

5/24/19
Reviewed By: Date

Printed: 5/24/2019 3:06:22PM

ELEMENT SEQUENCE LOG

APEX LABORATORIES

Apex Laboratories

JUN 2 4 2019

Sequence: **9E24012** Instrument: **OIA FS3000-2**

Date: **05/24/19 08:16** Calibration: **A9E2401**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E24012-CAL1	Water	QC	QC				
2	9E24012-CAL2	Water	QC	QC				A19A244
3	9E24012-CAL3	Water	QC	QC				A19A245
4	9E24012-CAL4	Water	QC	QC				A19A246
5	9E24012-CAL5	Water	QC	QC				A19A247
6	9E24012-CAL6	Water	QC	QC				A19A248
7	9E24012-CAL7	Water	QC	QC				A19A249
8	9E24012-ICV1	Water	QC	QC				A19C273
9	9E24012-ICB1	Water	QC	QC				
10	9051244-BS2	Water	QC	QC		9051244		
11	9051244-BLK1	Water	QC	QC		9051244		
12	9051244-BS1	Water	QC	QC		9051244		
13	A9E0768-02	Water	Cyanide, Total (ASTM D7511, OIA)		05/30/19	9051244		
14	9051244-MS1	Water	QC	QC		9051244		
15	9051244-MSD1	Water	QC	QC		9051244		
16	A9E0714-01	Water	Cyanide, Total (ASTM D7511, OIA)		06/05/19	9051244		
17	A9E0768-01	Water	Cyanide, Total (ASTM D7511, OIA)		05/30/19	9051244		
18	9051240-BLK1	Solid	QC	QC		9051240		
19	9051240-BS1	Solid	QC	QC		9051240		
20	9E24012-CCV1	Water	QC	QC				A19C273
21	9E24012-CCB1	Water	QC	QC				
22	A9E0677-01	Solid	Cyanide, Total (ASTM D7511, OIA)	Hahn and Associates	05/28/19	9051240		
23	9051240-MS1	Solid	QC	QC		9051240		
24	9051240-MSD1	Solid	QC	QC		9051240		
25	9E24012-CCV2	Water	QC	QC				A19C273
26	9E24012-CCB2	Water	QC	QC				
27	A9E0677-01RE1	Solid	Cyanide, Total (ASTM D7511, OIA)	Hahn and Associates	05/28/19	9051240		
28	9051240-MS2	Solid	QC	QC		9051240		
29	9051240-MSD2	Solid	QC	QC		9051240		
30	9E24012-CCV3	Water	QC	QC				A19C273
31	9E24012-CCB3	Water	QC	QC				
32	A9E0677-01RE2	Solid	Cyanide, Total (ASTM D7511, OIA)	Hahn and Associates	05/28/19	9051240		
33	9051240-MS3	Solid	QC	QC		9051240		
34	9051240-MSD3	Solid	QC	QC		9051240		
35	9E24012-CCV4	Water	QC	QC				A19C273
36	9E24012-CCB4	Water	QC	QC				

Comments:

Data Entered By: JLP 5-24-19

Data Reviewed By: [signature] 5/24/19

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\9E24012.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	24-May-19
Time acquired	14:50

TOTAL CN 50ppb

Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
Sync 25 ppb	1207864	25.442	OL			
Sync 25 ppb	1258167	26.511				
Sync 25 ppb	1244580	26.222				
(Statistics)				1251374	26.367	2.08%
Carryover	37398	1.265				
Baseline	11500	0.745	BL UM			
Cal 0.0 ppb	-42365	-0.334	LO			
Cal 1.0 ppb	15069	0.817				
Cal 2.0 ppb	68485	1.890				
Cal 5.0 ppb	217861	4.906				
Cal 10.0 ppb	487405	10.403				
Cal 25.0 ppb	1175639	24.759				
Cal 50.0 ppb	2337593	50.045				
Blank	47076	1.460				
Read Baseline	19151	0.899	BL UM			
9E24012-ICV1	1182691	24.908				
9E24012-ICB1	1232	0.540				
Read Baseline	-11095	0.292	BL			
9051244-BS2	40979	1.337				
9051244-BLK1	-33064	-0.148	LO			
9051244-BS1	1245221	26.236				
Read Baseline	6154	0.638	BL			
A9E0768-02	455578	9.750				
9051244-MS1	1591601	33.659				
9051244-MSD1	1612221	34.105				
Read Baseline	-16324	0.188	BL			
A9E0714-01	203893	4.623				

Baseline marked incorrectly Manually moved marker
dtw 5/24/19 JKP 5-24-19

Baseline marked incorrectly Manually moved marker
dtw 5/24/19 JKP 5-24-19

JKP 5-24-19

Result path	C:\FLOW_4\9E24012.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	24-May-19
Time acquired	14:50

TOTAL CN 50ppb

Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
A9E0768-01	309333	6.763				
9051240-BLK1	45229	1.423				
9051240-BS1	922373	19.422				
Read Baseline	26341	1.043	BL			
9E24012-CCV1	1225479	25.816				
9E24012-CCB1	11835	0.752				
Read Baseline	6614	0.647	BL			
A9E0677-01@100	-16525	0.184				
Read Baseline	-53197	-0.550	BL			
9051240-MS1@100	-7551	0.363				
Read Baseline	-49104	-0.468	BL			
9051240-MSD1@100	1809	0.551				
Read Baseline	-50714	-0.501	BL			
9E24012-CCV2	1137649	23.954				
9E24012-CCB2	-36255	-0.211	LO			
Read Baseline	-39071	-0.268	BL			
A9E0677-01RE1@10	216697	4.882				
Read Baseline	-38403	-0.254	BL			
9051240-MS2@10	270546	5.975				
Read Baseline	-49721	-0.481	BL			
9051240-MSD2@10	363187	7.861				
Read Baseline	-46499	-0.416	BL			
9E24012-CCV3	1116705	23.511				
9E24012-CCB3	-6481	0.385				
Read Baseline	-27832	-0.043	BL			
A9E0677-01RE2@5	399327	8.599				
Read Baseline	-9075	0.333	BL			
9051240-MS3@5	517606	11.023				
Read Baseline	-1413	0.487	BL			
9051240-MSD3@5	706323	14.919				
Read Baseline	-17867	0.157	BL			
9E24012-CCV4	1125199	23.691				
9E24012-CCB4	-27461	-0.035	LO			
Read Baseline	-28898	-0.064	BL			

Over diluted. See 10X dilutions. JKP 5-24-19

Over diluted. See 5X dilutions JKP 5-24-19

JKP 5-24-19

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\9E24012.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	24-May-19
Time acquired	14:50

Date	Time	Cup	Name
24-May-19	12:13	106	Sync 25 ppb
24-May-19	12:15	106	Sync 25 ppb
24-May-19	12:17	106	Sync 25 ppb (Statistics)
24-May-19	12:19	0	Carryover
24-May-19	12:21	0	Baseline
24-May-19	12:23	101	Cal 0.0 ppb
24-May-19	12:25	102	Cal 1.0 ppb
24-May-19	12:27	103	Cal 2.0 ppb
24-May-19	12:29	104	Cal 5.0 ppb
24-May-19	12:31	105	Cal 10.0 ppb
24-May-19	12:33	106	Cal 25.0 ppb
24-May-19	12:35	107	Cal 50.0 ppb
24-May-19	12:37	0	Blank
24-May-19	12:39	0	Read Baseline
24-May-19	12:41	108	9E24012-ICV1
24-May-19	12:43	0	9E24012-ICB1
24-May-19	12:45	0	Read Baseline
24-May-19	12:47	109	9051244-BS2
24-May-19	12:49	110	9051244-BLK1
24-May-19	12:51	111	9051244-BS1
24-May-19	12:53	0	Read Baseline
24-May-19	12:55	112	A9E0768-02
24-May-19	12:57	113	9051244-MS1
24-May-19	12:59	114	9051244-MSD1
24-May-19	13:01	0	Read Baseline
24-May-19	13:03	115	A9E0714-01

JKP
5-24-19

Result path	C:\FLOW_4\9E24012.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	24-May-19
Time acquired	14:50

Date	Time	Cup	Name
24-May-19	13:05	116	A9E0768-01
24-May-19	13:07	117	9051240-BLK1
24-May-19	13:09	118	9051240-BS1
24-May-19	13:11	0	Read Baseline
24-May-19	13:13	108	9E24012-CCV1
24-May-19	13:15	0	9E24012-CCB1
24-May-19	13:17	0	Read Baseline
24-May-19	13:19	119	A9E0677-01@100
24-May-19	13:21	0	Read Baseline
24-May-19	13:23	120	9051240-MS1@100
24-May-19	13:25	0	Read Baseline
24-May-19	13:27	121	9051240-MSD1@100
24-May-19	13:29	0	Read Baseline
24-May-19	13:31	108	9E24012-CCV2
24-May-19	13:33	0	9E24012-CCB2
24-May-19	13:35	0	Read Baseline
24-May-19	13:50	119	A9E0677-01RE1@10
24-May-19	13:52	0	Read Baseline
24-May-19	13:54	120	9051240-MS2@10
24-May-19	13:56	0	Read Baseline
24-May-19	13:58	121	9051240-MSD2@10
24-May-19	14:00	0	Read Baseline
24-May-19	14:02	108	9E24012-CCV3
24-May-19	14:04	0	9E24012-CCB3
24-May-19	14:06	0	Read Baseline
24-May-19	14:20	119	A9E0677-01RE2@5
24-May-19	14:22	0	Read Baseline
24-May-19	14:24	120	9051240-MS3@5
24-May-19	14:26	0	Read Baseline
24-May-19	14:28	121	9051240-MSD3@5
24-May-19	14:30	0	Read Baseline
24-May-19	14:32	108	9E24012-CCV4
24-May-19	14:34	0	9E24012-CCB4
24-May-19	14:36	0	Read Baseline

5-24-19

TOTAL CN 50ppb:Calibration 1: Peak 6-60

File name: C:\FLOW_4\9E24012.RST
Date: 24-May-19
Operator: jkp

*	Name	Conc	Area
*	Cal 0.0 ppb	0.000000	-42364.937500
*	Cal 1.0 ppb	1.000000	15068.992188
*	Cal 2.0 ppb	2.000000	68484.875000
*	Cal 5.0 ppb	5.000000	217860.640625
*	Cal 10.0 ppb	10.000000	487404.968750
*	Cal 25.0 ppb	25.000000	1175638.625000
*	Cal 50.0 ppb	50.000000	2337593.000000

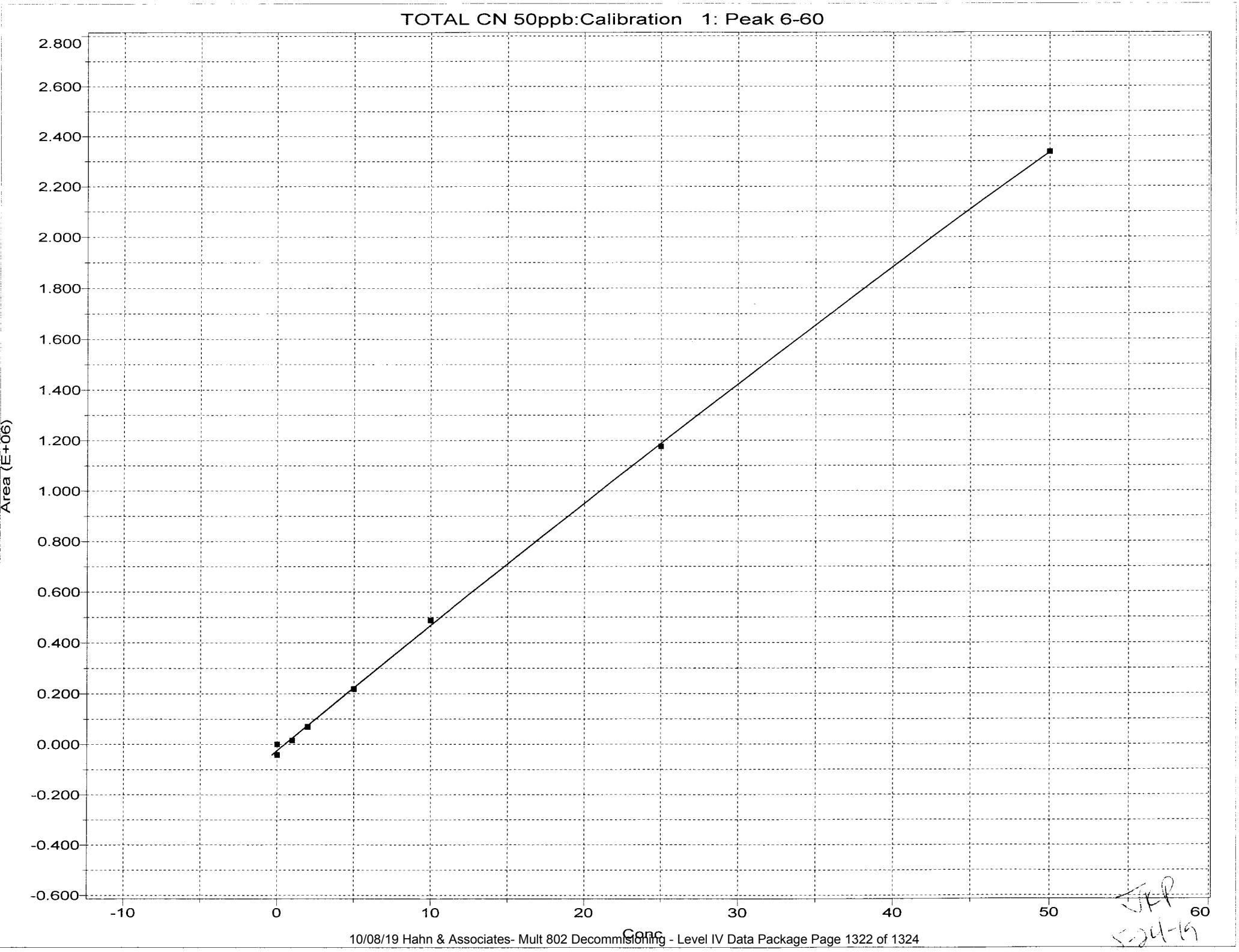
Calib Coef:
x=cyy+by+a
a: (intercept) 5.1485e-01
b: 2.0049e-05
c: 4.8753e-13

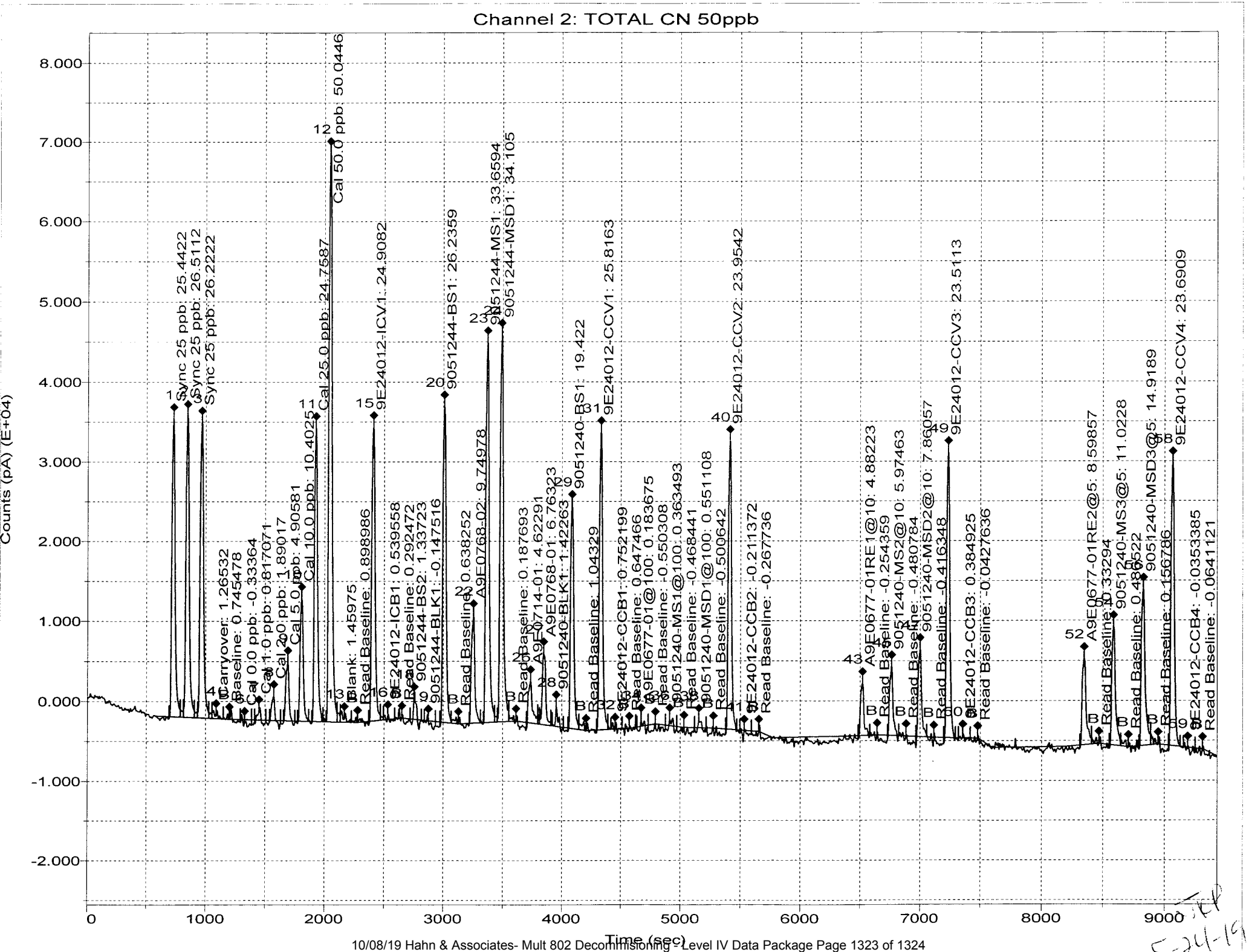
Corr Coef: 0.999850 5/24/19

Carryover: n/a

No Drift Peaks

JKP 5-24-19


TOTAL CN 50ppb:Calibration 1: Peak 6-60
Area (E+06)
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
-0.200
-0.400
-0.600
-10
0
10
20
30
40
50
60
Conc


Channel 2: TOTAL CN 50ppb
Counts (pA) (E+04)
Time (sec)
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
-1.000
-2.000
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
Sync 25 ppb: 25.4422
Sync 25 ppb: 26.5112
Sync 25 ppb: 26.2222
Carryover: 1.26532
Baseline: 0.745478
Cal 0.0 ppb: -0.33364
Cal 1.0 ppb: 0.817071
Cal 2.0 ppb: 1.89017
Cal 5.0 ppb: 4.90581
Cal 10.0 ppb: 10.4025
Cal 25.0 ppb: 24.7587
Cal 50.0 ppb: 50.0446
Blank: 1.45975
Read Baseline: 0.898986
9E24012-ICV1: 24.9082
9E24012-ICB1: 0.539558
Read Baseline: 0.292472
9051244-BS2: 1.33723
9051244-BLK1: -0.147516
9051244-BS1: 26.2359
Read Baseline: 0.638252
A9E0768-02: 9.74978
9051244-MS1: 33.6594
9051244-MSD1: 34.105
Read Baseline: 0.187693
A9E0714-01: 4.62291
A9E0768-01: 6.76323
9051240-BLK1: 1.42263
9051240-BS1: 19.422
Read Baseline: 1.04329
9E24012-CCV1: 25.8163
9E24012-CCB1: 0.752199
Read Baseline: 0.647466
A9E0677-01@100: 0.183675
Read Baseline: -0.550308
9051240-MS1@100: 0.363493
Read Baseline: -0.468441
9051240-MSD1@100: 0.551108
Read Baseline: -0.500642
9E24012-CCV2: 23.9542
9E24012-CCB2: -0.211372
Read Baseline: -0.267736
A9E0677-01RE1@10: 4.88223
Read Baseline: -0.254359
9051240-MS2@10: 5.97463
Read Baseline: -0.480784
9051240-MSD2@10: 7.86057
Read Baseline: -0.416348
9E24012-CCV3: 23.5113
9E24012-CCB3: 0.384925
Read Baseline: -0.0427636
A9E0677-01RE2@5: 8.59857
Read Baseline: 0.33294
9051240-MS3@5: 11.0228
Read Baseline: 0.486522
9051240-MSD3@5: 14.9189
Read Baseline: 0.156786
9E24012-CCV4: 23.6909
9E24012-CCB4: -0.0353385
Read Baseline: -0.0641121

5-24-19

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051244 (Water)

Prep Method: ASTM D7511-12 (W)

#	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
	9051244-BLK1		QC	05/24/19 08:09	10	10									
	9051244-BS1		QC	05/24/19 08:09	10	10	A19B182		25						
	9051244-BS2		QC	05/24/19 08:09	10	10	A19C272		1000						
	A9E0714-01	D	Cyanide, Total (ASTM D7511, OIA)	05/24/19 08:09	10	10					Wastewater-Grab				
	A9E0768-01	F	Cyanide, Total (ASTM D7511, OIA)	05/24/19 08:09	10	10					Spot Etch Booth Grab				
	A9E0768-02	M	Cyanide, Total (ASTM D7511, OIA)	05/24/19 08:09	10	10					POC-2T Grab	no paperwork provided			
	9051244-MS1		QC	05/24/19 08:09	9.95	10	A19A242	A9E0768-02	50						
	9051244-MSD1		QC	05/24/19 08:09	9.95	10	A19A242	A9E0768-02	50						

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A19C175	09/09/19	0.1 N NaOH
A19C292	03/26/24	Syringe Filters 0.45um.
A19D009	09/29/19	Total CN-TA1 working
A19D010	09/29/19	Total CN-TA2/SAR-working

Analyte Spike(s)

Std ID	Exp. Date	Description
A19A242	07/14/19	Cyanide working -1-
A19B182	07/07/19	Cyanide working -2- TOTAL
A19C272	09/25/19	Total CN Challenge Mtx. Stock Solution

Surrogate(s)

Std ID	Exp. Date	Description

JKP 5-24-19
Prepared By: Date

Reviewed By: 5/24/19
Date

Printed: 5/24/2019 8:12:34AM