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:
A9E0582

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: A9E0582

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: A9E0582 - 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 A9E0582, which was received by the laboratory on 5/16/2019 at 3:15:00PM.

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	5.6 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**	**A9E0582 - 05 28 19 1628**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2708-190515-005	**A9E0582-01**	**Solid**	**05/15/19 14:45**	**05/16/19 15:15**

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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
2708-190515-005 (A9E0582-01)				**Matrix: Solid**		**Batch: 9051067**		
Diesel	**153000**	---	40800	mg/kg	100	05/21/19	NWTPH-Dx	**F-17**
Oil	**143000**	---	81600	mg/kg	100	05/21/19	NWTPH-Dx	**F-17**
Surrogate: o-Terphenyl (Surr)			*Recovery: %*	*Limits: 50-150 %*	*100*	*05/21/19*	*NWTPH-Dx*	*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**	**A9E0582 - 05 28 19 1628**

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
2708-190515-005 (A9E0582-01RE1)				**Matrix: Solid**		**Batch: 9051092**		
Gasoline Range Organics	**18200**	---	2920	mg/kg	20000	05/21/19	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*109 %*	*Limits:* *50-150 %*	*1*	*05/21/19*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*94 %*	*50-150 %*	*1*	*05/21/19*	*NWTPH-Gx (MS)*	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190515-005 (A9E0582-01RE1)				**Matrix: Solid**			**Batch: 9051092**	
Acetone	ND	---	585000	ug/kg	20000	05/21/19	5035A/8260C	
Acrylonitrile	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
Benzene	**100000**	---	5850	ug/kg	20000	05/21/19	5035A/8260C	
Bromobenzene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Bromochloromethane	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Bromodichloromethane	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
Bromoform	ND	---	117000	ug/kg	20000	05/21/19	5035A/8260C	
Bromomethane	ND	---	292000	ug/kg	20000	05/21/19	5035A/8260C	
2-Butanone (MEK)	ND	---	292000	ug/kg	20000	05/21/19	5035A/8260C	
n-Butylbenzene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
sec-Butylbenzene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
tert-Butylbenzene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Carbon disulfide	ND	---	292000	ug/kg	20000	05/21/19	5035A/8260C	
Carbon tetrachloride	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
Chlorobenzene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Chloroethane	ND	---	292000	ug/kg	20000	05/21/19	5035A/8260C	
Chloroform	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Chloromethane	ND	---	146000	ug/kg	20000	05/21/19	5035A/8260C	
2-Chlorotoluene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
4-Chlorotoluene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Dibromochloromethane	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
1,2-Dibromo-3-chloropropane	ND	---	146000	ug/kg	20000	05/21/19	5035A/8260C	
1,2-Dibromoethane (EDB)	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Dibromomethane	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
1,2-Dichlorobenzene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
1,3-Dichlorobenzene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
1,4-Dichlorobenzene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Dichlorodifluoromethane	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
1,1-Dichloroethane	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
1,2-Dichloroethane (EDC)	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
1,1-Dichloroethene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
cis-1,2-Dichloroethene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
trans-1,2-Dichloroethene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	

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Philip Nerenberg, Lab Director

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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**	**A9E0582 - 05 28 19 1628**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190515-005 (A9E0582-01RE1)				**Matrix: Solid**			**Batch: 9051092**	
1,2-Dichloropropane	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
1,3-Dichloropropane	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
2,2-Dichloropropane	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
1,1-Dichloropropene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
cis-1,3-Dichloropropene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
trans-1,3-Dichloropropene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Ethylbenzene	**61700**	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Hexachlorobutadiene	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
2-Hexanone	ND	---	292000	ug/kg	20000	05/21/19	5035A/8260C	
Isopropylbenzene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
4-Isopropyltoluene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Methylene chloride	ND	---	146000	ug/kg	20000	05/21/19	5035A/8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	292000	ug/kg	20000	05/21/19	5035A/8260C	
Methyl tert-butyl ether (MTBE)	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Naphthalene	**5630000**	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
n-Propylbenzene	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Styrene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
1,1,1,2-Tetrachloroethane	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
1,1,2,2-Tetrachloroethane	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Tetrachloroethene (PCE)	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Toluene	**99800**	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
1,2,3-Trichlorobenzene	ND	---	146000	ug/kg	20000	05/21/19	5035A/8260C	
1,2,4-Trichlorobenzene	ND	---	146000	ug/kg	20000	05/21/19	5035A/8260C	
1,1,1-Trichloroethane	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
1,1,2-Trichloroethane	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Trichloroethene (TCE)	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
Trichlorofluoromethane	ND	---	58500	ug/kg	20000	05/21/19	5035A/8260C	
1,2,3-Trichloropropane	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
1,2,4-Trimethylbenzene	**31500**	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
1,3,5-Trimethylbenzene	ND	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
Vinyl chloride	ND	---	14600	ug/kg	20000	05/21/19	5035A/8260C	
m,p-Xylene	**93500**	---	29200	ug/kg	20000	05/21/19	5035A/8260C	
o-Xylene	**30400**	---	14600	ug/kg	20000	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**	**A9E0582 - 05 28 19 1628**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 5035A/8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190515-005 (A9E0582-01RE1)				**Matrix: Solid**			**Batch: 9051092**	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*05/21/19*	*5035A/8260C*	
Toluene-d8 (Surr)			*97 %*	*80-120 %*	*1*	*05/21/19*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*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
2708-190515-005 (A9E0582-01)				**Matrix: Solid**			**Batch: 9051065**	
Acenaphthene	**7000000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	**B, Q-29**
Acenaphthylene	ND	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
Anthracene	**5190000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	**B-02**
Benz(a)anthracene	**7140000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
Benzo(a)pyrene	**8540000**	---	1500000	ug/kg	5000	05/21/19	EPA 8270D	
Benzo(b)fluoranthene	**9780000**	---	1500000	ug/kg	5000	05/21/19	EPA 8270D	**M-05**
Benzo(k)fluoranthene	**3610000**	---	1500000	ug/kg	5000	05/21/19	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**6470000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
Chrysene	**7880000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
Dibenz(a,h)anthracene	ND	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
Fluoranthene	**22000000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	**B-02**
Fluorene	**3560000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	**B**
Indeno(1,2,3-cd)pyrene	**6480000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
1-Methylnaphthalene	ND	---	2000000	ug/kg	5000	05/21/19	EPA 8270D	
2-Methylnaphthalene	**3340000**	---	2000000	ug/kg	5000	05/21/19	EPA 8270D	**Q-29, B**
Naphthalene	**11200000**	---	2000000	ug/kg	5000	05/21/19	EPA 8270D	**B, Q-29**
Phenanthrene	**19300000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	**B**
Pyrene	**20500000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	**B-02**
Carbazole	**3270000**	---	1500000	ug/kg	5000	05/21/19	EPA 8270D	
Dibenzofuran	**3350000**	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	**B**
4-Chloro-3-methylphenol	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
2-Chlorophenol	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
2,4-Dichlorophenol	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
2,4-Dimethylphenol	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
2,4-Dinitrophenol	ND	---	25000000	ug/kg	5000	05/21/19	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	---	25000000	ug/kg	5000	05/21/19	EPA 8270D	
2-Methylphenol	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
3+4-Methylphenol(s)	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
2-Nitrophenol	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
4-Nitrophenol	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
Pentachlorophenol (PCP)	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
Phenol	ND	---	2000000	ug/kg	5000	05/21/19	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	---	4990000	ug/kg	5000	05/21/19	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
2708-190515-005 (A9E0582-01)				**Matrix: Solid**			**Batch: 9051065**	
2,3,5,6-Tetrachlorophenol	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
2,4,5-Trichlorophenol	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
2,4,6-Trichlorophenol	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	---	15000000	ug/kg	5000	05/21/19	EPA 8270D	
Butyl benzyl phthalate	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
Diethylphthalate	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
Dimethylphthalate	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
Di-n-butylphthalate	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
Di-n-octyl phthalate	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
N-Nitrosodimethylamine	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
N-Nitrosodiphenylamine	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
Hexachlorobenzene	ND	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
Hexachlorobutadiene	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
Hexachlorocyclopentadiene	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
Hexachloroethane	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
2-Chloronaphthalene	ND	---	1000000	ug/kg	5000	05/21/19	EPA 8270D	
1,2-Dichlorobenzene	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
1,3-Dichlorobenzene	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
1,4-Dichlorobenzene	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
1,2,4-Trichlorobenzene	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
4-Bromophenyl phenyl ether	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
Aniline	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
4-Chloroaniline	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
2-Nitroaniline	ND	---	20000000	ug/kg	5000	05/21/19	EPA 8270D	
3-Nitroaniline	ND	---	20000000	ug/kg	5000	05/21/19	EPA 8270D	
4-Nitroaniline	ND	---	20000000	ug/kg	5000	05/21/19	EPA 8270D	
Nitrobenzene	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
2,4-Dinitrotoluene	ND	---	10000000	ug/kg	5000	05/21/19	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**	**A9E0582 - 05 28 19 1628**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190515-005 (A9E0582-01)				**Matrix: Solid**			**Batch: 9051065**	
2,6-Dinitrotoluene	ND	---	10000000	ug/kg	5000	05/21/19	EPA 8270D	
Benzoic acid	ND	---	125000000	ug/kg	5000	05/21/19	EPA 8270D	
Benzyl alcohol	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
Isophorone	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
Azobenzene (1,2-DPH)	ND	---	2500000	ug/kg	5000	05/21/19	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	---	25000000	ug/kg	5000	05/21/19	EPA 8270D	
3,3'-Dichlorobenzidine	ND	---	20000000	ug/kg	5000	05/21/19	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	---	25000000	ug/kg	5000	05/21/19	EPA 8270D	
1,3-Dinitrobenzene	ND	---	25000000	ug/kg	5000	05/21/19	EPA 8270D	
1,4-Dinitrobenzene	ND	---	25000000	ug/kg	5000	05/21/19	EPA 8270D	
Pyridine	ND	---	4990000	ug/kg	5000	05/21/19	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*%*	*Limits: 37-122 %*	*5000*	*05/21/19*	*EPA 8270D*	*S-01*
2-Fluorobiphenyl (Surr)			*%*	*44-115 %*	*5000*	*05/21/19*	*EPA 8270D*	*S-01*
Phenol-d6 (Surr)			*%*	*33-122 %*	*5000*	*05/21/19*	*EPA 8270D*	*S-01*
p-Terphenyl-d14 (Surr)			*%*	*54-127 %*	*5000*	*05/21/19*	*EPA 8270D*	*S-01*
2-Fluorophenol (Surr)			*%*	*35-115 %*	*5000*	*05/21/19*	*EPA 8270D*	*S-01*
2,4,6-Tribromophenol (Surr)			*%*	*39-132 %*	*5000*	*05/21/19*	*EPA 8270D*	*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**	**A9E0582 - 05 28 19 1628**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190515-005 (A9E0582-01RE1)				**Matrix: Solid**				
Batch: 9051056								
Aluminum	**954**	---	54.1	mg/kg	10	05/22/19	EPA 6020A	**Q-42**
Antimony	ND	---	1.08	mg/kg	10	05/22/19	EPA 6020A	
Arsenic	**3.03**	---	1.08	mg/kg	10	05/22/19	EPA 6020A	**Q-42**
Barium	**10.2**	---	1.08	mg/kg	10	05/22/19	EPA 6020A	
Beryllium	ND	---	0.216	mg/kg	10	05/22/19	EPA 6020A	Q-42
Cadmium	**0.251**	---	0.216	mg/kg	10	05/22/19	EPA 6020A	
Calcium	**488**	---	108	mg/kg	10	05/22/19	EPA 6020A	**Q-42**
Chromium	**2.47**	---	1.08	mg/kg	10	05/22/19	EPA 6020A	
Copper	**10.4**	---	1.08	mg/kg	10	05/22/19	EPA 6020A	
Iron	**36900**	---	54.1	mg/kg	10	05/22/19	EPA 6020A	
Lead	**18.3**	---	0.216	mg/kg	10	05/22/19	EPA 6020A	
Magnesium	**145**	---	54.1	mg/kg	10	05/22/19	EPA 6020A	
Manganese	**211**	---	1.08	mg/kg	10	05/22/19	EPA 6020A	
Mercury	ND	---	0.0866	mg/kg	10	05/22/19	EPA 6020A	
Nickel	**8.31**	---	1.08	mg/kg	10	05/22/19	EPA 6020A	
Potassium	ND	---	108	mg/kg	10	05/22/19	EPA 6020A	
Selenium	ND	---	1.08	mg/kg	10	05/22/19	EPA 6020A	
Silver	ND	---	0.216	mg/kg	10	05/22/19	EPA 6020A	
Sodium	ND	---	108	mg/kg	10	05/22/19	EPA 6020A	Q-42
Thallium	ND	---	0.216	mg/kg	10	05/22/19	EPA 6020A	
Vanadium	**43.9**	---	1.08	mg/kg	10	05/22/19	EPA 6020A	**Q-42**
Zinc	**42.8**	---	4.33	mg/kg	10	05/22/19	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**	**A9E0582 - 05 28 19 1628**

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
2708-190515-005 (A9E0582-01)				**Matrix: Solid**			**Batch: 9051027**	
Cyanide, Total	**7.16**	---	0.979	mg/kg	10	05/20/19	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 9051067 - EPA 3546 (Fuels)							**Solid**					
Blank (9051067-BLK1)			Prepared: 05/20/19 16:21		Analyzed: 05/21/19 02:49							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 103 %*	*Limits: 50-150 %*		*Dilution: 1x*							
LCS (9051067-BS1)			Prepared: 05/20/19 16:21		Analyzed: 05/21/19 03:09							
NWTPH-Dx												
Diesel	111	---	25.0	mg/kg	1	125	---	89	70-130%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 104 %*	*Limits: 50-150 %*		*Dilution: 1x*							
Duplicate (9051067-DUP1)			Prepared: 05/20/19 16:21		Analyzed: 05/21/19 03:51							
QC Source Sample: Non-SDG (A9E0508-05)												
Diesel	**92800**	---	17500	mg/kg	100	---	91500	---	---	1	30%	F-17
Oil	**184000**	---	35100	mg/kg	100	---	176000	---	---	5	30%	F-17
Surr: o-Terphenyl (Surr)		*Recovery: %*	*Limits: 50-150 %*		*Dilution: 100x*							S-01

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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 9051023 - EPA 5035A							**Soil**					
Blank (9051023-BLK1)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 12:21									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	3.33	mg/kg	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 106 %*	*Limits: 50-150 %*				*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*93 %*	*50-150 %*				*"*					
LCS (9051023-BS2)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 11:54									
NWTPH-Gx (MS)												
Gasoline Range Organics	27.2	---	5.00	mg/kg	50	25.0	---	109	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 109 %*	*Limits: 50-150 %*				*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*97 %*	*50-150 %*				*"*					
Duplicate (9051023-DUP1)			Prepared: 05/11/19 11:45 Analyzed: 05/18/19 16:53									
QC Source Sample: Non-SDG (A9E0401-36)												
Gasoline Range Organics	ND	---	5.21	mg/kg	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 115 %*	*Limits: 50-150 %*				*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*95 %*	*50-150 %*				*"*					

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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 9051023 - EPA 5035A							**Soil**					
Blank (9051023-BLK1)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 12:21									
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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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 9051023 - EPA 5035A							**Soil**					
Blank (9051023-BLK1)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 12:21									
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: 102 %* *Limits: 80-120 %* *Dilution: 1x*

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Philip Nerenberg, Lab Director

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

Hahn and Associates	Project: **Mult 802 Decommissioning**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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 9051023 - EPA 5035A							**Soil**					
Blank (9051023-BLK1)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 12:21									
Surr: Toluene-d8 (Surr)			*Recovery: 97 %*	*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*			*"*					
LCS (9051023-BS1)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 11:27									
5035A/8260C												
Acetone	1800	---	1000	ug/kg	50	2000	---	90	80-120%	---	---	
Acrylonitrile	1000	---	100	ug/kg	50	1000	---	100	80-120%	---	---	
Benzene	936	---	10.0	ug/kg	50	1000	---	94	80-120%	---	---	
Bromobenzene	984	---	25.0	ug/kg	50	1000	---	98	80-120%	---	---	
Bromochloromethane	1000	---	50.0	ug/kg	50	1000	---	100	80-120%	---	---	
Bromodichloromethane	1030	---	100	ug/kg	50	1000	---	103	80-120%	---	---	
Bromoform	1390	---	200	ug/kg	50	1000	---	**139**	**80-120%**	---	---	Q-56
Bromomethane	1120	---	500	ug/kg	50	1000	---	112	80-120%	---	---	
2-Butanone (MEK)	1930	---	500	ug/kg	50	2000	---	96	80-120%	---	---	
n-Butylbenzene	1010	---	50.0	ug/kg	50	1000	---	101	80-120%	---	---	
sec-Butylbenzene	1030	---	50.0	ug/kg	50	1000	---	103	80-120%	---	---	
tert-Butylbenzene	1030	---	50.0	ug/kg	50	1000	---	103	80-120%	---	---	
Carbon disulfide	931	---	500	ug/kg	50	1000	---	93	80-120%	---	---	
Carbon tetrachloride	1250	---	100	ug/kg	50	1000	---	**125**	**80-120%**	---	---	Q-56
Chlorobenzene	913	---	25.0	ug/kg	50	1000	---	91	80-120%	---	---	
Chloroethane	902	---	500	ug/kg	50	1000	---	90	80-120%	---	---	
Chloroform	964	---	50.0	ug/kg	50	1000	---	96	80-120%	---	---	
Chloromethane	874	---	250	ug/kg	50	1000	---	87	80-120%	---	---	
2-Chlorotoluene	1000	---	50.0	ug/kg	50	1000	---	100	80-120%	---	---	
4-Chlorotoluene	1020	---	50.0	ug/kg	50	1000	---	102	80-120%	---	---	
Dibromochloromethane	1130	---	100	ug/kg	50	1000	---	113	80-120%	---	---	
1,2-Dibromo-3-chloropropane	1110	---	250	ug/kg	50	1000	---	111	80-120%	---	---	
1,2-Dibromoethane (EDB)	969	---	50.0	ug/kg	50	1000	---	97	80-120%	---	---	
Dibromomethane	1020	---	50.0	ug/kg	50	1000	---	102	80-120%	---	---	
1,2-Dichlorobenzene	979	---	25.0	ug/kg	50	1000	---	98	80-120%	---	---	
1,3-Dichlorobenzene	974	---	25.0	ug/kg	50	1000	---	97	80-120%	---	---	
1,4-Dichlorobenzene	925	---	25.0	ug/kg	50	1000	---	93	80-120%	---	---	
Dichlorodifluoromethane	915	---	100	ug/kg	50	1000	---	92	80-120%	---	---	
1,1-Dichloroethane	864	---	25.0	ug/kg	50	1000	---	86	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**	**A9E0582 - 05 28 19 1628**

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 9051023 - EPA 5035A							**Soil**					
LCS (9051023-BS1)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 11:27									
1,2-Dichloroethane (EDC)	900	---	25.0	ug/kg	50	1000	---	90	80-120%	---	---	
1,1-Dichloroethene	807	---	25.0	ug/kg	50	1000	---	81	80-120%	---	---	
cis-1,2-Dichloroethene	968	---	25.0	ug/kg	50	1000	---	97	80-120%	---	---	
trans-1,2-Dichloroethene	847	---	25.0	ug/kg	50	1000	---	85	80-120%	---	---	
1,2-Dichloropropane	970	---	25.0	ug/kg	50	1000	---	97	80-120%	---	---	
1,3-Dichloropropane	991	---	50.0	ug/kg	50	1000	---	99	80-120%	---	---	
2,2-Dichloropropane	1260	---	50.0	ug/kg	50	1000	---	**126**	**80-120%**	---	---	Q-56
1,1-Dichloropropene	952	---	50.0	ug/kg	50	1000	---	95	80-120%	---	---	
cis-1,3-Dichloropropene	963	---	50.0	ug/kg	50	1000	---	96	80-120%	---	---	
trans-1,3-Dichloropropene	1030	---	50.0	ug/kg	50	1000	---	103	80-120%	---	---	
Ethylbenzene	955	---	25.0	ug/kg	50	1000	---	96	80-120%	---	---	
Hexachlorobutadiene	964	---	100	ug/kg	50	1000	---	96	80-120%	---	---	
2-Hexanone	1920	---	500	ug/kg	50	2000	---	96	80-120%	---	---	
Isopropylbenzene	1070	---	50.0	ug/kg	50	1000	---	107	80-120%	---	---	
4-Isopropyltoluene	1010	---	50.0	ug/kg	50	1000	---	101	80-120%	---	---	
Methylene chloride	719	---	250	ug/kg	50	1000	---	**72**	**80-120%**	---	---	Q-55
4-Methyl-2-pentanone (MiBK)	2030	---	500	ug/kg	50	2000	---	101	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	995	---	50.0	ug/kg	50	1000	---	100	80-120%	---	---	
Naphthalene	889	---	100	ug/kg	50	1000	---	89	80-120%	---	---	
n-Propylbenzene	1000	---	25.0	ug/kg	50	1000	---	100	80-120%	---	---	
Styrene	1020	---	50.0	ug/kg	50	1000	---	102	80-120%	---	---	
1,1,1,2-Tetrachloroethane	1160	---	100	ug/kg	50	1000	---	116	80-120%	---	---	
1,1,2,2-Tetrachloroethane	1150	---	50.0	ug/kg	50	1000	---	115	80-120%	---	---	
Tetrachloroethene (PCE)	904	---	25.0	ug/kg	50	1000	---	90	80-120%	---	---	
Toluene	867	---	50.0	ug/kg	50	1000	---	87	80-120%	---	---	
1,2,3-Trichlorobenzene	948	---	250	ug/kg	50	1000	---	95	80-120%	---	---	
1,2,4-Trichlorobenzene	968	---	250	ug/kg	50	1000	---	97	80-120%	---	---	
1,1,1-Trichloroethane	1120	---	25.0	ug/kg	50	1000	---	112	80-120%	---	---	
1,1,2-Trichloroethane	1020	---	25.0	ug/kg	50	1000	---	102	80-120%	---	---	
Trichloroethene (TCE)	926	---	25.0	ug/kg	50	1000	---	93	80-120%	---	---	
Trichlorofluoromethane	1070	---	100	ug/kg	50	1000	---	107	80-120%	---	---	
1,2,3-Trichloropropane	997	---	50.0	ug/kg	50	1000	---	100	80-120%	---	---	
1,2,4-Trimethylbenzene	1050	---	50.0	ug/kg	50	1000	---	105	80-120%	---	---	
1,3,5-Trimethylbenzene	1060	---	50.0	ug/kg	50	1000	---	106	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**	**A9E0582 - 05 28 19 1628**

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 9051023 - EPA 5035A							**Soil**					
LCS (9051023-BS1)			Prepared: 05/18/19 10:00 Analyzed: 05/18/19 11:27									
Vinyl chloride	967	---	25.0	ug/kg	50	1000	---	97	80-120%	---	---	
m,p-Xylene	2030	---	50.0	ug/kg	50	2000	---	101	80-120%	---	---	
o-Xylene	1030	---	25.0	ug/kg	50	1000	---	103	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*101 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*95 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*			*"*				
Duplicate (9051023-DUP1)			Prepared: 05/11/19 11:45 Analyzed: 05/18/19 16:53									
QC Source Sample: Non-SDG (A9E0401-36)												
Acetone	ND	---	1040	ug/kg	50	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
Benzene	ND	---	10.4	ug/kg	50	---	ND	---	---	---	30%	
Bromobenzene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
Bromoform	ND	---	209	ug/kg	50	---	ND	---	---	---	30%	
Bromomethane	ND	---	521	ug/kg	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	521	ug/kg	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	521	ug/kg	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Chloroethane	ND	---	521	ug/kg	50	---	ND	---	---	---	30%	
Chloroform	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Chloromethane	ND	---	261	ug/kg	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	261	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Dibromomethane	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	26.1	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**	**A9E0582 - 05 28 19 1628**

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 9051023 - EPA 5035A							**Soil**					
Duplicate (9051023-DUP1)			Prepared: 05/11/19 11:45 Analyzed: 05/18/19 16:53									
QC Source Sample: Non-SDG (A9E0401-36)												
1,3-Dichlorobenzene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
2-Hexanone	ND	---	521	ug/kg	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Methylene chloride	ND	---	261	ug/kg	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	521	ug/kg	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Naphthalene	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Styrene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Toluene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	261	ug/kg	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	261	ug/kg	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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 9051023 - EPA 5035A							**Soil**					
Duplicate (9051023-DUP1)			Prepared: 05/11/19 11:45 Analyzed: 05/18/19 16:53									
QC Source Sample: Non-SDG (A9E0401-36)												
Trichloroethene (TCE)	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	104	ug/kg	50	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	52.1	ug/kg	50	---	ND	---	---	---	30%	
o-Xylene	ND	---	26.1	ug/kg	50	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 103 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*95 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					
Matrix Spike (9051023-MS1)			Prepared: 05/11/19 17:05 Analyzed: 05/18/19 22:45									
QC Source Sample: Non-SDG (A9E0401-52)												
5035A/8260C												
Acetone	1660	---	965	ug/kg	50	1930	ND	86	36-164%	---	---	
Acrylonitrile	1010	---	96.5	ug/kg	50	965	ND	104	65-134%	---	---	
Benzene	1020	---	9.65	ug/kg	50	965	ND	106	77-121%	---	---	
Bromobenzene	993	---	24.1	ug/kg	50	965	ND	103	78-121%	---	---	
Bromochloromethane	1110	---	48.3	ug/kg	50	965	ND	115	78-125%	---	---	
Bromodichloromethane	1160	---	96.5	ug/kg	50	965	ND	120	75-127%	---	---	
Bromoform	1280	---	193	ug/kg	50	965	ND	132	67-132%	---	---	Q-54a
Bromomethane	1330	---	483	ug/kg	50	965	ND	137	53-143%	---	---	
2-Butanone (MEK)	1960	---	483	ug/kg	50	1930	ND	102	51-148%	---	---	
n-Butylbenzene	973	---	48.3	ug/kg	50	965	ND	101	70-128%	---	---	
sec-Butylbenzene	1010	---	48.3	ug/kg	50	965	ND	104	73-126%	---	---	
tert-Butylbenzene	1000	---	48.3	ug/kg	50	965	ND	104	73-125%	---	---	
Carbon disulfide	983	---	483	ug/kg	50	965	ND	102	63-132%	---	---	
Carbon tetrachloride	1160	---	96.5	ug/kg	50	965	ND	121	70-135%	---	---	Q-54c
Chlorobenzene	911	---	24.1	ug/kg	50	965	ND	94	79-120%	---	---	
Chloroethane	2250	---	483	ug/kg	50	965	ND	**233**	**59-139%**	---	---	Q-01
Chloroform	1060	---	48.3	ug/kg	50	965	ND	110	78-123%	---	---	
Chloromethane	889	---	241	ug/kg	50	965	ND	92	50-136%	---	---	

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Philip Nerenberg, Lab Director

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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**	**A9E0582 - 05 28 19 1628**

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 9051023 - EPA 5035A							**Soil**					
Matrix Spike (9051023-MS1)			Prepared: 05/11/19 17:05		Analyzed: 05/18/19 22:45							
QC Source Sample: Non-SDG (A9E0401-52)												
2-Chlorotoluene	992	---	48.3	ug/kg	50	965	ND	103	75-122%	---	---	
4-Chlorotoluene	1020	---	48.3	ug/kg	50	965	ND	106	72-124%	---	---	
Dibromochloromethane	1070	---	96.5	ug/kg	50	965	ND	111	74-126%	---	---	
1,2-Dibromo-3-chloropropane	863	---	241	ug/kg	50	965	ND	89	61-132%	---	---	
1,2-Dibromoethane (EDB)	954	---	48.3	ug/kg	50	965	ND	99	78-122%	---	---	
Dibromomethane	1170	---	48.3	ug/kg	50	965	ND	121	78-125%	---	---	
1,2-Dichlorobenzene	979	---	24.1	ug/kg	50	965	ND	101	78-121%	---	---	
1,3-Dichlorobenzene	964	---	24.1	ug/kg	50	965	ND	100	77-121%	---	---	
1,4-Dichlorobenzene	920	---	24.1	ug/kg	50	965	ND	95	75-120%	---	---	
Dichlorodifluoromethane	887	---	96.5	ug/kg	50	965	ND	92	29-149%	---	---	
1,1-Dichloroethane	942	---	24.1	ug/kg	50	965	ND	98	76-125%	---	---	
1,2-Dichloroethane (EDC)	1060	---	24.1	ug/kg	50	965	ND	110	73-128%	---	---	
1,1-Dichloroethene	953	---	24.1	ug/kg	50	965	ND	99	70-131%	---	---	
cis-1,2-Dichloroethene	1040	---	24.1	ug/kg	50	965	ND	107	77-123%	---	---	
trans-1,2-Dichloroethene	878	---	24.1	ug/kg	50	965	ND	91	74-125%	---	---	
1,2-Dichloropropane	1100	---	24.1	ug/kg	50	965	ND	114	76-123%	---	---	
1,3-Dichloropropane	1010	---	48.3	ug/kg	50	965	ND	104	77-121%	---	---	
2,2-Dichloropropane	957	---	48.3	ug/kg	50	965	ND	99	67-133%	---	---	Q-54e
1,1-Dichloropropene	993	---	48.3	ug/kg	50	965	ND	103	76-125%	---	---	
cis-1,3-Dichloropropene	850	---	48.3	ug/kg	50	965	ND	88	74-126%	---	---	
trans-1,3-Dichloropropene	951	---	48.3	ug/kg	50	965	ND	99	71-130%	---	---	
Ethylbenzene	925	---	24.1	ug/kg	50	965	ND	96	76-122%	---	---	
Hexachlorobutadiene	911	---	96.5	ug/kg	50	965	ND	94	61-135%	---	---	
2-Hexanone	1810	---	483	ug/kg	50	1930	ND	94	53-145%	---	---	
Isopropylbenzene	1030	---	48.3	ug/kg	50	965	ND	107	68-134%	---	---	
4-Isopropyltoluene	961	---	48.3	ug/kg	50	965	ND	100	73-127%	---	---	
Methylene chloride	743	---	241	ug/kg	50	965	ND	77	70-128%	---	---	Q-54g
4-Methyl-2-pentanone (MiBK)	2020	---	483	ug/kg	50	1930	ND	105	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1090	---	48.3	ug/kg	50	965	ND	113	73-125%	---	---	
Naphthalene	738	---	96.5	ug/kg	50	965	ND	77	62-129%	---	---	
n-Propylbenzene	993	---	24.1	ug/kg	50	965	ND	103	73-125%	---	---	
Styrene	954	---	48.3	ug/kg	50	965	ND	99	76-124%	---	---	
1,1,1,2-Tetrachloroethane	1110	---	96.5	ug/kg	50	965	ND	115	78-125%	---	---	

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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**	**A9E0582 - 05 28 19 1628**

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 9051023 - EPA 5035A							**Soil**					
Matrix Spike (9051023-MS1)			Prepared: 05/11/19 17:05		Analyzed: 05/18/19 22:45							
QC Source Sample: Non-SDG (A9E0401-52)												
1,1,2,2-Tetrachloroethane	1170	---	48.3	ug/kg	50	965	ND	121	70-124%	---	---	
Tetrachloroethene (PCE)	827	---	24.1	ug/kg	50	965	ND	86	73-128%	---	---	
Toluene	831	---	48.3	ug/kg	50	965	ND	86	77-121%	---	---	
1,2,3-Trichlorobenzene	859	---	241	ug/kg	50	965	ND	89	66-130%	---	---	
1,2,4-Trichlorobenzene	878	---	241	ug/kg	50	965	ND	91	67-129%	---	---	
1,1,1-Trichloroethane	1150	---	24.1	ug/kg	50	965	ND	119	73-130%	---	---	
1,1,2-Trichloroethane	1030	---	24.1	ug/kg	50	965	ND	107	78-121%	---	---	
Trichloroethene (TCE)	977	---	24.1	ug/kg	50	965	ND	101	77-123%	---	---	
Trichlorofluoromethane	4720	---	96.5	ug/kg	50	965	ND	**489**	**62-140%**	---	---	Q-01
1,2,3-Trichloropropane	1020	---	48.3	ug/kg	50	965	ND	106	73-125%	---	---	
1,2,4-Trimethylbenzene	1040	---	48.3	ug/kg	50	965	ND	108	75-123%	---	---	
1,3,5-Trimethylbenzene	1030	---	48.3	ug/kg	50	965	ND	107	73-124%	---	---	
Vinyl chloride	1030	---	24.1	ug/kg	50	965	ND	106	56-135%	---	---	
m,p-Xylene	1940	---	48.3	ug/kg	50	1930	ND	101	77-124%	---	---	
o-Xylene	982	---	24.1	ug/kg	50	965	ND	102	77-123%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*109 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*91 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*			*"*				

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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**	**A9E0582 - 05 28 19 1628**

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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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**	**A9E0582 - 05 28 19 1628**

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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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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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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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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**	**A9E0582 - 05 28 19 1628**

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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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**	**A9E0582 - 05 28 19 1628**

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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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**	**A9E0582 - 05 28 19 1628**

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-54f
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-54b
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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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**	**A9E0582 - 05 28 19 1628**

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-54d
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-54h
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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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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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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**	**A9E0582 - 05 28 19 1628**

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 9051065 - EPA 3546							**Solid**					
Blank (9051065-BLK1)			Prepared: 05/20/19 16:13		Analyzed: 05/21/19 09:51							
EPA 8270D												
Acenaphthene	**148**	---	6.68	ug/kg	1	---	---	---	---	---	---	B, Q-29
Acenaphthylene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
Anthracene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	B-02
Benz(a)anthracene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	10.0	ug/kg	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	10.0	ug/kg	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	10.0	ug/kg	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
Chrysene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
Fluoranthene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	B-02
Fluorene	**26.2**	---	6.68	ug/kg	1	---	---	---	---	---	---	B
Indeno(1,2,3-cd)pyrene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
1-Methylnaphthalene	**108**	---	13.3	ug/kg	1	---	---	---	---	---	---	B
2-Methylnaphthalene	**223**	---	13.3	ug/kg	1	---	---	---	---	---	---	B, Q-29
Naphthalene	**1070**	---	13.3	ug/kg	1	---	---	---	---	---	---	B, Q-29
Phenanthrene	**27.7**	---	6.68	ug/kg	1	---	---	---	---	---	---	B
Pyrene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	B-02
Carbazole	ND	---	10.0	ug/kg	1	---	---	---	---	---	---	
Dibenzofuran	**46.6**	---	6.68	ug/kg	1	---	---	---	---	---	---	B
4-Chloro-3-methylphenol	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
2-Chlorophenol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	---	167	ug/kg	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	---	167	ug/kg	1	---	---	---	---	---	---	
2-Methylphenol	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	B-02
3+4-Methylphenol(s)	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	B-02
2-Nitrophenol	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
4-Nitrophenol	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
Phenol	**23.4**	---	13.3	ug/kg	1	---	---	---	---	---	---	B
2,3,4,6-Tetrachlorophenol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	

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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**	**A9E0582 - 05 28 19 1628**

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 9051065 - EPA 3546							**Solid**					
Blank (9051065-BLK1)			Prepared: 05/20/19 16:13		Analyzed: 05/21/19 09:51							
2,3,5,6-Tetrachlorophenol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	---	100	ug/kg	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
Diethylphthalate	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
Dimethylphthalate	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
Hexachloroethane	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	---	6.68	ug/kg	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
Aniline	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
4-Chloroaniline	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
2-Nitroaniline	ND	---	133	ug/kg	1	---	---	---	---	---	---	
3-Nitroaniline	ND	---	133	ug/kg	1	---	---	---	---	---	---	
4-Nitroaniline	ND	---	133	ug/kg	1	---	---	---	---	---	---	
Nitrobenzene	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	---	66.8	ug/kg	1	---	---	---	---	---	---	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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 9051065 - EPA 3546							**Solid**					
Blank (9051065-BLK1)			Prepared: 05/20/19 16:13		Analyzed: 05/21/19 09:51							
Benzoic acid	ND	---	832	ug/kg	1	---	---	---	---	---	---	
Benzyl alcohol	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
Isophorone	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	---	16.7	ug/kg	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	---	167	ug/kg	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	---	134	ug/kg	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	---	167	ug/kg	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	---	167	ug/kg	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	---	167	ug/kg	1	---	---	---	---	---	---	
Pyridine	ND	---	33.2	ug/kg	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		*Recovery:*	*87 %*	*Limits:*	*37-122 %*		*Dilution:*	*1x*				
2-Fluorobiphenyl (Surr)			*89 %*		*44-115 %*			*"*				
Phenol-d6 (Surr)			*79 %*		*33-122 %*			*"*				
p-Terphenyl-d14 (Surr)			*94 %*		*54-127 %*			*"*				
2-Fluorophenol (Surr)			*81 %*		*35-115 %*			*"*				
2,4,6-Tribromophenol (Surr)			*87 %*		*39-132 %*			*"*				
LCS (9051065-BS1)			Prepared: 05/20/19 16:13		Analyzed: 05/21/19 10:28							**Q-18**
EPA 8270D												
Acenaphthene	682	---	6.68	ug/kg	1	533	---	**128**	**40-122%**	---	---	B, Q-29
Acenaphthylene	567	---	6.68	ug/kg	1	533	---	106	32-132%	---	---	
Anthracene	550	---	6.68	ug/kg	1	533	---	103	47-123%	---	---	B-02
Benz(a)anthracene	557	---	6.68	ug/kg	1	533	---	104	49-126%	---	---	
Benzo(a)pyrene	592	---	10.0	ug/kg	1	533	---	111	45-129%	---	---	
Benzo(b)fluoranthene	545	---	10.0	ug/kg	1	533	---	102	45-132%	---	---	
Benzo(k)fluoranthene	539	---	10.0	ug/kg	1	533	---	101	47-132%	---	---	
Benzo(g,h,i)perylene	565	---	6.68	ug/kg	1	533	---	106	43-134%	---	---	
Chrysene	542	---	6.68	ug/kg	1	533	---	102	50-124%	---	---	
Dibenz(a,h)anthracene	558	---	6.68	ug/kg	1	533	---	105	45-134%	---	---	
Fluoranthene	554	---	6.68	ug/kg	1	533	---	104	50-127%	---	---	B-02
Fluorene	546	---	6.68	ug/kg	1	533	---	102	43-125%	---	---	B
Indeno(1,2,3-cd)pyrene	538	---	6.68	ug/kg	1	533	---	101	45-133%	---	---	
1-Methylnaphthalene	617	---	13.3	ug/kg	1	533	---	116	40-120%	---	---	B
2-Methylnaphthalene	740	---	13.3	ug/kg	1	533	---	**139**	**38-122%**	---	---	B, Q-29

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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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 9051065 - EPA 3546							**Solid**					
LCS (9051065-BS1)			Prepared: 05/20/19 16:13		Analyzed: 05/21/19 10:28							**Q-18**
Naphthalene	1450	---	13.3	ug/kg	1	533	---	**273**	**35-123%**	---	---	Q-29, B
Phenanthrene	561	---	6.68	ug/kg	1	533	---	105	50-121%	---	---	B
Pyrene	546	---	6.68	ug/kg	1	533	---	102	47-127%	---	---	B-02
Carbazole	557	---	10.0	ug/kg	1	533	---	104	50-122%	---	---	
Dibenzofuran	606	---	6.68	ug/kg	1	533	---	114	44-120%	---	---	B
4-Chloro-3-methylphenol	521	---	66.8	ug/kg	1	533	---	98	45-122%	---	---	
2-Chlorophenol	537	---	33.2	ug/kg	1	533	---	101	34-121%	---	---	
2,4-Dichlorophenol	560	---	33.2	ug/kg	1	533	---	105	40-122%	---	---	
2,4-Dimethylphenol	584	---	33.2	ug/kg	1	533	---	109	30-127%	---	---	
2,4-Dinitrophenol	534	---	167	ug/kg	1	533	---	100	5-137%	---	---	
4,6-Dinitro-2-methylphenol	645	---	167	ug/kg	1	533	---	121	29-132%	---	---	
2-Methylphenol	550	---	16.7	ug/kg	1	533	---	103	32-122%	---	---	B-02
3+4-Methylphenol(s)	577	---	16.7	ug/kg	1	533	---	108	34-120%	---	---	B-02
2-Nitrophenol	563	---	66.8	ug/kg	1	533	---	106	36-123%	---	---	
4-Nitrophenol	520	---	66.8	ug/kg	1	533	---	97	30-132%	---	---	
Pentachlorophenol (PCP)	560	---	66.8	ug/kg	1	533	---	105	25-133%	---	---	
Phenol	547	---	13.3	ug/kg	1	533	---	103	34-120%	---	---	B
2,3,4,6-Tetrachlorophenol	545	---	33.2	ug/kg	1	533	---	102	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	555	---	33.2	ug/kg	1	533	---	104	40-120%	---	---	
2,4,5-Trichlorophenol	566	---	33.2	ug/kg	1	533	---	106	41-124%	---	---	
2,4,6-Trichlorophenol	548	---	33.2	ug/kg	1	533	---	103	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	596	---	100	ug/kg	1	533	---	112	51-133%	---	---	
Butyl benzyl phthalate	590	---	66.8	ug/kg	1	533	---	111	48-132%	---	---	
Diethylphthalate	573	---	66.8	ug/kg	1	533	---	107	50-124%	---	---	
Dimethylphthalate	571	---	66.8	ug/kg	1	533	---	107	48-124%	---	---	
Di-n-butylphthalate	576	---	66.8	ug/kg	1	533	---	108	51-128%	---	---	
Di-n-octyl phthalate	570	---	66.8	ug/kg	1	533	---	107	44-140%	---	---	
N-Nitrosodimethylamine	470	---	16.7	ug/kg	1	533	---	88	23-120%	---	---	
N-Nitroso-di-n-propylamine	507	---	16.7	ug/kg	1	533	---	95	36-120%	---	---	
N-Nitrosodiphenylamine	549	---	16.7	ug/kg	1	533	---	103	38-127%	---	---	
Bis(2-Chloroethoxy) methane	510	---	16.7	ug/kg	1	533	---	96	36-121%	---	---	
Bis(2-Chloroethyl) ether	489	---	16.7	ug/kg	1	533	---	92	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	456	---	16.7	ug/kg	1	533	---	86	33-131%	---	---	
Hexachlorobenzene	539	---	6.68	ug/kg	1	533	---	101	44-122%	---	---	

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Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9051065 - EPA 3546							**Solid**					
LCS (9051065-BS1)			Prepared: 05/20/19 16:13		Analyzed: 05/21/19 10:28							**Q-18**
Hexachlorobutadiene	520	---	16.7	ug/kg	1	533	---	98	32-123%	---	---	
Hexachlorocyclopentadiene	622	---	33.2	ug/kg	1	533	---	117	5-140%	---	---	
Hexachloroethane	521	---	16.7	ug/kg	1	533	---	98	28-120%	---	---	
2-Chloronaphthalene	580	---	6.68	ug/kg	1	533	---	109	41-120%	---	---	
1,2-Dichlorobenzene	523	---	16.7	ug/kg	1	533	---	98	33-120%	---	---	
1,3-Dichlorobenzene	495	---	16.7	ug/kg	1	533	---	93	30-120%	---	---	
1,4-Dichlorobenzene	523	---	16.7	ug/kg	1	533	---	98	31-120%	---	---	
1,2,4-Trichlorobenzene	517	---	16.7	ug/kg	1	533	---	97	34-120%	---	---	
4-Bromophenyl phenyl ether	552	---	16.7	ug/kg	1	533	---	104	46-124%	---	---	
4-Chlorophenyl phenyl ether	543	---	16.7	ug/kg	1	533	---	102	45-121%	---	---	
Aniline	378	---	33.2	ug/kg	1	533	---	71	7-120%	---	---	Q-31
4-Chloroaniline	307	---	16.7	ug/kg	1	533	---	58	16-120%	---	---	Q-31
2-Nitroaniline	591	---	133	ug/kg	1	533	---	111	44-127%	---	---	
3-Nitroaniline	638	---	133	ug/kg	1	533	---	120	33-120%	---	---	Q-41
4-Nitroaniline	589	---	133	ug/kg	1	533	---	110	35-120%	---	---	
Nitrobenzene	507	---	66.8	ug/kg	1	533	---	95	34-122%	---	---	
2,4-Dinitrotoluene	571	---	66.8	ug/kg	1	533	---	107	48-126%	---	---	
2,6-Dinitrotoluene	603	---	66.8	ug/kg	1	533	---	113	46-124%	---	---	
Benzoic acid	612	---	418	ug/kg	1	1070	---	57	5-140%	---	---	
Benzyl alcohol	525	---	33.2	ug/kg	1	533	---	98	29-122%	---	---	
Isophorone	516	---	16.7	ug/kg	1	533	---	97	30-122%	---	---	
Azobenzene (1,2-DPH)	545	---	16.7	ug/kg	1	533	---	102	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	559	---	167	ug/kg	1	533	---	105	60-121%	---	---	
3,3'-Dichlorobenzidine	2960	---	134	ug/kg	1	1070	---	**277**	**22-121%**	---	---	Q-29, Q-41
1,2-Dinitrobenzene	559	---	167	ug/kg	1	533	---	105	44-120%	---	---	
1,3-Dinitrobenzene	591	---	167	ug/kg	1	533	---	111	42-127%	---	---	
1,4-Dinitrobenzene	594	---	167	ug/kg	1	533	---	111	37-132%	---	---	
Pyridine	375	---	33.2	ug/kg	1	533	---	70	5-120%	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 83 %*	*Limits: 37-122 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*93 %*	*44-115 %*	*"*
Phenol-d6 (Surr)	*89 %*	*33-122 %*	*"*
p-Terphenyl-d14 (Surr)	*97 %*	*54-127 %*	*"*
2-Fluorophenol (Surr)	*89 %*	*35-115 %*	*"*
2,4,6-Tribromophenol (Surr)	*105 %*	*39-132 %*	*"*

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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**	**A9E0582 - 05 28 19 1628**

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 9051065 - EPA 3546							**Solid**					
Duplicate (9051065-DUP1)			Prepared: 05/20/19 16:13 Analyzed: 05/21/19 11:40									
QC Source Sample: Non-SDG (A9E0508-05)												
Acenaphthene	ND	---	807000	ug/kg	10000	---	880000	---	---	***	30%	B
Acenaphthylene	ND	---	807000	ug/kg	10000	---	ND	---	---	---	30%	
Anthracene	**1970000**	---	807000	ug/kg	10000	---	2050000	---	---	4	30%	B-02
Benz(a)anthracene	**6290000**	---	807000	ug/kg	10000	---	7230000	---	---	14	30%	
Benzo(a)pyrene	**8270000**	---	1210000	ug/kg	10000	---	9030000	---	---	9	30%	
Benzo(b)fluoranthene	**9400000**	---	1210000	ug/kg	10000	---	10100000	---	---	7	30%	M-05
Benzo(k)fluoranthene	**3200000**	---	1210000	ug/kg	10000	---	3740000	---	---	15	30%	M-05
Benzo(g,h,i)perylene	**6320000**	---	807000	ug/kg	10000	---	6990000	---	---	10	30%	
Chrysene	**7370000**	---	807000	ug/kg	10000	---	7850000	---	---	6	30%	
Dibenz(a,h)anthracene	**961000**	---	807000	ug/kg	10000	---	973000	---	---	1	30%	
Fluoranthene	**17700000**	---	807000	ug/kg	10000	---	18700000	---	---	6	30%	B-02
Fluorene	ND	---	807000	ug/kg	10000	---	445000	---	---	***	30%	B
Indeno(1,2,3-cd)pyrene	**6140000**	---	807000	ug/kg	10000	---	6560000	---	---	7	30%	
1-Methylnaphthalene	ND	---	1610000	ug/kg	10000	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	---	1610000	ug/kg	10000	---	ND	---	---	---	30%	
Naphthalene	ND	---	1610000	ug/kg	10000	---	970000	---	---	***	**30%**	Q-17
Phenanthrene	**8650000**	---	807000	ug/kg	10000	---	8820000	---	---	2	30%	B
Pyrene	**17400000**	---	807000	ug/kg	10000	---	18500000	---	---	6	30%	B-02
Carbazole	**2170000**	---	1210000	ug/kg	10000	---	2280000	---	---	5	30%	
Dibenzofuran	ND	---	807000	ug/kg	10000	---	ND	---	---	---	30%	
4-Chloro-3-methylphenol	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
2-Chlorophenol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	---	20200000	ug/kg	10000	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	---	20200000	ug/kg	10000	---	ND	---	---	---	30%	
2-Methylphenol	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
2-Nitrophenol	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
4-Nitrophenol	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
Phenol	ND	---	1610000	ug/kg	10000	---	ND	---	---	---	30%	

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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**	**A9E0582 - 05 28 19 1628**

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 9051065 - EPA 3546							**Solid**					
Duplicate (9051065-DUP1)			Prepared: 05/20/19 16:13 Analyzed: 05/21/19 11:40									
QC Source Sample: Non-SDG (A9E0508-05)												
2,3,4,6-Tetrachlorophenol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	---	12100000	ug/kg	10000	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
Diethylphthalate	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
Dimethylphthalate	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	---	807000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
Hexachloroethane	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	---	807000	ug/kg	10000	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
Aniline	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
4-Chloroaniline	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
2-Nitroaniline	ND	---	16100000	ug/kg	10000	---	ND	---	---	---	30%	
3-Nitroaniline	ND	---	16100000	ug/kg	10000	---	ND	---	---	---	30%	
4-Nitroaniline	ND	---	16100000	ug/kg	10000	---	ND	---	---	---	30%	
Nitrobenzene	ND	---	8070000	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**	**A9E0582 - 05 28 19 1628**

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 9051065 - EPA 3546							**Solid**					
Duplicate (9051065-DUP1)			Prepared: 05/20/19 16:13 Analyzed: 05/21/19 11:40									
QC Source Sample: Non-SDG (A9E0508-05)												
2,4-Dinitrotoluene	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	---	8070000	ug/kg	10000	---	ND	---	---	---	30%	
Benzoic acid	ND	---	101000000	ug/kg	10000	---	ND	---	---	---	30%	
Benzyl alcohol	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
Isophorone	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	---	2020000	ug/kg	10000	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	---	20200000	ug/kg	10000	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	---	16100000	ug/kg	10000	---	ND	---	---	---	30%	Q-52
1,2-Dinitrobenzene	ND	---	20200000	ug/kg	10000	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	---	20200000	ug/kg	10000	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	---	20200000	ug/kg	10000	---	ND	---	---	---	30%	
Pyridine	ND	---	4020000	ug/kg	10000	---	ND	---	---	---	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 865 %*		*Limits: 37-122 %*		*Dilution: 10000x*					S-05
2-Fluorobiphenyl (Surr)			*%*		*44-115 %*		*"*					S-01
Phenol-d6 (Surr)			*%*		*33-122 %*		*"*					S-01
p-Terphenyl-d14 (Surr)			*%*		*54-127 %*		*"*					S-01
2-Fluorophenol (Surr)			*%*		*35-115 %*		*"*					S-01
2,4,6-Tribromophenol (Surr)			*%*		*39-132 %*		*"*					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**	**A9E0582 - 05 28 19 1628**

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 9051056 - EPA 3051A							**Solid**					
Blank (9051056-BLK2)			Prepared: 05/20/19 13:59 Analyzed: 05/22/19 20:25									
EPA 6020A												
Aluminum	ND	---	48.1	mg/kg	10	---	---	---	---	---	---	Q-16
Antimony	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Arsenic	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Barium	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Beryllium	ND	---	0.192	mg/kg	10	---	---	---	---	---	---	Q-16
Cadmium	ND	---	0.192	mg/kg	10	---	---	---	---	---	---	Q-16
Calcium	ND	---	96.2	mg/kg	10	---	---	---	---	---	---	Q-16
Chromium	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Copper	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Iron	ND	---	48.1	mg/kg	10	---	---	---	---	---	---	Q-16
Lead	ND	---	0.192	mg/kg	10	---	---	---	---	---	---	Q-16
Magnesium	ND	---	48.1	mg/kg	10	---	---	---	---	---	---	Q-16
Manganese	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Mercury	ND	---	0.0769	mg/kg	10	---	---	---	---	---	---	Q-16
Nickel	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Potassium	ND	---	96.2	mg/kg	10	---	---	---	---	---	---	Q-16
Selenium	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Silver	ND	---	0.192	mg/kg	10	---	---	---	---	---	---	Q-16
Sodium	ND	---	96.2	mg/kg	10	---	---	---	---	---	---	Q-16
Thallium	ND	---	0.192	mg/kg	10	---	---	---	---	---	---	Q-16
Vanadium	ND	---	0.962	mg/kg	10	---	---	---	---	---	---	Q-16
Zinc	ND	---	3.85	mg/kg	10	---	---	---	---	---	---	Q-16
LCS (9051056-BS2)			Prepared: 05/20/19 13:59 Analyzed: 05/22/19 20:29									
EPA 6020A												
Aluminum	2220	---	50.0	mg/kg	10	2500	---	89	80-120%	---	---	Q-16
Antimony	21.4	---	1.00	mg/kg	10	25.0	---	86	80-120%	---	---	Q-16
Arsenic	46.4	---	1.00	mg/kg	10	50.0	---	93	80-120%	---	---	Q-16
Barium	48.2	---	1.00	mg/kg	10	50.0	---	96	80-120%	---	---	Q-16
Beryllium	21.9	---	0.200	mg/kg	10	25.0	---	88	80-120%	---	---	Q-16
Cadmium	45.0	---	0.200	mg/kg	10	50.0	---	90	80-120%	---	---	Q-16
Calcium	2200	---	100	mg/kg	10	2500	---	88	80-120%	---	---	Q-16
Chromium	46.4	---	1.00	mg/kg	10	50.0	---	93	80-120%	---	---	Q-16

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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 9051056 - EPA 3051A							**Solid**					
LCS (9051056-BS2)			Prepared: 05/20/19 13:59 Analyzed: 05/22/19 20:29									
Copper	46.4	---	1.00	mg/kg	10	50.0	---	93	80-120%	---	---	Q-16
Iron	2160	---	50.0	mg/kg	10	2500	---	86	80-120%	---	---	Q-16
Lead	44.3	---	0.200	mg/kg	10	50.0	---	89	80-120%	---	---	Q-16
Magnesium	2230	---	50.0	mg/kg	10	2500	---	89	80-120%	---	---	Q-16
Manganese	45.4	---	1.00	mg/kg	10	50.0	---	91	80-120%	---	---	Q-16
Mercury	0.879	---	0.0800	mg/kg	10	1.00	---	88	80-120%	---	---	Q-16
Nickel	47.5	---	1.00	mg/kg	10	50.0	---	95	80-120%	---	---	Q-16
Potassium	2400	---	100	mg/kg	10	2500	---	96	80-120%	---	---	Q-16
Selenium	21.5	---	1.00	mg/kg	10	25.0	---	86	80-120%	---	---	Q-16
Silver	22.7	---	0.200	mg/kg	10	25.0	---	91	80-120%	---	---	Q-16
Sodium	2240	---	100	mg/kg	10	2500	---	90	80-120%	---	---	Q-16
Thallium	21.9	---	0.200	mg/kg	10	25.0	---	88	80-120%	---	---	Q-16
Vanadium	45.9	---	1.00	mg/kg	10	50.0	---	92	80-120%	---	---	Q-16
Zinc	47.0	---	4.00	mg/kg	10	50.0	---	94	80-120%	---	---	Q-16
Duplicate (9051056-DUP2)			Prepared: 05/20/19 13:59 Analyzed: 05/22/19 20:38									
QC Source Sample: 2708-190515-005 (A9E0582-01RE1)												
EPA 6020A												
Aluminum	**1480**	---	54.0	mg/kg	10	---	954	---	---	**43**	**40%**	Q-04, Q-16
Antimony	ND	---	1.08	mg/kg	10	---	ND	---	---	---	40%	Q-16
Arsenic	**1.71**	---	1.08	mg/kg	10	---	3.03	---	---	**56**	**40%**	Q-05, Q-16
Barium	**12.4**	---	1.08	mg/kg	10	---	10.2	---	---	20	40%	Q-16
Beryllium	ND	---	0.216	mg/kg	10	---	0.110	---	---	***	**40%**	Q-05, Q-16
Cadmium	**0.225**	---	0.216	mg/kg	10	---	0.251	---	---	11	40%	Q-16
Calcium	**762**	---	108	mg/kg	10	---	488	---	---	**44**	**40%**	Q-04, Q-16
Chromium	**2.43**	---	1.08	mg/kg	10	---	2.47	---	---	2	40%	Q-16
Copper	**9.99**	---	1.08	mg/kg	10	---	10.4	---	---	4	40%	Q-16
Iron	**40100**	---	54.0	mg/kg	10	---	36900	---	---	8	40%	Q-16
Lead	**22.7**	---	0.216	mg/kg	10	---	18.3	---	---	22	40%	Q-16
Magnesium	**205**	---	54.0	mg/kg	10	---	145	---	---	34	40%	Q-16
Manganese	**235**	---	1.08	mg/kg	10	---	211	---	---	11	40%	Q-16
Mercury	ND	---	0.0864	mg/kg	10	---	0.0578	---	---	***	40%	Q-16
Nickel	**6.96**	---	1.08	mg/kg	10	---	8.31	---	---	18	40%	Q-16
Potassium	ND	---	108	mg/kg	10	---	ND	---	---	---	40%	Q-16

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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 9051056 - EPA 3051A							**Solid**					
Duplicate (9051056-DUP2)			Prepared: 05/20/19 13:59 Analyzed: 05/22/19 20:38									
QC Source Sample: 2708-190515-005 (A9E0582-01RE1)												
Selenium	ND	---	1.08	mg/kg	10	---	ND	---	---	---	40%	Q-16
Silver	ND	---	0.216	mg/kg	10	---	ND	---	---	---	40%	Q-16
Sodium	ND	---	108	mg/kg	10	---	ND	---	---	---	**40%**	Q-05, Q-16
Thallium	ND	---	0.216	mg/kg	10	---	ND	---	---	---	40%	Q-16
Vanadium	**28.3**	---	1.08	mg/kg	10	---	43.9	---	---	**43**	**40%**	Q-04, Q-16
Zinc	**60.0**	---	4.32	mg/kg	10	---	42.8	---	---	33	40%	Q-16
Matrix Spike (9051056-MS2)			Prepared: 05/20/19 13:59 Analyzed: 05/22/19 20:42									
QC Source Sample: 2708-190515-005 (A9E0582-01RE1)												
EPA 6020A												
Aluminum	3420	---	48.9	mg/kg	10	2450	954	101	75-125%	---	---	Q-16
Antimony	19.3	---	0.978	mg/kg	10	24.5	ND	79	75-125%	---	---	Q-16
Arsenic	45.2	---	0.978	mg/kg	10	48.9	3.03	86	75-125%	---	---	Q-16
Barium	59.7	---	0.978	mg/kg	10	48.9	10.2	101	75-125%	---	---	Q-16
Beryllium	21.3	---	0.196	mg/kg	10	24.5	0.110	87	75-125%	---	---	Q-16
Cadmium	43.7	---	0.196	mg/kg	10	48.9	0.251	89	75-125%	---	---	Q-16
Calcium	3350	---	97.8	mg/kg	10	2450	488	117	75-125%	---	---	Q-16
Chromium	49.3	---	0.978	mg/kg	10	48.9	2.47	96	75-125%	---	---	Q-16
Copper	58.6	---	0.978	mg/kg	10	48.9	10.4	99	75-125%	---	---	Q-16
Iron	42200	---	48.9	mg/kg	10	2450	36900	**214**	**75-125%**	---	---	Q-03, Q-04, Q-16
Lead	68.2	---	0.196	mg/kg	10	48.9	18.3	102	75-125%	---	---	Q-16
Magnesium	2380	---	48.9	mg/kg	10	2450	145	91	75-125%	---	---	Q-16
Manganese	324	---	0.978	mg/kg	10	48.9	211	**231**	**75-125%**	---	---	Q-04, Q-16
Mercury	0.903	---	0.0783	mg/kg	10	0.978	0.0578	86	75-125%	---	---	Q-16
Nickel	58.2	---	0.978	mg/kg	10	48.9	8.31	102	75-125%	---	---	Q-16
Potassium	2340	---	97.8	mg/kg	10	2450	ND	96	75-125%	---	---	Q-16
Selenium	20.2	---	0.978	mg/kg	10	24.5	ND	82	75-125%	---	---	Q-16
Silver	21.8	---	0.196	mg/kg	10	24.5	ND	89	75-125%	---	---	Q-16
Sodium	2280	---	97.8	mg/kg	10	2450	ND	93	75-125%	---	---	Q-16
Thallium	19.5	---	0.196	mg/kg	10	24.5	ND	80	75-125%	---	---	Q-16
Vanadium	73.1	---	0.978	mg/kg	10	48.9	43.9	**60**	**75-125%**	---	---	Q-04, Q-16
Zinc	102	---	3.91	mg/kg	10	48.9	42.8	122	75-125%	---	---	Q-16

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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**	**A9E0582 - 05 28 19 1628**

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 9051056 - EPA 3051A							**Solid**					

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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 9051027 - ASTM D7511-12mod (S)							**Solid**					
Blank (9051027-BLK1)			Prepared: 05/20/19 07:51		Analyzed: 05/20/19 13:50							
D7511-12												
Cyanide, Total	ND	---	0.100	mg/kg	1	---	---	---	---	---	---	
LCS (9051027-BS1)			Prepared: 05/20/19 07:51		Analyzed: 05/20/19 13:52							
D7511-12												
Cyanide, Total	0.422	---	0.100	mg/kg	1	0.400	---	105	84-116%	---	---	
LCS (9051027-BS2)			Prepared: 05/20/19 07:51		Analyzed: 05/20/19 13:48							
D7511-12												
Cyanide, Total	0.108	---	0.100	mg/kg	1	0.200	---	**54**	**84-116%**	---	---	CN_I
Matrix Spike (9051027-MS1)			Prepared: 05/20/19 07:51		Analyzed: 05/20/19 14:00							
QC Source Sample: Non-SDG (A9E0508-05)												
D7511-12												
Cyanide, Total	14.1	---	2.00	mg/kg	20	0.399	14.5	**-95**	**64-136%**	---	---	Q-03
Matrix Spike Dup (9051027-MSD1)			Prepared: 05/20/19 07:51		Analyzed: 05/20/19 14:04							
QC Source Sample: Non-SDG (A9E0508-05)												
Cyanide, Total	13.5	---	1.97	mg/kg	20	0.395	14.5	**-266**	**64-136%**	5	47%	Q-03

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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: 9051067							
A9E0582-01	Solid	NWTPH-Dx	05/15/19 14:45	05/20/19 16:21	0.49g/5mL	10g/5mL	20.40

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							
A9E0582-01RE1	Solid	NWTPH-Gx (MS)	05/15/19 14:45	05/15/19 14:45	3.42g/5mL	5g/5mL	1.46

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							
A9E0582-01RE1	Solid	5035A/8260C	05/15/19 14:45	05/15/19 14:45	3.42g/5mL	5g/5mL	1.46

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: 9051065							
A9E0582-01	Solid	EPA 8270D	05/15/19 14:45	05/20/19 16:13	0.5g/5mL	15g/2mL	75.00

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: 9051056							
A9E0582-01RE1	Solid	EPA 6020A	05/15/19 14:45	05/20/19 13:59	0.462g/50mL	0.5g/50mL	1.08

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: 9051027							
A9E0582-01	Solid	D7511-12	05/15/19 14:45	05/20/19 07:51	2.5537g/50mL	2.5g/50mL	0.98

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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

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QUALIFIER DEFINITIONS

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

Apex Laboratories

B	Analyte detected in an associated blank at a level above the MRL. (See Notes and Conventions below.)
B-02	Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
CN_I	Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
F-17	No fuel pattern detected. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
M-05	Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-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 +18.9%. 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 +2.9%. 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 +4.7%. 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 +5.1%. The results are reported as Estimated Values.

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Q-54e Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +6.5%. The results are reported as Estimated Values.

Q-54f 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-54g Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -8.1%. The results are reported as Estimated Values.

Q-54h 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

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.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

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

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

NR Result Not Reported

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

Detection Limits: Limit of Detection (LOD)

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

Reporting Limits: Limit of Quantitation (LOQ)

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

Reporting Conventions:

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

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

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

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

QC Source:

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

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

Miscellaneous Notes:

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

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

Blanks:

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

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

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.

Apex Laboratories

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

A9E0582

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: 2708-190515-
PLEASE FREEZE and HOLD all but VOAs.
Please freeze and hold remaining 8-oz jar.

Lab ID	Sample #	Date	Time	Sample Description	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 6000/7000 Series	Total Cyanide by EPA Method 225.4	RUSH	Remarks
	005	15-May-19	14:45	55' From Top of Casing	X				3	X	X	X	X	X	X		

Relinquished by	Company	Date	Time	Received by	Company
[signature]	Hahn and Associates, Inc.			[signature] 5/16/19 15:15	Apex

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

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9E0582 - 05 28 19 1628**

APEX LABS COOLER RECEIPT FORM

Client: Hahn Element WO#: A9 E0582

Project/Project #: Mult 802 Decommissioning

Delivery Info:

Date/time received: 5/16/19 @ 15:15 By: MS

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

Cooler Inspection Date/time inspected: 5/16/19 @ 15:15 By: MD

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

Signed/dated by client? Yes Y No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	5.6						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	N						
Ice type: (Gel/Real/Other)	Gel						
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: 5/17/19 @ 1035 By: CB

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: CB Witness: MS Cooler Inspected by: [signature] See Project Contact Form: Y

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Philip Nerenberg

Philip Nerenberg, Lab Director

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

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

A9E0582

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: 05/22/19 17:00 (4 day TAT)

Received By: Kristen R. Sherwood
Date Received: 05/16/19 15:15

Logged In By: Cameron L O'Brien
Date Logged In: 05/17/19 11:29

Cooler #1 received at 5.6°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
A9E0582-01 2708-190515-005 [Solid] Sampled 05/15/19 14:45 (GMT-08:00) Pacific Time (US & Canada) 3 Containers				
Dry Weight				
~~Dry Weight~~	05/22/19 17:00	2	05/17/19 14:45	expedited 5/20
Fuels				
NWTPH-Dx (Diesel/Oil)	05/23/19 17:00	3	05/29/19 14:45	expedited 5/20
Metals				
Metals, Select 1	05/23/19 17:00	3	11/11/19 14:45	expedited 5/20
Project Mgmt				
Data Package	07/01/19 17:00	10	08/22/19 14:45	Added 5/31 ST
Sample Control				
Archive Samples - Frozen	05/17/20 17:00	1	05/16/19 14:45	Freeze A jar after analysis
Semivols (Scan)				
8270D LL Full List	05/23/19 17:00	3	05/29/19 14:45	expedited 5/20
Volatiles				
8260C Full List	05/22/19 17:00	2	05/17/19 14:45	expedited 5/20
NWTPH-Gx	05/22/19 17:00	2	05/17/19 14:45	expedited 5/20
Wet Chem				
Cyanide, Total (ASTM D7511, OIA)	05/23/19 17:00	3	05/29/19 14:45	expedited 5/20

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

A9E0582

Apex Laboratories

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

Reviewed By

Date

A9E0582

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: 2708-190515-

PLEASE FREEZE and HOLD all but VOAs.

Please freeze and hold remaining 8-oz jar.

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
	005	15-May-19	14:45	55' From Top of Casing	X				3	X	X	X	X	X	X					

Analyses to be Performed

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	Hahn and Associates, Inc.			[signature] 5/16/19 15:15	Apex
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 E0582

Project/Project #: Mult 802 Decommissioning

Delivery Info:

Date/time received: 5/16/19 @ 15:15 By: [illegible]

Delivered by: Apex___ Client___ ESS___ FedEx___ UPS___ Swift___ Senvoy___ SDS___ Other___

Cooler Inspection Date/time inspected: 5/16/19 @ 15:15 By: [illegible]

Chain of Custody included? Yes Y No___ Custody seals? Yes___ No___

Signed/dated by client? Yes Y No___

Signed/dated by Apex? Yes X No___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	5.6						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	N						
Ice type: (Gel/Real/Other)	Gel						
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: 5/17/19 @ 1035 By: [illegible]

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: [illegible] Witness: [illegible] Cooler Inspected by: [illegible] 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: A9E0582

CLASS: GC

METHOD: NWTPH-Dx

ANALYSES DATA PACKAGE COVER PAGE

NWTPH-Dx

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190515-005	A9E0582-01	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 12:09PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Apex Laboratories **SDG:** A9E0582

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

2708-190515-005

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0582-01	File ID:	4R052022.D
Sampled:	05/15/19 14:45	Prepared:	05/20/19 16:21	Analyzed:	05/21/19 04:33
		Preparation:	EPA 3546 (Fuels)	Initial/Final:	0.49 g / 5 mL

Batch: 9051067 Sequence: 9E20037 Calibration: A9D1904 Instrument: DUALFID4R

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg)	Q
68334-30-5	Diesel	100	153000	D
Oil	Oil	100	143000	D

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
o-Terphenyl (Surr)	510	ND		50 - 150	D

* Values outside of QC limits

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Apex Laboratories SDG: A9E0582

Client: Hahn and Associates Project: Mult 802 Decommissioning

Batch: 9051067 Batch Matrix: Solid Preparation: EPA 3546 (Fuels)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051067-BLK1	4R052017.D	05/20/19 16:21	
LCS	9051067-BS1	4R052018.D	05/20/19 16:21	
2708-190515-005	A9E0582-01	4R052022.D	05/20/19 16:21	

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:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051067-BLK1	File ID:	4R052017.D
Prepared:	05/20/19 16:21	Preparation:	EPA 3546 (Fuels)	Initial/Final:	10 g / 5 mL
Analyzed:	05/21/19 02:49	Instrument:	DUALFID4R		
Batch:	9051067	Sequence:	9E20037	Calibration:	A9D1904

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
68334-30-5	Diesel	10.0	U
Oil	Oil	20.0	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
o-Terphenyl (Surr)	25.0	25.8	103	50 - 150	

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051067	Laboratory ID:	9051067-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	111	89	70 - 130

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9E0582
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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E20037	Instrument:	DUALFID4R
Matrix:	Solid	Calibration:	A9D1904

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9E20037-CCV1	4R052003.D	05/20/19 18:17
Calibration Check	9E20037-CCV2	4R052004.D	05/20/19 18:38
Calibration Blank	9E20037-CCB1	4R052005.D	05/20/19 22:36
Blank	9051067-BLK1	4R052017.D	05/21/19 02:49
LCS	9051067-BS1	4R052018.D	05/21/19 03:09
2708-190515-005	A9E0582-01	4R052022.D	05/21/19 04:33
Calibration Check	9E20037-CCV3	4R052024.D	05/21/19 05:15
Calibration Check	9E20037-CCV4	4R052025.D	05/21/19 05:36

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

INITIAL CALIBRATION DATA (Summary)

NWTPH-Dx

Laboratory: Apex Laboratories SDG: A9E0582

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

Client: Hahn and Associates

Calibration: A9D1904

SDG: A9E0582

Project: Mult 802 Decommissioning

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:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052003.D	Calibration Date:	04/19/19 15:14
Sequence:	9E20037	Injection Date:	05/20/19
Lab Sample ID:	9E20037-CCV1	Injection Time:	18:17

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Oil	Ave	500	441		1049293	924624.2	-11.9	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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052004.D	Calibration Date:	04/19/19 15:14
Sequence:	9E20037	Injection Date:	05/20/19
Lab Sample ID:	9E20037-CCV2	Injection Time:	18:38

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Diesel	Ave	1000	912		1140517	1039945	-8.8	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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052024.D	Calibration Date:	04/19/19 15:14
Sequence:	9E20037	Injection Date:	05/21/19
Lab Sample ID:	9E20037-CCV3	Injection Time:	05:15

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Diesel	Ave	1000	922		1140517	1051381	-7.8	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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	DUALFID4R	Calibration:	A9D1904
Lab File ID:	4R052025.D	Calibration Date:	04/19/19 15:14
Sequence:	9E20037	Injection Date:	05/21/19
Lab Sample ID:	9E20037-CCV4	Injection Time:	05:36

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Oil	Ave	500	469		1049293	984428.4	-6.2	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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E20037	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 (9E20037-CCV1)			Lab File ID: 4R052003.D		Analyzed: 05/20/19 18:17			
o-Terphenyl (Surr)	50.0	93	80 - 120	6.38	6.392	-0.0120	+/-1.0	
Calibration Check (9E20037-CCV2)			Lab File ID: 4R052004.D		Analyzed: 05/20/19 18:38			
o-Terphenyl (Surr)	50.0	97	80 - 120	6.39	6.392	-0.0020	+/-1.0	
Calibration Blank (9E20037-CCB1)			Lab File ID: 4R052005.D		Analyzed: 05/20/19 22:36			
o-Terphenyl (Surr)			50 - 150	0	6.392	-6.3920	+/-1.0	
Blank (9051067-BLK1)			Lab File ID: 4R052017.D		Analyzed: 05/21/19 02:49			
o-Terphenyl (Surr)	25.0	103	50 - 150	6.39	6.392	-0.0020	+/-1.0	
LCS (9051067-BS1)			Lab File ID: 4R052018.D		Analyzed: 05/21/19 03:09			
o-Terphenyl (Surr)	25.0	104	50 - 150	6.39	6.392	-0.0020	+/-1.0	
2708-190515-005 (A9E0582-01)			Lab File ID: 4R052022.D		Analyzed: 05/21/19 04:33			
o-Terphenyl (Surr)	510		50 - 150	0	6.392	-6.3920	+/-1.0	*
Calibration Check (9E20037-CCV3)			Lab File ID: 4R052024.D		Analyzed: 05/21/19 05:15			
o-Terphenyl (Surr)	50.0	100	80 - 120	6.38	6.392	-0.0120	+/-1.0	
Calibration Check (9E20037-CCV4)			Lab File ID: 4R052025.D		Analyzed: 05/21/19 05:36			
o-Terphenyl (Surr)	50.0	94	80 - 120	6.38	6.392	-0.0120	+/-1.0	

HOLDING TIME SUMMARY

NWTPH-Dx

Laboratory: Apex Laboratories SDG: A9E0582

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
2708-190515-005	05/15/19 14:45	05/16/19 15:15	05/20/19 16:21	5.07	14.00	05/21/19 04:33	0.51	40.00	

Apex Laboratories

SDG: A9E0582

CLASS: GCMS

METHOD: NWTPH-Gx (MS)

ANALYSES DATA PACKAGE COVER PAGE

NWTPH-Gx (MS)

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190515-005	A9E0582-01	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 12:09PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Gx (MS)

Laboratory: Apex Laboratories **SDG:** A9E0582

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)

2708-190515-005

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0582-01RE1	File ID:	VF19052119.D
Sampled:	05/15/19 14:45	Prepared:	05/15/19 14:45	Analyzed:	05/21/19 19:07
		Preparation:	EPA 5035A	Initial/Final:	3.42 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	20000	18200	D

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Sur)	50.0	54.3	109	50 - 150	
1,4-Difluorobenzene (Sur)	50.0	46.9	94	50 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (IS)	309875	6.096	324051	6.096	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

NWTPH-Gx (MS)

Laboratory: Apex Laboratories SDG: A9E0582

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	
2708-190515-005	A9E0582-01RE1	VF19052119.D	05/15/19 14:45	

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

METHOD BLANK DATA SHEET
NWTPH-Gx (MS)

Laboratory:	Apex Laboratories			SDG:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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
2708-190515-005	A9E0582-01RE1	VF19052119.D	05/21/19 19:07

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:	A9E0582
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:	A9E0582
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: A9E0582

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:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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	
2708-190515-005 (A9E0582-01RE1)			Lab File ID: VF19052119.D		Analyzed: 05/21/19 19:07			
4-Bromofluorobenzene (Sur)	50.0	109	50 - 150	10.872	10.86913	0.0029	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	94	50 - 150	6.662	6.65775	0.0042	+/-1.0	

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

Laboratory:	Apex Laboratories	SDG:	A9E0582
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	
2708-190515-005 (A9E0582-01RE1)			Lab File ID: VF19052119.D			Analyzed: 05/21/19 19:07			
Pentafluorobenzene (IS)	309875	6.096	324051	6.096	96	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

NWTPH-Gx (MS)

Laboratory: Apex Laboratories SDG: A9E0582

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
2708-190515-005	05/15/19 14:45	05/16/19 15:15	05/15/19 14:45	0.00	2.00	05/21/19 19:07	6.18	14.00	

Apex Laboratories

SDG: A9E0582

CLASS: GCMS

METHOD: 5035A/8260C

ANALYSES DATA PACKAGE COVER PAGE

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190515-005	A9E0582-01	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 12:09PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

5035A/8260C

Laboratory: Apex Laboratories **SDG:** A9E0582

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:** A9E0582

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

2708-190515-005

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0582-01RE1	File ID:	VF19052119.D
Sampled:	05/15/19 14:45	Prepared:	05/15/19 14:45	Analyzed:	05/21/19 19:07
		Preparation:	EPA 5035A	Initial/Final:	3.42 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	20000	292000	U
107-13-1	Acrylonitrile	20000	29200	U
71-43-2	Benzene	20000	100000	D
108-86-1	Bromobenzene	20000	7310	U
74-97-5	Bromochloromethane	20000	14600	U
75-27-4	Bromodichloromethane	20000	29200	U
75-25-2	Bromoform	20000	58500	U
74-83-9	Bromomethane	20000	292000	U
78-93-3	2-Butanone (MEK)	20000	146000	U
104-51-8	n-Butylbenzene	20000	14600	U
135-98-8	sec-Butylbenzene	20000	14600	U
98-06-6	tert-Butylbenzene	20000	14600	U
75-15-0	Carbon disulfide	20000	146000	U
56-23-5	Carbon tetrachloride	20000	29200	U
108-90-7	Chlorobenzene	20000	7310	U
75-00-3	Chloroethane	20000	146000	U
67-66-3	Chloroform	20000	14600	U
74-87-3	Chloromethane	20000	73100	U
95-49-8	2-Chlorotoluene	20000	14600	U
106-43-4	4-Chlorotoluene	20000	14600	U
124-48-1	Dibromochloromethane	20000	29200	U
96-12-8	1,2-Dibromo-3-chloropropane	20000	73100	U
106-93-4	1,2-Dibromoethane (EDB)	20000	14600	U
74-95-3	Dibromomethane	20000	14600	U
95-50-1	1,2-Dichlorobenzene	20000	7310	U
541-73-1	1,3-Dichlorobenzene	20000	7310	U
106-46-7	1,4-Dichlorobenzene	20000	7310	U
75-71-8	Dichlorodifluoromethane	20000	29200	U
75-34-3	1,1-Dichloroethane	20000	7310	U
107-06-2	1,2-Dichloroethane (EDC)	20000	7310	U
75-35-4	1,1-Dichloroethene	20000	7310	U
156-59-2	cis-1,2-Dichloroethene	20000	7310	U
156-60-5	trans-1,2-Dichloroethene	20000	7310	U
78-87-5	1,2-Dichloropropane	20000	7310	U
142-28-9	1,3-Dichloropropane	20000	14600	U
594-20-7	2,2-Dichloropropane	20000	14600	U
563-58-6	1,1-Dichloropropene	20000	14600	U
10061-01-5	cis-1,3-Dichloropropene	20000	14600	U
10061-02-6	trans-1,3-Dichloropropene	20000	14600	U
100-41-4	Ethylbenzene	20000	61700	D

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

2708-190515-005

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0582-01RE1	File ID:	VF19052119.D
Sampled:	05/15/19 14:45	Prepared:	05/15/19 14:45	Analyzed:	05/21/19 19:07
		Preparation:	EPA 5035A	Initial/Final:	3.42 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	20000	29200	U
591-78-6	2-Hexanone	20000	146000	U
98-82-8	Isopropylbenzene	20000	14600	U
99-87-6	4-Isopropyltoluene	20000	14600	U
75-09-2	Methylene chloride	20000	146000	U
108-10-1	4-Methyl-2-pentanone (MiBK)	20000	146000	U
1634-04-4	Methyl tert-butyl ether (MTBE)	20000	14600	U
91-20-3	Naphthalene	20000	5630000	D
103-65-1	n-Propylbenzene	20000	7310	U
100-42-5	Styrene	20000	23800	JD
630-20-6	1,1,1,2-Tetrachloroethane	20000	29200	U
79-34-5	1,1,2,2-Tetrachloroethane	20000	14600	U
127-18-4	Tetrachloroethene (PCE)	20000	7310	U
87-61-6	1,2,3-Trichlorobenzene	20000	73100	U
120-82-1	1,2,4-Trichlorobenzene	20000	73100	U
71-55-6	1,1,1-Trichloroethane	20000	7310	U
79-00-5	1,1,2-Trichloroethane	20000	7310	U
79-01-6	Trichloroethene (TCE)	20000	7310	U
75-69-4	Trichlorofluoromethane	20000	29200	U
96-18-4	1,2,3-Trichloropropane	20000	14600	U
95-63-6	1,2,4-Trimethylbenzene	20000	31500	D
108-67-8	1,3,5-Trimethylbenzene	20000	19400	JD
108-88-3	Toluene	20000	99800	D
75-01-4	Vinyl chloride	20000	7310	U
179601-23-1	m,p-Xylene	20000	93500	D
95-47-6	o-Xylene	20000	30400	D

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	51.2	102	80 - 120	
Toluene-d8 (Surr)	50.0	48.3	97	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.0	102	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	309875	6.096	324912	6.095	
Chlorobenzene-d5 (ISTD)	389592	9.807	405034	9.806	
1,4-Dichlorobenzene-d4 (ISTD)	173876	11.748	180218	11.753	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

5035A/8260C

Laboratory: Apex Laboratories SDG: A9E0582

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	
2708-190515-005	A9E0582-01RE1	VF19052119.D	05/15/19 14:45	

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

METHOD BLANK DATA SHEET
5035A/8260C

Laboratory:	Apex Laboratories			SDG:	A9E0582
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:	A9E0582
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:	A9E0582
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: A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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
2708-190515-005	A9E0582-01RE1	VF19052119.D	05/21/19 19:07

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:	A9E0582
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:	A9E0582
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: A9E0582

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: A9E0582

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: A9E0582

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
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E0804
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: A9E0582

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: A9E0582

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: A9E0582
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: A9E0582
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: A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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:	A9E0582
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	
2708-190515-005 (A9E0582-01RE1)			Lab File ID: VF19052119.D		Analyzed: 05/21/19 19:07			
1,4-Difluorobenzene (Surr)	50.0	102	80 - 120	6.662	6.659818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	97	80 - 120	8.171	8.169091	0.0019	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	80 - 120	10.872	10.87082	0.0012	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9E0582
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	
2708-190515-005 (A9E0582-01RE1)			Lab File ID: VF19052119.D			Analyzed: 05/21/19 19:07			
Pentafluorobenzene (ISTD)	309875	6.096	324912	6.095	95	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	389592	9.807	405034	9.806	96	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	173876	11.748	180218	11.753	96	50 - 200	-0.0050	+/-0.50	

HOLDING TIME SUMMARY

5035A/8260C

Laboratory: Apex Laboratories SDG: A9E0582

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
2708-190515-005	05/15/19 14:45	05/16/19 15:15	05/15/19 14:45	0.00	2.00	05/21/19 19:07	6.18	14.00	

Apex Laboratories

SDG: A9E0582

CLASS: GCMS

METHOD: EPA 8270D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190515-005	A9E0582-01	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 12:09PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9E0582

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:** A9E0582

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:** A9E0582

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

2708-190515-005

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0582-01	File ID:	I05211909.D
Sampled:	05/15/19 14:45	Prepared:	05/20/19 16:13	Analyzed:	05/21/19 12:56
		Preparation:	EPA 3546	Initial/Final:	0.5 g / 5 mL

Batch: 9051065 Sequence: 9E21026 Calibration: A9E1009 Instrument: SV-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q
83-32-9	Acenaphthene	5000	7000000	BD
208-96-8	Acenaphthylene	5000	499000	U
120-12-7	Anthracene	5000	5190000	D
56-55-3	Benz(a)anthracene	5000	7140000	D
50-32-8	Benzo(a)pyrene	5000	8540000	D
205-99-2	Benzo(b)fluoranthene	5000	9780000	D
207-08-9	Benzo(k)fluoranthene	5000	3610000	D
191-24-2	Benzo(g,h,i)perylene	5000	6470000	D
218-01-9	Chrysene	5000	7880000	D
53-70-3	Dibenz(a,h)anthracene	5000	824000	JD
206-44-0	Fluoranthene	5000	22000000	D
86-73-7	Fluorene	5000	3560000	BD
193-39-5	Indeno(1,2,3-cd)pyrene	5000	6480000	D
90-12-0	1-Methylnaphthalene	5000	1760000	JBD
91-57-6	2-Methylnaphthalene	5000	3340000	BD
91-20-3	Naphthalene	5000	11200000	BD
85-01-8	Phenanthrene	5000	19300000	BD
129-00-0	Pyrene	5000	20500000	D
86-74-8	Carbazole	5000	3270000	D
132-64-9	Dibenzofuran	5000	3350000	BD
59-50-7	4-Chloro-3-methylphenol	5000	4990000	U
95-57-8	2-Chlorophenol	5000	2500000	U
120-83-2	2,4-Dichlorophenol	5000	2500000	U
105-67-9	2,4-Dimethylphenol	5000	2500000	U
51-28-5	2,4-Dinitrophenol	5000	12500000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000	12500000	U
95-48-7	2-Methylphenol	5000	1250000	U
NA	3+4-Methylphenol(s)	5000	1250000	U
88-75-5	2-Nitrophenol	5000	4990000	U
100-02-7	4-Nitrophenol	5000	4990000	U
87-86-5	Pentachlorophenol (PCP)	5000	4990000	U
108-95-2	Phenol	5000	1000000	U
58-90-2	2,3,4,6-Tetrachlorophenol	5000	2500000	U
935-95-5	2,3,5,6-Tetrachlorophenol	5000	2500000	U
95-95-4	2,4,5-Trichlorophenol	5000	2500000	U
88-06-2	2,4,6-Trichlorophenol	5000	2500000	U
117-81-7	Bis(2-ethylhexyl)phthalate	5000	7500000	U
85-68-7	Butyl benzyl phthalate	5000	4990000	U
84-66-2	Diethylphthalate	5000	4990000	U
131-11-3	Dimethylphthalate	5000	4990000	U

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190515-005

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0582-01	File ID:	I05211909.D
Sampled:	05/15/19 14:45	Prepared:	05/20/19 16:13	Analyzed:	05/21/19 12:56
		Preparation:	EPA 3546	Initial/Final:	0.5 g / 5 mL

Batch: 9051065 Sequence: 9E21026 Calibration: A9E1009 Instrument: SV-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q
84-74-2	Di-n-butylphthalate	5000	4990000	U
117-84-0	Di-n-octyl phthalate	5000	4990000	U
62-75-9	N-Nitrosodimethylamine	5000	1250000	U
621-64-7	N-Nitroso-di-n-propylamine	5000	1250000	U
86-30-6	N-Nitrosodiphenylamine	5000	1250000	U
111-91-1	Bis(2-Chloroethoxy) methane	5000	1250000	U
111-44-4	Bis(2-Chloroethyl) ether	5000	1250000	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	5000	1250000	U
118-74-1	Hexachlorobenzene	5000	499000	U
87-68-3	Hexachlorobutadiene	5000	1250000	U
77-47-4	Hexachlorocyclopentadiene	5000	2500000	U
67-72-1	Hexachloroethane	5000	1250000	U
91-58-7	2-Chloronaphthalene	5000	499000	U
95-50-1	1,2-Dichlorobenzene	5000	1250000	U
541-73-1	1,3-Dichlorobenzene	5000	1250000	U
106-46-7	1,4-Dichlorobenzene	5000	1250000	U
120-82-1	1,2,4-Trichlorobenzene	5000	1250000	U
101-55-3	4-Bromophenyl phenyl ether	5000	1250000	U
7005-72-3	4-Chlorophenyl phenyl ether	5000	1250000	U
62-53-3	Aniline	5000	2500000	U
106-47-8	4-Chloroaniline	5000	1250000	U
88-74-4	2-Nitroaniline	5000	10000000	U
99-09-2	3-Nitroaniline	5000	10000000	U
100-01-6	4-Nitroaniline	5000	10000000	U
98-95-3	Nitrobenzene	5000	4990000	U
121-14-2	2,4-Dinitrotoluene	5000	4990000	U
606-20-2	2,6-Dinitrotoluene	5000	4990000	U
65-85-0	Benzoic acid	5000	62600000	U
100-51-6	Benzyl alcohol	5000	2500000	U
78-59-1	Isophorone	5000	1250000	U
103-33-3	Azobenzene (1,2-DPH)	5000	1250000	U
103-23-1	Bis(2-Ethylhexyl) adipate	5000	12500000	U
91-94-1	3,3'-Dichlorobenzidine	5000	9980000	U
528-29-0	1,2-Dinitrobenzene	5000	12500000	U
99-65-0	1,3-Dinitrobenzene	5000	12500000	U
100-25-4	1,4-Dinitrobenzene	5000	12500000	U
110-86-1	Pyridine	5000	2500000	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Nitrobenzene-d5 (Surr)	10000	0.00		37 - 122	D
2-Fluorobiphenyl (Surr)	10000	0.00		44 - 115	D

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190515-005

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	A9E0582-01	File ID:	I05211909.D
Sampled:	05/15/19 14:45	Prepared:	05/20/19 16:13	Analyzed:	05/21/19 12:56
		Preparation:	EPA 3546	Initial/Final:	0.5 g / 5 mL

Batch: 9051065 Sequence: 9E21026 Calibration: A9E1009 Instrument: SV-GCMS9

SYSTEM MONITORING COMPOUND	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Phenol-d6 (Surr)	10000	0.00		33 - 122	D
p-Terphenyl-d14 (Surr)	10000	0.00		54 - 127	D
2-Fluorophenol (Surr)	10000	0.00		35 - 115	D
2,4,6-Tribromophenol (Surr)	10000	0.00		39 - 132	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4 (ISTD)	86168	6.685	84488	6.685	
Naphthalene-d8 (ISTD)	346392	7.937	319520	7.937	
Acenaphthene-d10 (ISTD)	159759	9.707	159574	9.707	
Phenanthrene-d10 (ISTD)	309904	11.216	304901	11.216	
Chrysene-d12 (ISTD)	316736	15.04	298923	15.045	
Perylene-d12 (ISTD)	298634	18.527	286034	18.533	
Dibenz(a,h)anthracene-d14 (ISTD)	283094	20.907	278158	20.913	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0582

Client: Hahn and Associates Project: Mult 802 Decommissioning

Batch: 9051065 Batch Matrix: Solid Preparation: EPA 3546

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051065-BLK1	I05211904.D	05/20/19 16:13	
LCS	9051065-BS1	I05211905.D	05/20/19 16:13	
2708-190515-005	A9E0582-01	I05211909.D	05/20/19 16:13	

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:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051065-BLK1	File ID:	I05211904.D
Prepared:	05/20/19 16:13	Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL
Analyzed:	05/21/19 09:51	Instrument:	SV-GCMS9		
Batch:	9051065	Sequence:	9E21026	Calibration:	A9E1009

CAS NO.	COMPOUND	CONC. (ug/kg)	Q
83-32-9	Acenaphthene	148	B
208-96-8	Acenaphthylene	3.32	U
120-12-7	Anthracene	5.30	J
56-55-3	Benz(a)anthracene	3.32	U
50-32-8	Benzo(a)pyrene	5.00	U
205-99-2	Benzo(b)fluoranthene	5.00	U
207-08-9	Benzo(k)fluoranthene	5.00	U
191-24-2	Benzo(g,h,i)perylene	3.32	U
218-01-9	Chrysene	3.32	U
53-70-3	Dibenz(a,h)anthracene	3.32	U
206-44-0	Fluoranthene	5.25	J
86-73-7	Fluorene	26.2	B
193-39-5	Indeno(1,2,3-cd)pyrene	3.32	U
90-12-0	1-Methylnaphthalene	108	B
91-57-6	2-Methylnaphthalene	223	B
91-20-3	Naphthalene	1070	B
85-01-8	Phenanthrene	27.7	B
129-00-0	Pyrene	3.91	J
86-74-8	Carbazole	5.00	U
132-64-9	Dibenzofuran	46.6	B
59-50-7	4-Chloro-3-methylphenol	33.2	U
95-57-8	2-Chlorophenol	16.7	U
120-83-2	2,4-Dichlorophenol	16.7	U
105-67-9	2,4-Dimethylphenol	16.7	U
51-28-5	2,4-Dinitrophenol	83.2	U
534-52-1	4,6-Dinitro-2-methylphenol	83.2	U
95-48-7	2-Methylphenol	9.24	J
NA	3+4-Methylphenol(s)	13.2	J
88-75-5	2-Nitrophenol	33.2	U
100-02-7	4-Nitrophenol	33.2	U
87-86-5	Pentachlorophenol (PCP)	33.2	U
108-95-2	Phenol	23.4	B
58-90-2	2,3,4,6-Tetrachlorophenol	16.7	U
935-95-5	2,3,5,6-Tetrachlorophenol	16.7	U
95-95-4	2,4,5-Trichlorophenol	16.7	U

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051065-BLK1	File ID:	I05211904.D
Prepared:	05/20/19 16:13	Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL
Analyzed:	05/21/19 09:51	Instrument:	SV-GCMS9		
Batch:	9051065	Sequence:	9E21026	Calibration:	A9E1009

CAS NO.	COMPOUND	CONC. (ug/kg)	Q
88-06-2	2,4,6-Trichlorophenol	16.7	U
117-81-7	Bis(2-ethylhexyl)phthalate	50.0	U
85-68-7	Butyl benzyl phthalate	33.2	U
84-66-2	Diethylphthalate	33.2	U
131-11-3	Dimethylphthalate	33.2	U
84-74-2	Di-n-butylphthalate	33.2	U
117-84-0	Di-n-octyl phthalate	33.2	U
62-75-9	N-Nitrosodimethylamine	8.32	U
621-64-7	N-Nitroso-di-n-propylamine	8.32	U
86-30-6	N-Nitrosodiphenylamine	8.32	U
111-91-1	Bis(2-Chloroethoxy) methane	8.32	U
111-44-4	Bis(2-Chloroethyl) ether	8.32	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	8.32	U
118-74-1	Hexachlorobenzene	3.32	U
87-68-3	Hexachlorobutadiene	8.32	U
77-47-4	Hexachlorocyclopentadiene	16.7	U
67-72-1	Hexachloroethane	8.32	U
91-58-7	2-Chloronaphthalene	3.32	U
95-50-1	1,2-Dichlorobenzene	8.32	U
541-73-1	1,3-Dichlorobenzene	8.32	U
106-46-7	1,4-Dichlorobenzene	8.32	U
120-82-1	1,2,4-Trichlorobenzene	8.32	U
101-55-3	4-Bromophenyl phenyl ether	8.32	U
7005-72-3	4-Chlorophenyl phenyl ether	8.32	U
62-53-3	Aniline	16.7	U
106-47-8	4-Chloroaniline	8.32	U
88-74-4	2-Nitroaniline	66.8	U
99-09-2	3-Nitroaniline	66.8	U
100-01-6	4-Nitroaniline	66.8	U
98-95-3	Nitrobenzene	33.2	U
121-14-2	2,4-Dinitrotoluene	33.2	U
606-20-2	2,6-Dinitrotoluene	33.2	U
65-85-0	Benzoic acid	418	U
100-51-6	Benzyl alcohol	16.7	U
78-59-1	Isophorone	8.32	U

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051065-BLK1	File ID:	I05211904.D
Prepared:	05/20/19 16:13	Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL
Analyzed:	05/21/19 09:51	Instrument:	SV-GCMS9		
Batch:	9051065	Sequence:	9E21026	Calibration:	A9E1009

CAS NO.	COMPOUND	CONC. (ug/kg)	Q
103-33-3	Azobenzene (1,2-DPH)	8.32	U
103-23-1	Bis(2-Ethylhexyl) adipate	83.2	U
91-94-1	3,3'-Dichlorobenzidine	66.5	U
528-29-0	1,2-Dinitrobenzene	83.2	U
99-65-0	1,3-Dinitrobenzene	83.2	U
100-25-4	1,4-Dinitrobenzene	83.2	U
110-86-1	Pyridine	16.7	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
Nitrobenzene-d5 (Surr)	333	290	87	37 - 122	
2-Fluorobiphenyl (Surr)	333	297	89	44 - 115	
Phenol-d6 (Surr)	333	264	79	33 - 122	
p-Terphenyl-d14 (Surr)	333	313	94	54 - 127	
2-Fluorophenol (Surr)	333	270	81	35 - 115	
2,4,6-Tribromophenol (Surr)	333	290	87	39 - 132	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4 (ISTD)	89774	6.691	84488	6.685	
Naphthalene-d8 (ISTD)	348983	7.942	319520	7.937	
Acenaphthene-d10 (ISTD)	161332	9.713	159574	9.707	
Phenanthrene-d10 (ISTD)	315328	11.221	304901	11.216	
Chrysene-d12 (ISTD)	320540	15.045	298923	15.045	
Perylene-d12 (ISTD)	296996	18.532	286034	18.533	
Dibenz(a,h)anthracene-d14 (ISTD)	282864	20.913	278158	20.913	

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051065	Laboratory ID:	9051065-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	533	682	128 *	40 - 122
Acenaphthylene	533	567	106	32 - 132
Anthracene	533	550	103	47 - 123
Benz(a)anthracene	533	557	104	49 - 126
Benzo(a)pyrene	533	592	111	45 - 129
Benzo(b)fluoranthene	533	545	102	45 - 132
Benzo(k)fluoranthene	533	539	101	47 - 132
Benzo(g,h,i)perylene	533	565	106	43 - 134
Chrysene	533	542	102	50 - 124
Dibenz(a,h)anthracene	533	558	105	45 - 134
Fluoranthene	533	554	104	50 - 127
Fluorene	533	546	102	43 - 125
Indeno(1,2,3-cd)pyrene	533	538	101	45 - 133
1-Methylnaphthalene	533	617	116	40 - 120
2-Methylnaphthalene	533	740	139 *	38 - 122
Naphthalene	533	1450	273 *	35 - 123
Phenanthrene	533	561	105	50 - 121
Pyrene	533	546	102	47 - 127
Carbazole	533	557	104	50 - 122
Dibenzofuran	533	606	114	44 - 120
4-Chloro-3-methylphenol	533	521	98	45 - 122
2-Chlorophenol	533	537	101	34 - 121
2,4-Dichlorophenol	533	560	105	40 - 122
2,4-Dimethylphenol	533	584	109	30 - 127
2,4-Dinitrophenol	533	534	100	5 - 137
4,6-Dinitro-2-methylphenol	533	645	121	29 - 132
2-Methylphenol	533	550	103	32 - 122
3+4-Methylphenol(s)	533	577	108	34 - 120
2-Nitrophenol	533	563	106	36 - 123
4-Nitrophenol	533	520	97	30 - 132

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051065	Laboratory ID:	9051065-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Pentachlorophenol (PCP)	533	560	105	25 - 133
Phenol	533	547	103	34 - 120
2,3,4,6-Tetrachlorophenol	533	545	102	44 - 125
2,3,5,6-Tetrachlorophenol	533	555	104	40 - 120
2,4,5-Trichlorophenol	533	566	106	41 - 124
2,4,6-Trichlorophenol	533	548	103	39 - 126
Bis(2-ethylhexyl)phthalate	533	596	112	51 - 133
Butyl benzyl phthalate	533	590	111	48 - 132
Diethylphthalate	533	573	107	50 - 124
Dimethylphthalate	533	571	107	48 - 124
Di-n-butylphthalate	533	576	108	51 - 128
Di-n-octyl phthalate	533	570	107	44 - 140
N-Nitrosodimethylamine	533	470	88	23 - 120
N-Nitroso-di-n-propylamine	533	507	95	36 - 120
N-Nitrosodiphenylamine	533	549	103	38 - 127
Bis(2-Chloroethoxy) methane	533	510	96	36 - 121
Bis(2-Chloroethyl) ether	533	489	92	31 - 120
2,2'-Oxybis(1-Chloropropane)	533	456	86	33 - 131
Hexachlorobenzene	533	539	101	44 - 122
Hexachlorobutadiene	533	520	98	32 - 123
Hexachlorocyclopentadiene	533	622	117	5 - 140
Hexachloroethane	533	521	98	28 - 120
2-Chloronaphthalene	533	580	109	41 - 120
1,2-Dichlorobenzene	533	523	98	33 - 120
1,3-Dichlorobenzene	533	495	93	30 - 120
1,4-Dichlorobenzene	533	523	98	31 - 120
1,2,4-Trichlorobenzene	533	517	97	34 - 120
4-Bromophenyl phenyl ether	533	552	104	46 - 124
4-Chlorophenyl phenyl ether	533	543	102	45 - 121
Aniline	533	378	71	7 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051065	Laboratory ID:	9051065-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
4-Chloroaniline	533	307	58	16 - 120
2-Nitroaniline	533	591	111	44 - 127
3-Nitroaniline	533	638	120	33 - 120
4-Nitroaniline	533	589	110	35 - 120
Nitrobenzene	533	507	95	34 - 122
2,4-Dinitrotoluene	533	571	107	48 - 126
2,6-Dinitrotoluene	533	603	113	46 - 124
Benzoic acid	1070	612	57	5 - 140
Benzyl alcohol	533	525	98	29 - 122
Isophorone	533	516	97	30 - 122
Azobenzene (1,2-DPH)	533	545	102	39 - 125
Bis(2-Ethylhexyl) adipate	533	559	105	60 - 121
3,3'-Dichlorobenzidine	1070	2960	277 *	22 - 121
1,2-Dinitrobenzene	533	559	105	44 - 120
1,3-Dinitrobenzene	533	591	111	42 - 127
1,4-Dinitrobenzene	533	594	111	37 - 132
Pyridine	533	375	70	5 - 120

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E08056	Instrument:	SV-GCMS9
Matrix:	Solid	Calibration:	A9E1009

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9E08056-TUN1	I05081917.D	05/08/19 19:08
Initial Cal Blank	9E08056-ICB1	I05081918.D	05/08/19 19:35
Cal Standard	9E08056-CAL1	I05081919.D	05/08/19 20:12
Cal Standard	9E08056-CAL2	I05081920.D	05/08/19 20:48
Cal Standard	9E08056-CAL3	I05081921.D	05/08/19 21:25
Cal Standard	9E08056-CAL4	I05081922.D	05/08/19 22:01
Cal Standard	9E08056-CAL5	I05081923.D	05/08/19 22:38
Cal Standard	9E08056-CAL6	I05081924.D	05/08/19 23:14
Cal Standard	9E08056-CAL7	I05081925.D	05/08/19 23:50
Cal Standard	9E08056-CAL8	I05081926.D	05/09/19 00:26
Cal Standard	9E08056-CAL9	I05081927.D	05/09/19 01:01
Cal Standard	9E08056-CALA	I05081928.D	05/09/19 01:37
Initial Cal Check	9E08056-ICV1	I05081930.D	05/09/19 02:48

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21026	Instrument:	SV-GCMS9
Matrix:	Solid	Calibration:	A9E1009

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9E21026-TUN1	I05211901.D	05/21/19 08:10
Calibration Check	9E21026-CCV1	I05211902.D	05/21/19 08:38
Calibration Blank	9E21026-CCB1	I05211903.D	05/21/19 09:15
Blank	9051065-BLK1	I05211904.D	05/21/19 09:51
LCS	9051065-BS1	I05211905.D	05/21/19 10:28
2708-190515-005	A9E0582-01	I05211909.D	05/21/19 12:56

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	I05081917.D	Injection Date:	05/08/19
Instrument ID:	SV-GCMS9	Injection Time:	19:08
Sequence:	9E08056	Lab Sample ID:	9E08056-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 127			
m/z 275			
m/z 51			
m/z 68	Less than 2% of m/z 69	0.00	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.47	PASS
m/z 197	Less than 2% of m/z 198	0.00	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	7.11	PASS
m/z 365	1 - 100% of m/z 198	2.92	PASS
m/z 441	Less than 24% of m/z 443	43.20	FAIL
m/z 442	50 - 200% of m/z 198	91.72	PASS
m/z 443	15 - 24% of m/z 442	20.20	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Lab File ID:	I05211901.D	Injection Date:	05/21/19
Instrument ID:	SV-GCMS9	Injection Time:	08:10
Sequence:	9E21026	Lab Sample ID:	9E21026-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 127			
m/z 275			
m/z 51			
m/z 68	Less than 2% of m/z 69	0.00	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.59	PASS
m/z 197	Less than 2% of m/z 198	0.00	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.79	PASS
m/z 365	1 - 100% of m/z 198	3.33	PASS
m/z 441	Less than 24% of m/z 443	84.22	FAIL
m/z 442	50 - 200% of m/z 198	112.61	PASS
m/z 443	15 - 24% of m/z 442	19.55	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0582

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E1009 Date: 05/10/19 17:06 Instrument: SV-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	1.246362	Ave	13.87219	9.7507	7.072931E-02			20	
Acenaphthylene	1.978454	Ave	13.33308	9.573111	0.0608599			20	
Anthracene	1.06825	Ave	14.38712	11.30011	5.303121E-02			20	
Benz(a)anthracene	1.161693	Ave	5.391775	15.0358	9.314707E-02			20	
Benzo(a)pyrene	1.052651	XXX	11.81329	18.4065	0.1593326				
Benzo(b)fluoranthene	1.222586	XXX	9.234768	17.6298	0.1366649				
Benzo(k)fluoranthene	1.138397	XXX	12.73071	17.6977	0.1499183				
Benzo(g,h,i)perylene	1.073878	Ave	6.075218	21.4733	0.1473093			20	
Chrysene	1.071717	Ave	4.434002	15.121	0.1256095			20	
Dibenz(a,h)anthracene	0.9695725	Ave	6.841868	21.0005	0.1397927			20	
Fluoranthene	1.248412	Ave	12.71245	12.52533	4.516384E-02			20	
Fluorene	1.461705	Ave	10.98918	10.27013	5.132872E-02			20	
Indeno(1,2,3-cd)pyrene	1.098245	Ave	1.815585	20.9369	0.1565769			20	
1-Methylnaphthalene	0.7088084	Ave	10.96283	8.7613	6.246145E-02			20	
2-Methylnaphthalene	0.7525787	Ave	7.980811	8.661	0.0255116			20	
Naphthalene	0.9975462	Ave	12.5204	7.9701	8.103341E-02			20	
Phenanthrene	1.068375	Ave	13.94355	11.24767	5.196918E-02			20	
Pyrene	1.270483	Ave	14.04786	12.82278	5.314098E-02			20	
Carbazole	0.9362039	Ave	13.91313	10.18222	37.50003			20	
Dibenzofuran	1.696097	Ave	12.81337	9.922555	0.0510292			20	
4-Chloro-3-methylphenol	0.2730857	XXX	27.63199	8.5	0.0714853				
2-Chlorophenol	1.365821	Ave	3.539145	6.501	4.083644E-02			20	
2,4-Dichlorophenol	0.2377673	XXX	17.70644	7.809889	0.1048885				
2,4-Dimethylphenol	0.2837466	Ave	10.48648	7.604222	0.132719			20	
2,4-Dinitrophenol	0.1206814	XXX	47.41214	9.773857	0.1200607				
4,6-Dinitro-2-methylphenol	0.16763	XXX	34.03061	10.32113	0.1426601				
2-Methylphenol	1.035993	Ave	6.10587	6.9347	7.623988E-02			20	
3+4-Methylphenol(s)	1.288151	Ave	6.68875	7.0835	0.1181184			20	
2-Nitrophenol	0.189115	Ave	13.19256	7.5663	6.919828E-02			20	
4-Nitrophenol	0.2179687	XXX	28.71261	9.8415	0.1154792				
Pentachlorophenol (PCP)	0.1023087	XXX	26.74241	11.03775	4.677226E-02				
Phenol	1.808658	Ave	5.593781	6.3574	0.1392597			20	
2,3,4,6-Tetrachlorophenol	0.2799104	XXX	22.91784	10.0523	6.591509E-02				

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0582

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E1009 Date: 05/10/19 17:06 Instrument: SV-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
2,3,5,6-Tetrachlorophenol	0.2621185	XXX	27.45989	10.00878	6.369047E-02				
2,4,5-Trichlorophenol	0.3135775	XXX	23.07667	8.986556	0.0636193				
2,4,6-Trichlorophenol	0.3274987	XXX	25.5561	8.946111	5.780616E-02				
Bis(2-ethylhexyl)phthalate	0.7051378	Ave	13.69529	15.18638	5.498995E-02			20	
Butyl benzyl phthalate	0.5385928	XXX	25.47746	13.8463	6.957219E-02				
Diethylphthalate	1.355775	Ave	11.16852	10.13525	0.0608516			20	
Dimethylphthalate	1.399174	Ave	11.07178	9.4309	0.1625335			20	
Di-n-butylphthalate	1.213073	Ave	9.341261	11.79386	3.268408E-02			20	
Di-n-octyl phthalate	1.274584	XXX	23.84729	16.85238	8.408778E-02				
N-Nitrosodimethylamine	0.9994518	Ave	8.417646	4.1749	0.2456573			20	
N-Nitroso-di-n-propylamine	1.038343	Ave	7.40199	7.0852	0.1718028			20	
N-Nitrosodiphenylamine	0.617737	Ave	13.50961	10.37925	5.837758E-02			20	
Bis(2-Chloroethoxy) methane	0.4346998	Ave	8.397769	7.6893	0.1028808			20	
Bis(2-Chloroethyl) ether	1.522164	Ave	6.931483	6.435	9.991866E-02			20	
2,2'-Oxybis(1-Chloropropane)	1.85392	Ave	12.12271	6.9534	6.513491E-02			20	
Hexachlorobenzene	0.2442594	Ave	12.77258	10.84067	5.620959E-02			20	
Hexachlorobutadiene	0.166018	Ave	9.741395	8.0965	0.0548252			20	
Hexachlorocyclopentadiene	0.2556701	XXX	31.73959	8.827333	2.881535E-02				
Hexachloroethane	0.4701075	Ave	5.054182	7.1958	3.747133E-02			20	
2-Chloronaphthalene	1.20418	Ave	9.88966	9.151125	3.653769E-02			20	
1,2-Dichlorobenzene	1.407877	Ave	8.949005	6.8642	4.142653E-02			20	
1,3-Dichlorobenzene	1.562184	Ave	8.093414	6.6448	4.455832E-02			20	
1,4-Dichlorobenzene	1.459183	Ave	7.343118	6.7133	5.823049E-02			20	
1,2,4-Trichlorobenzene	0.3197364	Ave	11.19025	7.8916	4.780519E-02			20	
4-Bromophenyl phenyl ether	0.2198931	Ave	11.23192	10.7598	5.866323E-02			20	
4-Chlorophenyl phenyl ether	0.6829022	Ave	12.71016	10.26144	4.740166E-02			20	
Aniline	1.539056	Ave	16.89665	6.384111	7.810778E-02			20	
4-Chloroaniline	0.2556341	Ave	13.18349	8.0254	0.1733764			20	
2-Nitroaniline	0.4040472	Ave	13.26209	9.254857	0.1020166			20	
3-Nitroaniline	0.2422426	XXX	16.75589	8.054333	48.98985				
4-Nitroaniline	0.2995021	Ave	9.169683	10.29186	0.1663535			20	
Nitrobenzene	1.39112	Ave	7.217683	7.2535	0.1071721			20	
2,4-Dinitrotoluene	0.3672234	XXX	24.74855	9.902889	0.1393943				

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0582

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E1009 Date: 05/10/19 17:06 Instrument: SV-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
2,6-Dinitrotoluene	0.3128654	Ave	12.47982	9.492625	0.1125431			20	
Benzoic acid	0.1697623	XXX	41.45533	7.755	0.8960374				
Benzyl alcohol	0.7337486	XXX	26.01605	6.830444	0.1320465				
Isophorone	0.7406279	Ave	4.835266	7.4862	0.1627337			20	
Azobenzene (1,2-DPH)	0.6933106	Ave	13.73276	10.42267	5.956098E-02			20	
Bis(2-Ethylhexyl) adipate	0.5272206	Ave	11.82306	14.017	5.882476E-02			20	
3,3'-Dichlorobenzidine	0.1639363	XXX	47.84628	14.99883	8.565957E-02				
1,2-Dinitrobenzene	0.1551751	Ave	7.871382	9.555429	0.181337			20	
1,3-Dinitrobenzene	0.2246904	Ave	10.69776	9.466571	0.1621668			20	
1,4-Dinitrobenzene	0.1817709	XXX	28.96064	9.38025	0.1133143				
Pyridine	1.52558	Ave	9.076905	4.1931	0.5452424			20	
Nitrobenzene-d5 (Surr)	1.414255	Ave	4.398612	7.2342	8.875683E-02			20	
2-Fluorobiphenyl (Surr)	1.499573	Ave	12.95656	9.024889	4.749493E-02			20	
Phenol-d6 (Surr)	1.700623	Ave	9.466828	6.344	0.1309956			20	
p-Terphenyl-d14 (Surr)	0.9800873	Ave	6.065597	13.0273	5.271297E-02			20	
2-Fluorophenol (Surr)	1.306892	Ave	11.05673	5.469	4.502382E-02			20	
2,4,6-Tribromophenol (Surr)	9.203934E-02	Ave	11.41246	10.518	6.801967E-02			20	

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

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E1009
Instrument: SV-GCMS9
Calibration Date: 05/10/19 17:06

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	1.288501	50	1.419587	100	1.406563	200	1.39259	500	1.371812	1000	1.306586
Acenaphthylene	20	1.863144	50	2.010742	100	2.189345	200	2.231277	500	2.22154	1000	2.159684
Anthracene	20	1.127751	50	1.14128	100	1.199078	200	1.200488	500	1.187601	1000	1.107107
Benz(a)anthracene	20	1.238278	50	1.146912	100	1.156658	200	1.2101	500	1.232807	1000	1.201567
Benzo(a)pyrene	20	0.831374	50	0.9495318	100	1.011327	200	1.09916	500	1.217697	1000	1.226816
Benzo(b)fluoranthene	20	1.040836	50	1.069929	100	1.095045	200	1.220618	500	1.317848	1000	1.340094
Benzo(k)fluoranthene	20	1.017948	50	1.107924	100	1.153141	200	1.268315	500	1.343987	1000	1.310869
Benzo(b+k)fluoranthene(s)	40	1.029392	100	1.129669	200	1.170828	400	1.277505	1000	1.367083	2000	1.355767
Benzo(g,h,i)perylene	20	1.007868	50	1.040986	100	1.074444	200	1.126319	500	1.174934	1000	1.133316
Chrysene	20	1.103678	50	1.076118	100	1.102162	200	1.124544	500	1.126938	1000	1.0793
Dibenz(a,h)anthracene	20	0.9716498	50	0.9790812	100	1.003394	200	1.034606	500	1.04517	1000	0.998845
Fluoranthene	20	1.230029	50	1.262474	100	1.342926	200	1.395811	500	1.432339	1000	1.352739
Fluorene	20	1.519659	50	1.512221	100	1.603912	200	1.583846	500	1.575582	1000	1.45017
Indeno(1,2,3-cd)pyrene	20	1.127763	50	1.08833	100	1.108311	200	1.085168	500	1.136381	1000	1.091439
1-Methylnaphthalene	20	0.7161269	50	0.7230382	100	0.7606168	200	0.7740158	500	0.8013938	1000	0.7657356
2-Methylnaphthalene	20	0.6944655	50	0.7202952	100	0.7636913	200	0.7871127	500	0.8385005	1000	0.8146151
Naphthalene	20	1.068125	50	1.095144	100	1.106694	200	1.09884	500	1.083677	1000	1.048114
Phenanthrene	20	1.134929	50	1.183318	100	1.186359	200	1.183071	500	1.169809	1000	1.091993
Pyrene	20	1.317504	50	1.337785	100	1.404394	200	1.440178	500	1.421049	1000	1.349333
Carbazole	20	0.8810276	50	0.9494272	100	1.015353	200	1.061283	500	1.074229	1000	1.02904
Dibenzofuran	20	1.47976	50	1.738961	100	1.834585	200	1.920675	500	1.943877	1000	1.835112
4-Chloro-3-methylphenol	20	~~0.1122062~~	50	~~0.1230065~~	100	0.1262715	200	0.1919174	500	0.2659416	1000	0.3083995
2-Chlorophenol	20	1.314571	50	1.287184	100	1.360969	200	1.367597	500	1.432557	1000	1.399386
2,4-Dichlorophenol	20	~~0.1483808~~	50	0.1514651	100	0.1950366	200	0.2221574	500	0.2530891	1000	0.2715491
2,4-Dimethylphenol	20	~~0.2241958~~	50	0.2187544	100	0.2603808	200	0.2803587	500	0.3010278	1000	0.3104036
2,4-Dinitrophenol	20	~~0~~	50	~~0~~	100	~~1.038239E-02~~	200	2.957144E-02	500	6.577932E-02	1000	0.1079237
4,6-Dinitro-2-methylphenol	20	~~0~~	50	~~3.688344E-02~~	100	0.063634	200	0.1025415	500	0.1526732	1000	0.1872498
2-Methylphenol	20	1.00711	50	0.9144437	100	1.105322	200	1.011356	500	1.117853	1000	1.061494
3+4-Methylphenol(s)	20	1.187918	50	1.142116	100	1.289658	200	1.31547	500	1.405096	1000	1.34953
2-Nitrophenol	20	0.1412325	50	0.1586655	100	0.1719994	200	0.1975182	500	0.2268856	1000	0.2034607
4-Nitrophenol	20	~~7.502884E-02~~	50	~~6.883775E-02~~	100	0.1087639	200	0.1442678	500	0.1998079	1000	0.2380584

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories

Client: Hahn and Associates

Calibration: A9E1009

SDG: A9E0582

Project: Mult 802 Decommissioning

Instrument: SV-GCMS9

Calibration Date: 05/10/19 17:06

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	~~0.1155115~~	50	~~6.994367E-02~~	100	5.531214E-02	200	6.709891E-02	500	9.704437E-02	1000	0.1095413
Phenol	20	1.607183	50	1.682112	100	1.785201	200	1.828256	500	1.90949	1000	1.842957
2,3,4,6-Tetrachlorophenol	20	0.1526598	50	0.1844172	100	0.2538662	200	0.2928592	500	0.32725	1000	0.3393464
2,3,5,6-Tetrachlorophenol	20	~~9.237655E-02~~	50	0.1223782	100	0.1637738	200	0.2411398	500	0.2918818	1000	0.3153475
2,4,5-Trichlorophenol	20	~~0.1799825~~	50	0.1840772	100	0.2253983	200	0.259576	500	0.3397883	1000	0.3769458
2,4,6-Trichlorophenol	20	~~0.1491903~~	50	0.1677601	100	0.2172766	200	0.2906159	500	0.3703367	1000	0.3945046
Bis(2-ethylhexyl)phthalate	20	~~0.3788428~~	50	~~0.4304644~~	100	0.502371	200	0.6149371	500	0.7295725	1000	0.7456653
Butyl benzyl phthalate	20	0.3139959	50	0.3724338	100	0.395015	200	0.4909578	500	0.561584	1000	0.6001846
Diethylphthalate	20	1.340544	50	1.40208	100	1.484431	200	1.508918	500	1.456733	1000	1.378609
Dimethylphthalate	20	1.304548	50	1.473468	100	1.54212	200	1.564146	500	1.574707	1000	1.490367
Di-n-butylphthalate	20	~~1.054631~~	50	1.069906	100	1.202292	200	1.27455	500	1.355582	1000	1.325249
Di-n-octyl phthalate	20	~~0.5162564~~	50	~~0.5928279~~	100	0.6860704	200	0.9387831	500	1.249867	1000	1.418885
N-Nitrosodimethylamine	20	1.210628	50	0.9731538	100	0.974643	200	0.9311297	500	0.9375772	1000	0.9187962
N-Nitroso-di-n-propylamine	20	1.076114	50	1.073166	100	1.092687	200	1.10156	500	1.119614	1000	1.066619
N-Nitrosodiphenylamine	20	0.5463807	50	0.5694775	100	0.6706257	200	0.7125663	500	0.7210734	1000	0.6544348
Bis(2-Chloroethoxy) methane	20	0.4094011	50	0.4633102	100	0.4797537	200	0.460457	500	0.473139	1000	0.4511814
Bis(2-Chloroethyl) ether	20	1.678808	50	1.527145	100	1.547209	200	1.557647	500	1.532854	1000	1.567433
2,2'-Oxybis(1-Chloropropane)	20	1.993257	50	1.994095	100	2.12341	200	2.027618	500	2.009041	1000	1.880868
Hexachlorobenzene	20	0.2330417	50	0.2783436	100	0.2804081	200	0.2604668	500	0.2659926	1000	0.2488493
Hexachlorobutadiene	20	0.1854219	50	0.1720377	100	0.175507	200	0.1750512	500	0.1796679	1000	0.1706737
Hexachlorocyclopentadiene	20	~~2.428679E-02~~	50	0.1006221	100	0.1502935	200	0.2171563	500	0.2812816	1000	0.3091032
Hexachloroethane	20	0.4935101	50	0.4806035	100	0.4810039	200	0.4791992	500	0.5047321	1000	0.4718837
2-Chloronaphthalene	20	1.065583	50	1.120441	100	1.219931	200	1.313217	500	1.372841	1000	1.297531
1,2-Dichlorobenzene	20	1.391437	50	1.480723	100	1.532497	200	1.531708	500	1.54352	1000	1.441976
1,3-Dichlorobenzene	20	1.764408	50	1.575956	100	1.688793	200	1.623242	500	1.642191	1000	1.568358
1,4-Dichlorobenzene	20	1.513722	50	1.546942	100	1.518996	200	1.558894	500	1.55659	1000	1.498483
1,2,4-Trichlorobenzene	20	0.3312033	50	0.342361	100	0.3540885	200	0.3497403	500	0.3512451	1000	0.3360108
4-Bromophenyl phenyl ether	20	0.2189111	50	0.2219057	100	0.2460077	200	0.2401504	500	0.2493611	1000	0.2342623
4-Chlorophenyl phenyl ether	20	0.6297218	50	0.7293402	100	0.7569097	200	0.7838675	500	0.7622339	1000	0.708171
Aniline	20	~~1.936481~~	50	1.733996	100	1.841108	200	1.763659	500	1.793414	1000	1.388555
4-Chloroaniline	20	0.2961118	50	0.2936727	100	0.2846738	200	0.27282	500	0.2289061	1000	0.2636523

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E1009
Instrument: SV-GCMS9
Calibration Date: 05/10/19 17:06

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	~~8.587116E-02~~	50	~~0.129007~~	100	~~0.1619318~~	200	0.2871081	500	0.3920173	1000	0.435502
3-Nitroaniline	20	~~0.1210003~~	50	~~0.1550124~~	100	~~0.1898135~~	200	0.2568432	500	0.2979709	1000	0.2738699
4-Nitroaniline	20	~~0.1717423~~	50	~~0.2158616~~	100	~~0.2287475~~	200	0.3129678	500	0.3374728	1000	0.326831
Nitrobenzene	20	1.478783	50	1.409383	100	1.486975	200	1.519155	500	1.461204	1000	1.390457
2,4-Dinitrotoluene	20	~~0.1795488~~	50	0.1842472	100	0.2569641	200	0.3623215	500	0.4347267	1000	0.4479817
2,6-Dinitrotoluene	20	~~0.134011~~	50	~~0.1776184~~	100	0.237539	200	0.3087666	500	0.3578841	1000	0.3501717
Benzoic acid	40	~~0~~	100	~~6.728927E-03~~	200	~~1.234135E-02~~	400	~~1.925137E-02~~	1000	5.611395E-02	2000	0.1323593
Benzyl alcohol	20	~~0.3441469~~	50	0.4212107	100	0.501601	200	0.5794619	500	0.72107	1000	0.7850446
Isophorone	20	0.6732373	50	0.7113805	100	0.716058	200	0.7557014	500	0.7964985	1000	0.7778429
Azobenzene (1,2-DPH)	20	0.6298181	50	0.6864676	100	0.7844185	200	0.8002232	500	0.8012009	1000	0.7384806
Benzidine	40	~~0.5985291~~	100	~~0.2982892~~	200	~~0.325898~~	400	0.4124002	1000	0.3544726	2000	0.2808198
Bis(2-Ethylhexyl) adipate	20	0.635031	50	0.4416961	100	0.4385854	200	0.4728715	500	0.5076291	1000	0.5356732
3,3'-Dichlorobenzidine	40	~~0.275493~~	100	~~0.2664131~~	200	~~0.2975086~~	400	0.3011133	1000	0.211599	2000	0.14549
1,2-Dinitrobenzene	20	~~4.683881E-02~~	50	~~0.0882143~~	100	~~0.1055822~~	200	0.1418205	500	0.1608034	1000	0.1702692
1,3-Dinitrobenzene	20	~~0.0477062~~	50	~~0.1048713~~	100	~~0.139325~~	200	0.1724933	500	0.2276633	1000	0.2437779
1,4-Dinitrobenzene	20	~~5.030835E-02~~	50	~~5.150083E-02~~	100	7.996115E-02	200	0.1238737	500	0.177304	1000	0.2047553
Pyridine	20	1.39231	50	1.405629	100	1.367027	200	1.433441	500	1.518192	1000	1.469142
2,3,5-Trimethylnaphthalene	20	1.268551	50	1.270524	100	1.338324	200	1.303468	500	1.307919	1000	1.207273
2,6-Dimethylnaphthalene	20	1.11459	50	1.215284	100	1.31354	200	1.402747	500	1.409564	1000	1.340618
Benzo(e)pyrene	20	1.085456	50	1.132828	100	1.183546	200	1.245102	500	1.321292	1000	1.297193
1,1'-Biphenyl	20	1.43162	50	1.544515	100	1.686134	200	1.811608	500	1.920156	1000	1.818692
Perylene	20	1.029276	50	0.9863375	100	1.041456	200	1.03607	500	1.098192	1000	1.079829
Nitrobenzene-d5 (Surr)	20	1.553028	50	1.376274	100	1.414972	200	1.465448	500	1.447388	1000	1.395719
2-Fluorobiphenyl (Surr)	20	1.342713	50	1.501853	100	1.633133	200	1.702499	500	1.728598	1000	1.620679
Phenol-d6 (Surr)	20	1.463061	50	1.475944	100	1.583384	200	1.633634	500	1.720105	1000	1.694929
p-Terphenyl-d14 (Surr)	20	0.975051	50	0.9304463	100	1.015495	200	1.036821	500	1.060335	1000	1.023652
2-Fluorophenol (Surr)	20	1.132016	50	1.060195	100	1.213847	200	1.246799	500	1.324304	1000	1.304523
2,4,6-Tribromophenol (Surr)	20	~~6.639108E-02~~	50	7.065921E-02	100	8.120293E-02	200	9.200568E-02	500	0.1017594	1000	0.1038965

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E1009
Instrument: SV-GCMS9
Matrix:
Calibration Date: 05/10/19 17:06

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	1.222855	4000	1.106924	6000	1.010154	8000	0.9380463				
Acenaphthylene	2000	1.960702	4000	1.71094	6000	1.458714	8000	~~1.265118~~				
Anthracene	2000	1.003325	4000	0.8786621	6000	0.7689579	8000	~~0.7009088~~				
Benz(a)anthracene	2000	1.160517	4000	1.142753	6000	1.081444	8000	1.045892				
Benzo(a)pyrene	2000	1.147208	4000	1.065859	6000	1.009417	8000	0.9681162				
Benzo(b)fluoranthene	2000	1.329545	4000	1.268328	6000	1.25114	8000	1.292479				
Benzo(k)fluoranthene	2000	1.20272	4000	1.090877	6000	0.9800293	8000	0.9081583				
Benzo(b+k)fluoranthene(s)	4000	1.294432	8000	1.210313	12000	1.145537	16000	1.109431				
Benzo(g,h,i)perylene	2000	1.118641	4000	1.079451	6000	1.010582	8000	0.9722367				
Chrysene	2000	1.062123	4000	1.050158	6000	1.011204	8000	0.9809463				
Dibenz(a,h)anthracene	2000	1.007409	4000	0.9374441	6000	0.8774625	8000	0.8406638				
Fluoranthene	2000	1.198634	4000	1.08033	6000	0.9404231	8000	~~0.8869122~~				
Fluorene	2000	1.306492	4000	1.141754	6000	~~1.005022~~	8000	~~0.9276221~~				
Indeno(1,2,3-cd)pyrene	2000	1.081306	4000	1.100069	6000	1.079962	8000	1.083719				
1-Methylnaphthalene	2000	0.7168087	4000	0.6691839	6000	0.6008326	8000	0.5603313				
2-Methylnaphthalene	2000	0.7727834	4000	0.7348567	6000	0.6468876	8000	~~0.6157905~~				
Naphthalene	2000	0.982297	4000	0.9083996	6000	0.8158451	8000	0.7683261				
Phenanthrene	2000	1.004201	4000	0.8809291	6000	0.7807684	8000	~~0.7273861~~				
Pyrene	2000	1.182555	4000	1.055062	6000	0.9264856	8000	~~0.8683642~~				
Carbazole	2000	0.9197705	4000	0.8243731	6000	0.6713318	8000	~~0.5631641~~				
Dibenzofuran	2000	1.689888	4000	1.501242	6000	1.320772	8000	~~1.198853~~				
4-Chloro-3-methylphenol	2000	0.3181131	4000	0.3406578	6000	0.3199417	8000	0.3134429				
2-Chlorophenol	2000	1.423161	4000	1.393311	6000	1.364312	8000	1.315164				
2,4-Dichlorophenol	2000	0.2770721	4000	0.2777324	6000	0.2482813	8000	0.2435223				
2,4-Dimethylphenol	2000	0.3111687	4000	0.306541	6000	0.2855238	8000	0.2795605				
2,4-Dinitrophenol	2000	0.1240746	4000	0.1643289	6000	0.1747016	8000	0.1783903				
4,6-Dinitro-2-methylphenol	2000	0.1923731	4000	0.2155312	6000	0.2141173	8000	0.2129201				
2-Methylphenol	2000	1.063794	4000	1.078184	6000	1.035697	8000	0.9646772				
3+4-Methylphenol(s)	2000	1.354181	4000	1.357124	6000	1.282245	8000	1.198168				
2-Nitrophenol	2000	0.2014452	4000	0.2030443	6000	0.1945933	8000	0.1923049				
4-Nitrophenol	2000	0.2340118	4000	0.272251	6000	0.2740057	8000	0.2725831				

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E1009
Instrument: SV-GCMS9
Matrix:
Calibration Date: 05/10/19 17:06

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	0.1143396	4000	0.1277543	6000	0.1252676	8000	0.1221115				
Phenol	2000	1.896969	4000	1.899182	6000	1.877133	8000	1.758094				
2,3,4,6-Tetrachlorophenol	2000	0.3279991	4000	0.3252399	6000	0.3048896	8000	0.290577				
2,3,5,6-Tetrachlorophenol	2000	0.3109245	4000	0.3167555	6000	0.3048764	8000	0.2919889				
2,4,5-Trichlorophenol	2000	0.3792326	4000	0.3753727	6000	0.3481242	8000	0.3336824				
2,4,6-Trichlorophenol	2000	0.3934518	4000	0.3887167	6000	0.371188	8000	0.3536381				
Bis(2-ethylhexyl)phthalate	2000	0.7515566	4000	0.7829898	6000	0.7668836	8000	0.7471264				
Butyl benzyl phthalate	2000	0.6211495	4000	0.673607	6000	0.675999	8000	0.681001				
Diethylphthalate	2000	1.215101	4000	1.059783	6000	~~0.9303606~~	8000	~~0.8566059~~				
Dimethylphthalate	2000	1.401869	4000	1.296864	6000	1.192857	8000	1.150796				
Di-n-butylphthalate	2000	1.189422	4000	1.074511	6000	~~0.9489944~~	8000	~~0.8745828~~				
Di-n-octyl phthalate	2000	1.467974	4000	1.530108	6000	1.46188	8000	1.443103				
N-Nitrosodimethylamine	2000	0.9762372	4000	1.00744	6000	1.029661	8000	1.035252				
N-Nitroso-di-n-propylamine	2000	1.037705	4000	0.9990181	6000	0.9296044	8000	0.887346				
N-Nitrosodiphenylamine	2000	0.5747862	4000	0.4925515	6000	~~0.4307178~~	8000	~~0.4069141~~				
Bis(2-Chloroethoxy) methane	2000	0.4283134	4000	0.4194047	6000	0.3862396	8000	0.3757984				
Bis(2-Chloroethyl) ether	2000	1.61302	4000	1.507799	6000	1.355938	8000	1.333792				
2,2'-Oxybis(1-Chloropropane)	2000	1.829203	4000	1.678026	6000	1.566936	8000	1.436743				
Hexachlorobenzene	2000	0.2334501	4000	0.2089622	6000	0.18882	8000	~~0.177374~~				
Hexachlorobutadiene	2000	0.1669681	4000	0.1565817	6000	0.1427606	8000	0.1355106				
Hexachlorocyclopentadiene	2000	0.3148038	4000	0.3217185	6000	0.3129752	8000	0.2930771				
Hexachloroethane	2000	0.4664723	4000	0.4523443	6000	0.4482731	8000	0.4230528				
2-Chloronaphthalene	2000	1.193474	4000	1.050421	6000	~~0.9557868~~	8000	~~0.8778734~~				
1,2-Dichlorobenzene	2000	1.412957	4000	1.314003	6000	1.257389	8000	1.172556				
1,3-Dichlorobenzene	2000	1.531631	4000	1.453453	6000	1.42144	8000	1.352365				
1,4-Dichlorobenzene	2000	1.445139	4000	1.380193	6000	1.317908	8000	1.254964				
1,2,4-Trichlorobenzene	2000	0.3154796	4000	0.2942943	6000	0.2679857	8000	0.2549555				
4-Bromophenyl phenyl ether	2000	0.2222988	4000	0.2034246	6000	0.1869045	8000	0.175705				
4-Chlorophenyl phenyl ether	2000	0.6557002	4000	0.5898911	6000	0.5302842	8000	~~0.4866619~~				
Aniline	2000	1.120234	4000	1.260284	6000	1.39553	8000	1.554727				
4-Chloroaniline	2000	0.2089627	4000	0.2255068	6000	0.2118092	8000	0.2702255				

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Calibration: A9E1009
Instrument: SV-GCMS9
Matrix:
Calibration Date: 05/10/19 17:06

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	0.4291441	4000	0.4333246	6000	0.4265592	8000	0.4246749				
3-Nitroaniline	2000	0.2254168	4000	0.2021134	6000	0.1972412	8000	~~0.2228819~~				
4-Nitroaniline	2000	0.287495	4000	0.2936802	6000	0.2768043	8000	0.2612633				
Nitrobenzene	2000	1.353928	4000	1.327597	6000	1.275361	8000	1.208355				
2,4-Dinitrotoluene	2000	0.4353404	4000	0.4297613	6000	0.3941739	8000	0.3594939				
2,6-Dinitrotoluene	2000	0.3369258	4000	0.3240152	6000	0.3019617	8000	0.285659				
Benzoic acid	4000	0.1490699	8000	0.2179232	12000	0.2258705	16000	0.2372372				
Benzyl alcohol	2000	0.8528164	4000	0.9348581	6000	0.9246661	8000	0.883009				
Isophorone	2000	0.7565157	4000	0.7587814	6000	0.7284766	8000	0.7317872				
Azobenzene (1,2-DPH)	2000	0.6682561	4000	0.5947416	6000	0.5361888	8000	~~0.5056705~~				
Benzidine	4000	0.1934969	8000	0.3139192	12000	0.340993	16000	0.3675681				
Bis(2-Ethylhexyl) adipate	2000	0.5432156	4000	0.5707897	6000	0.5639242	8000	0.5627904				
3,3'-Dichlorobenzidine	4000	0.116084	8000	0.1017726	12000	0.1075586	16000	~~0.1177742~~				
1,2-Dinitrobenzene	2000	0.1639202	4000	0.1621875	6000	0.1492804	8000	0.1379443				
1,3-Dinitrobenzene	2000	0.2344492	4000	0.2397918	6000	0.2313103	8000	0.2233469				
1,4-Dinitrobenzene	2000	0.2064962	4000	0.2207801	6000	0.2204162	8000	0.2205809				
Pyridine	2000	1.53678	4000	1.706171	6000	1.7048	8000	1.722311				
2,3,5-Trimethylnaphthalene	2000	1.087459	4000	0.9300448	6000	~~0.816687~~	8000	~~0.7644802~~				
2,6-Dimethylnaphthalene	2000	1.236377	4000	1.084785	6000	0.9655195	8000	~~0.890492~~				
Benzo(e)pyrene	2000	1.261601	4000	1.194903	6000	1.135328	8000	1.100916				
1,1'-Biphenyl	2000	1.679269	4000	1.477851	6000	~~1.309359~~	8000	~~1.20655~~				
Perylene	2000	1.033019	4000	0.976321	6000	0.9367363	8000	0.9079865				
Nitrobenzene-d5 (Surr)	2000	1.393371	4000	1.394111	6000	1.376127	8000	1.326111				
2-Fluorobiphenyl (Surr)	2000	1.495217	4000	1.313224	6000	1.158242	8000	~~1.073407~~				
Phenol-d6 (Surr)	2000	1.792311	4000	1.893767	6000	1.901965	8000	1.847127				
p-Terphenyl-d14 (Surr)	2000	1.00833	4000	0.9646131	6000	0.9057975	8000	0.880332				
2-Fluorophenol (Surr)	2000	1.390615	4000	1.440466	6000	1.492937	8000	1.463219				
2,4,6-Tribromophenol (Surr)	2000	9.822309E-02	4000	9.740403E-02	6000	9.328247E-02	8000	8.992075E-02				

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS9	Calibration:	A9E1009
Lab File ID:	I05081930.D		
Sequence:	9E08056	Inject Date:	05/09/19
Lab Sample ID:	9E08056-ICV1	Inject Time:	02:48

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acenaphthene	1000	1040	3.9	70 - 130
Acenaphthylene	1000	1090	8.9	70 - 130
Anthracene	1000	1030	2.7	70 - 130
Benz(a)anthracene	1000	1040	4.5	70 - 130
Benzo(a)pyrene	1000	1030	2.6	70 - 130
Benzo(b)fluoranthene	1000	1040	3.5	70 - 130
Benzo(k)fluoranthene	1000	1010	0.9	70 - 130
Benzo(g,h,i)perylene	1000	1060	5.6	70 - 130
Chrysene	1000	1000	0.005	70 - 130
Dibenz(a,h)anthracene	1000	1030	2.8	70 - 130
Fluoranthene	1000	1070	6.8	70 - 130
Fluorene	1000	981	-1.9	70 - 130
Indeno(1,2,3-cd)pyrene	1000	987	-1.3	70 - 130
1-Methylnaphthalene	1000	1040	4.2	70 - 130
2-Methylnaphthalene	1000	1060	6.2	70 - 130
Naphthalene	1000	1010	1.0	70 - 130
Phenanthrene	1000	1010	0.7	70 - 130
Pyrene	1000	1040	4.1	70 - 130
Carbazole	1000	1080	8.4	70 - 130
Dibenzofuran	1000	1070	7.4	70 - 130
4-Chloro-3-methylphenol	1000	1010	0.7	70 - 130
2-Chlorophenol	1000	1030	2.8	70 - 130
2,4-Dichlorophenol	1000	1030	3.5	70 - 130
2,4-Dimethylphenol	1000	1030	2.9	70 - 130
2,4-Dinitrophenol	1000	947	-5.3	70 - 130
4,6-Dinitro-2-methylphenol	1000	1160	16.4	70 - 130
2-Methylphenol	1000	1040	4.3	70 - 130
3+4-Methylphenol(s)	1000	1050	5.3	70 - 130
2-Nitrophenol	1000	1110	11.2	70 - 130
4-Nitrophenol	1000	1030	3.5	70 - 130
Pentachlorophenol (PCP)	1000	1040	3.8	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS9	Calibration:	A9E1009
Lab File ID:	I05081930.D		
Sequence:	9E08056	Inject Date:	05/09/19
Lab Sample ID:	9E08056-ICV1	Inject Time:	02:48

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Phenol	1000	1060	5.5	70 - 130
2,3,4,6-Tetrachlorophenol	1000	1060	5.8	70 - 130
2,3,5,6-Tetrachlorophenol	1000	1040	3.6	70 - 130
2,4,5-Trichlorophenol	1000	1090	8.7	70 - 130
2,4,6-Trichlorophenol	1000	1040	4.3	70 - 130
Bis(2-ethylhexyl)phthalate	1000	1060	6.0	70 - 130
Butyl benzyl phthalate	1000	1060	6.2	70 - 130
Diethylphthalate	1000	1010	0.9	70 - 130
Dimethylphthalate	1000	1060	6.2	70 - 130
Di-n-butylphthalate	1000	1080	7.6	70 - 130
Di-n-octyl phthalate	1000	1010	1.3	70 - 130
N-Nitrosodimethylamine	1000	980	-2.0	70 - 130
N-Nitroso-di-n-propylamine	1000	1030	3.4	70 - 130
N-Nitrosodiphenylamine	1000	1040	4.1	70 - 130
Bis(2-Chloroethoxy) methane	1000	1030	3.0	70 - 130
Bis(2-Chloroethyl) ether	1000	1040	3.9	70 - 130
2,2'-Oxybis(1-Chloropropane)	1000	986	-1.4	70 - 130
Hexachlorobenzene	1000	1010	0.9	70 - 130
Hexachlorobutadiene	1000	1020	2.3	70 - 130
Hexachlorocyclopentadiene	1000	1070	7.2	70 - 130
Hexachloroethane	1000	1000	0.3	70 - 130
2-Chloronaphthalene	1000	1080	7.6	70 - 130
1,2-Dichlorobenzene	1000	1020	2.2	70 - 130
1,3-Dichlorobenzene	1000	989	-1.1	70 - 130
1,4-Dichlorobenzene	1000	1010	0.8	70 - 130
1,2,4-Trichlorobenzene	1000	1010	1.2	70 - 130
4-Bromophenyl phenyl ether	1000	1070	6.8	70 - 130
4-Chlorophenyl phenyl ether	1000	1020	2.1	70 - 130
Aniline	1000	1020	1.7	70 - 130
4-Chloroaniline	1000	967	-3.3	70 - 130
2-Nitroaniline	1000	1100	10.0	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS9	Calibration:	A9E1009
Lab File ID:	I05081930.D		
Sequence:	9E08056	Inject Date:	05/09/19
Lab Sample ID:	9E08056-ICV1	Inject Time:	02:48

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
3-Nitroaniline	1000	1150	14.8	70 - 130
4-Nitroaniline	1000	1150	14.8	70 - 130
Nitrobenzene	1000	998	-0.2	70 - 130
2,4-Dinitrotoluene	1000	1030	2.8	70 - 130
2,6-Dinitrotoluene	1000	1130	12.6	70 - 130
Benzoic acid	2000	1880	-5.8	70 - 130
Benzyl alcohol	1000	966	-3.4	70 - 130
Isophorone	1000	1040	4.2	70 - 130
Azobenzene (1,2-DPH)	1000	1060	6.3	70 - 130
Bis(2-Ethylhexyl) adipate	1000	996	-0.4	70 - 130
3,3'-Dichlorobenzidine	2000	2070	3.7	70 - 130
1,2-Dinitrobenzene	1000	1070	7.0	70 - 130
1,3-Dinitrobenzene	1000	1100	9.6	70 - 130
1,4-Dinitrobenzene	1000	1070	7.3	70 - 130
Pyridine	1000	944	-5.6	70 - 130
Nitrobenzene-d5 (Surr)	1000	983	-1.7	70 - 130
2-Fluorobiphenyl (Surr)	1000	1080	8.0	70 - 130
Phenol-d6 (Surr)	1000	1000	0.3	70 - 130
p-Terphenyl-d14 (Surr)	1000	1040	4.3	70 - 130
2-Fluorophenol (Surr)	1000	1020	1.5	70 - 130
2,4,6-Tribromophenol (Surr)	1000	1090	8.6	70 - 130

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS9	Calibration:	A9E1009
Lab File ID:	I05211902.D	Calibration Date:	05/10/19 17:06
Sequence:	9E21026	Injection Date:	05/21/19
Lab Sample ID:	9E21026-CCV1	Injection Time:	08:38

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	1000	1040		1.246362	1.296916	4.1	20
Acenaphthylene	Ave	1000	1070		1.978454	2.119054	7.1	20
Anthracene	Ave	1000	1050		1.06825	1.121636	5.0	20
Benz(a)anthracene	Ave	1000	1000		1.161693	1.162032	0.03	20
Benzo(a)pyrene	XXX	1000	1020	2.1				20
Benzo(b)fluoranthene	XXX	1000	997	-0.3				20
Benzo(k)fluoranthene	XXX	1000	990	-1.0				20
Benzo(g,h,i)perylene	Ave	1000	1040		1.073878	1.118932	4.2	20
Chrysene	Ave	1000	1010		1.071717	1.080981	0.9	20
Dibenz(a,h)anthracene	Ave	1000	1030		0.9695725	1.002114	3.4	20
Fluoranthene	Ave	1000	1020		1.248412	1.268681	1.6	20
Fluorene	Ave	1000	992		1.461705	1.450449	-0.8	20
Indeno(1,2,3-cd)pyrene	Ave	1000	992		1.098245	1.089165	-0.8	20
1-Methylnaphthalene	Ave	1000	1020		0.7088084	0.7198047	1.6	20
2-Methylnaphthalene	Ave	1000	1030		0.7525787	0.7755508	3.1	20
Naphthalene	Ave	1000	1040		0.9975462	1.037081	4.0	20
Phenanthrene	Ave	1000	1020		1.068375	1.085041	1.6	20
Pyrene	Ave	1000	1000		1.270483	1.273305	0.2	20
Carbazole	Ave	1000	1020		0.9362039	0.9508332	1.6	20
Dibenzofuran	Ave	1000	1080		1.696097	1.824783	7.6	20
4-Chloro-3-methylphenol	XXX	1000	961	-3.9				20
2-Chlorophenol	Ave	1000	1040		1.365821	1.418758	3.9	20
2,4-Dichlorophenol	XXX	1000	987	-1.3				20
2,4-Dimethylphenol	Ave	1000	1040		0.2837466	0.2947233	3.9	20
2,4-Dinitrophenol	XXX	1000	967	-3.3				20
4,6-Dinitro-2-methylphenol	XXX	1000	1040	3.9				20
2-Methylphenol	Ave	1000	1050		1.035993	1.092936	5.5	20
3+4-Methylphenol(s)	Ave	1000	1020		1.288151	1.316329	2.2	20
2-Nitrophenol	Ave	1000	1090		0.189115	0.2066412	9.3	20
4-Nitrophenol	XXX	1000	884	-11.6				20

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS9	Calibration:	A9E1009
Lab File ID:	I05211902.D	Calibration Date:	05/10/19 17:06
Sequence:	9E21026	Injection Date:	05/21/19
Lab Sample ID:	9E21026-CCV1	Injection Time:	08:38

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	1130	13.1				20
Phenol	Ave	1000	973		1.808658	1.759114	-2.7	20
2,3,4,6-Tetrachlorophenol	XXX	1000	1040	4.4				20
2,3,5,6-Tetrachlorophenol	XXX	1000	996	-0.4				20
2,4,5-Trichlorophenol	XXX	1000	1010	1.3				20
2,4,6-Trichlorophenol	XXX	1000	1010	1.3				20
Bis(2-ethylhexyl)phthalate	Ave	1000	1090		0.7051378	0.7651402	8.5	20
Butyl benzyl phthalate	XXX	1000	1070	6.8				20
Diethylphthalate	Ave	1000	1040		1.355775	1.408563	3.9	20
Dimethylphthalate	Ave	1000	1060		1.399174	1.480504	5.8	20
Di-n-butylphthalate	Ave	1000	1060		1.213073	1.286864	6.1	20
Di-n-octyl phthalate	XXX	1000	1020	1.9				20
N-Nitrosodimethylamine	Ave	1000	919		0.9994518	0.9181659	-8.1	20
N-Nitroso-di-n-propylamine	Ave	1000	986		1.038343	1.024193	-1.4	20
N-Nitrosodiphenylamine	Ave	1000	1050		0.617737	0.6508342	5.4	20
Bis(2-Chloroethoxy) methane	Ave	1000	967		0.4346998	0.4205558	-3.3	20
Bis(2-Chloroethyl) ether	Ave	1000	979		1.522164	1.490294	-2.1	20
2,2'-Oxybis(1-Chloropropane)	Ave	1000	938		1.85392	1.738495	-6.2	20
Hexachlorobenzene	Ave	1000	995		0.2442594	0.2429379	-0.5	20
Hexachlorobutadiene	Ave	1000	1080		0.166018	0.1787556	7.7	20
Hexachlorocyclopentadiene	XXX	1000	1110	11.3				20
Hexachloroethane	Ave	1000	984		0.4701075	0.4626693	-1.6	20
2-Chloronaphthalene	Ave	1000	1070		1.20418	1.292341	7.3	20
1,2-Dichlorobenzene	Ave	1000	1040		1.407877	1.46551	4.1	20
1,3-Dichlorobenzene	Ave	1000	976		1.562184	1.524714	-2.4	20
1,4-Dichlorobenzene	Ave	1000	997		1.459183	1.454313	-0.3	20
1,2,4-Trichlorobenzene	Ave	1000	1000		0.3197364	0.3196607	-0.02	20
4-Bromophenyl phenyl ether	Ave	1000	1020		0.2198931	0.2253715	2.5	20
4-Chlorophenyl phenyl ether	Ave	1000	1020		0.6829022	0.6990863	2.4	20
Aniline	Ave	1000	693		1.539056	1.065808	-30.7*	20

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Instrument ID:	SV-GCMS9	Calibration:	A9E1009
Lab File ID:	I05211902.D	Calibration Date:	05/10/19 17:06
Sequence:	9E21026	Injection Date:	05/21/19
Lab Sample ID:	9E21026-CCV1	Injection Time:	08:38

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
4-Chloroaniline	Ave	1000	771		0.2556341	0.1969955	-22.9*	20
2-Nitroaniline	Ave	1000	1080		0.4040472	0.4352714	7.7	20
3-Nitroaniline	XXX	1000	1210	21.3 *				20
4-Nitroaniline	Ave	1000	956		0.2995021	0.2861995	-4.4	20
Nitrobenzene	Ave	1000	983		1.39112	1.367176	-1.7	20
2,4-Dinitrotoluene	XXX	1000	1020	1.6				20
2,6-Dinitrotoluene	Ave	1000	1100		0.3128654	0.3452191	10.3	20
Benzoic acid	XXX	2000	1890	-5.4				20
Benzyl alcohol	XXX	1000	923	-7.7				20
Isophorone	Ave	1000	973		0.7406279	0.7203117	-2.7	20
Azobenzene (1,2-DPH)	Ave	1000	1040		0.6933106	0.7221492	4.2	20
Bis(2-Ethylhexyl) adipate	Ave	1000	990		0.5272206	0.5218267	-1.0	20
3,3'-Dichlorobenzidine	XXX	2000	2510	25.5 *				20
1,2-Dinitrobenzene	Ave	1000	1070		0.1551751	0.1657037	6.8	20
1,3-Dinitrobenzene	Ave	1000	1070		0.2246904	0.2399764	6.8	20
1,4-Dinitrobenzene	XXX	1000	1070	6.8				20
Pyridine	Ave	1000	932		1.52558	1.422237	-6.8	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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E08056	Instrument:	SV-GCMS9
Matrix:	Solid	Calibration:	A9E1009

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9E08056-ICV1)				Lab File ID: I05081930.D		Analyzed: 05/09/19 02:48		
Nitrobenzene-d5 (Surr)	1000	98	70 - 130	7.231	7.2342	-0.0032	+/-1.0	
2-Fluorobiphenyl (Surr)	1000	108	70 - 130	9.023	9.024889	-0.0019	+/-1.0	
Phenol-d6 (Surr)	1000	100	70 - 130	6.338	6.344	-0.0060	+/-1.0	
p-Terphenyl-d14 (Surr)	1000	104	70 - 130	13.024	13.0273	-0.0033	+/-1.0	
2-Fluorophenol (Surr)	1000	102	70 - 130	5.466	5.469	-0.0030	+/-1.0	
2,4,6-Tribromophenol (Surr)	1000	109	70 - 130	10.516	10.518	-0.0020	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21026	Instrument:	SV-GCMS9
Matrix:	Solid	Calibration:	A9E1009

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9E21026-CCV1)			Lab File ID: I05211902.D		Analyzed: 05/21/19 08:38			
Nitrobenzene-d5 (Surr)	1000	100	80 - 120	7.22	7.2342	-0.0142	+/-1.0	
2-Fluorobiphenyl (Surr)	1000	110	80 - 120	9.017	9.024889	-0.0079	+/-1.0	
Phenol-d6 (Surr)	1000	98	80 - 120	6.332	6.344	-0.0120	+/-1.0	
p-Terphenyl-d14 (Surr)	1000	105	80 - 120	13.018	13.0273	-0.0093	+/-1.0	
2-Fluorophenol (Surr)	1000	98	80 - 120	5.461	5.469	-0.0080	+/-1.0	
2,4,6-Tribromophenol (Surr)	1000	115	80 - 120	10.51	10.518	-0.0080	+/-1.0	
Calibration Blank (9E21026-CCB1)			Lab File ID: I05211903.D		Analyzed: 05/21/19 09:15			
Nitrobenzene-d5 (Surr)			37 - 122	7.167	7.2342	-0.0672	+/-1.0	
2-Fluorobiphenyl (Surr)			44 - 115	0	9.024889	-9.0249	+/-1.0	
Phenol-d6 (Surr)			33 - 122	0	6.344	-6.3440	+/-1.0	
p-Terphenyl-d14 (Surr)			54 - 127	0	13.0273	-13.0273	+/-1.0	
2-Fluorophenol (Surr)			35 - 115	0	5.469	-5.4690	+/-1.0	
2,4,6-Tribromophenol (Surr)			39 - 132	0	10.518	-10.5180	+/-1.0	
Blank (9051065-BLK1)			Lab File ID: I05211904.D		Analyzed: 05/21/19 09:51			
Nitrobenzene-d5 (Surr)	333	87	37 - 122	7.225	7.2342	-0.0092	+/-1.0	
2-Fluorobiphenyl (Surr)	333	89	44 - 115	9.017	9.024889	-0.0079	+/-1.0	
Phenol-d6 (Surr)	333	79	33 - 122	6.338	6.344	-0.0060	+/-1.0	
p-Terphenyl-d14 (Surr)	333	94	54 - 127	13.018	13.0273	-0.0093	+/-1.0	
2-Fluorophenol (Surr)	333	81	35 - 115	5.466	5.469	-0.0030	+/-1.0	
2,4,6-Tribromophenol (Surr)	333	87	39 - 132	10.51	10.518	-0.0080	+/-1.0	
LCS (9051065-BS1)			Lab File ID: I05211905.D		Analyzed: 05/21/19 10:28			
Nitrobenzene-d5 (Surr)	333	83	37 - 122	7.225	7.2342	-0.0092	+/-1.0	
2-Fluorobiphenyl (Surr)	333	93	44 - 115	9.023	9.024889	-0.0019	+/-1.0	
Phenol-d6 (Surr)	333	89	33 - 122	6.343	6.344	-0.0010	+/-1.0	
p-Terphenyl-d14 (Surr)	333	97	54 - 127	13.018	13.0273	-0.0093	+/-1.0	
2-Fluorophenol (Surr)	333	89	35 - 115	5.471	5.469	0.0020	+/-1.0	
2,4,6-Tribromophenol (Surr)	333	105	39 - 132	10.515	10.518	-0.0030	+/-1.0	
2708-190515-005 (A9E0582-01)			Lab File ID: I05211909.D		Analyzed: 05/21/19 12:56			
Nitrobenzene-d5 (Surr)	10000		37 - 122	0	7.2342	-7.2342	+/-1.0	*
2-Fluorobiphenyl (Surr)	10000		44 - 115	0	9.024889	-9.0249	+/-1.0	*
Phenol-d6 (Surr)	10000		33 - 122	0	6.344	-6.3440	+/-1.0	*
p-Terphenyl-d14 (Surr)	10000		54 - 127	0	13.0273	-13.0273	+/-1.0	*
2-Fluorophenol (Surr)	10000		35 - 115	0	5.469	-5.4690	+/-1.0	*
2,4,6-Tribromophenol (Surr)	10000		39 - 132	0	10.518	-10.5180	+/-1.0	*

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21026	Instrument:	SV-GCMS9
Matrix:	Solid	Calibration:	A9E1009

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9E21026-CCV1)			Lab File ID: I05211902.D			Analyzed: 05/21/19 08:38			
1,4-Dichlorobenzene-d4 (ISTD)	84488	6.685	116694	6.697	72	50 - 200	-0.0120	+/-0.50	
Naphthalene-d8 (ISTD)	319520	7.937	435111	7.948	73	50 - 200	-0.0110	+/-0.50	
Acenaphthene-d10 (ISTD)	159574	9.707	224844	9.719	71	50 - 200	-0.0120	+/-0.50	
Phenanthrene-d10 (ISTD)	304901	11.216	425173	11.222	72	50 - 200	-0.0060	+/-0.50	
Chrysene-d12 (ISTD)	298923	15.045	428978	15.057	70	50 - 200	-0.0120	+/-0.50	
Perylene-d12 (ISTD)	286034	18.533	400554	18.539	71	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	278158	20.913	399119	20.924	70	50 - 200	-0.0110	+/-0.50	
Calibration Blank (9E21026-CCB1)			Lab File ID: I05211903.D			Analyzed: 05/21/19 09:15			
1,4-Dichlorobenzene-d4 (ISTD)	80937	6.685	84488	6.685	96	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	333025	7.942	319520	7.937	104	50 - 200	0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	157346	9.707	159574	9.707	99	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	307390	11.216	304901	11.216	101	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	305366	15.045	298923	15.045	102	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	281155	18.527	286034	18.533	98	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	260638	20.907	278158	20.913	94	50 - 200	-0.0060	+/-0.50	
Blank (9051065-BLK1)			Lab File ID: I05211904.D			Analyzed: 05/21/19 09:51			
1,4-Dichlorobenzene-d4 (ISTD)	89774	6.691	84488	6.685	106	50 - 200	0.0060	+/-0.50	
Naphthalene-d8 (ISTD)	348983	7.942	319520	7.937	109	50 - 200	0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	161332	9.713	159574	9.707	101	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	315328	11.221	304901	11.216	103	50 - 200	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	320540	15.045	298923	15.045	107	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	296996	18.532	286034	18.533	104	50 - 200	-0.0010	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	282864	20.913	278158	20.913	102	50 - 200	0.0000	+/-0.50	
LCS (9051065-BS1)			Lab File ID: I05211905.D			Analyzed: 05/21/19 10:28			
1,4-Dichlorobenzene-d4 (ISTD)	83244	6.691	84488	6.685	99	50 - 200	0.0060	+/-0.50	
Naphthalene-d8 (ISTD)	312447	7.942	319520	7.937	98	50 - 200	0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	156647	9.713	159574	9.707	98	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	299885	11.221	304901	11.216	98	50 - 200	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	287291	15.056	298923	15.045	96	50 - 200	0.0110	+/-0.50	
Perylene-d12 (ISTD)	276396	18.532	286034	18.533	97	50 - 200	-0.0010	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	279119	20.923	278158	20.913	100	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E21026	Instrument:	SV-GCMS9
Matrix:	Solid	Calibration:	A9E1009

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Duplicate (9051065-DUP1)			Lab File ID: I05211907.D			Analyzed: 05/21/19 11:40			
1,4-Dichlorobenzene-d4 (ISTD)	85029	6.691	84488	6.685	101	50 - 200	0.0060	+/-0.50	
Naphthalene-d8 (ISTD)	343429	7.942	319520	7.937	107	50 - 200	0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	159071	9.713	159574	9.707	100	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	305611	11.221	304901	11.216	100	50 - 200	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	316097	15.045	298923	15.045	106	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	292045	18.527	286034	18.533	102	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	278608	20.913	278158	20.913	100	50 - 200	0.0000	+/-0.50	
2708-190515-005 (A9E0582-01)			Lab File ID: I05211909.D			Analyzed: 05/21/19 12:56			
1,4-Dichlorobenzene-d4 (ISTD)	86168	6.685	84488	6.685	102	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	346392	7.937	319520	7.937	108	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	159759	9.707	159574	9.707	100	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	309904	11.216	304901	11.216	102	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	316736	15.04	298923	15.045	106	50 - 200	-0.0050	+/-0.50	
Perylene-d12 (ISTD)	298634	18.527	286034	18.533	104	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	283094	20.907	278158	20.913	102	50 - 200	-0.0060	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D

Laboratory: Apex Laboratories SDG: A9E0582

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
2708-190515-005	05/15/19 14:45	05/16/19 15:15	05/20/19 16:13	5.06	14.00	05/21/19 12:56	0.86	40.00	

Apex Laboratories

SDG: A9E0582

CLASS: METALS

METHOD: EPA 6020A

ANALYSES DATA PACKAGE COVER PAGE

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190515-005	A9E0582-01	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 12:09PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 6020A

Laboratory: Apex Laboratories **SDG:** A9E0582

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

2708-190515-005

Laboratory: Apex Laboratories | SDG: A9E0582

Client: Hahn and Associates | Project: Mult 802 Decommissioning

Matrix: Solid | Laboratory ID: A9E0582-01RE1 | File ID: 9E22036-082

Sampled: 05/15/19 14:45 | Prepared: 05/20/19 13:59 | Analyzed: 05/22/19 20:33

Solids: N/A | Preparation: EPA 3051A | Initial/Final: 0.462 g / 50 mL

Batch: 9051056 | Sequence: 9E22036 | Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
7429-90-5	Aluminum	954	10		EPA 6020A
7440-36-0	Antimony	0.541	10	U	EPA 6020A
7440-38-2	Arsenic	3.03	10		EPA 6020A
7440-39-3	Barium	10.2	10		EPA 6020A
7440-41-7	Beryllium	0.110	10	J	EPA 6020A
7440-43-9	Cadmium	0.251	10		EPA 6020A
7440-70-2	Calcium	488	10		EPA 6020A
7440-47-3	Chromium	2.47	10		EPA 6020A
7440-50-8	Copper	10.4	10		EPA 6020A
7439-89-6	Iron	36900	10		EPA 6020A
7439-92-1	Lead	18.3	10		EPA 6020A
7439-95-4	Magnesium	145	10		EPA 6020A
7439-96-5	Manganese	211	10		EPA 6020A
7439-97-6	Mercury	0.0578	10	J	EPA 6020A
7440-02-0	Nickel	8.31	10		EPA 6020A
7440-09-7	Potassium	54.1	10	U	EPA 6020A
7782-49-2	Selenium	0.541	10	U	EPA 6020A
7440-22-4	Silver	0.108	10	U	EPA 6020A
7440-23-5	Sodium	54.1	10	U	EPA 6020A
7440-28-0	Thallium	0.108	10	U	EPA 6020A
7440-62-2	Vanadium	43.9	10		EPA 6020A
7440-66-6	Zinc	42.8	10		EPA 6020A

PREPARATION BATCH SUMMARY

EPA 6020A

Laboratory: Apex Laboratories SDG: A9E0582

Client: Hahn and Associates Project: Mult 802 Decommissioning

Batch: 9051056 Batch Matrix: Solid Preparation: EPA 3051A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051056-BLK2	9E22036-080	05/20/19 13:59	
LCS	9051056-BS2	9E22036-081	05/20/19 13:59	
2708-190515-005 (Dup)	9051056-DUP2	9E22036-083	05/20/19 13:59	
2708-190515-005 (MS)	9051056-MS2	9E22036-084	05/20/19 13:59	
2708-190515-005	A9E0582-01RE1	9E22036-082	05/20/19 13:59	

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:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051056-BLK2	File ID:	9E22036-080
Prepared:	05/20/19 13:59	Preparation:	EPA 3051A	Initial/Final:	0.52 g / 50 mL
Analyzed:	05/22/19 20:25	Instrument:	ICPMS5		
Batch:	9051056	Sequence:	9E22036	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
7429-90-5	Aluminum	24.0	U
7440-36-0	Antimony	0.481	U
7440-38-2	Arsenic	0.481	U
7440-39-3	Barium	0.481	U
7440-41-7	Beryllium	0.0962	U
7440-43-9	Cadmium	0.0962	U
7440-70-2	Calcium	48.1	U
7440-47-3	Chromium	0.481	U
7440-50-8	Copper	0.481	U
7439-89-6	Iron	24.0	U
7439-92-1	Lead	0.0962	U
7439-95-4	Magnesium	24.0	U
7439-96-5	Manganese	0.481	U
7439-97-6	Mercury	0.0385	U
7440-02-0	Nickel	0.481	U
7440-09-7	Potassium	48.1	U
7782-49-2	Selenium	0.481	U
7440-22-4	Silver	0.0962	U
7440-23-5	Sodium	48.1	U
7440-28-0	Thallium	0.0962	U
7440-62-2	Vanadium	0.481	U
7440-66-6	Zinc	1.92	U

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051056	Laboratory ID:	9051056-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.
Aluminum	2500	2220	89	80 - 120
Antimony	25.0	21.4	86	80 - 120
Arsenic	50.0	46.4	93	80 - 120
Barium	50.0	48.2	96	80 - 120
Beryllium	25.0	21.9	88	80 - 120
Cadmium	50.0	45.0	90	80 - 120
Calcium	2500	2200	88	80 - 120
Chromium	50.0	46.4	93	80 - 120
Copper	50.0	46.4	93	80 - 120
Iron	2500	2160	86	80 - 120
Lead	50.0	44.3	89	80 - 120
Magnesium	2500	2230	89	80 - 120
Manganese	50.0	45.4	91	80 - 120
Mercury	1.00	0.879	88	80 - 120
Nickel	50.0	47.5	95	80 - 120
Potassium	2500	2400	96	80 - 120
Selenium	25.0	21.5	86	80 - 120
Silver	25.0	22.7	91	80 - 120
Sodium	2500	2240	90	80 - 120
Thallium	25.0	21.9	88	80 - 120
Vanadium	50.0	45.9	92	80 - 120
Zinc	50.0	47.0	94	80 - 120

* = Values outside of QC limits

DUPLICATES

2708-190515-005

EPA 6020A

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Solid
Batch: 9051056
Preparation: EPA 3051A
Source Sample Name: 2708-190515-005

SDG: A9E0582
Project: Mult 802 Decommissioning
Laboratory ID: 9051056-DUP2
Lab Source ID: A9E0582-01RE1
Initial/Final: 0.463 g / 50 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg)	C	DUPLICATE CONCENTRATION (mg/kg)	C	RPD %	Q	METHOD
Aluminum	40	954		1480		43	*	EPA 6020A
Antimony	40	0.285		ND				EPA 6020A
Arsenic	40	3.03		1.71		56	*	EPA 6020A
Barium	40	10.2		12.4		20		EPA 6020A
Beryllium	40	0.110		0.171		43	*	EPA 6020A
Cadmium	40	0.251		0.225		11		EPA 6020A
Calcium	40	488		762		44	*	EPA 6020A
Chromium	40	2.47		2.43		2		EPA 6020A
Copper	40	10.4		9.99		4		EPA 6020A
Iron	40	36900		40100		8		EPA 6020A
Lead	40	18.3		22.7		22		EPA 6020A
Magnesium	40	145		205		34		EPA 6020A
Manganese	40	211		235		11		EPA 6020A
Mercury	40	0.0578		0.0436		28		EPA 6020A
Nickel	40	8.31		6.96		18		EPA 6020A
Potassium	40	19.0		ND				EPA 6020A
Selenium	40	0.215		ND				EPA 6020A
Silver	40	0.0163		ND				EPA 6020A
Sodium	40	41.4		80.3		200	*	EPA 6020A
Thallium	40	0.0280		ND				EPA 6020A
Vanadium	40	43.9		28.3		43	*	EPA 6020A
Zinc	40	42.8		60.0		33		EPA 6020A

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 6020A

2708-190515-005

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Matrix: Solid
Batch: 9051056
Laboratory ID: 9051056-MS2
Preparation: EPA 3051A
Initial/Final: 0.511 g / 50 mL
Source Sample Name: 2708-190515-005

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	MS CONCENTRATION (mg/kg)	MS % REC. (*=Out)	QC LIMITS REC.
Aluminum	2450	954	3420	101	75 - 125
Antimony	24.5	ND	19.3	79	75 - 125
Arsenic	48.9	3.03	45.2	86	75 - 125
Barium	48.9	10.2	59.7	101	75 - 125
Beryllium	24.5	0.110	21.3	87	75 - 125
Cadmium	48.9	0.251	43.7	89	75 - 125
Calcium	2450	488	3350	117	75 - 125
Chromium	48.9	2.47	49.3	96	75 - 125
Copper	48.9	10.4	58.6	99	75 - 125
Iron	2450	36900	42200	214 *	75 - 125
Lead	48.9	18.3	68.2	102	75 - 125
Magnesium	2450	145	2380	91	75 - 125
Manganese	48.9	211	324	231 *	75 - 125
Mercury	0.978	0.0578	0.903	86	75 - 125
Nickel	48.9	8.31	58.2	102	75 - 125
Potassium	2450	ND	2340	96	75 - 125
Selenium	24.5	ND	20.2	82	75 - 125
Silver	24.5	ND	21.8	89	75 - 125
Sodium	2450	ND	2280	93	75 - 125
Thallium	24.5	ND	19.5	80	75 - 125
Vanadium	48.9	43.9	73.1	60 *	75 - 125
Zinc	48.9	42.8	102	122	75 - 125

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E22036	Instrument:	ICPMS5
Matrix:	Solid	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	9E22036-ICV1	9E22036-014	05/22/19 14:23
Initial Cal Blank	9E22036-ICB1	9E22036-015	05/22/19 14:30
Instrument RL Check	9E22036-CRL1	9E22036-016	05/22/19 14:35
Instrument RL Check	9E22036-CRL2	9E22036-017	05/22/19 14:39
Instrument RL Check	9E22036-CRL3	9E22036-018	05/22/19 14:43
Calibration Check	9E22036-CCV1	9E22036-032	05/22/19 15:49
Calibration Blank	9E22036-CCB1	9E22036-033	05/22/19 15:54
Instrument RL Check	9E22036-CRL4	9E22036-034	05/22/19 16:02
Instrument RL Check	9E22036-CRL5	9E22036-035	05/22/19 16:14
Instrument RL Check	9E22036-CRL6	9E22036-036	05/22/19 16:18
Calibration Check	9E22036-CCV2	9E22036-047	05/22/19 17:29
Calibration Blank	9E22036-CCB2	9E22036-048	05/22/19 17:33
Calibration Check	9E22036-CCV3	9E22036-059	05/22/19 18:20
Calibration Blank	9E22036-CCB3	9E22036-060	05/22/19 18:24
Calibration Check	9E22036-CCV4	9E22036-071	05/22/19 19:13
Calibration Blank	9E22036-CCB4	9E22036-072	05/22/19 19:17
Instrument RL Check	9E22036-CRL7	9E22036-073	05/22/19 19:41
Instrument RL Check	9E22036-CRL8	9E22036-074	05/22/19 19:50
Instrument RL Check	9E22036-CRL9	9E22036-075	05/22/19 19:54
Blank	9051056-BLK2	9E22036-080	05/22/19 20:25
LCS	9051056-BS2	9E22036-081	05/22/19 20:29
2708-190515-005	A9E0582-01RE1	9E22036-082	05/22/19 20:33
2708-190515-005 (Dup)	9051056-DUP2	9E22036-083	05/22/19 20:38
2708-190515-005 (MS)	9051056-MS2	9E22036-084	05/22/19 20:42
Calibration Check	9E22036-CCV5	9E22036-086	05/22/19 20:50
Calibration Blank	9E22036-CCB5	9E22036-087	05/22/19 20:55
Calibration Check	9E22036-CCV6	9E22036-098	05/22/19 21:41
Calibration Blank	9E22036-CCB6	9E22036-099	05/22/19 21:45
Calibration Check	9E22036-CCV7	9E22036-108	05/22/19 22:23
Calibration Blank	9E22036-CCB7	9E22036-109	05/22/19 22:28
Instrument RL Check	9E22036-CRLA	9E22036-110	05/22/19 22:32
Instrument RL Check	9E22036-CRLB	9E22036-111	05/22/19 22:36
Instrument RL Check	9E22036-CRLC	9E22036-112	05/22/19 22:40

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E22036	Instrument:	ICPMS5
Matrix:	Solid	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Instrument RL Check	9E22036-CRLD	9E22036-113	05/22/19 22:45
Calibration Check	9E22036-CCV8	9E22036-124	05/22/19 23:31
Calibration Blank	9E22036-CCB8	9E22036-125	05/22/19 23:35
Calibration Check	9E22036-CCVA	9E22036-137	05/23/19 00:26
Calibration Blank	9E22036-CCB9	9E22036-138	05/23/19 00:30
Calibration Check	9E22036-CCVB	9E22036-149	05/23/19 01:17
Calibration Blank	9E22036-CCBA	9E22036-150	05/23/19 01:21
Calibration Check	9E22036-CCVC	9E22036-160	05/23/19 02:03
Calibration Blank	9E22036-CCBB	9E22036-161	05/23/19 02:07
Instrument RL Check	9E22036-CRLE	9E22036-162	05/23/19 02:12
Instrument RL Check	9E22036-CRLF	9E22036-163	05/23/19 02:16
Instrument RL Check	9E22036-CRLG	9E22036-164	05/23/19 02:20
Instrument RL Check	9E22036-CRLH	9E22036-165	05/23/19 02:24

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: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E22036-ICV1	Aluminum	4000	3950	99	ug/L	EPA 6020A
	Antimony	40.0	41.6	104	ug/L	EPA 6020A
	Arsenic	100	95.5	96	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A
	Beryllium	40.0	39.1	98	ug/L	EPA 6020A
	Cadmium	100	95.7	96	ug/L	EPA 6020A
	Calcium	4000	3890	97	ug/L	EPA 6020A
	Chromium	100	98.1	98	ug/L	EPA 6020A
	Copper	100	98.2	98	ug/L	EPA 6020A
	Iron	4000	3870	97	ug/L	EPA 6020A
	Lead	100	94.1	94	ug/L	EPA 6020A
	Magnesium	4000	4010	100	ug/L	EPA 6020A
	Manganese	100	96.7	97	ug/L	EPA 6020A
	Mercury	800	777	97	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4120	103	ug/L	EPA 6020A
	Selenium	40.0	40.4	101	ug/L	EPA 6020A
	Silver	40.0	39.3	98	ug/L	EPA 6020A
	Sodium	4000	3930	98	ug/L	EPA 6020A
	Thallium	40.0	38.3	96	ug/L	EPA 6020A
	Vanadium	100	96.7	97	ug/L	EPA 6020A
	Zinc	100	101	101	ug/L	EPA 6020A
9E22036-CCV1	Aluminum	4000	3990	100	ug/L	EPA 6020A
	Antimony	40.0	43.1	108	ug/L	EPA 6020A
	Arsenic	100	99.8	100	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	39.4	99	ug/L	EPA 6020A
	Cadmium	100	94.9	95	ug/L	EPA 6020A
	Calcium	4000	3950	99	ug/L	EPA 6020A
	Chromium	100	100	100	ug/L	EPA 6020A
	Copper	100	101	101	ug/L	EPA 6020A
	Iron	4000	3780	94	ug/L	EPA 6020A
	Lead	100	94.0	94	ug/L	EPA 6020A
	Magnesium	4000	4060	102	ug/L	EPA 6020A
	Manganese	100	97.5	97	ug/L	EPA 6020A
	Mercury	800	808	101	ng/L	EPA 6020A
	Nickel	100	105	105	ug/L	EPA 6020A
	Potassium	4000	4140	103	ug/L	EPA 6020A
	Selenium	40.0	38.8	97	ug/L	EPA 6020A
	Silver	40.0	41.1	103	ug/L	EPA 6020A
	Sodium	4000	3930	98	ug/L	EPA 6020A
	Thallium	40.0	40.2	101	ug/L	EPA 6020A
	Vanadium	100	99.2	99	ug/L	EPA 6020A
	Zinc	100	105	105	ug/L	EPA 6020A
9E22036-CCV2	Aluminum	4000	3930	98	ug/L	EPA 6020A
	Antimony	40.0	42.0	105	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E22036-CCV2	Arsenic	100	98.8	99	ug/L	EPA 6020A
	Barium	100	101	101	ug/L	EPA 6020A
	Beryllium	40.0	39.6	99	ug/L	EPA 6020A
	Cadmium	100	97.2	97	ug/L	EPA 6020A
	Calcium	4000	3990	100	ug/L	EPA 6020A
	Chromium	100	96.7	97	ug/L	EPA 6020A
	Copper	100	97.3	97	ug/L	EPA 6020A
	Iron	4000	3750	94	ug/L	EPA 6020A
	Lead	100	94.1	94	ug/L	EPA 6020A
	Magnesium	4000	3990	100	ug/L	EPA 6020A
	Manganese	100	95.2	95	ug/L	EPA 6020A
	Mercury	800	796	99	ng/L	EPA 6020A
	Nickel	100	101	101	ug/L	EPA 6020A
	Potassium	4000	4140	103	ug/L	EPA 6020A
	Selenium	40.0	38.9	97	ug/L	EPA 6020A
	Silver	40.0	39.7	99	ug/L	EPA 6020A
	Sodium	4000	3910	98	ug/L	EPA 6020A
	Thallium	40.0	38.3	96	ug/L	EPA 6020A
	Vanadium	100	94.9	95	ug/L	EPA 6020A
	Zinc	100	102	102	ug/L	EPA 6020A
9E22036-CCV3	Aluminum	4000	3790	95	ug/L	EPA 6020A
	Antimony	40.0	40.7	102	ug/L	EPA 6020A
	Arsenic	100	99.0	99	ug/L	EPA 6020A
	Barium	100	101	101	ug/L	EPA 6020A
	Beryllium	40.0	41.3	103	ug/L	EPA 6020A
	Cadmium	100	100	100	ug/L	EPA 6020A
	Calcium	4000	3670	92	ug/L	EPA 6020A
	Chromium	100	97.8	98	ug/L	EPA 6020A
	Copper	100	99.1	99	ug/L	EPA 6020A
	Iron	4000	3690	92	ug/L	EPA 6020A
	Lead	100	99.7	100	ug/L	EPA 6020A
	Magnesium	4000	3920	98	ug/L	EPA 6020A
	Manganese	100	94.8	95	ug/L	EPA 6020A
	Mercury	800	841	105	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4040	101	ug/L	EPA 6020A
	Selenium	40.0	38.7	97	ug/L	EPA 6020A
	Silver	40.0	39.2	98	ug/L	EPA 6020A
	Sodium	4000	3650	91	ug/L	EPA 6020A
	Thallium	40.0	37.9	95	ug/L	EPA 6020A
	Vanadium	100	97.0	97	ug/L	EPA 6020A
	Zinc	100	103	103	ug/L	EPA 6020A
9E22036-CCV4	Aluminum	4000	3860	97	ug/L	EPA 6020A
	Antimony	40.0	41.6	104	ug/L	EPA 6020A
	Arsenic	100	99.9	100	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E22036-CCV4	Beryllium	40.0	39.2	98	ug/L	EPA 6020A
	Cadmium	100	95.1	95	ug/L	EPA 6020A
	Calcium	4000	3810	95	ug/L	EPA 6020A
	Chromium	100	98.9	99	ug/L	EPA 6020A
	Copper	100	101	101	ug/L	EPA 6020A
	Iron	4000	3790	95	ug/L	EPA 6020A
	Lead	100	94.3	94	ug/L	EPA 6020A
	Magnesium	4000	3990	100	ug/L	EPA 6020A
	Manganese	100	96.9	97	ug/L	EPA 6020A
	Mercury	800	786	98	ng/L	EPA 6020A
	Nickel	100	103	103	ug/L	EPA 6020A
	Potassium	4000	4080	102	ug/L	EPA 6020A
	Selenium	40.0	39.1	98	ug/L	EPA 6020A
	Silver	40.0	39.9	100	ug/L	EPA 6020A
	Sodium	4000	3800	95	ug/L	EPA 6020A
	Thallium	40.0	38.1	95	ug/L	EPA 6020A
	Vanadium	100	99.0	99	ug/L	EPA 6020A
	Zinc	100	104	104	ug/L	EPA 6020A
9E22036-CCV5	Aluminum	4000	3900	97	ug/L	EPA 6020A
	Antimony	40.0	41.6	104	ug/L	EPA 6020A
	Arsenic	100	99.1	99	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A
	Beryllium	40.0	39.8	100	ug/L	EPA 6020A
	Cadmium	100	95.5	96	ug/L	EPA 6020A
	Calcium	4000	3750	94	ug/L	EPA 6020A
	Chromium	100	100	100	ug/L	EPA 6020A
	Copper	100	101	101	ug/L	EPA 6020A
	Iron	4000	3800	95	ug/L	EPA 6020A
	Lead	100	94.3	94	ug/L	EPA 6020A
	Magnesium	4000	4030	101	ug/L	EPA 6020A
	Manganese	100	95.4	95	ug/L	EPA 6020A
	Mercury	800	802	100	ng/L	EPA 6020A
	Nickel	100	105	105	ug/L	EPA 6020A
	Potassium	4000	4130	103	ug/L	EPA 6020A
	Selenium	40.0	39.8	99	ug/L	EPA 6020A
	Silver	40.0	39.9	100	ug/L	EPA 6020A
	Sodium	4000	3720	93	ug/L	EPA 6020A
	Thallium	40.0	38.7	97	ug/L	EPA 6020A
	Vanadium	100	99.2	99	ug/L	EPA 6020A
	Zinc	100	104	104	ug/L	EPA 6020A
9E22036-CCV6	Aluminum	4000	3850	96	ug/L	EPA 6020A
	Antimony	40.0	41.5	104	ug/L	EPA 6020A
	Arsenic	100	98.3	98	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	40.0	100	ug/L	EPA 6020A
	Cadmium	100	95.1	95	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E22036-CCV6	Calcium	4000	3750	94	ug/L	EPA 6020A
	Chromium	100	99.3	99	ug/L	EPA 6020A
	Copper	100	100	100	ug/L	EPA 6020A
	Iron	4000	3790	95	ug/L	EPA 6020A
	Lead	100	93.7	94	ug/L	EPA 6020A
	Magnesium	4000	4020	101	ug/L	EPA 6020A
	Manganese	100	95.9	96	ug/L	EPA 6020A
	Mercury	800	781	98	ng/L	EPA 6020A
	Nickel	100	104	104	ug/L	EPA 6020A
	Potassium	4000	4100	102	ug/L	EPA 6020A
	Selenium	40.0	39.1	98	ug/L	EPA 6020A
	Silver	40.0	39.9	100	ug/L	EPA 6020A
	Sodium	4000	3760	94	ug/L	EPA 6020A
	Thallium	40.0	39.2	98	ug/L	EPA 6020A
	Vanadium	100	99.0	99	ug/L	EPA 6020A
	Zinc	100	102	102	ug/L	EPA 6020A
9E22036-CCV7	Aluminum	4000	3850	96	ug/L	EPA 6020A
	Antimony	40.0	42.0	105	ug/L	EPA 6020A
	Arsenic	100	97.9	98	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	40.1	100	ug/L	EPA 6020A
	Cadmium	100	95.4	95	ug/L	EPA 6020A
	Calcium	4000	3920	98	ug/L	EPA 6020A
	Chromium	100	99.8	100	ug/L	EPA 6020A
	Copper	100	100	100	ug/L	EPA 6020A
	Iron	4000	3790	95	ug/L	EPA 6020A
	Lead	100	93.6	94	ug/L	EPA 6020A
	Magnesium	4000	3970	99	ug/L	EPA 6020A
	Manganese	100	96.3	96	ug/L	EPA 6020A
	Mercury	800	819	102	ng/L	EPA 6020A
	Nickel	100	103	103	ug/L	EPA 6020A
	Potassium	4000	4150	104	ug/L	EPA 6020A
	Selenium	40.0	40.0	100	ug/L	EPA 6020A
	Silver	40.0	39.8	99	ug/L	EPA 6020A
	Sodium	4000	3860	97	ug/L	EPA 6020A
	Thallium	40.0	39.2	98	ug/L	EPA 6020A
	Vanadium	100	98.9	99	ug/L	EPA 6020A
	Zinc	100	103	103	ug/L	EPA 6020A
9E22036-CCV8	Aluminum	4000	3900	98	ug/L	EPA 6020A
	Antimony	40.0	42.7	107	ug/L	EPA 6020A
	Arsenic	100	98.3	98	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	40.7	102	ug/L	EPA 6020A
	Cadmium	100	97.8	98	ug/L	EPA 6020A
	Calcium	4000	3960	99	ug/L	EPA 6020A
	Chromium	100	99.4	99	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E22036-CCV8	Copper	100	101	101	ug/L	EPA 6020A
	Iron	4000	3790	95	ug/L	EPA 6020A
	Lead	100	95.6	96	ug/L	EPA 6020A
	Magnesium	4000	4000	100	ug/L	EPA 6020A
	Manganese	100	95.7	96	ug/L	EPA 6020A
	Mercury	800	748	93	ng/L	EPA 6020A
	Nickel	100	103	103	ug/L	EPA 6020A
	Potassium	4000	4130	103	ug/L	EPA 6020A
	Selenium	40.0	40.0	100	ug/L	EPA 6020A
	Silver	40.0	40.3	101	ug/L	EPA 6020A
	Sodium	4000	3930	98	ug/L	EPA 6020A
	Thallium	40.0	39.0	97	ug/L	EPA 6020A
	Vanadium	100	99.0	99	ug/L	EPA 6020A
	Zinc	100	101	101	ug/L	EPA 6020A
9E22036-CCVA	Aluminum	4000	3950	99	ug/L	EPA 6020A
	Antimony	40.0	41.5	104	ug/L	EPA 6020A
	Arsenic	100	98.0	98	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	38.9	97	ug/L	EPA 6020A
	Cadmium	100	97.6	98	ug/L	EPA 6020A
	Calcium	4000	3800	95	ug/L	EPA 6020A
	Chromium	100	102	102	ug/L	EPA 6020A
	Copper	100	101	101	ug/L	EPA 6020A
	Iron	4000	3890	97	ug/L	EPA 6020A
	Lead	100	94.8	95	ug/L	EPA 6020A
	Magnesium	4000	4110	103	ug/L	EPA 6020A
	Manganese	100	97.7	98	ug/L	EPA 6020A
	Mercury	800	796	99	ng/L	EPA 6020A
	Nickel	100	105	105	ug/L	EPA 6020A
	Potassium	4000	4150	104	ug/L	EPA 6020A
	Selenium	40.0	40.4	101	ug/L	EPA 6020A
	Silver	40.0	39.8	100	ug/L	EPA 6020A
	Sodium	4000	3910	98	ug/L	EPA 6020A
	Thallium	40.0	38.6	96	ug/L	EPA 6020A
	Vanadium	100	101	101	ug/L	EPA 6020A
	Zinc	100	104	104	ug/L	EPA 6020A
9E22036-CCVB	Aluminum	4000	3820	95	ug/L	EPA 6020A
	Antimony	40.0	40.5	101	ug/L	EPA 6020A
	Arsenic	100	96.0	96	ug/L	EPA 6020A
	Barium	100	100	100	ug/L	EPA 6020A
	Beryllium	40.0	39.6	99	ug/L	EPA 6020A
	Cadmium	100	96.0	96	ug/L	EPA 6020A
	Calcium	4000	3950	99	ug/L	EPA 6020A
	Chromium	100	98.7	99	ug/L	EPA 6020A
	Copper	100	99.1	99	ug/L	EPA 6020A
	Iron	4000	3810	95	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E22036-CCVB	Lead	100	93.6	94	ug/L	EPA 6020A
	Magnesium	4000	3970	99	ug/L	EPA 6020A
	Manganese	100	94.5	94	ug/L	EPA 6020A
	Mercury	800	791	99	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4010	100	ug/L	EPA 6020A
	Selenium	40.0	39.7	99	ug/L	EPA 6020A
	Silver	40.0	38.8	97	ug/L	EPA 6020A
	Sodium	4000	4010	100	ug/L	EPA 6020A
	Thallium	40.0	38.0	95	ug/L	EPA 6020A
	Vanadium	100	98.2	98	ug/L	EPA 6020A
	Zinc	100	102	102	ug/L	EPA 6020A
9E22036-CCVC	Aluminum	4000	3890	97	ug/L	EPA 6020A
	Antimony	40.0	41.6	104	ug/L	EPA 6020A
	Arsenic	100	98.1	98	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	39.9	100	ug/L	EPA 6020A
	Cadmium	100	97.1	97	ug/L	EPA 6020A
	Calcium	4000	3960	99	ug/L	EPA 6020A
	Chromium	100	99.7	100	ug/L	EPA 6020A
	Copper	100	99.9	100	ug/L	EPA 6020A
	Iron	4000	3800	95	ug/L	EPA 6020A
	Lead	100	94.7	95	ug/L	EPA 6020A
	Magnesium	4000	4030	101	ug/L	EPA 6020A
	Manganese	100	96.2	96	ug/L	EPA 6020A
	Mercury	800	804	100	ng/L	EPA 6020A
	Nickel	100	102	102	ug/L	EPA 6020A
	Potassium	4000	4140	104	ug/L	EPA 6020A
	Selenium	40.0	39.8	99	ug/L	EPA 6020A
	Silver	40.0	39.6	99	ug/L	EPA 6020A
	Sodium	4000	4040	101	ug/L	EPA 6020A
	Thallium	40.0	38.7	97	ug/L	EPA 6020A
	Vanadium	100	98.9	99	ug/L	EPA 6020A
	Zinc	100	102	102	ug/L	EPA 6020A

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-ICB1	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	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
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E22036-CCB1	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-CCB1	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	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
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
9E22036-CCB2	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Copper	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
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-CCB3	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	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
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
9E22036-CCB4	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-CCB4	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
9E22036-CCB5	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-CCB6	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Copper	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
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
9E22036-CCB7	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-CCB7	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
9E22036-CCB8	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Copper	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
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-CCB9	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
9E22036-CCBA	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	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
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Decommissioning
Sequence: 9E22036
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E22036-CCBA	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
9E22036-CCBB	Mercury	ND	40.0 (Inst)	ng/L		EPA 6020A
	Iron	ND	25.0 (Inst)	ug/L		EPA 6020A
	Sodium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	25.0 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.100 (Inst)	ug/L		EPA 6020A
	Magnesium	ND	25.0 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.500 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.500 (Inst)	ug/L		EPA 6020A
	Potassium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.100 (Inst)	ug/L		EPA 6020A
	Zinc	ND	2.00 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.500 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.100 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Calcium	ND	50.0 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.500 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.500 (Inst)	ug/L		EPA 6020A

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

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRL1	Aluminum	9.00	8.39	93	ug/L	70 - 130
	Antimony	0.180	0.181	100	ug/L	70 - 130
	Arsenic	0.180	0.197	109	ug/L	70 - 130
	Barium	0.180	0.172	95	ug/L	70 - 130
	Beryllium	0.180	0.185	103	ug/L	70 - 130
	Cadmium	0.180	0.195	109	ug/L	70 - 130
	Calcium	9.00	9.91	110	ug/L	70 - 130
	Chromium	0.180	0.212	118	ug/L	70 - 130
	Copper	0.180	0.219	121	ug/L	70 - 130
	Iron	9.00	8.46	94	ug/L	70 - 130
	Lead	0.180	0.193	107	ug/L	70 - 130
	Magnesium	9.00	9.85	109	ug/L	70 - 130
	Manganese	0.180	0.157	87	ug/L	70 - 130
	Selenium	0.180	0.205	114	ug/L	70 - 130
	Silver	0.180	0.180	100	ug/L	70 - 130
	Sodium	9.00	8.54	95	ug/L	70 - 130
	Thallium	0.180	0.182	101	ug/L	70 - 130
	Vanadium	0.180	0.153	85	ug/L	70 - 130
9E22036-CRL2	Aluminum	45.0	44.9	100	ug/L	70 - 130
	Antimony	0.900	0.950	106	ug/L	70 - 130
	Arsenic	0.900	0.936	104	ug/L	70 - 130
	Barium	0.900	0.939	104	ug/L	70 - 130
	Beryllium	0.900	0.903	100	ug/L	70 - 130
	Cadmium	0.900	0.845	94	ug/L	70 - 130
	Calcium	45.0	46.1	102	ug/L	70 - 130
	Chromium	0.900	0.956	106	ug/L	70 - 130
	Copper	0.900	1.09	122	ug/L	70 - 130
	Iron	45.0	42.5	94	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRL2	Lead	0.900	0.891	99	ug/L	70 - 130
	Magnesium	45.0	49.2	109	ug/L	70 - 130
	Manganese	0.900	0.925	103	ug/L	70 - 130
	Mercury	36.0	36.2	101	ng/L	70 - 130
	Nickel	0.900	0.972	108	ug/L	70 - 130
	Potassium	45.0	53.0	118	ug/L	70 - 130
	Selenium	0.900	0.892	99	ug/L	70 - 130
	Silver	0.900	1.01	113	ug/L	70 - 130
	Sodium	45.0	43.0	96	ug/L	70 - 130
	Thallium	0.900	0.959	107	ug/L	70 - 130
	Vanadium	0.900	0.953	106	ug/L	70 - 130
	Zinc	0.900	1.02	114	ug/L	70 - 130
9E22036-CRL3	Aluminum	90.0	89.2	99	ug/L	70 - 130
	Antimony	1.80	1.82	101	ug/L	70 - 130
	Arsenic	1.80	1.67	93	ug/L	70 - 130
	Barium	1.80	1.85	103	ug/L	70 - 130
	Beryllium	1.80	1.79	99	ug/L	70 - 130
	Cadmium	1.80	1.83	102	ug/L	70 - 130
	Calcium	90.0	91.6	102	ug/L	70 - 130
	Chromium	1.80	1.81	101	ug/L	70 - 130
	Copper	1.80	1.86	103	ug/L	70 - 130
	Iron	90.0	87.4	97	ug/L	70 - 130
	Lead	1.80	1.82	101	ug/L	70 - 130
	Magnesium	90.0	88.1	98	ug/L	70 - 130
	Manganese	1.80	1.81	101	ug/L	70 - 130
	Mercury	72.0	65.8	91	ng/L	70 - 130
	Nickel	1.80	1.70	95	ug/L	70 - 130
	Potassium	90.0	87.7	97	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRL3	Selenium	1.80	1.81	100	ug/L	70 - 130
	Silver	1.80	1.83	102	ug/L	70 - 130
	Sodium	90.0	88.5	98	ug/L	70 - 130
	Thallium	1.80	1.83	101	ug/L	70 - 130
	Vanadium	1.80	1.76	98	ug/L	70 - 130
	Zinc	1.80	1.91	106	ug/L	70 - 130
9E22036-CRL4	Aluminum	9.00	8.99	100	ug/L	70 - 130
	Antimony	0.180	0.199	111	ug/L	70 - 130
	Arsenic	0.180	0.213	119	ug/L	70 - 130
	Barium	0.180	0.150	83	ug/L	70 - 130
	Beryllium	0.180	0.170	94	ug/L	70 - 130
	Cadmium	0.180	0.156	86	ug/L	70 - 130
	Calcium	9.00	11.1	124	ug/L	70 - 130
	Chromium	0.180	0.178	99	ug/L	70 - 130
	Iron	9.00	9.27	103	ug/L	70 - 130
	Lead	0.180	0.187	104	ug/L	70 - 130
	Magnesium	9.00	9.12	101	ug/L	70 - 130
	Manganese	0.180	0.162	90	ug/L	70 - 130
	Potassium	9.00	6.49	72	ug/L	70 - 130
	Selenium	0.180	0.145	80	ug/L	70 - 130
	Silver	0.180	0.190	106	ug/L	70 - 130
	Thallium	0.180	0.175	97	ug/L	70 - 130
	Vanadium	0.180	0.174	97	ug/L	70 - 130
	Zinc	0.180	0.147	82	ug/L	70 - 130
9E22036-CRL5	Aluminum	45.0	44.1	98	ug/L	70 - 130
	Antimony	0.900	0.920	102	ug/L	70 - 130
	Arsenic	0.900	0.958	106	ug/L	70 - 130
	Barium	0.900	0.943	105	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRL5	Beryllium	0.900	0.921	102	ug/L	70 - 130
	Cadmium	0.900	0.851	95	ug/L	70 - 130
	Calcium	45.0	44.4	99	ug/L	70 - 130
	Chromium	0.900	0.885	98	ug/L	70 - 130
	Copper	0.900	0.945	105	ug/L	70 - 130
	Iron	45.0	43.0	96	ug/L	70 - 130
	Lead	0.900	0.910	101	ug/L	70 - 130
	Magnesium	45.0	42.4	94	ug/L	70 - 130
	Manganese	0.900	0.892	99	ug/L	70 - 130
	Nickel	0.900	0.790	88	ug/L	70 - 130
	Potassium	45.0	38.6	86	ug/L	70 - 130
	Selenium	0.900	0.931	103	ug/L	70 - 130
	Silver	0.900	0.895	99	ug/L	70 - 130
	Sodium	45.0	47.8	106	ug/L	70 - 130
	Thallium	0.900	0.909	101	ug/L	70 - 130
	Vanadium	0.900	0.933	104	ug/L	70 - 130
	Zinc	0.900	0.912	101	ug/L	70 - 130
9E22036-CRL6	Aluminum	90.0	90.8	101	ug/L	70 - 130
	Antimony	1.80	2.00	111	ug/L	70 - 130
	Arsenic	1.80	1.97	109	ug/L	70 - 130
	Barium	1.80	1.96	109	ug/L	70 - 130
	Beryllium	1.80	1.81	101	ug/L	70 - 130
	Cadmium	1.80	1.83	101	ug/L	70 - 130
	Calcium	90.0	90.8	101	ug/L	70 - 130
	Chromium	1.80	1.78	99	ug/L	70 - 130
	Copper	1.80	1.86	103	ug/L	70 - 130
	Iron	90.0	86.2	96	ug/L	70 - 130
	Lead	1.80	1.84	102	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRL6	Magnesium	90.0	89.2	99	ug/L	70 - 130
	Manganese	1.80	1.72	96	ug/L	70 - 130
	Mercury	72.0	77.2	107	ng/L	70 - 130
	Nickel	1.80	1.63	91	ug/L	70 - 130
	Potassium	90.0	86.2	96	ug/L	70 - 130
	Selenium	1.80	1.83	102	ug/L	70 - 130
	Silver	1.80	1.82	101	ug/L	70 - 130
	Sodium	90.0	91.3	101	ug/L	70 - 130
	Thallium	1.80	1.84	102	ug/L	70 - 130
	Vanadium	1.80	1.76	98	ug/L	70 - 130
	Zinc	1.80	1.78	99	ug/L	70 - 130
9E22036-CRL7	Aluminum	9.00	9.49	105	ug/L	70 - 130
	Antimony	0.180	0.173	96	ug/L	70 - 130
	Arsenic	0.180	0.228	126	ug/L	70 - 130
	Barium	0.180	0.190	106	ug/L	70 - 130
	Beryllium	0.180	0.185	103	ug/L	70 - 130
	Cadmium	0.180	0.152	84	ug/L	70 - 130
	Calcium	9.00	10.7	119	ug/L	70 - 130
	Chromium	0.180	0.196	109	ug/L	70 - 130
	Copper	0.180	0.176	98	ug/L	70 - 130
	Iron	9.00	10.6	118	ug/L	70 - 130
	Lead	0.180	0.175	97	ug/L	70 - 130
	Magnesium	9.00	8.63	96	ug/L	70 - 130
	Manganese	0.180	0.199	110	ug/L	70 - 130
	Selenium	0.180	0.161	89	ug/L	70 - 130
	Silver	0.180	0.194	108	ug/L	70 - 130
	Sodium	9.00	6.70	74	ug/L	70 - 130
	Thallium	0.180	0.171	95	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRL7	Vanadium	0.180	0.152	85	ug/L	70 - 130
	Zinc	0.180	0.230	128	ug/L	70 - 130
9E22036-CRL8	Aluminum	45.0	45.0	100	ug/L	70 - 130
	Antimony	0.900	0.924	103	ug/L	70 - 130
	Arsenic	0.900	0.915	102	ug/L	70 - 130
	Barium	0.900	0.905	101	ug/L	70 - 130
	Beryllium	0.900	0.879	98	ug/L	70 - 130
	Cadmium	0.900	0.897	100	ug/L	70 - 130
	Calcium	45.0	45.7	102	ug/L	70 - 130
	Chromium	0.900	0.936	104	ug/L	70 - 130
	Copper	0.900	0.913	101	ug/L	70 - 130
	Iron	45.0	43.4	96	ug/L	70 - 130
	Lead	0.900	0.902	100	ug/L	70 - 130
	Magnesium	45.0	42.4	94	ug/L	70 - 130
	Manganese	0.900	0.869	97	ug/L	70 - 130
	Nickel	0.900	0.637	71	ug/L	70 - 130
	Potassium	45.0	40.3	90	ug/L	70 - 130
	Selenium	0.900	0.906	101	ug/L	70 - 130
	Silver	0.900	0.967	107	ug/L	70 - 130
	Sodium	45.0	40.9	91	ug/L	70 - 130
	Thallium	0.900	0.927	103	ug/L	70 - 130
	Vanadium	0.900	0.950	106	ug/L	70 - 130
	Zinc	0.900	0.791	88	ug/L	70 - 130
9E22036-CRL9	Aluminum	90.0	89.0	99	ug/L	70 - 130
	Antimony	1.80	1.79	99	ug/L	70 - 130
	Arsenic	1.80	1.77	98	ug/L	70 - 130
	Barium	1.80	2.01	112	ug/L	70 - 130
	Beryllium	1.80	1.79	100	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRL9	Cadmium	1.80	1.78	99	ug/L	70 - 130
	Calcium	90.0	90.7	101	ug/L	70 - 130
	Chromium	1.80	1.78	99	ug/L	70 - 130
	Copper	1.80	1.84	102	ug/L	70 - 130
	Iron	90.0	88.3	98	ug/L	70 - 130
	Lead	1.80	1.83	102	ug/L	70 - 130
	Magnesium	90.0	87.3	97	ug/L	70 - 130
	Manganese	1.80	1.79	100	ug/L	70 - 130
	Mercury	72.0	62.0	86	ng/L	70 - 130
	Nickel	1.80	1.69	94	ug/L	70 - 130
	Potassium	90.0	92.4	103	ug/L	70 - 130
	Selenium	1.80	1.89	105	ug/L	70 - 130
	Silver	1.80	1.80	100	ug/L	70 - 130
	Sodium	90.0	85.8	95	ug/L	70 - 130
	Thallium	1.80	1.88	105	ug/L	70 - 130
	Vanadium	1.80	1.76	98	ug/L	70 - 130
	Zinc	1.80	2.20	122	ug/L	70 - 130
9E22036-CRLA	Aluminum	9.00	8.44	94	ug/L	70 - 130
	Antimony	0.180	0.176	98	ug/L	70 - 130
	Arsenic	0.180	0.194	108	ug/L	70 - 130
	Barium	0.180	0.206	114	ug/L	70 - 130
	Beryllium	0.180	0.170	95	ug/L	70 - 130
	Cadmium	0.180	0.195	108	ug/L	70 - 130
	Calcium	9.00	10.3	114	ug/L	70 - 130
	Chromium	0.180	0.183	102	ug/L	70 - 130
	Copper	0.180	0.182	101	ug/L	70 - 130
	Iron	9.00	10.6	117	ug/L	70 - 130
	Lead	0.180	0.188	104	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRLA	Magnesium	9.00	7.36	82	ug/L	70 - 130
	Manganese	0.180	0.178	99	ug/L	70 - 130
	Mercury	7.20	5.65	78	ng/L	70 - 130
	Potassium	9.00	9.77	109	ug/L	70 - 130
	Selenium	0.180	0.155	86	ug/L	70 - 130
	Silver	0.180	0.182	101	ug/L	70 - 130
	Thallium	0.180	0.172	96	ug/L	70 - 130
	Vanadium	0.180	0.135	75	ug/L	70 - 130
	Zinc	0.180	0.179	99	ug/L	70 - 130
9E22036-CRLB	Aluminum	45.0	49.4	110	ug/L	70 - 130
	Antimony	0.900	0.934	104	ug/L	70 - 130
	Arsenic	0.900	0.958	106	ug/L	70 - 130
	Barium	0.900	0.974	108	ug/L	70 - 130
	Beryllium	0.900	0.881	98	ug/L	70 - 130
	Cadmium	0.900	0.845	94	ug/L	70 - 130
	Calcium	45.0	46.9	104	ug/L	70 - 130
	Chromium	0.900	0.882	98	ug/L	70 - 130
	Copper	0.900	0.976	108	ug/L	70 - 130
	Iron	45.0	52.7	117	ug/L	70 - 130
	Lead	0.900	0.898	100	ug/L	70 - 130
	Magnesium	45.0	44.1	98	ug/L	70 - 130
	Manganese	0.900	0.978	109	ug/L	70 - 130
	Mercury	36.0	35.0	97	ng/L	70 - 130
	Nickel	0.900	0.756	84	ug/L	70 - 130
	Potassium	45.0	50.6	112	ug/L	70 - 130
	Selenium	0.900	0.863	96	ug/L	70 - 130
	Silver	0.900	0.927	103	ug/L	70 - 130
	Sodium	45.0	40.4	90	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRLB	Thallium	0.900	0.946	105	ug/L	70 - 130
	Vanadium	0.900	0.868	96	ug/L	70 - 130
	Zinc	0.900	0.991	110	ug/L	70 - 130
9E22036-CRLC	Aluminum	90.0	91.9	102	ug/L	70 - 130
	Antimony	1.80	1.83	102	ug/L	70 - 130
	Arsenic	1.80	1.66	92	ug/L	70 - 130
	Barium	1.80	1.92	107	ug/L	70 - 130
	Beryllium	1.80	1.85	103	ug/L	70 - 130
	Cadmium	1.80	1.74	97	ug/L	70 - 130
	Calcium	90.0	90.1	100	ug/L	70 - 130
	Chromium	1.80	1.83	102	ug/L	70 - 130
	Copper	1.80	1.77	98	ug/L	70 - 130
	Iron	90.0	91.8	102	ug/L	70 - 130
	Lead	1.80	1.83	101	ug/L	70 - 130
	Magnesium	90.0	89.1	99	ug/L	70 - 130
	Manganese	1.80	1.82	101	ug/L	70 - 130
	Mercury	72.0	72.1	100	ng/L	70 - 130
	Nickel	1.80	1.79	99	ug/L	70 - 130
	Potassium	90.0	95.5	106	ug/L	70 - 130
	Selenium	1.80	1.84	102	ug/L	70 - 130
	Silver	1.80	1.82	101	ug/L	70 - 130
	Sodium	90.0	82.9	92	ug/L	70 - 130
	Thallium	1.80	1.82	101	ug/L	70 - 130
	Vanadium	1.80	1.68	93	ug/L	70 - 130
	Zinc	1.80	1.90	106	ug/L	70 - 130
9E22036-CRLD	Aluminum	180	176	98	ug/L	70 - 130
	Antimony	3.60	3.70	103	ug/L	70 - 130
	Arsenic	3.60	3.67	102	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRLD	Barium	3.60	3.79	105	ug/L	70 - 130
	Beryllium	3.60	3.61	100	ug/L	70 - 130
	Cadmium	3.60	3.41	95	ug/L	70 - 130
	Calcium	180	184	102	ug/L	70 - 130
	Chromium	3.60	3.56	99	ug/L	70 - 130
	Copper	3.60	3.82	106	ug/L	70 - 130
	Iron	180	177	98	ug/L	70 - 130
	Lead	3.60	3.62	101	ug/L	70 - 130
	Magnesium	180	174	97	ug/L	70 - 130
	Manganese	3.60	3.42	95	ug/L	70 - 130
	Mercury	144	126	88	ng/L	70 - 130
	Nickel	3.60	3.44	96	ug/L	70 - 130
	Potassium	180	190	105	ug/L	70 - 130
	Selenium	3.60	3.79	105	ug/L	70 - 130
	Silver	3.60	3.66	102	ug/L	70 - 130
	Sodium	180	173	96	ug/L	70 - 130
	Thallium	3.60	3.68	102	ug/L	70 - 130
	Vanadium	3.60	3.52	98	ug/L	70 - 130
	Zinc	3.60	3.71	103	ug/L	70 - 130
9E22036-CRLE	Aluminum	9.00	9.45	105	ug/L	70 - 130
	Antimony	0.180	0.194	108	ug/L	70 - 130
	Arsenic	0.180	0.175	97	ug/L	70 - 130
	Barium	0.180	0.191	106	ug/L	70 - 130
	Beryllium	0.180	0.173	96	ug/L	70 - 130
	Cadmium	0.180	0.180	100	ug/L	70 - 130
	Calcium	9.00	8.53	95	ug/L	70 - 130
	Chromium	0.180	0.175	97	ug/L	70 - 130
	Iron	9.00	10.9	121	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRLE	Lead	0.180	0.178	99	ug/L	70 - 130
	Magnesium	9.00	7.97	89	ug/L	70 - 130
	Manganese	0.180	0.193	107	ug/L	70 - 130
	Potassium	9.00	8.73	97	ug/L	70 - 130
	Selenium	0.180	0.225	125	ug/L	70 - 130
	Silver	0.180	0.184	102	ug/L	70 - 130
	Thallium	0.180	0.188	105	ug/L	70 - 130
	Vanadium	0.180	0.162	90	ug/L	70 - 130
9E22036-CRLF	Aluminum	45.0	47.1	105	ug/L	70 - 130
	Antimony	0.900	0.931	103	ug/L	70 - 130
	Arsenic	0.900	0.864	96	ug/L	70 - 130
	Barium	0.900	1.02	114	ug/L	70 - 130
	Beryllium	0.900	0.921	102	ug/L	70 - 130
	Cadmium	0.900	0.900	100	ug/L	70 - 130
	Calcium	45.0	43.2	96	ug/L	70 - 130
	Chromium	0.900	0.920	102	ug/L	70 - 130
	Copper	0.900	1.06	118	ug/L	70 - 130
	Iron	45.0	44.3	98	ug/L	70 - 130
	Lead	0.900	0.892	99	ug/L	70 - 130
	Magnesium	45.0	46.4	103	ug/L	70 - 130
	Manganese	0.900	0.907	101	ug/L	70 - 130
	Mercury	36.0	26.1	73	ng/L	70 - 130
	Nickel	0.900	0.704	78	ug/L	70 - 130
	Potassium	45.0	49.4	110	ug/L	70 - 130
	Selenium	0.900	0.875	97	ug/L	70 - 130
	Silver	0.900	0.914	102	ug/L	70 - 130
	Sodium	45.0	39.8	88	ug/L	70 - 130
	Thallium	0.900	0.895	99	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRLF	Vanadium	0.900	0.908	101	ug/L	70 - 130
	Zinc	0.900	1.17	130	ug/L	70 - 130
9E22036-CRLG	Aluminum	90.0	91.5	102	ug/L	70 - 130
	Antimony	1.80	1.95	108	ug/L	70 - 130
	Arsenic	1.80	1.82	101	ug/L	70 - 130
	Barium	1.80	1.86	103	ug/L	70 - 130
	Beryllium	1.80	1.75	97	ug/L	70 - 130
	Cadmium	1.80	1.83	102	ug/L	70 - 130
	Calcium	90.0	89.7	100	ug/L	70 - 130
	Chromium	1.80	1.85	103	ug/L	70 - 130
	Copper	1.80	2.01	112	ug/L	70 - 130
	Iron	90.0	86.8	96	ug/L	70 - 130
	Lead	1.80	1.79	99	ug/L	70 - 130
	Magnesium	90.0	90.2	100	ug/L	70 - 130
	Manganese	1.80	1.75	97	ug/L	70 - 130
	Mercury	72.0	77.1	107	ng/L	70 - 130
	Nickel	1.80	1.68	93	ug/L	70 - 130
	Potassium	90.0	100	111	ug/L	70 - 130
	Selenium	1.80	1.86	103	ug/L	70 - 130
	Silver	1.80	1.83	102	ug/L	70 - 130
	Sodium	90.0	85.8	95	ug/L	70 - 130
	Thallium	1.80	1.80	100	ug/L	70 - 130
	Vanadium	1.80	1.70	95	ug/L	70 - 130
	Zinc	1.80	2.06	114	ug/L	70 - 130
9E22036-CRLH	Aluminum	180	171	95	ug/L	70 - 130
	Antimony	3.60	3.71	103	ug/L	70 - 130
	Arsenic	3.60	3.53	98	ug/L	70 - 130
	Barium	3.60	3.85	107	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9E22036

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9E22036-CRLH	Beryllium	3.60	3.62	101	ug/L	70 - 130
	Cadmium	3.60	3.57	99	ug/L	70 - 130
	Calcium	180	180	100	ug/L	70 - 130
	Chromium	3.60	3.65	101	ug/L	70 - 130
	Copper	3.60	3.89	108	ug/L	70 - 130
	Iron	180	174	97	ug/L	70 - 130
	Lead	3.60	3.57	99	ug/L	70 - 130
	Magnesium	180	178	99	ug/L	70 - 130
	Manganese	3.60	3.63	101	ug/L	70 - 130
	Mercury	144	143	99	ng/L	70 - 130
	Nickel	3.60	3.55	99	ug/L	70 - 130
	Potassium	180	191	106	ug/L	70 - 130
	Selenium	3.60	3.60	100	ug/L	70 - 130
	Silver	3.60	3.72	103	ug/L	70 - 130
	Sodium	180	173	96	ug/L	70 - 130
	Thallium	3.60	3.64	101	ug/L	70 - 130
	Vanadium	3.60	3.44	96	ug/L	70 - 130
	Zinc	3.60	3.90	108	ug/L	70 - 130

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 6020A

Laboratory: Apex Laboratories SDG: A9E0582

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
2708-190515-005	05/15/19 14:45	05/16/19 15:15	05/20/19 13:59	4.97	28.00	05/22/19 20:33	7.24	28.00	
2708-190515-005	05/15/19 14:45	05/16/19 15:15	05/20/19 13:59	4.97	180.00	05/22/19 20:33	7.24	180.00	

Apex Laboratories

SDG: A9E0582

CLASS: WET

METHOD: D7511-12

ANALYSES DATA PACKAGE COVER PAGE

D7511-12

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning

Client Sample Id:	Lab Sample Id:	Matrix
2708-190515-005	A9E0582-01	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 12:09PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

D7511-12

Laboratory: Apex Laboratories **SDG:** A9E0582

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

2708-190515-005

Laboratory: Apex Laboratories | SDG: A9E0582

Client: Hahn and Associates | Project: Mult 802 Decommissioning

Matrix: Solid | Laboratory ID: A9E0582-01 | File ID: 9E20027-030

Sampled: 05/15/19 14:45 | Prepared: 05/20/19 07:51 | Analyzed: 05/20/19 14:10

Solids: N/A | Preparation: ASTM D7511-12mod (S) | Initial/Final: 2.5537 g / 50 mL

Batch: 9051027 | Sequence: 9E20027 | Calibration: A9E2001 | Instrument: OIA FS3000-2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
57-12-5	Cyanide, Total	7.16	10	D	D7511-12

PREPARATION BATCH SUMMARY

D7511-12

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Batch: 9051027 Batch Matrix: Solid Preparation: ASTM D7511-12mod (S)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9051027-BLK1	9E20027-020	05/20/19 07:51	
LCS	9051027-BS1	9E20027-021	05/20/19 07:51	
LCS	9051027-BS2	9E20027-019	05/20/19 07:51	
2708-190515-005	A9E0582-01	9E20027-030	05/20/19 07:51	

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

METHOD BLANK DATA SHEET
D7511-12

Laboratory:	Apex Laboratories			SDG:	A9E0582
Client:	Hahn and Associates			Project:	Mult 802 Decommissioning
Matrix:	Solid	Laboratory ID:	9051027-BLK1	File ID:	9E20027-020
Prepared:	05/20/19 07:51	Preparation:	ASTM D7511-12mod (S)	Initial/Final:	2.5 g / 50 mL
Analyzed:	05/20/19 13:50	Instrument:	OIA FS3000-2		
Batch:	9051027	Sequence:	9E20027	Calibration:	A9E2001

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:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051027	Laboratory ID:	9051027-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	0.422	105	84 - 116

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

D7511-12

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Matrix:	Solid		
Batch:	9051027	Laboratory ID:	9051027-BS2
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	0.200	0.108	54 *	84 - 116

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

D7511-12

Laboratory:	Apex Laboratories	SDG:	A9E0582
Client:	Hahn and Associates	Project:	Mult 802 Decommissioning
Sequence:	9E20027	Instrument:	OIA FS3000-2
Matrix:	Solid	Calibration:	A9E2001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	9E20027-CAL2	9E20027-008	05/20/19 13:26
Cal Standard	9E20027-CAL3	9E20027-009	05/20/19 13:28
Cal Standard	9E20027-CAL4	9E20027-010	05/20/19 13:30
Cal Standard	9E20027-CAL5	9E20027-011	05/20/19 13:32
Cal Standard	9E20027-CAL6	9E20027-012	05/20/19 13:34
Cal Standard	9E20027-CAL7	9E20027-013	05/20/19 13:36
Initial Cal Check	9E20027-ICV1	9E20027-016	05/20/19 13:42
Initial Cal Blank	9E20027-ICB1	9E20027-017	05/20/19 13:44
LCS	9051027-BS2	9E20027-019	05/20/19 13:48
Blank	9051027-BLK1	9E20027-020	05/20/19 13:50
LCS	9051027-BS1	9E20027-021	05/20/19 13:52
2708-190515-005	A9E0582-01	9E20027-030	05/20/19 14:10
Calibration Check	9E20027-CCV1	9E20027-033	05/20/19 14:16
Calibration Blank	9E20027-CCB1	9E20027-034	05/20/19 14:18
Calibration Check	9E20027-CCV2	9E20027B-009	05/20/19 15:45
Calibration Blank	9E20027-CCB2	9E20027B-010	05/20/19 15:47
Calibration Check	9E20027-CCV3	9E20027B-016	05/20/19 15:59
Calibration Blank	9E20027-CCB3	9E20027B-017	05/20/19 16:01

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.

INITIAL CALIBRATION DATA (Summary)

D7511-12

Laboratory: Apex Laboratories SDG: A9E0582

Client: Hahn and Associates Project: Mult 802 Decommissioning

Calibration: A9E2001 Date: 05/20/19 08:53 Instrument: OIA FS3000-2

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Cyanide, Total	25876.52	Q **	59.13829				0.9994014		

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

Client: Hahn and Associates

Calibration: A9E2001

SDG: A9E0582

Project: Mult 802 Decommissioning

Instrument: OIA FS3000-2

Calibration Date: 05/20/19 08:53

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	1241	2	13321.5	5	31951.4	10	30737.4	25	38238.4	50	39769.42

INITIAL AND CONTINUING CALIBRATION CHECK

D7511-12

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Project: Mult 802 Decommissioning
Instrument ID: OIA FS3000-2
Calibration: A9E2001
Control Limt: +/- 10.00%
Sequence: 9E20027

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9E20027-ICV1	Cyanide, Total	25.0	25.7	103	ug/L	D7511-12
9E20027-CCV1	Cyanide, Total	25.0	24.9	99	ug/L	D7511-12
9E20027-CCV2	Cyanide, Total	25.0	24.2	97	ug/L	D7511-12
9E20027-CCV3	Cyanide, Total	25.0	23.3	93	ug/L	D7511-12

* Values outside of QC limits

INSTRUMENT BLANKS
D7511-12

Laboratory: Apex Laboratories
SDG: A9E0582
Client: Hahn and Associates
Instrument ID: OIA FS3000-2
Project: Mult 802 Decommissioning
Sequence: 9E20027
Calibration: A9E2001

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9E20027-ICB1	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12
9E20027-CCB1	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12
9E20027-CCB2	Cyanide, Total	ND	2.50 (Inst)	ug/L		D7511-12
9E20027-CCB3	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: A9E0582

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
2708-190515-005	05/15/19 14:45	05/16/19 15:15	05/20/19 07:51	4.71	14.00	05/20/19 14:10	4.98	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 9051067

Sequence 9E20037 (A9E0582-01)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051067 (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
	9051067-BLK1		QC	05/20/19 16:21	10	5				100					
	9051067-BS1		QC	05/20/19 16:21	10	5	A19E090		100	100					
	A9E0508-05	A	NWTPH-Dx (Diesel/Oil)	05/20/19 16:21	1.18	5				100	COMP1	expedited on 5/17 AM			
	9051067-DUP1		QC	05/20/19 16:21	1.14	5		A9E0508-05		100					
	A9E0582-01	A	NWTPH-Dx (Diesel/Oil)	05/20/19 16:21	0.49	5				100	2708-190515-005	expedited 5/20			

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
A19E078	08/31/19	NWTPH-DX Soil Surrogate in DCM

Method 3546 digestion time and temperature achieved.
Initial:

Witness: _____

Prepared By: _____ Date _____

Reviewed By: Kelly 5/21/19 Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051067 (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
12	9051067-BLK1		QC	05/20/19 16:21	~~10~~ 10	5 ✓				100					
13	9051067-BS1		QC	05/20/19 16:21	10	5 ✓	A19E090		100	100					
14	A9E0508-05	A	NWTPH-Dx (Diesel/Oil)	05/20/19 16:21	~~10~~ 1.18	5 ✓				100	COMP1	expedited on 5/17 AM Black bits, strong odor			
15	9051067-DUP1		QC	05/20/19 16:21	~~10~~ 1.14	5 ✓		A9E0508-05		100					
16	A9E0582-01	A	NWTPH-Dx (Diesel/Oil)	05/20/19 16:21	~~10~~ 0.49	5 ✓				100	2708-190515-005	expedited 5/20 TAR			

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

JC

Surrogate(s)

Std ID	Exp. Date	Description
A19E078	08/31/19	NWTPH-DX Soil Surrogate in DCM

JC

Method 3546 digestion time and temperature achieved.

Initial: ~~JC~~

Witness: Cuth 5/20/19

CAS 5/20/19
Prepared By: Date

JC 5-20-19
JRA 05/20/19

am 5-20-19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9E20037** Instrument: **DUALFID4R**

Date: **05/20/19 13:21** Calibration: **A9D1904**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E20037-RES1	Soil	QC	QC				A19D354
2	9E20037-CCV1	Soil	QC	QC				A19E193
3	9E20037-CCV2	Soil	QC	QC				A19E192
4	9E20037-CCB1	Soil	QC	QC				
5	A9E0623-01	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
6	A9E0623-02	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
7	A9E0624-01	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
8	A9E0624-02	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
9	A9E0627-02	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
10	9E20037-IBL1	Soil	QC	QC				
11	A9E0629-01	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
12	9051053-DUP2	Soil	QC	QC		9051053		
13	A9E0627-03	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
14	A9E0627-04	Soil	NWTPH-Dx (Diesel/Oil)		05/21/19	9051053		
15	9E20037-IBL2	Soil	QC	QC				
16	9051067-BLK1	Solid	QC	QC		9051067		
17	9051067-BS1	Solid	QC	QC		9051067		
18	A9E0508-05	Solid	NWTPH-Dx (Diesel/Oil)	Hahn and Associates	05/21/19	9051067		
19	9051067-DUP1	Solid	QC	QC		9051067		
20	9E20037-IBL3	Soil	QC	QC				
21	A9E0582-01	Solid	NWTPH-Dx (Diesel/Oil)	Hahn and Associates	05/23/19	9051067		
22	9E20037-IBL4	Soil	QC	QC				
23	9E20037-CCV3	Soil	QC	QC				A19E192
24	9E20037-CCV4	Soil	QC	QC				A19E193

Data Entered By: KEH 5/21/19

Data Reviewed By: [signature] 5/21/19

Comments:

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052002.D Vial: 95
Acq On : 20 May 2019 17:55 Operator: KEH
Sample : 9E20037-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	493797616	432.959	ug/ml
2)	H	Diesel	6.00	493797616	432.959	ug/ml
3)	H	DRO(C12-C24)	6.00	417831563	366.353	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	341867522	399.374	ug/ml
5)	H	TPHd (C10-C25)	6.00	435953016	413.241	ug/ml
7)	H	Oil	9.00	298944802	284.901	ug/ml
8)	H	RRO (C24-C40)	9.00	77851849	74.195	ug/ml
9)	H	TPHmo (C25-C36)	8.00	70506783	111.157	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	132117513	198.329	ug/ml

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

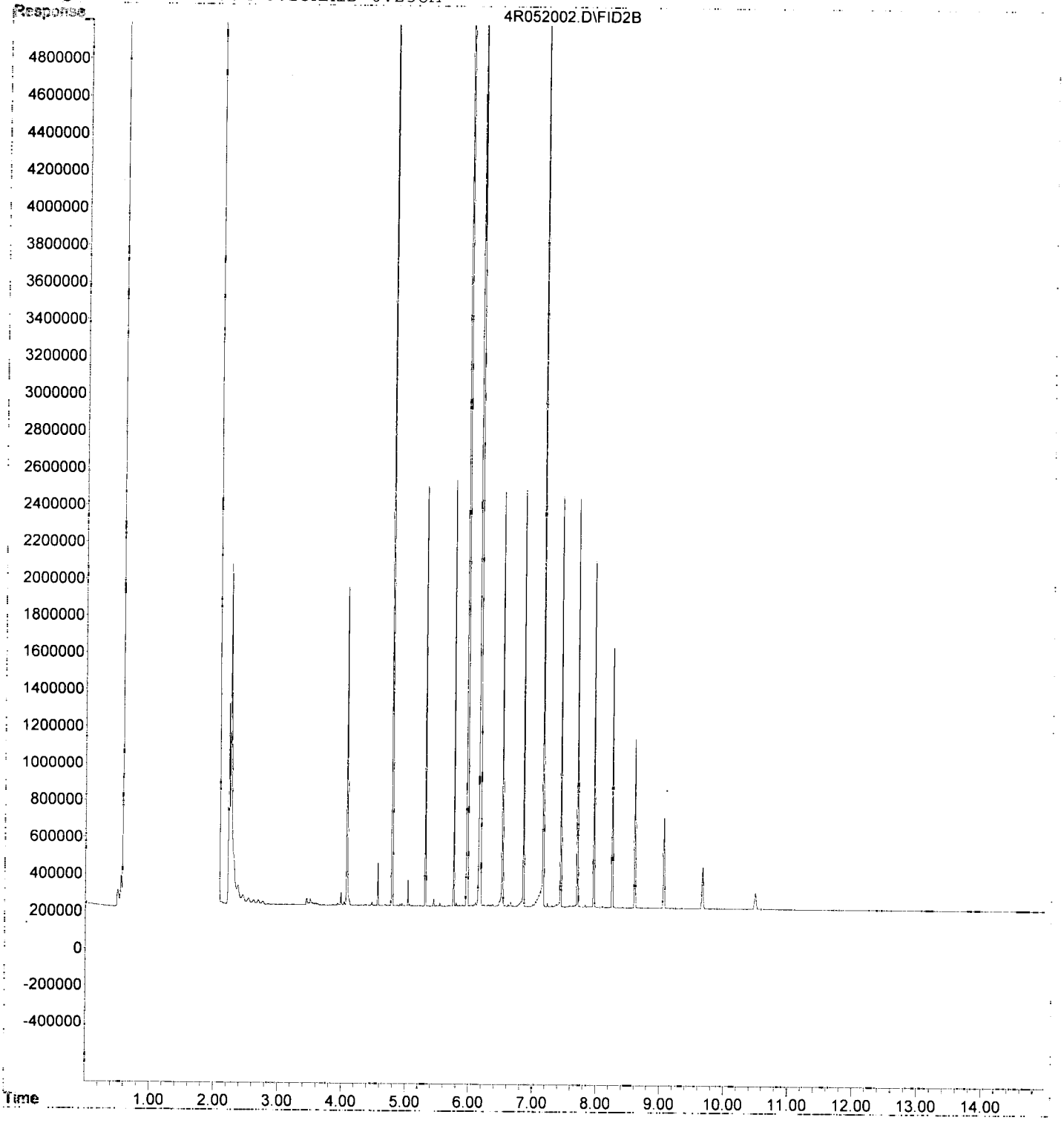
Quantitation Report (Not Reviewed)

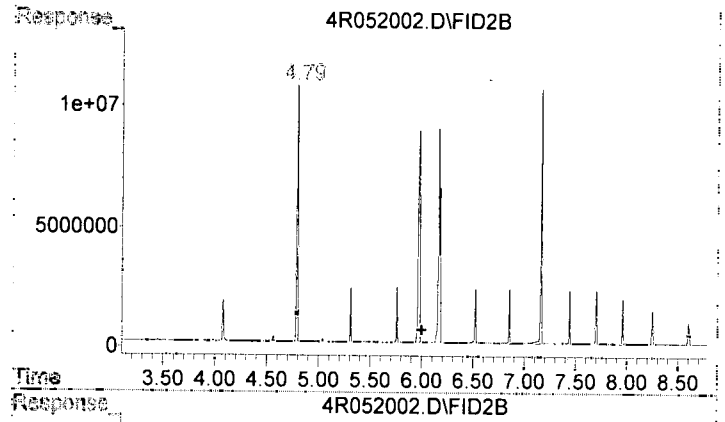
Data File : G:\4\DATA\2019-05\9E20037\4R052002.D
Acq On : 20 May 2019 17:55
Sample : 9E20037-RES1
Misc :
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Vial: 95
Operator: KEH
Inst : HP G1530A
Multiplr: 1.00

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

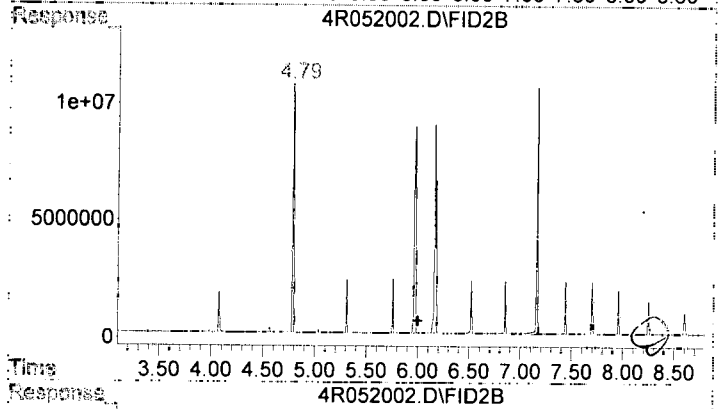
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





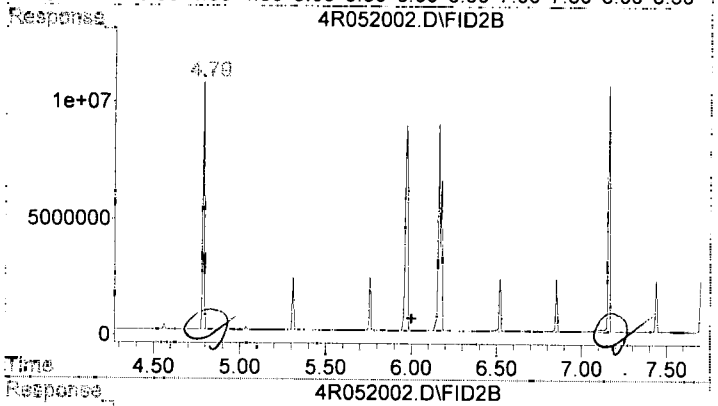
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 493797616
Conc: 432.96 ug/ml m



#2 Diesel

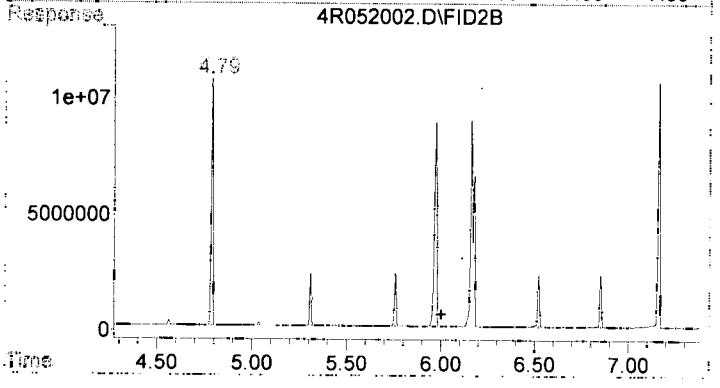
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 493797616
Conc: 432.96 ug/ml m



#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 417831563
Conc: 366.35 ug/ml m

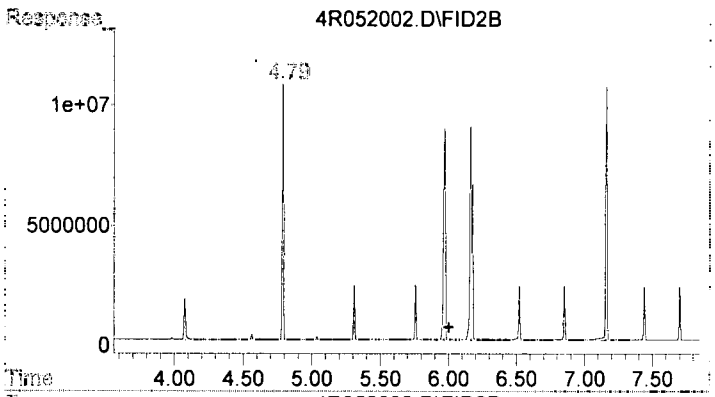
KEK 5/21/19



#4 CA LUFT DRO (C12-C22)

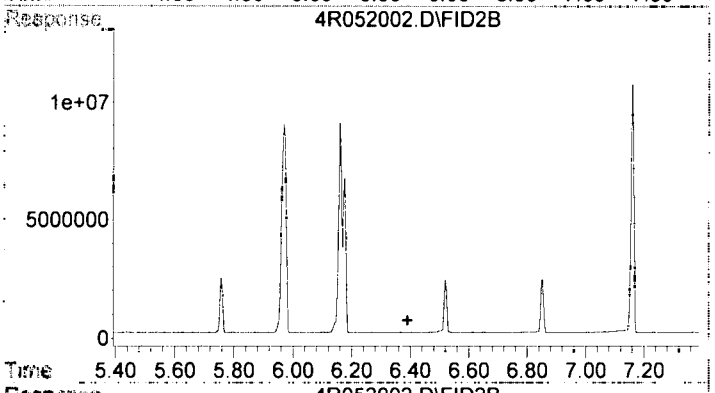
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 341867522
Conc: 399.37 ug/ml m

✓



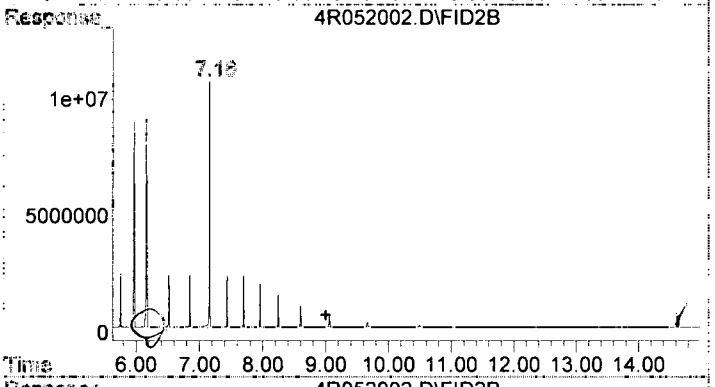
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 435953016
Conc: 413.24 ug/ml m



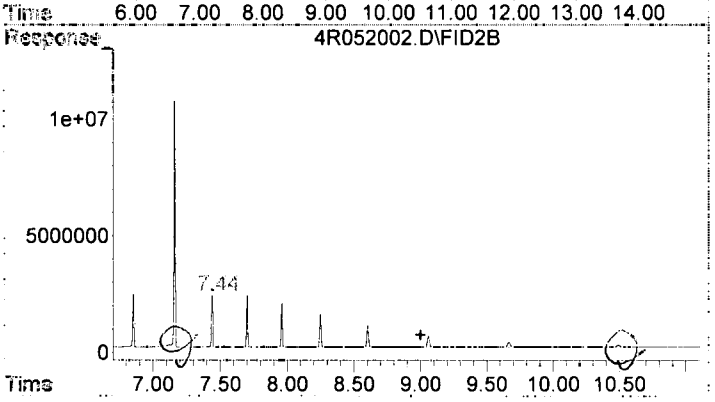
#6 o-Terphenyl

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



#7 Oil

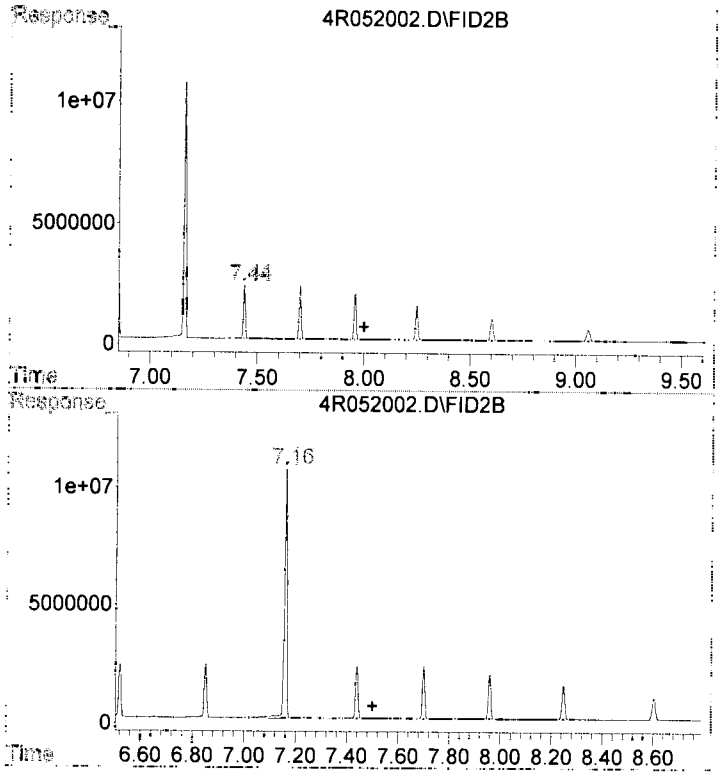
R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 298944802
Conc: 284.90 ug/ml m



#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 77851849
Conc: 74.19 ug/ml m

KH 5/21/19



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 70506783
Conc: 111.16 ug/ml m

#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 132117513
Conc: 198.33 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E20037\4R052003.D Vial: 2
Acq On : 20 May 2019 18:17 Operator: KEH
Sample : 9E20037-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	314.568	0.0	92	0.00
2	H	Diesel	-1.000	314.568	0.0	92	0.00
3	H	DRO(C12-C24)	-1.000	78.896	0.0	23	0.00
4	H	CA LUFT DRO (C12-C22)	-1.000	34.523	0.0	94	0.00
5	H	TPHd (C10-C25)	-1.000	124.541	0.0	95	0.00
6	S	o-Terphenyl	-1.000	46.539	0.0	0	0.00
7	H	Oil	500.000	440.594	11.9	89	0.00
8	H	RRO (C24-C40)	500.000	344.183	31.2#	70	0.00
9	H	TPHmo (C25-C36)	500.000	434.312	13.1	88	0.00
10	H	CA LUFT ORO (C23-C32)	500.000	461.490	7.7	92	0.00

KEH 5/21/19

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052003.D Vial: 2
Acq On : 20 May 2019 18:17 Operator: KEH
Sample : 9E20037-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	6.38	58713493	46.539	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	358769769	314.568	ug/ml
2)	H	Diesel	6.00	358769769	314.568	ug/ml
3)	H	DRO(C12-C24)	6.00	89982375	78.896	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	29552067	34.523	ug/ml
5)	H	TPHd (C10-C25)	6.00	131385538	124.541	ug/ml
7)	H	Oil	9.00	462312088	440.594	ug/ml
8)	H	RRO (C24-C40)	9.00	361148790	344.183	ug/ml
9)	H	TPHmo (C25-C36)	8.00	275483759	434.312	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	307423364	461.490	ug/ml

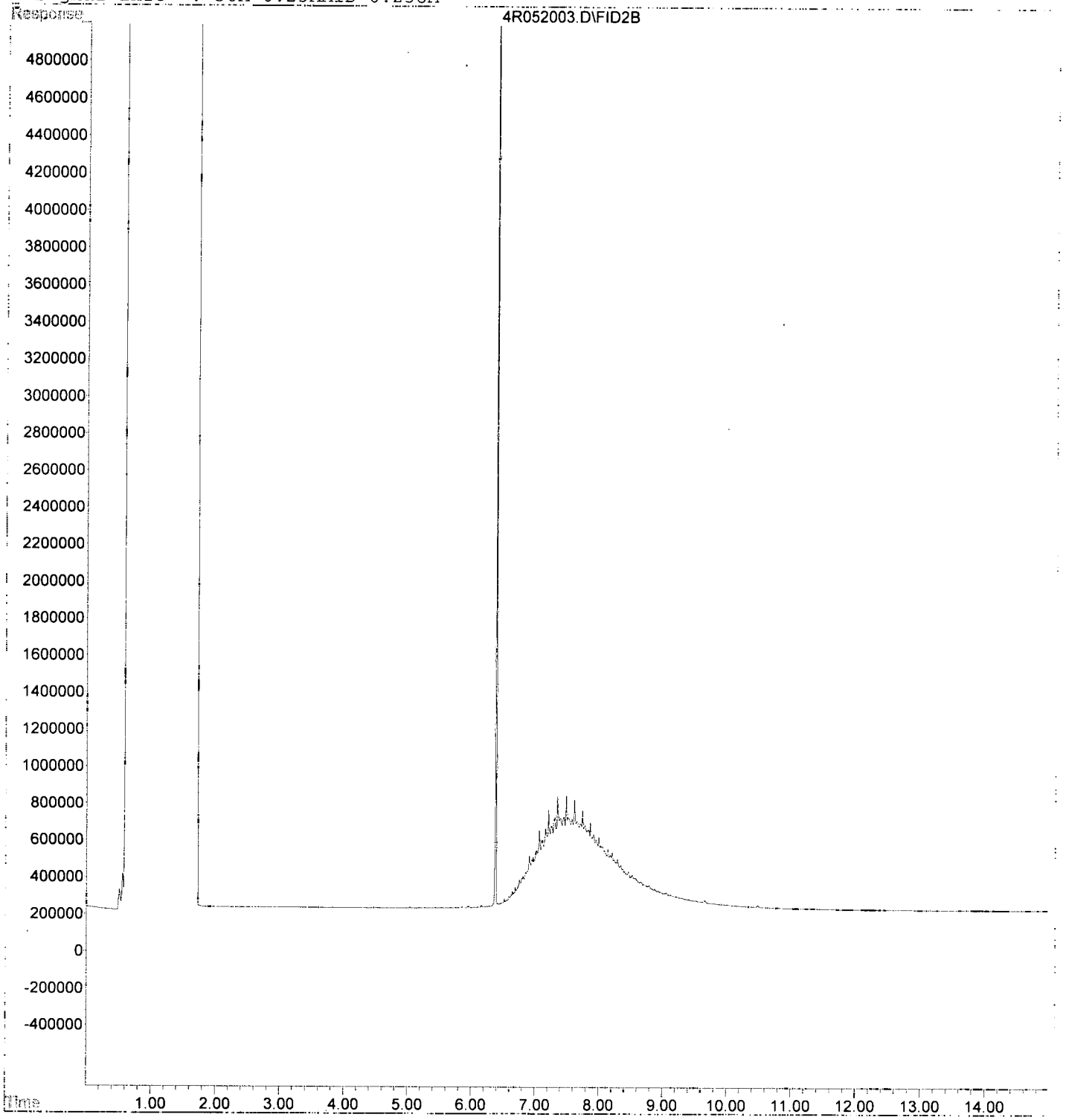
KEH 5/21/19

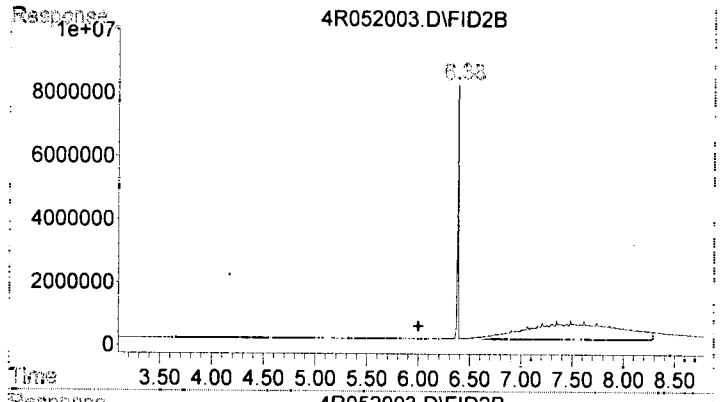
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052003.D Vial: 2
Acq On : 20 May 2019 18:17 Operator: KEH
Sample : 9E20037-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

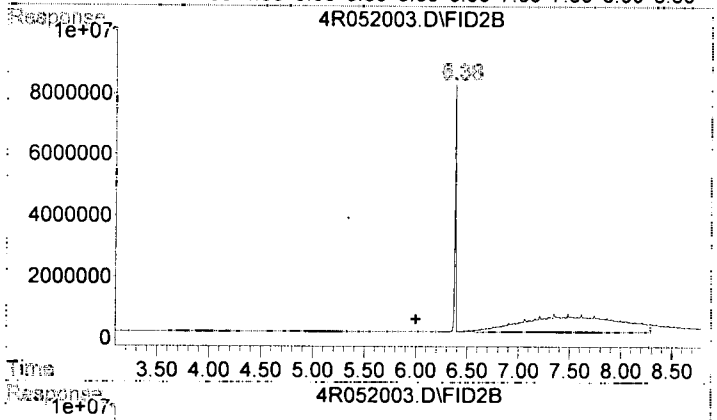
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





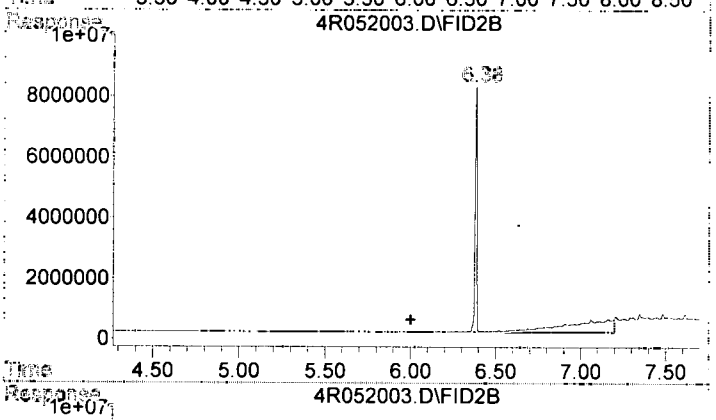
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 358769769
Conc: 314.57 ug/ml m



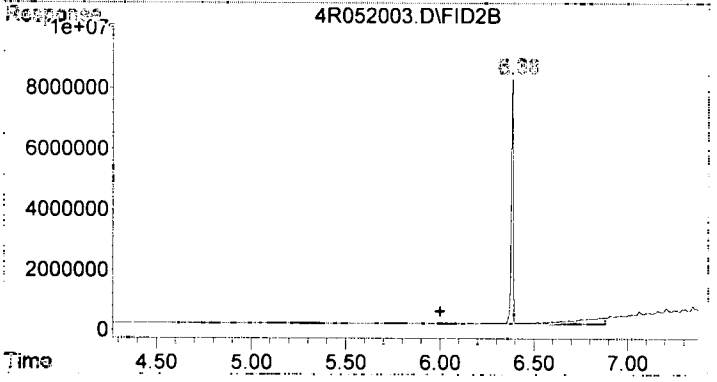
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 358769769
Conc: 314.57 ug/ml m



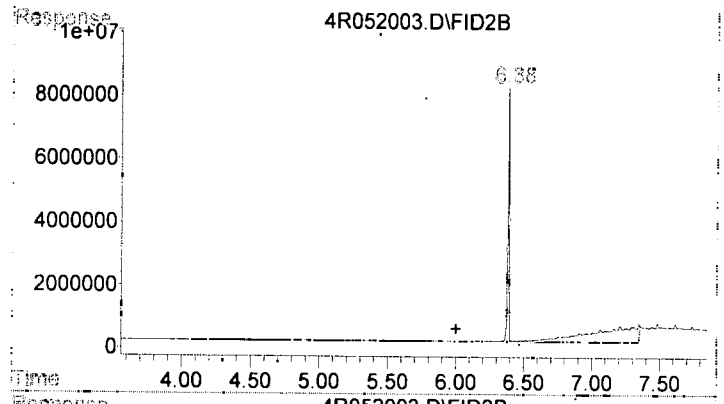
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 89982375
Conc: 78.90 ug/ml m



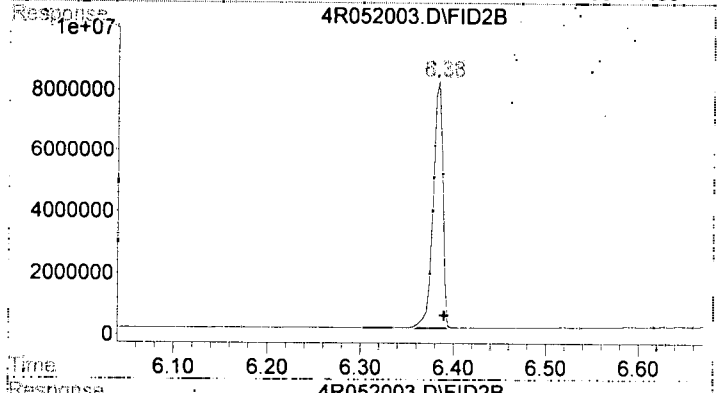
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 29552067
Conc: 34.52 ug/ml m



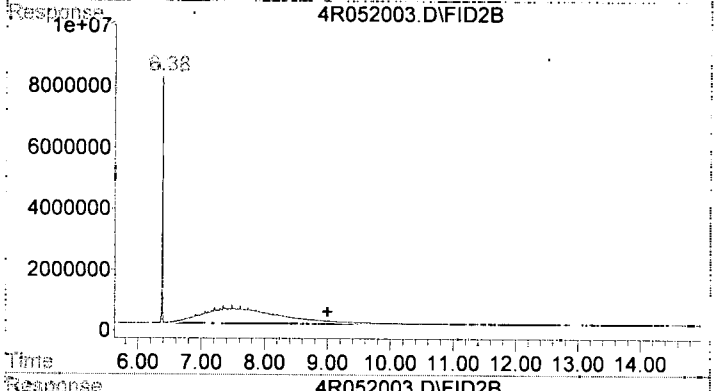
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 131385538
Conc: 124.54 ug/ml m



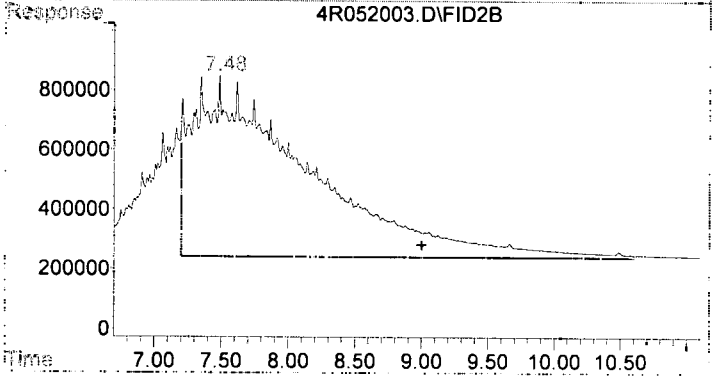
#6 o-Terphenyl

R.T.: 6.384 min
Delta R.T.: -0.006 min
Response: 58713493
Conc: 46.54 ug/ml



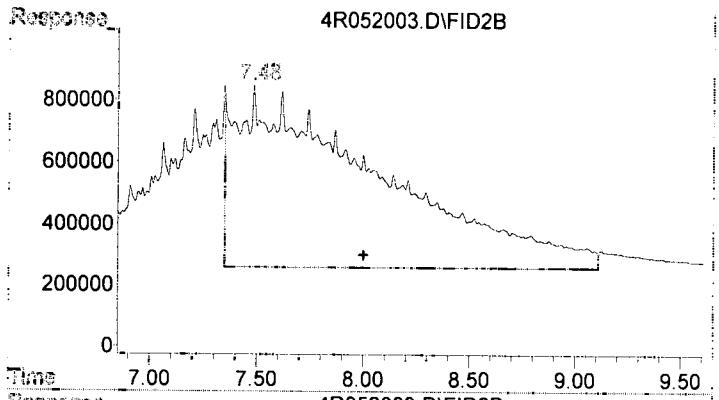
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 462312088
Conc: 440.59 ug/ml m



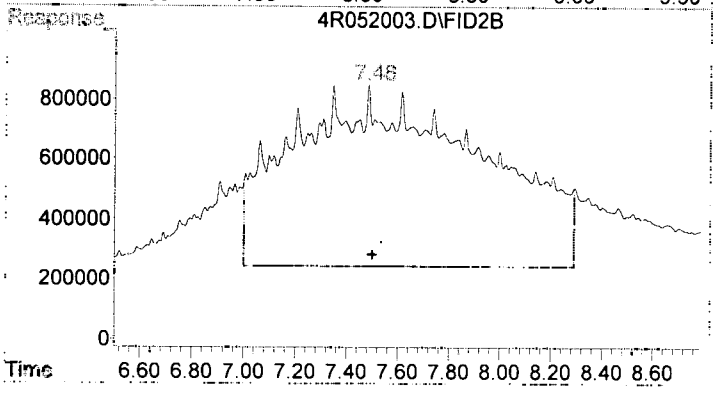
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 361148790
Conc: 344.18 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 275483759
Conc: 434.31 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 307423364
Conc: 461.49 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E20037\4R052004.D
Acq On : 20 May 2019 18:38
Sample : 9E20037-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 : Tue May 21 08:03:05 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	911.819	8.8	93	0.00
2	H	Diesel	1000.000	911.819	8.8	93	0.00
3	H	DRO(C12-C24)	1000.000	740.063	26.0#	76	0.00
4	H	CA LUFT DRO (C12-C22)	1000.000	942.685	5.7	94	0.00
5	H	TPHd (C10-C25)	1000.000	935.225	6.5	93	0.00
6	S	o-Terphenyl	-1.000	48.655	0.0	0	0.00
7	H	Oil	-1.000	281.782	0.0	0	0.00
8	H	RRO (C24-C40)	-1.000	17.475	0.0	0	0.00
9	H	TPHmo (C25-C36)	-1.000	16.243	0.0	75	0.00
10	H	CA LUFT ORO (C23-C32)	-1.000	48.695	0.0	87	0.00

Kept 5/21/19

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052004.D Vial: 1
Acq On : 20 May 2019 18:38 Operator: KEH
Sample : 9E20037-CCV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	6.39	61382774	48.655	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	1039944871	911.819	ug/ml
2)	H	Diesel	6.00	1039944871	911.819	ug/ml
3)	H	DRO(C12-C24)	6.00	844054212	740.063	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	806946097	942.685	ug/ml
5)	H	TPHd (C10-C25)	6.00	986626128	935.225	ug/ml
7)	H	Oil	9.00	295672142	281.782	ug/ml
8)	H	RRO (C24-C40)	9.00	18336643	17.475	ug/ml
9)	H	TPHmo (C25-C36)	8.00	10302831	16.243	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	32438268	48.695	ug/ml

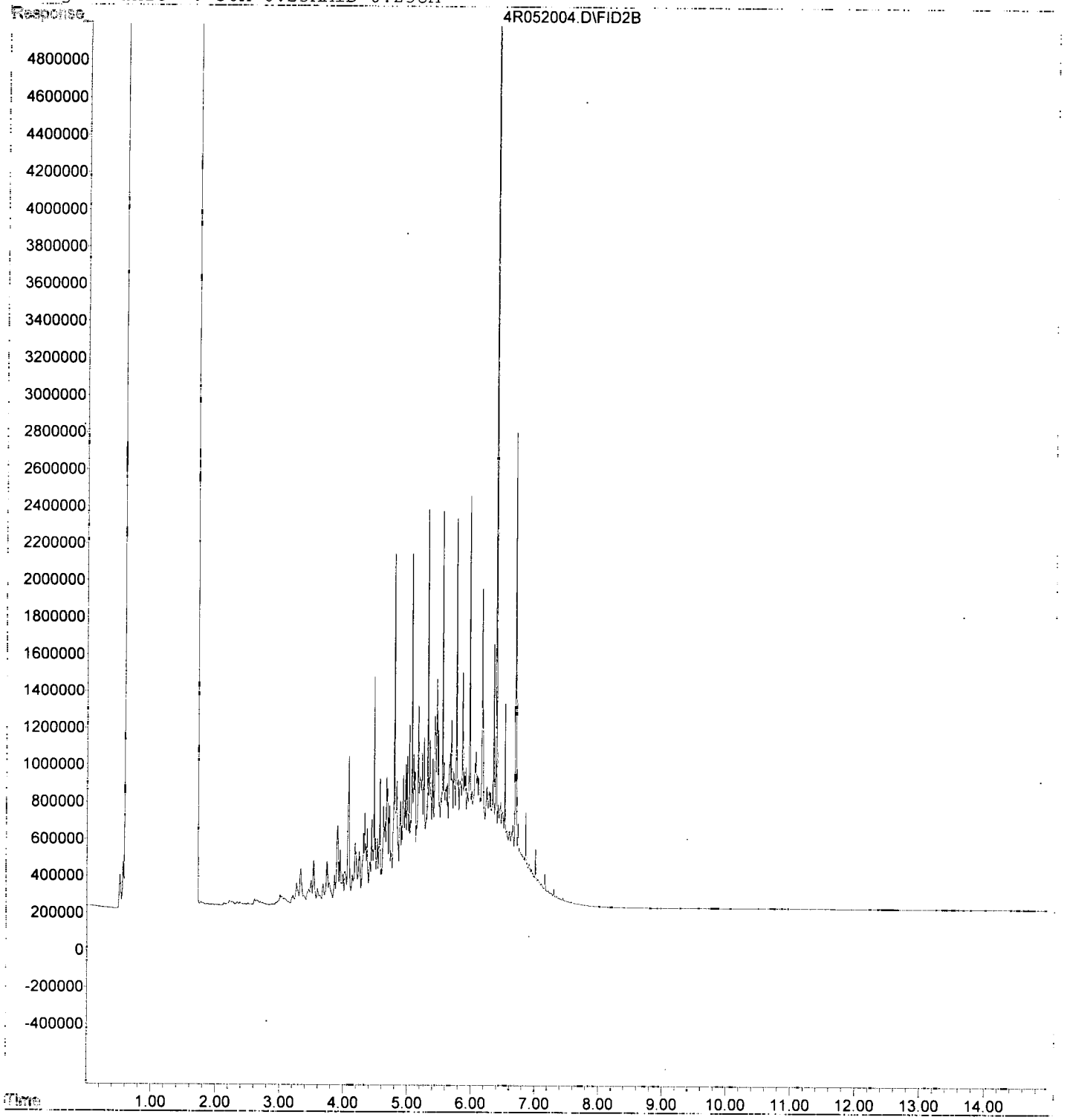
KEH 5/21/19

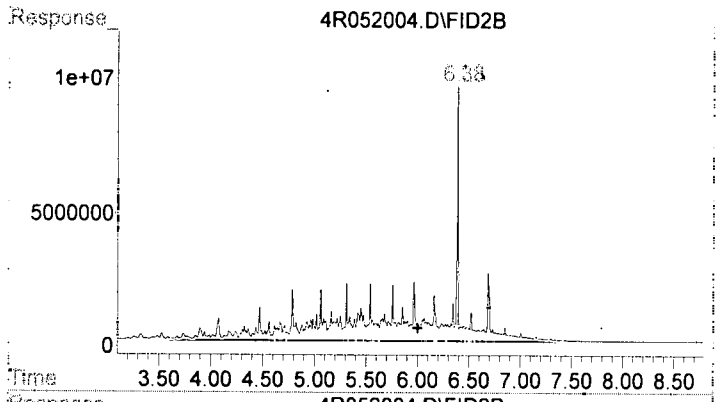
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052004.D Vial: 1
Acq On : 20 May 2019 18:38 Operator: KEH
Sample : 9E20037-CCV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

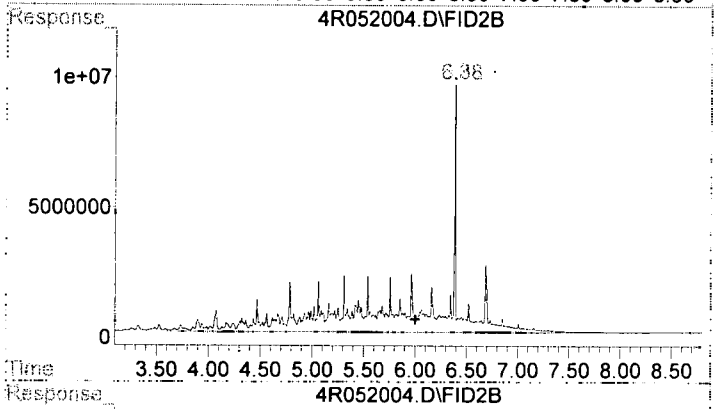
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





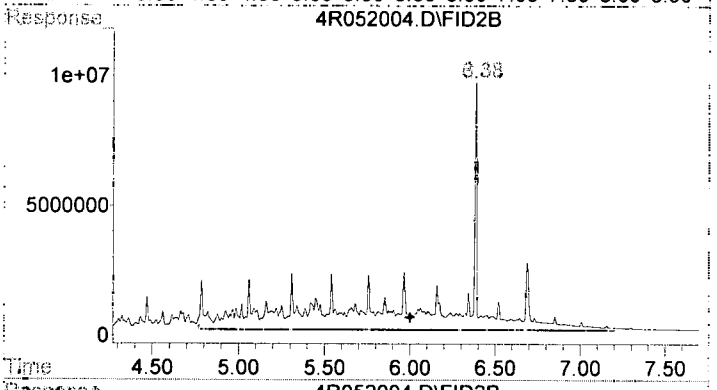
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1039944871
Conc: 911.82 ug/ml m



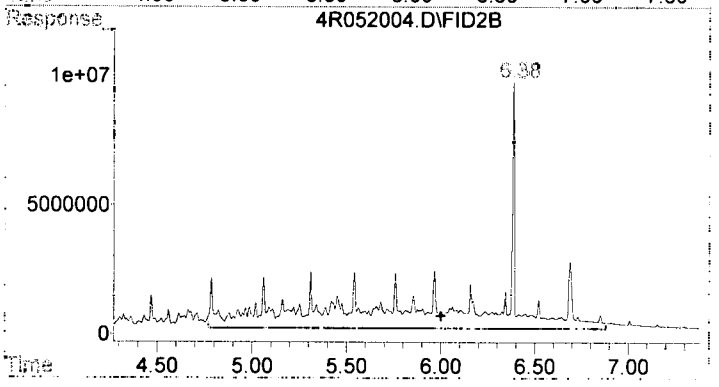
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1039944871
Conc: 911.82 ug/ml m



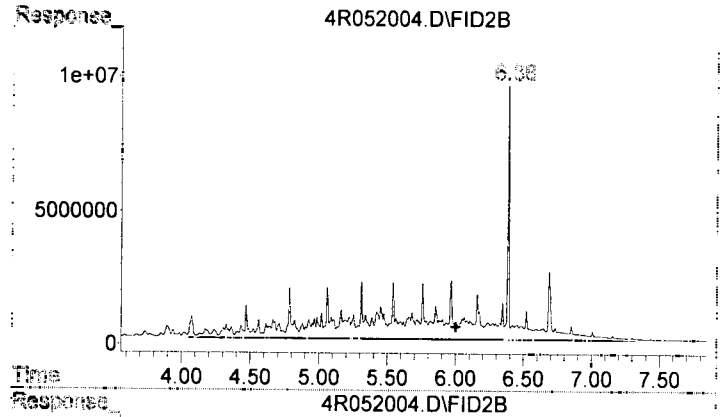
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 844054212
Conc: 740.06 ug/ml m



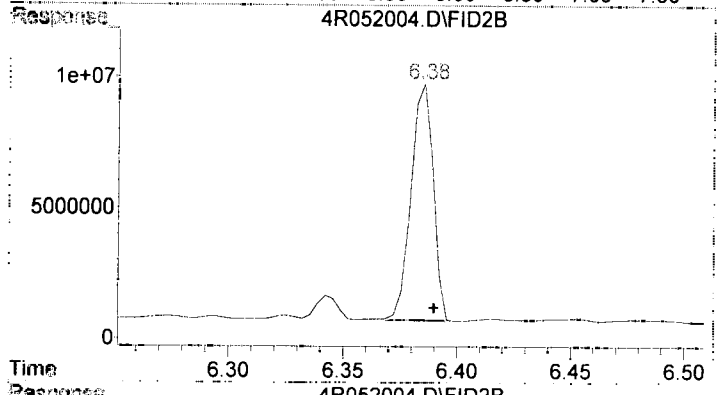
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 806946097
Conc: 942.69 ug/ml m



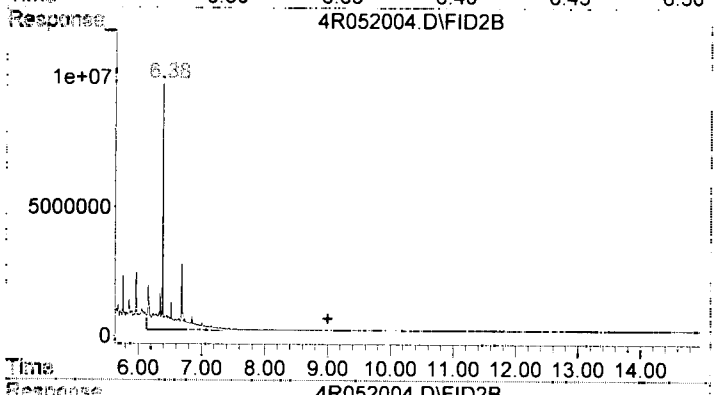
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 986626128
Conc: 935.22 ug/ml m



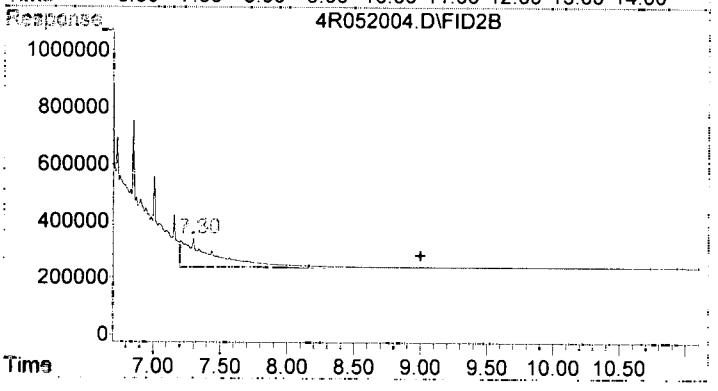
#6 o-Terphenyl

R.T.: 6.386 min
Delta R.T.: -0.004 min
Response: 61382774
Conc: 48.66 ug/ml



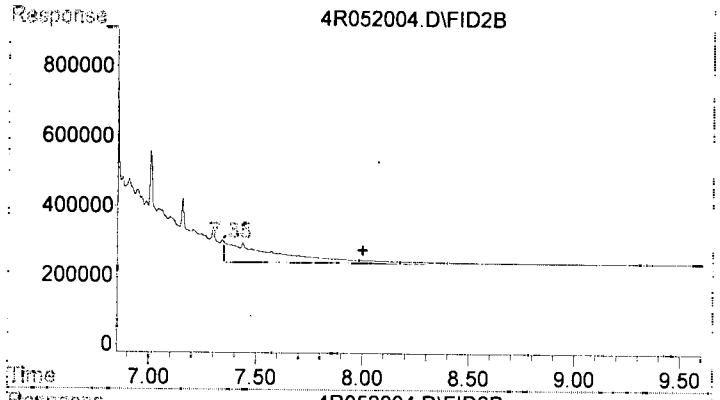
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 295672142
Conc: 281.78 ug/ml m



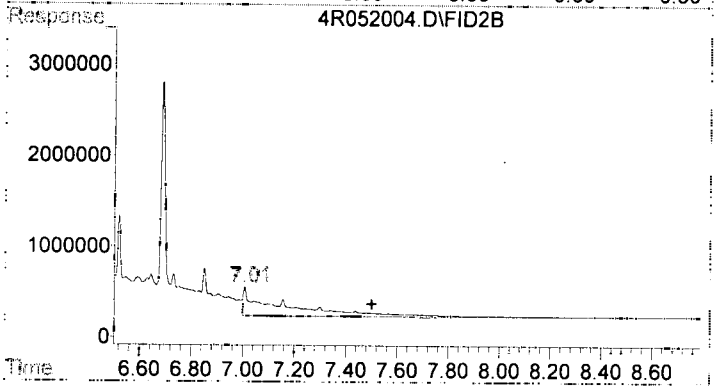
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 18336643
Conc: 17.48 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 10302831
Conc: 16.24 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 32438268
Conc: 48.69 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052005.D Vial: 100
Acq On : 20 May 2019 22:36 Operator: KEH
Sample : 9E20037-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	2305776	2.022	ug/ml
2)	H	Diesel	6.00	2305776	2.022	ug/ml
3)	H	DRO(C12-C24)	6.00	764922	0.671	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	688361	0.804	ug/ml
5)	H	TPHd (C10-C25)	6.00	1105961	1.048	ug/ml
7)	H	Oil	9.00	5468443	5.212	ug/ml
8)	H	RRO (C24-C40)	9.00	2932778	2.795	ug/ml
9)	H	TPHmo (C25-C36)	8.00	787806	1.242	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	726268	1.090	ug/ml

+ m.D.

< 1/2 MRL

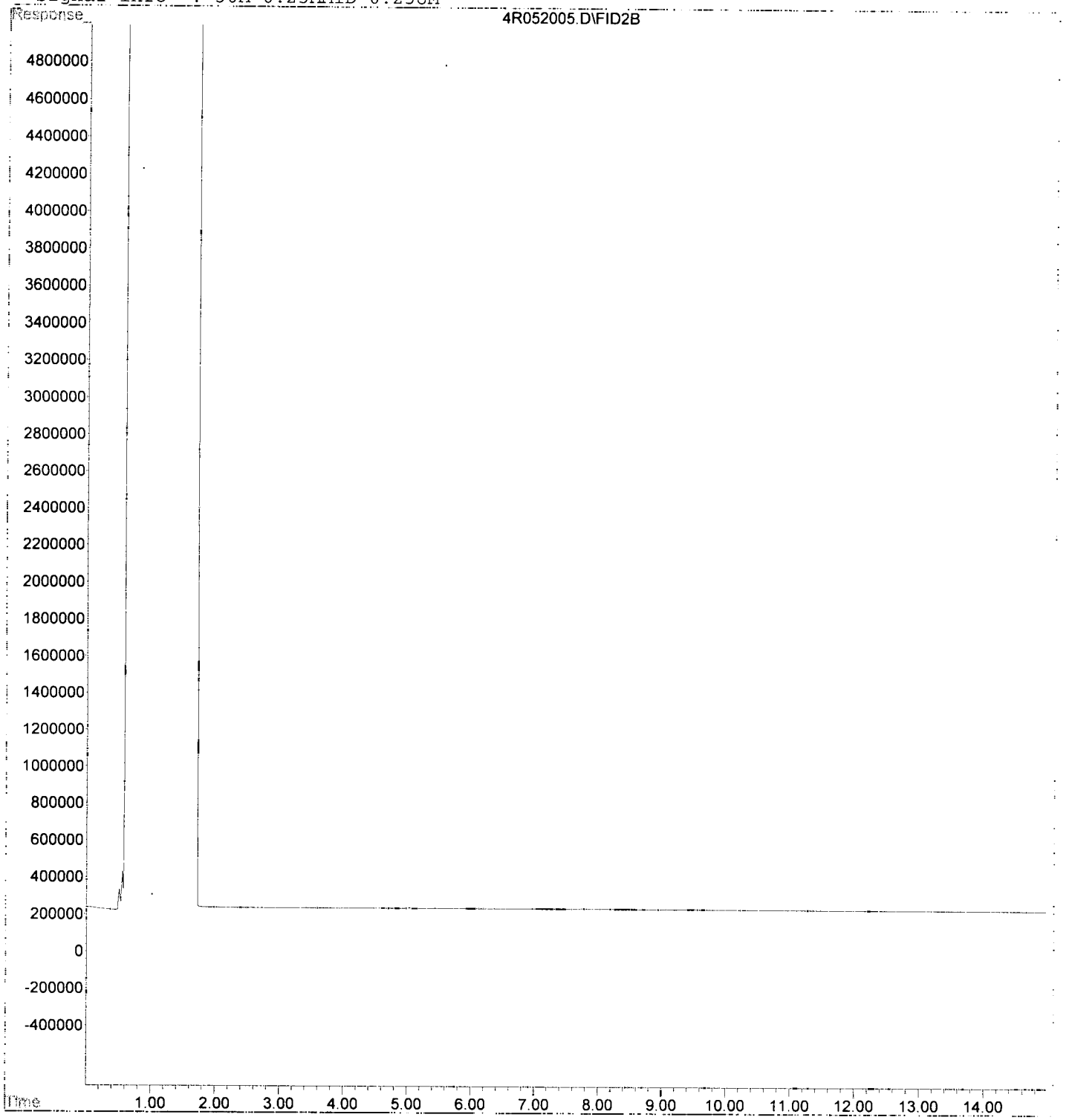
KEH 5/21/19

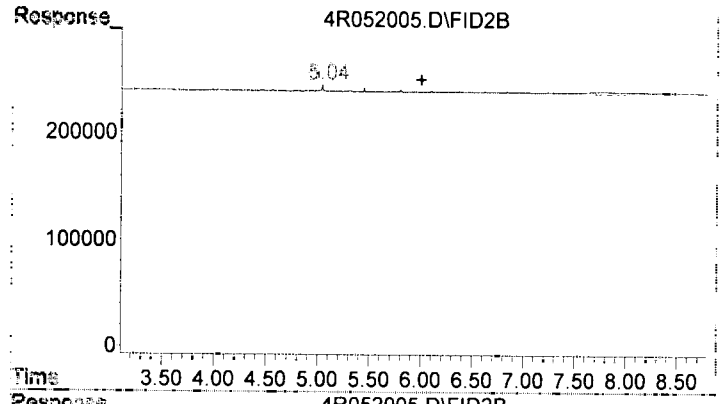
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052005.D Vial: 100
Acq On : 20 May 2019 22:36 Operator: KEH
Sample : 9E20037-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:04 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

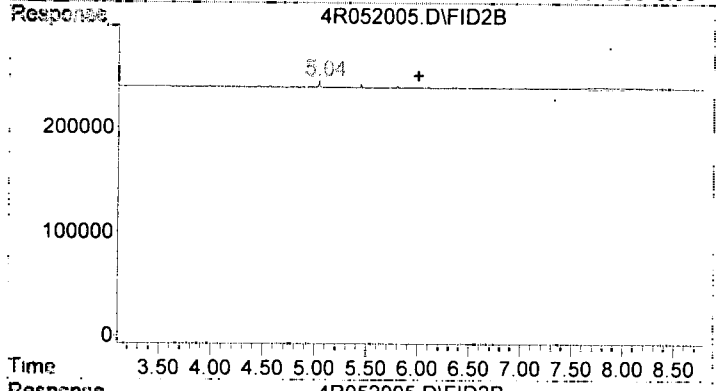
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





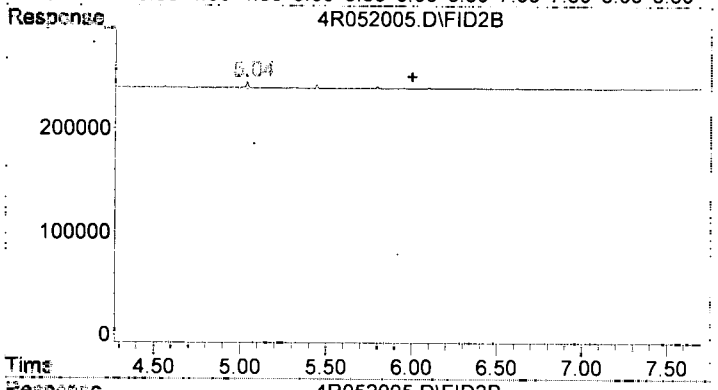
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2305776
Conc: 2.02 ug/ml m



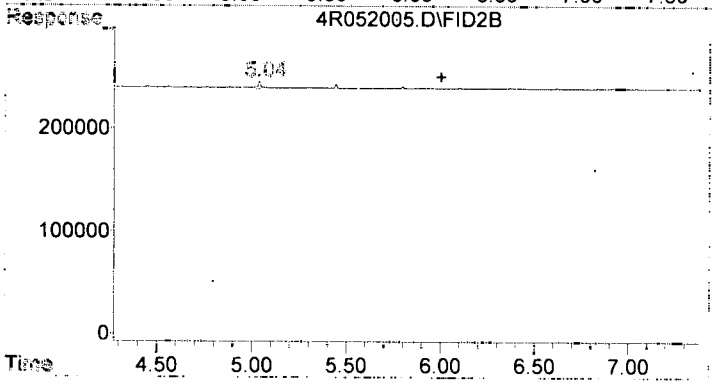
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2305776
Conc: 2.02 ug/ml m



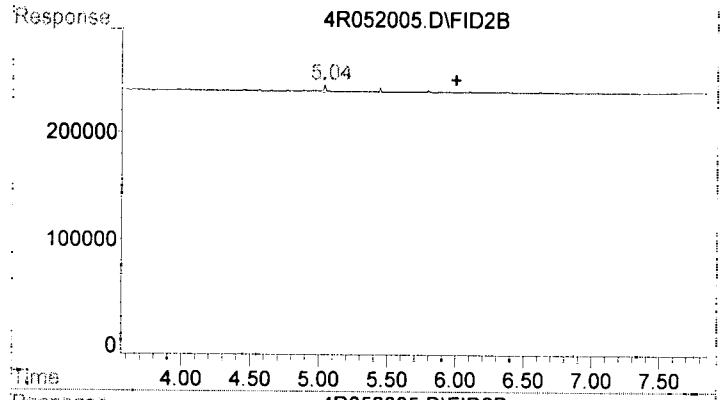
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 764922
Conc: 0.67 ug/ml m



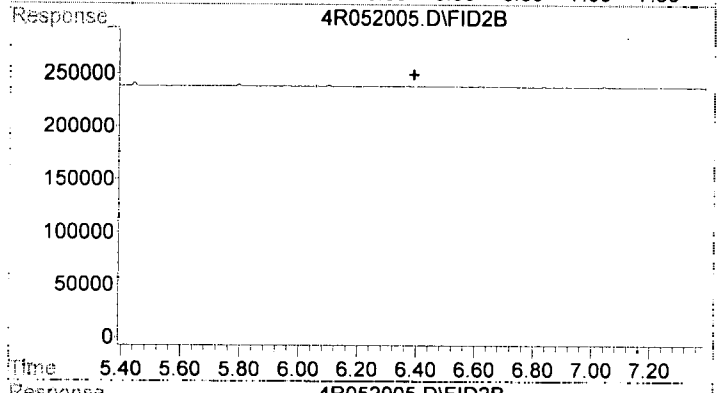
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 688361
Conc: 0.80 ug/ml m



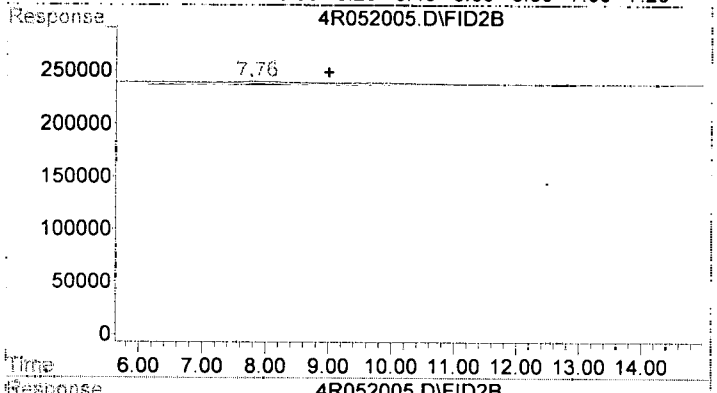
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1105961
Conc: 1.05 ug/ml m



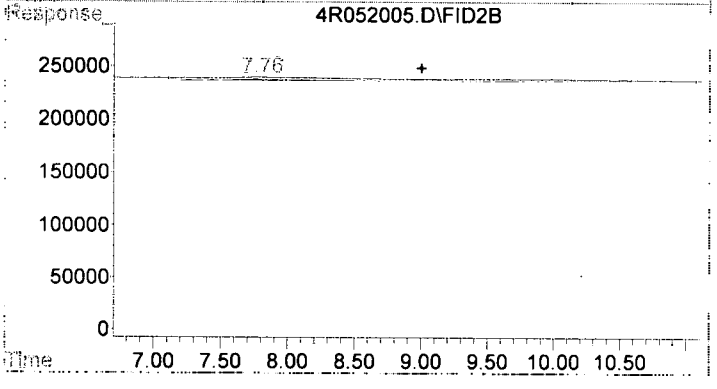
#6 o-Terphenyl

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



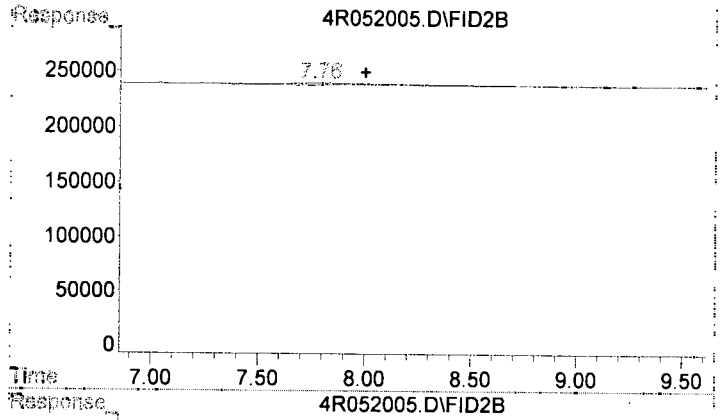
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 5468443
Conc: 5.21 ug/ml m



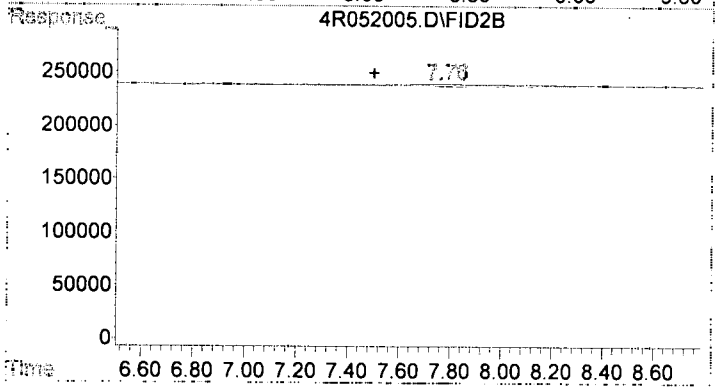
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 2932778
Conc: 2.80 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 787806
Conc: 1.24 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 726268
Conc: 1.09 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052017.D Vial: 60
Acq On : 21 May 2019 2:49 Operator: KEH
Sample : 9051067-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	6.39	65158715	51.648 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	5113915	4.484 ug/ml
2)	H	Diesel	6.00	5113915	4.484 ug/ml
3)	H	DRO(C12-C24)	6.00	2401097	2.105 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	1987154	2.321 ug/ml
5)	H	TPHd (C10-C25)	6.00	3006826	2.850 ug/ml
7)	H	Oil	9.00	7310378	6.967 ug/ml
8)	H	RRO (C24-C40)	9.00	3829691	3.650 ug/ml
9)	H	TPHmo (C25-C36)	8.00	1397763	2.204 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	1423419	2.137 ug/ml

< 1/2 MRL

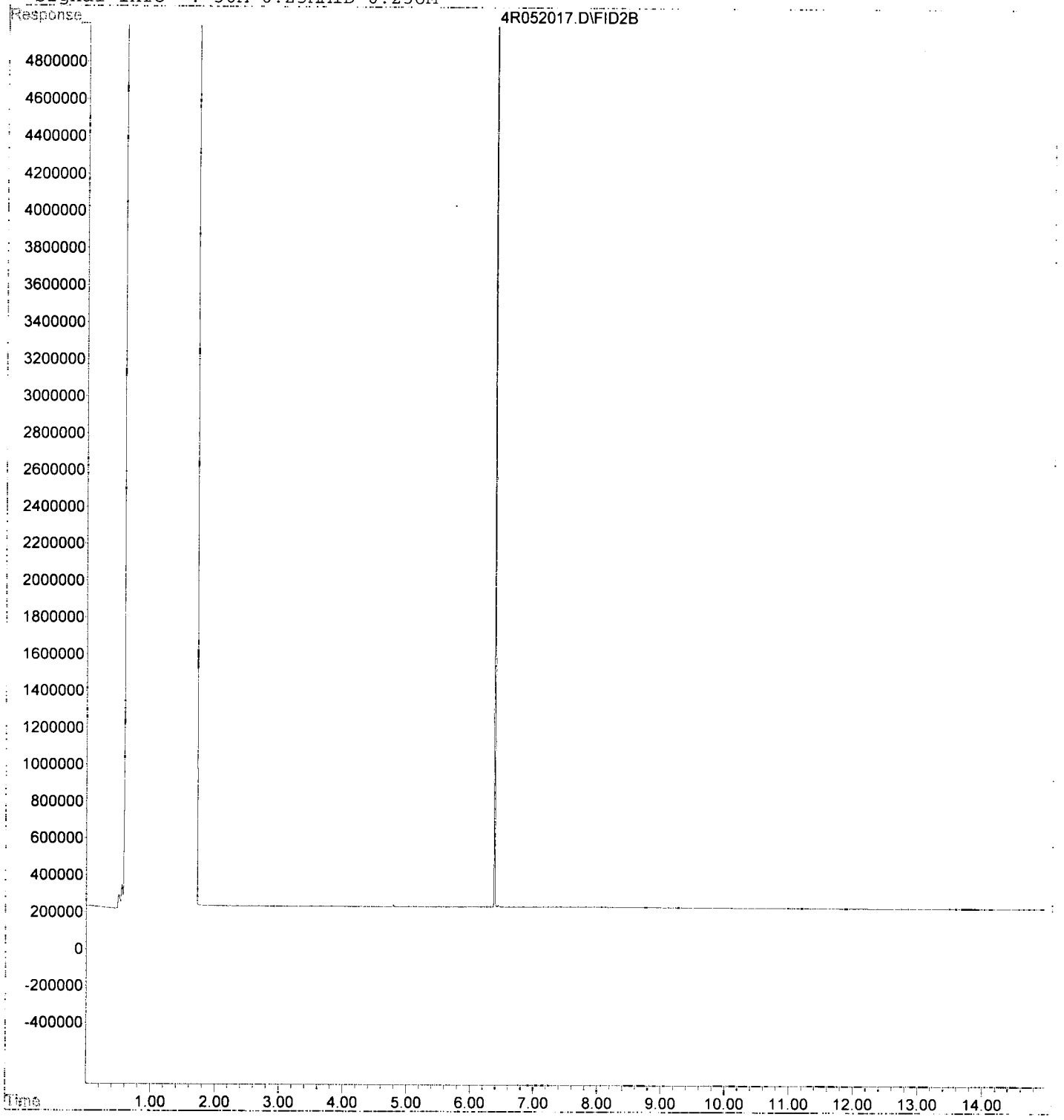
KEH 5/21/19

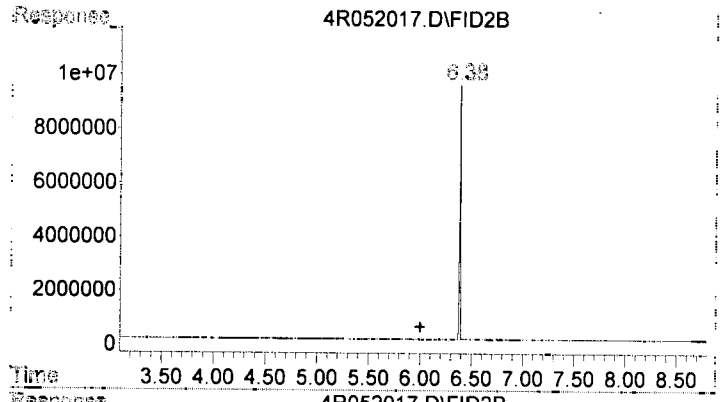
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052017.D Vial: 60
Acq On : 21 May 2019 2:49 Operator: KEH
Sample : 9051067-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

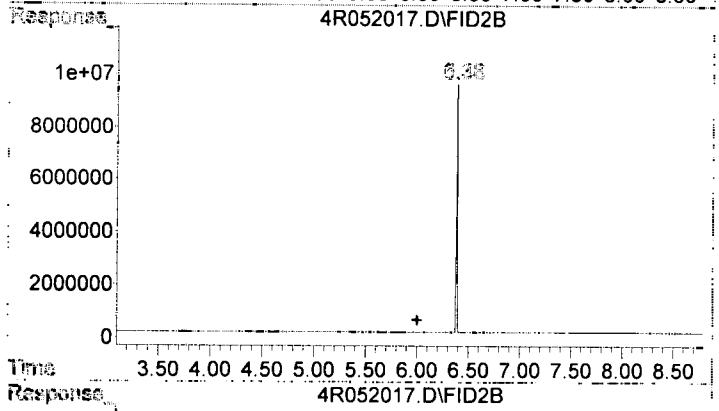
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





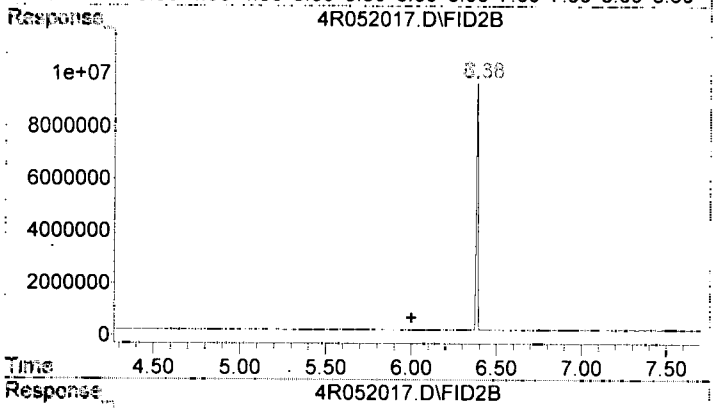
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 5113915
Conc: 4.48 ug/ml m



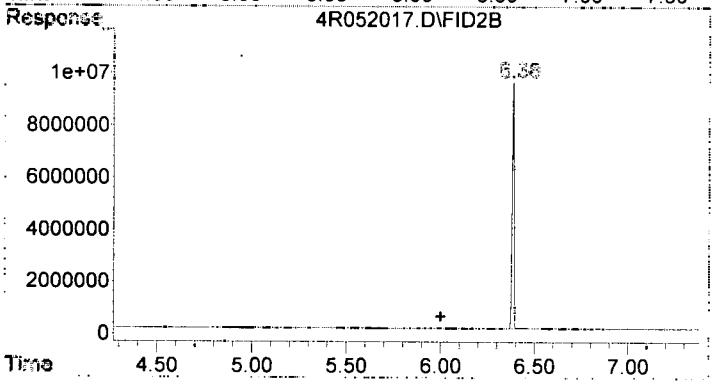
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 5113915
Conc: 4.48 ug/ml m



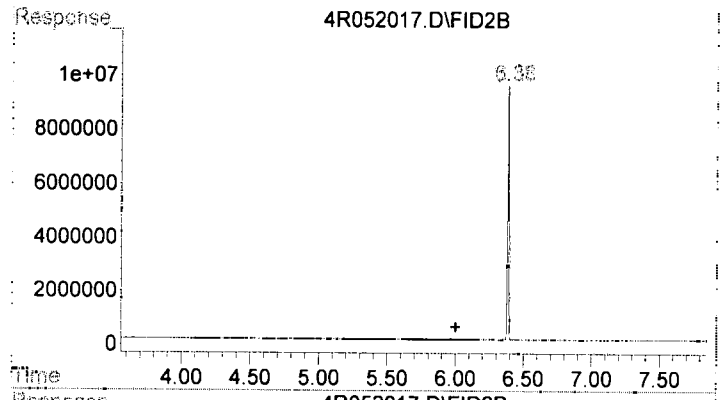
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2401097
Conc: 2.11 ug/ml m



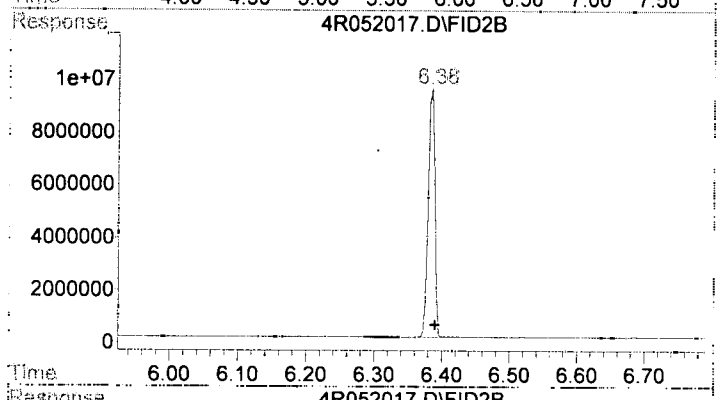
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1987154
Conc: 2.32 ug/ml m



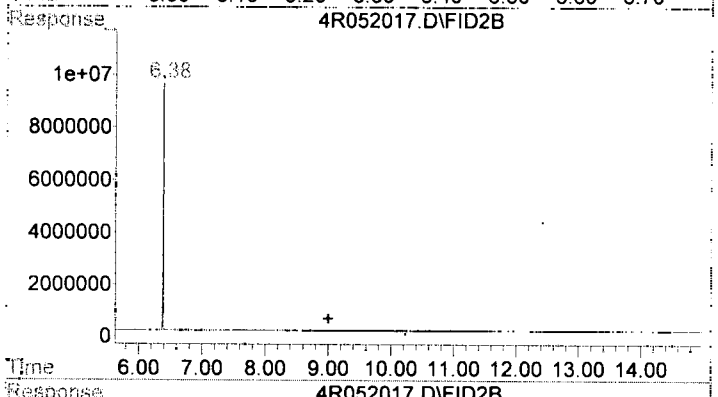
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 3006826
Conc: 2.85 ug/ml m



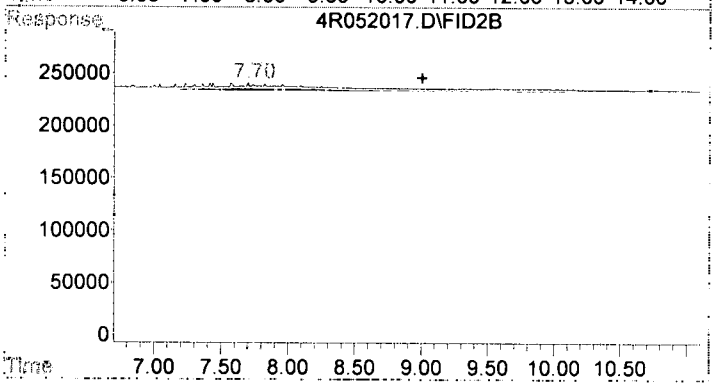
#6 o-Terphenyl

R.T.: 6.386 min
Delta R.T.: -0.004 min
Response: 65158715
Conc: 51.65 ug/ml



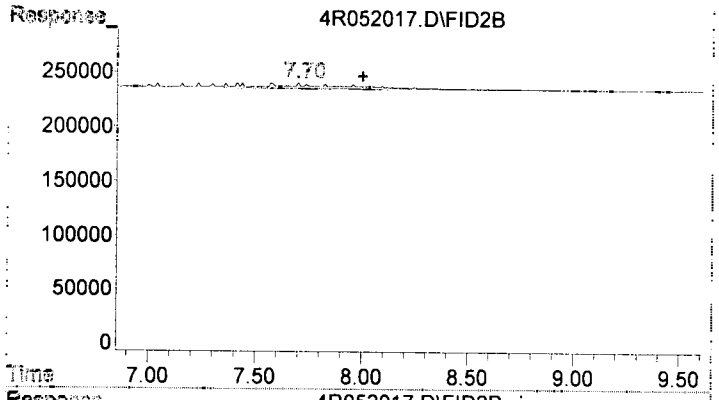
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 7310378
Conc: 6.97 ug/ml m



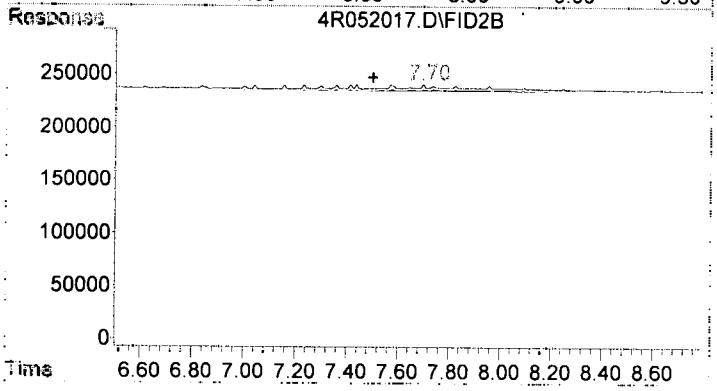
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 3829691
Conc: 3.65 ug/ml m



#9 TPHmo (C25-C36)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	1397763
Conc:	2.20 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.:	7.500 min
Delta R.T.:	0.000 min
Response:	1423419
Conc:	2.14 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052018.D Vial: 61
Acq On : 21 May 2019 3:09 Operator: KEH
Sample : 9051067-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	6.39	65579603	51.982 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	253311136	222.102 ug/ml
2)	H	Diesel	6.00	253311136	222.102 ug/ml
3)	H	DRO(C12-C24)	6.00	209974630	184.105 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	199523482	233.086 ug/ml
5)	H	TPHd (C10-C25)	6.00	239347281	226.878 ug/ml
7)	H	Oil	9.00	83846838	79.908 ug/ml
8)	H	RRO (C24-C40)	9.00	7859698	7.490 ug/ml
9)	H	TPHmo (C25-C36)	8.00	4476715	7.058 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	10027073	15.052 ug/ml

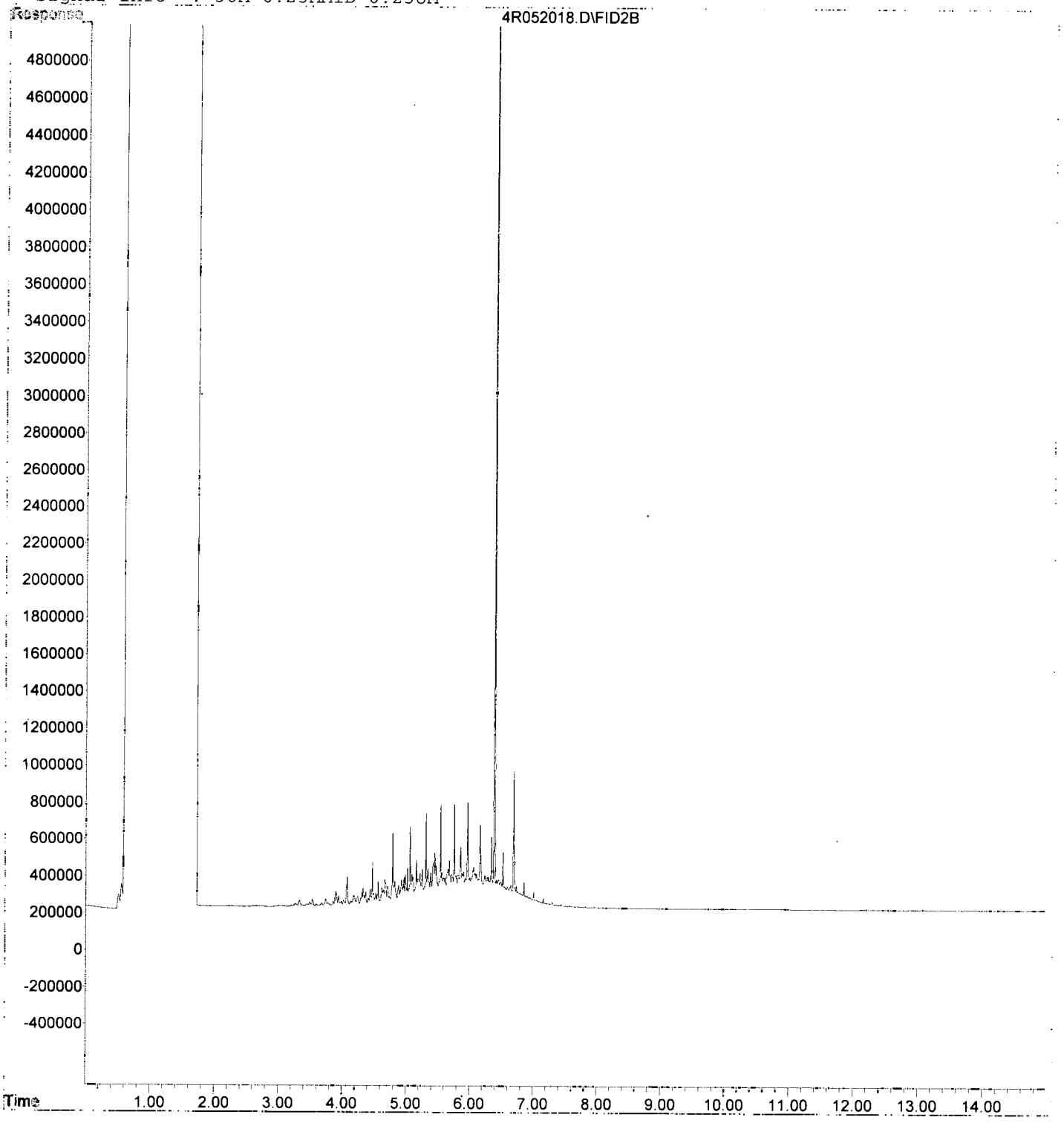
KEH 5/21/19

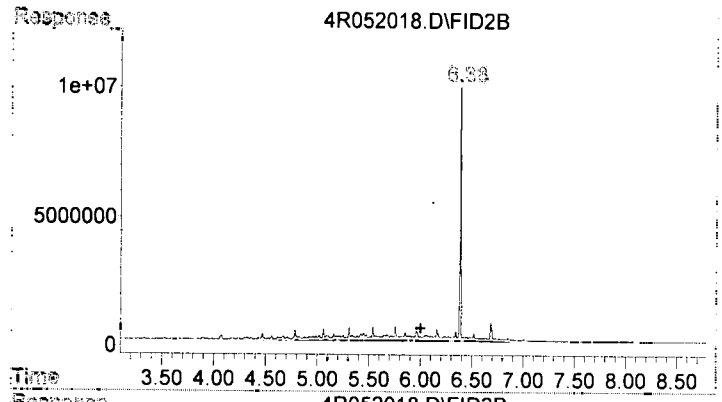
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052018.D Vial: 61
Acq On : 21 May 2019 3:09 Operator: KEH
Sample : 9051067-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

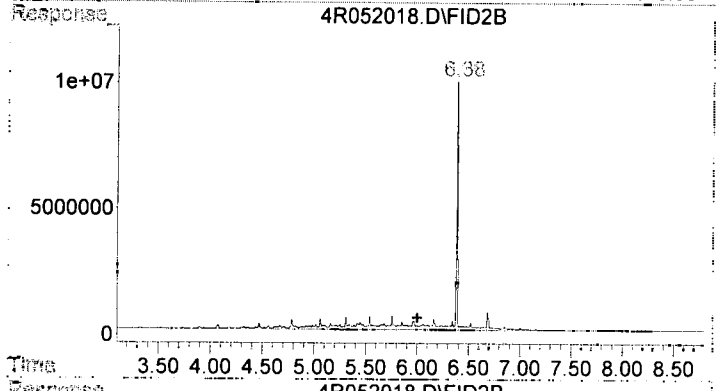
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





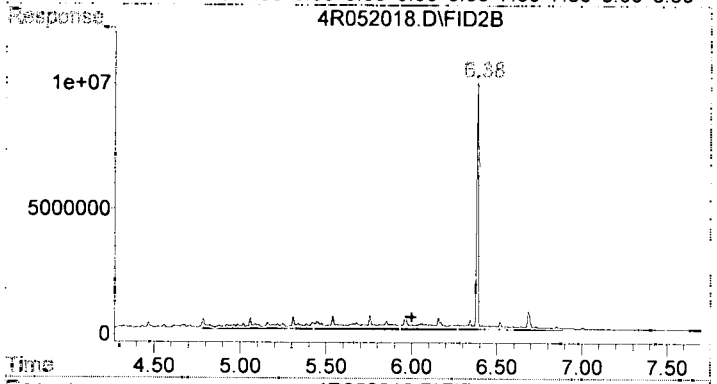
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 253311136
Conc: 222.10 ug/ml m



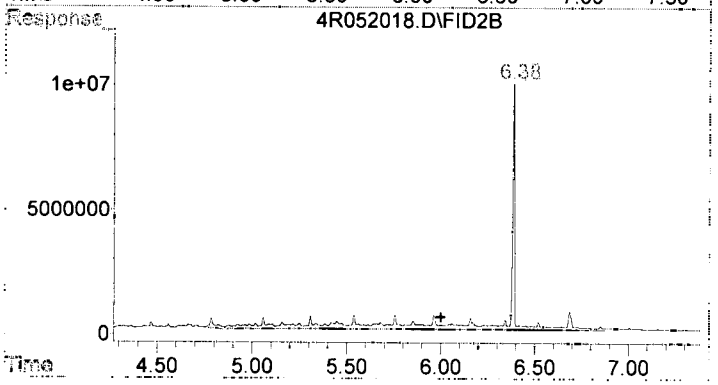
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 253311136
Conc: 222.10 ug/ml m



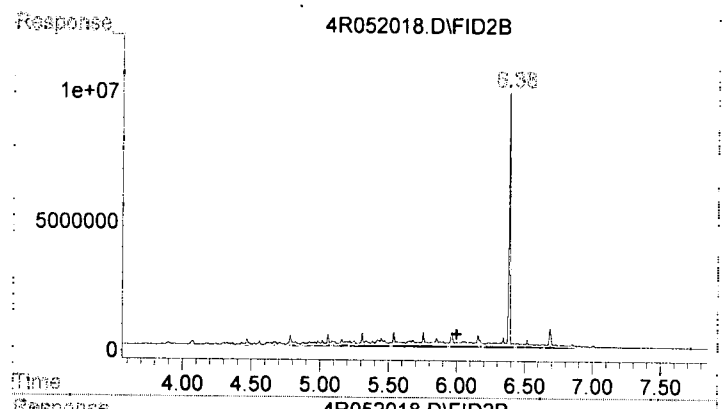
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 209974630
Conc: 184.10 ug/ml m



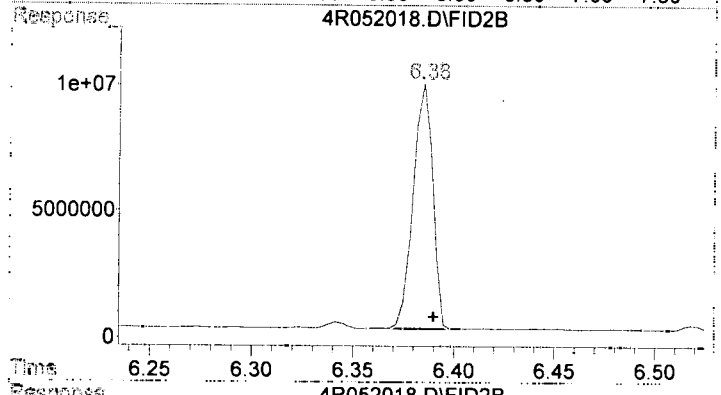
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 199523482
Conc: 233.09 ug/ml m



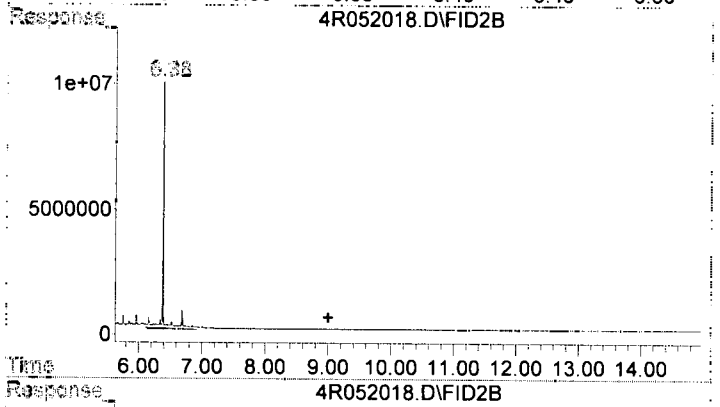
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 239347281
Conc: 226.88 ug/ml m



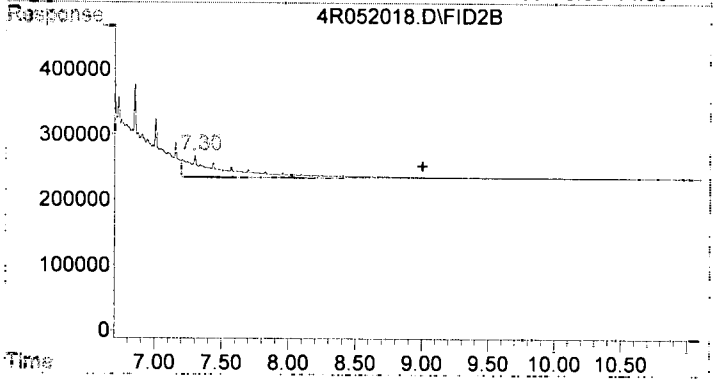
#6 o-Terphenyl

R.T.: 6.386 min
Delta R.T.: -0.004 min
Response: 65579603
Conc: 51.98 ug/ml



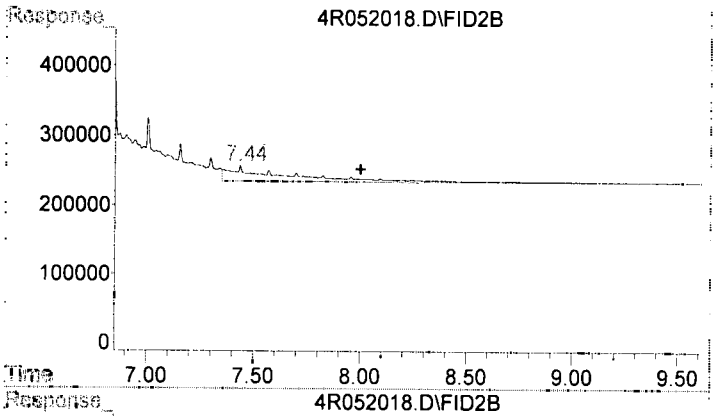
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 83846838
Conc: 79.91 ug/ml m



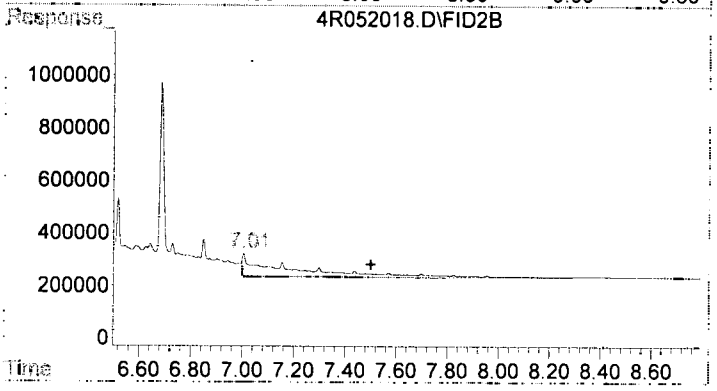
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 7859698
Conc: 7.49 ug/ml m



#9 TPHmo (C25-C36)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	4476715
Conc:	7.06 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.:	7.500 min
Delta R.T.:	0.000 min
Response:	10027073
Conc:	15.05 ug/ml m

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052022.D Vial: 64
Acq On : 21 May 2019 4:33 Operator: KEH
Sample : A9E0582-01@100 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	6.38	1010062	0.801 ug/ml S-01
		Target Compounds			
1)	H	Mineral Oil	6.00	272597847	239.012 ug/ml
2)	H	Diesel	6.00	272597847	239.012 ug/ml
3)	H	DRO(C12-C24)	6.00	171466648	150.341 ug/ml ✓ F-17
4)	H	CA LUFT DRO (C12-C22)	6.00	153066644	178.815 ug/ml
5)	H	TPHd (C10-C25)	6.00	182994032	173.460 ug/ml
7)	H	Oil	9.00	272022948	259.244 ug/ml
8)	H	RRO (C24-C40)	9.00	147220547	140.305 ug/ml ✓ F-17
9)	H	TPHmo (C25-C36)	8.00	116723699	184.020 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	101511297	152.384 ug/ml

Creosote → DRO/RRO
KEH 5/21/19

✓

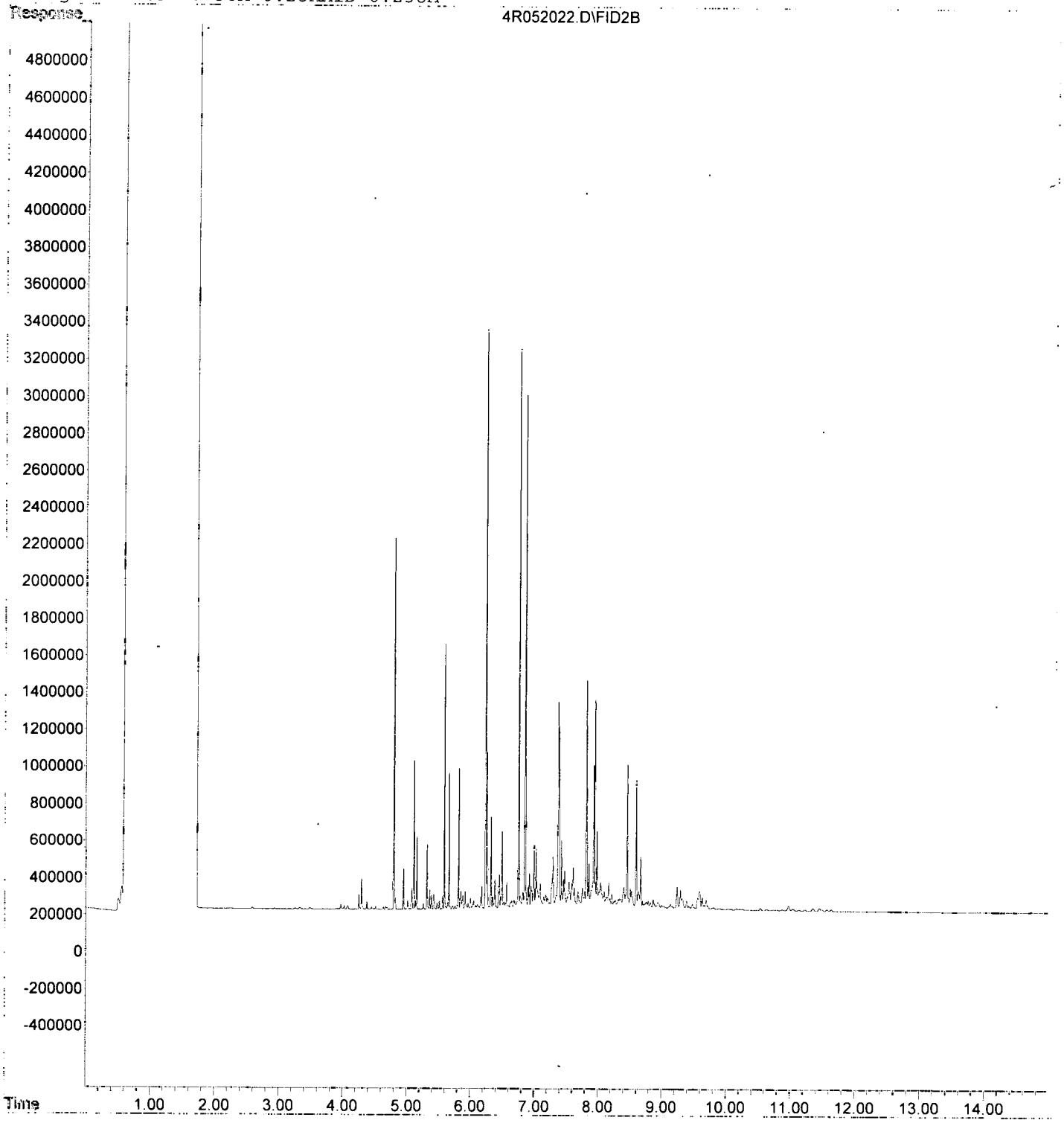
(f)=RT Delta > 1/2 Window (m)=manual int.

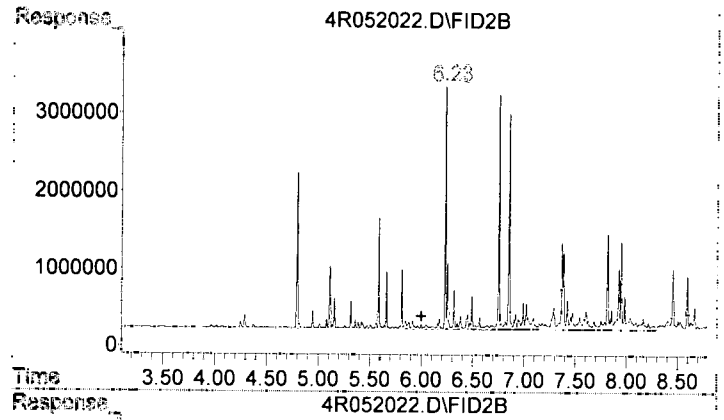
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052022.D Vial: 64
Acq On : 21 May 2019 4:33 Operator: KEH
Sample : A9E0582-01@100 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

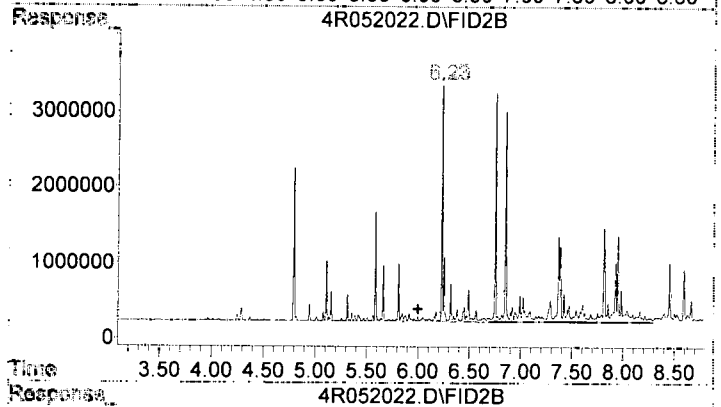
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





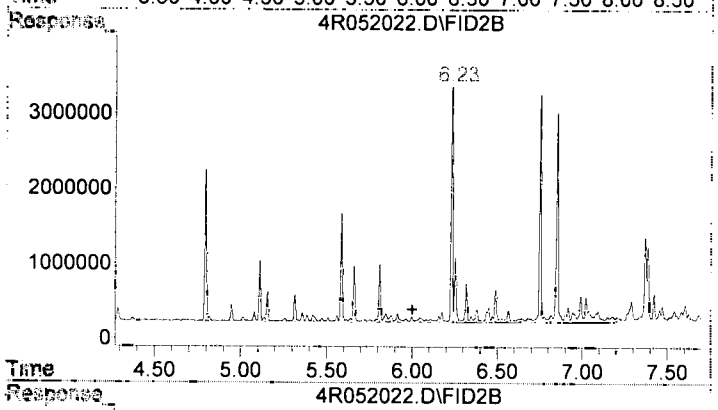
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 272597847
Conc: 239.01 ug/ml m



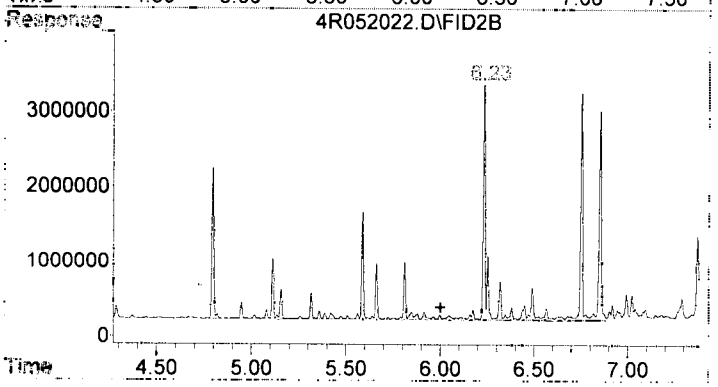
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 272597847
Conc: 239.01 ug/ml m



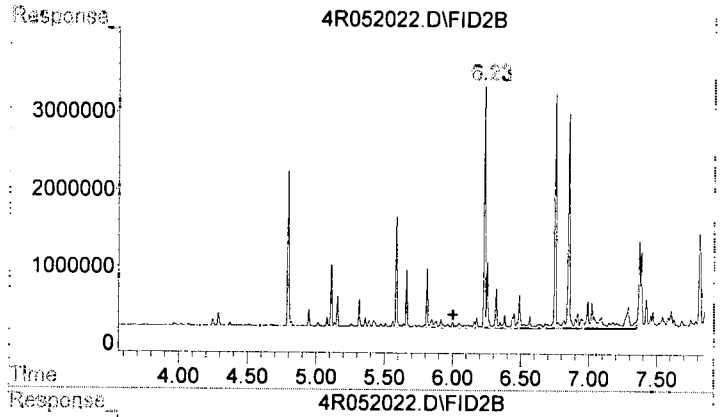
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 171466648
Conc: 150.34 ug/ml m



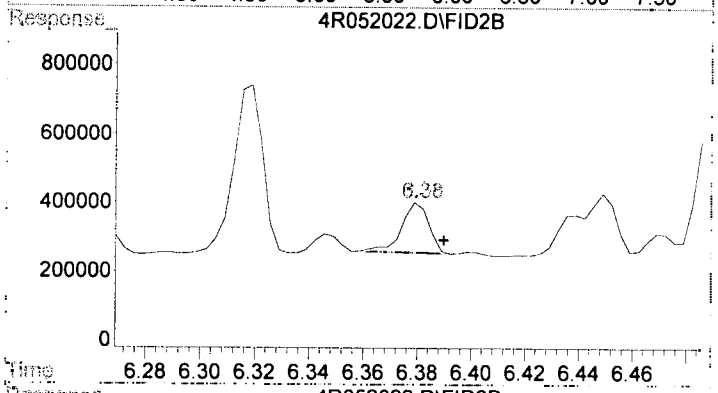
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 153066644
Conc: 178.81 ug/ml m



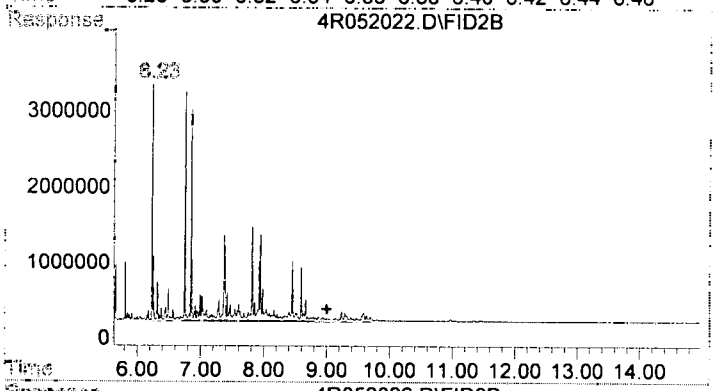
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 182994032
Conc: 173.46 ug/ml m



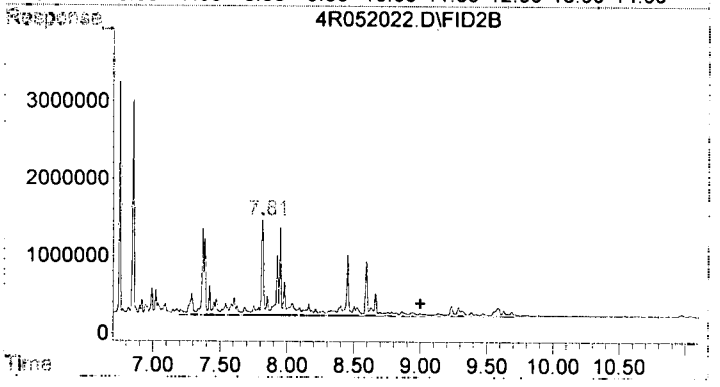
#6 o-Terphenyl

R.T.: 6.381 min
Delta R.T.: -0.009 min
Response: 1010062
Conc: 0.80 ug/ml



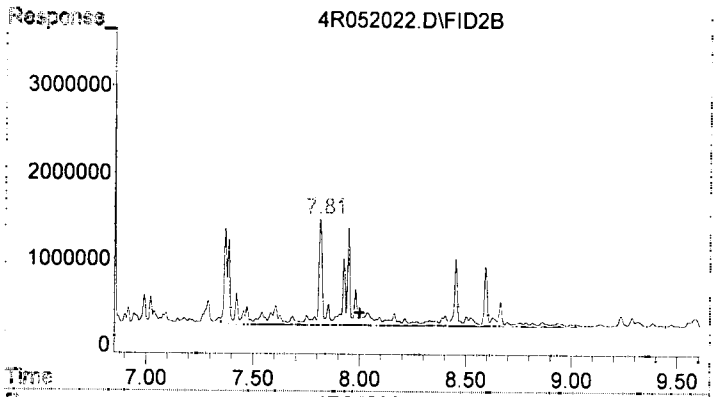
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 272022948
Conc: 259.24 ug/ml m



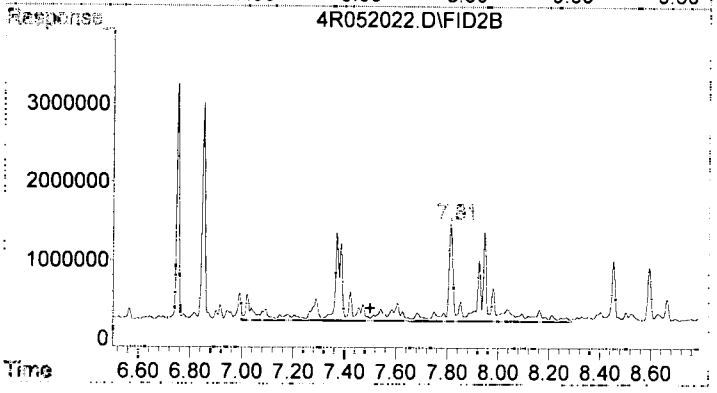
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 147220547
Conc: 140.30 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 116723699
Conc: 184.02 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 101511297
Conc: 152.38 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E20037\4R052024.D
Acq On : 21 May 2019 5:15
Sample : 9E20037-CCV3
Misc :
IntFile : SUR.E

Vial: 65
Operator: KEH
Inst : HP G1530A
Multiplr: 1.00

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	921.846	7.8	94	0.00
2	H	Diesel	1000.000	921.846	7.8	94	0.00
3	H	DRO(C12-C24)	1000.000	749.026	25.1#	77	0.00
4	H	CA LUFT DRO (C12-C22)	1000.000	954.302	4.6	95	0.00
5	H	TPHd (C10-C25)	1000.000	944.979	5.5	94	0.00
6	S	o-Terphenyl	-1.000	49.921	0.0	0	0.00
7	H	Oil	-1.000	287.014	0.0	0	0.00
8	H	RRO (C24-C40)	-1.000	18.544	0.0	0	0.00
9	H	TPHmo (C25-C36)	-1.000	17.067	0.0	78	0.00
10	H	CA LUFT ORO (C23-C32)	-1.000	49.759	0.0	89	0.00

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052024.D Vial: 65
Acq On : 21 May 2019 5:15 Operator: KEH
Sample : 9E20037-CCV3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	6.38	62979431	49.921	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	1051381427	921.846	ug/ml
2)	H	Diesel	6.00	1051381427	921.846	ug/ml
3)	H	DRO(C12-C24)	6.00	854276903	749.026	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	816889605	954.302	ug/ml
5)	H	TPHd (C10-C25)	6.00	996916607	944.979	ug/ml
7)	H	Oil	9.00	301161366	287.014	ug/ml
8)	H	RRO (C24-C40)	9.00	19457584	18.544	ug/ml
9)	H	TPHmo (C25-C36)	8.00	10825859	17.067	ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	33147333	49.759	ug/ml

KEH 5/21/19

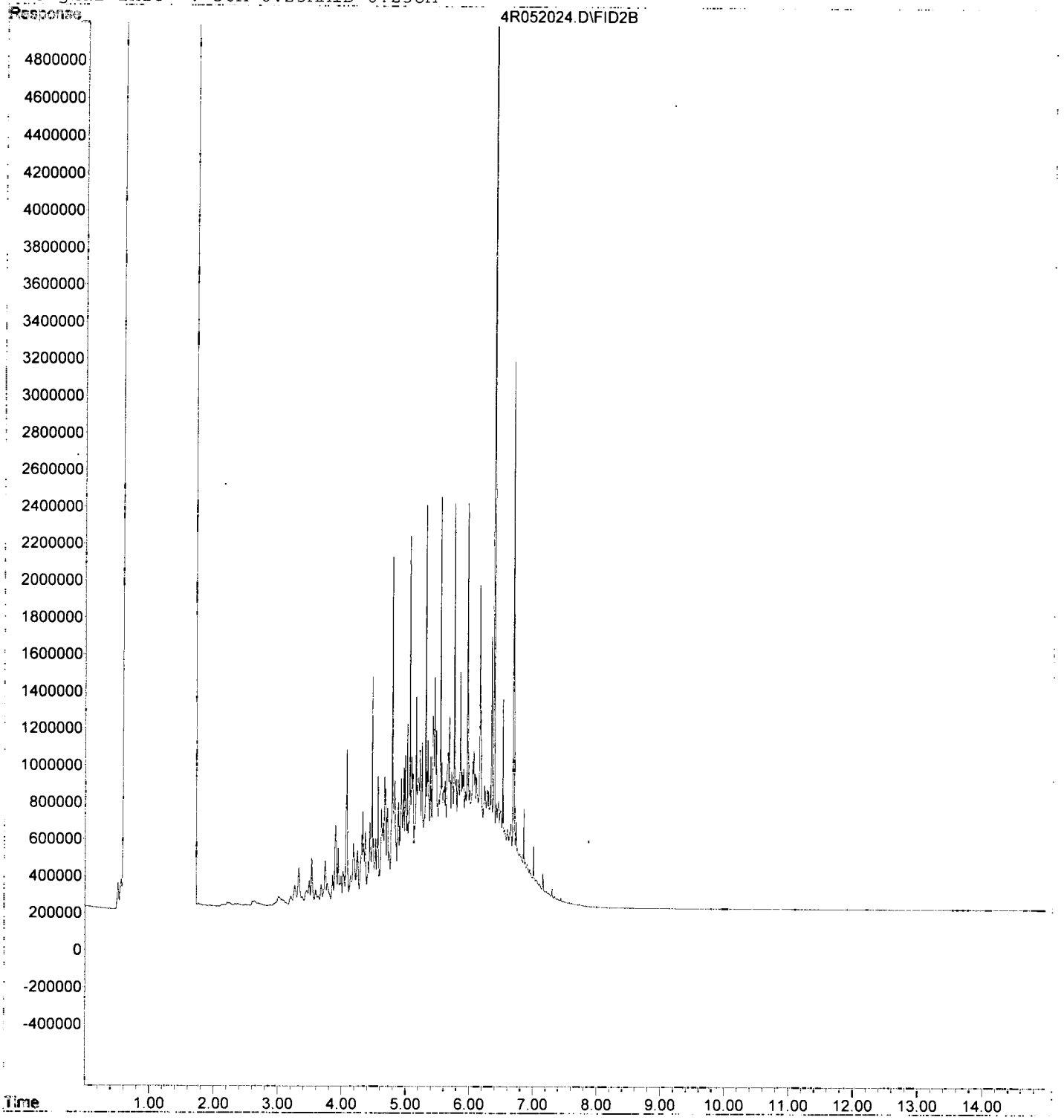
(f)=RT Delta > 1/2 window (m)=manual int.

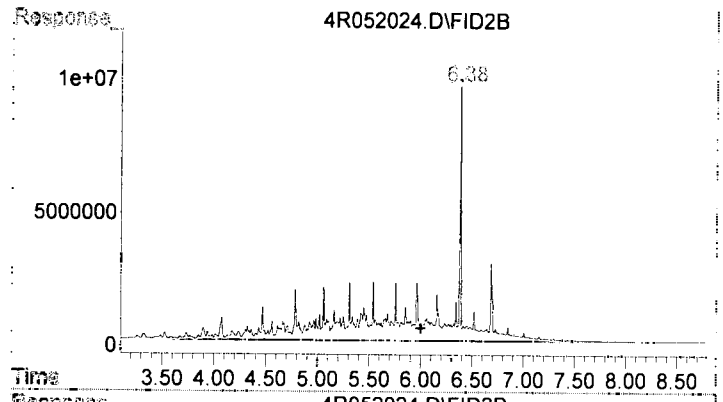
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052024.D Vial: 65
Acq On : 21 May 2019 5:15 Operator: KEH
Sample : 9E20037-CCV3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

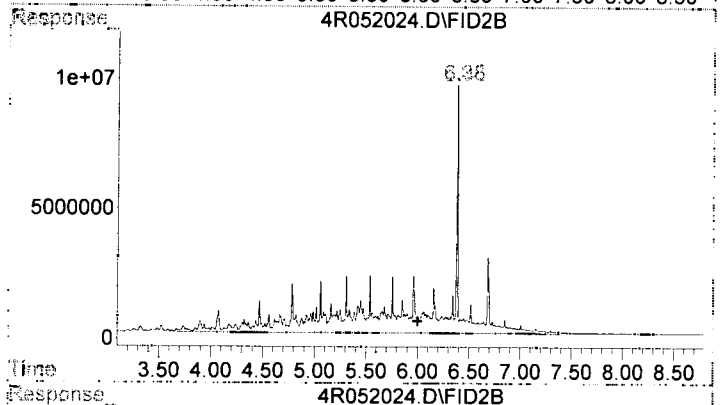
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





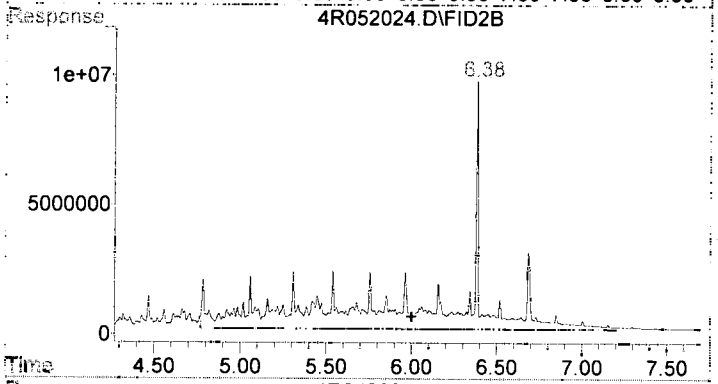
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1051381427
Conc: 921.85 ug/ml m



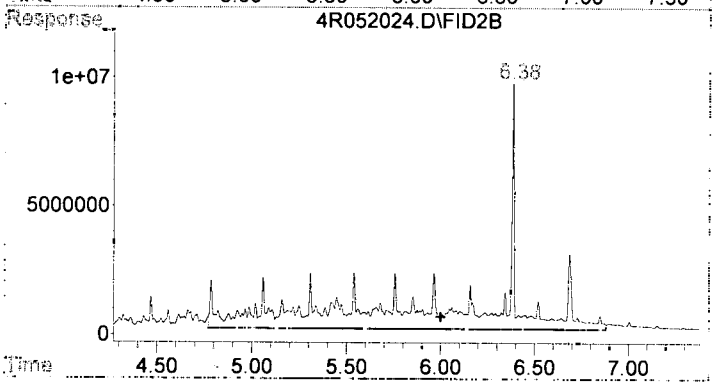
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1051381427
Conc: 921.85 ug/ml m



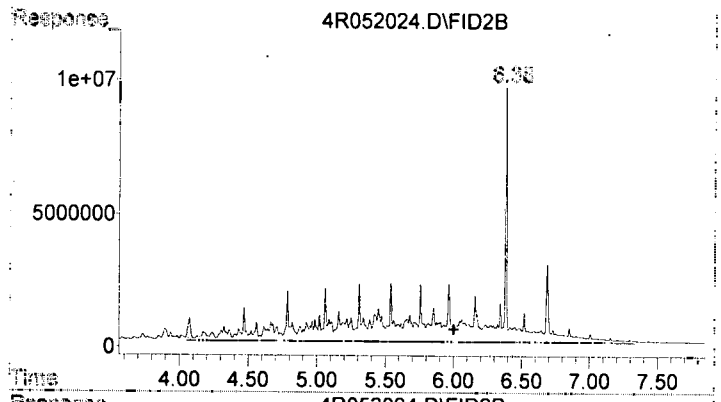
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 854276903
Conc: 749.03 ug/ml m



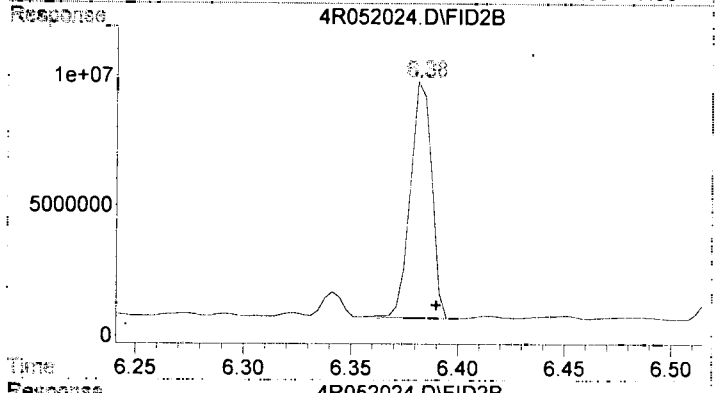
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 816889605
Conc: 954.30 ug/ml m



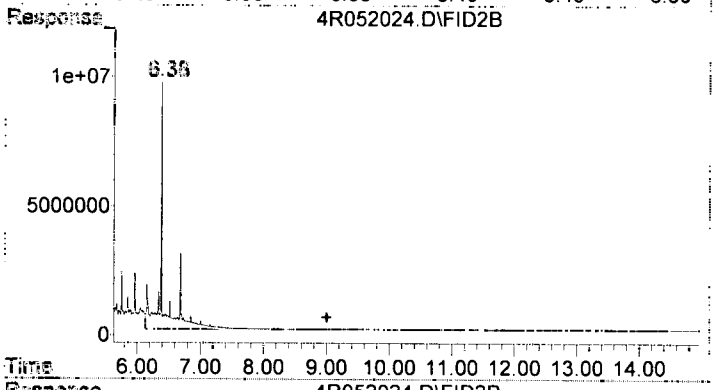
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 996916607
Conc: 944.98 ug/ml m



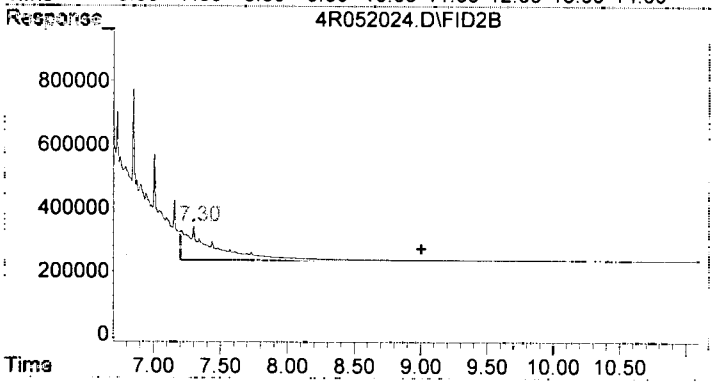
#6 o-Terphenyl

R.T.: 6.384 min
Delta R.T.: -0.006 min
Response: 62979431
Conc: 49.92 ug/ml



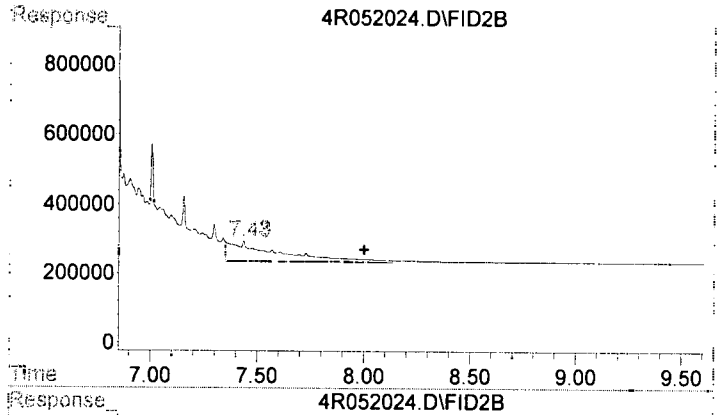
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 301161366
Conc: 287.01 ug/ml m



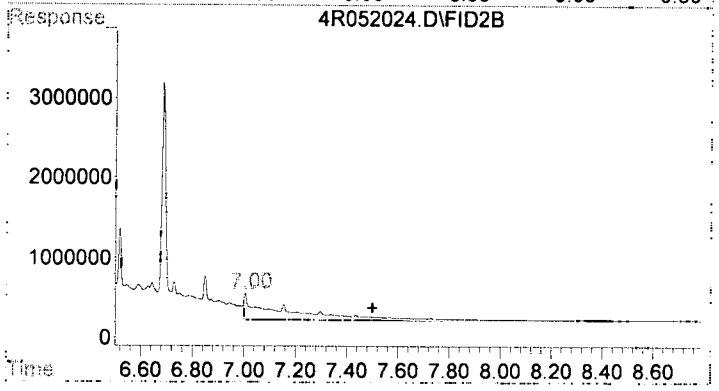
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 19457584
Conc: 18.54 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 10825859
Conc: 17.07 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 33147333
Conc: 49.76 ug/ml m

Evaluate Continuing Calibration Report

Data File : G:\4\DATA\2019-05\9E20037\4R052025.D
Acq On : 21 May 2019 5:36
Sample : 9E20037-CCV4
Misc :
IntFile : SUR.E

Vial: 66
Operator: KEH
Inst : HP G1530A
Multiplr: 1.00

Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	326.763	0.0	96	0.00
2	H	Diesel	-1.000	326.763	0.0	96	0.00
3	H	DRO(C12-C24)	-1.000	82.381	0.0	24	0.00
4	H	CA LUFT DRO (C12-C22)	-1.000	36.042	0.0	98	0.00
5	H	TPHd (C10-C25)	-1.000	129.775	0.0	99	0.00
6	S	o-Terphenyl	-1.000	47.245	0.0	0	0.00
7	H	Oil	500.000	469.091	6.2	95	0.00
8	H	RRO (C24-C40)	500.000	360.166	28.0#	73	0.00
9	H	TPHmo (C25-C36)	500.000	454.675	9.1	92	0.00
10	H	CA LUFT ORO (C23-C32)	500.000	480.742	3.9	96	0.00

KEH 5/17/19

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

Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052025.D Vial: 66
Acq On : 21 May 2019 5:36 Operator: KEH
Sample : 9E20037-CCV4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 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	6.38	59603343	47.245 ug/ml
		Target Compounds			
1)	H	Mineral Oil	6.00	372678765	326.763 ug/ml
2)	H	Diesel	6.00	372678765	326.763 ug/ml
3)	H	DRO(C12-C24)	6.00	93956826	82.381 ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	30851995	36.042 ug/ml
5)	H	TPHd (C10-C25)	6.00	136907773	129.775 ug/ml
7)	H	Oil	9.00	492214161	469.091 ug/ml
8)	H	RRO (C24-C40)	9.00	377919231	360.166 ug/ml
9)	H	TPHmo (C25-C36)	8.00	288399922	454.675 ug/ml
10)	H	CA LUFT ORO (C23-C32)	7.50	320247924	480.742 ug/ml

KEH 5/21/19

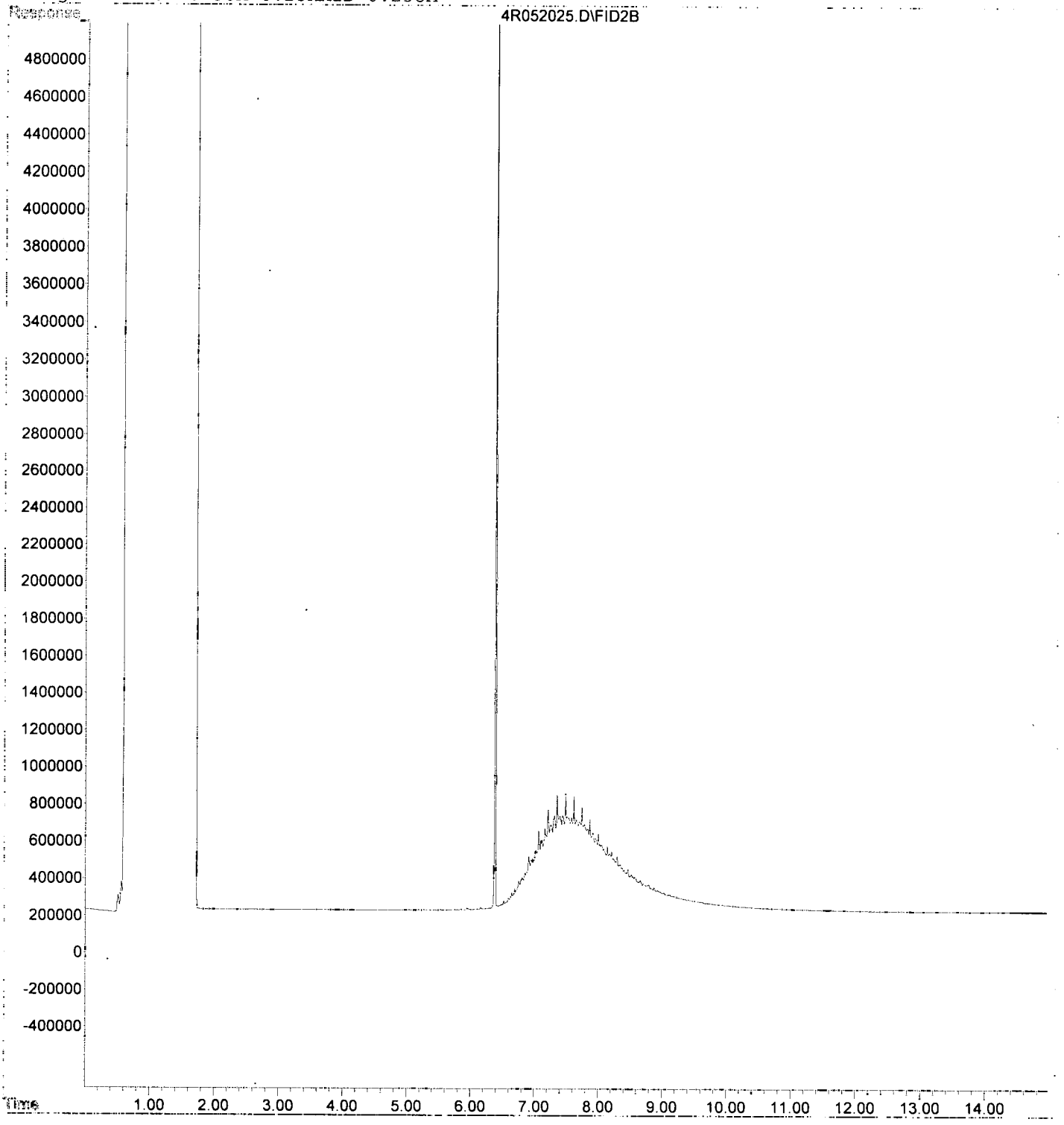
(f)=RT Delta > 1/2 Window (m)=manual int.

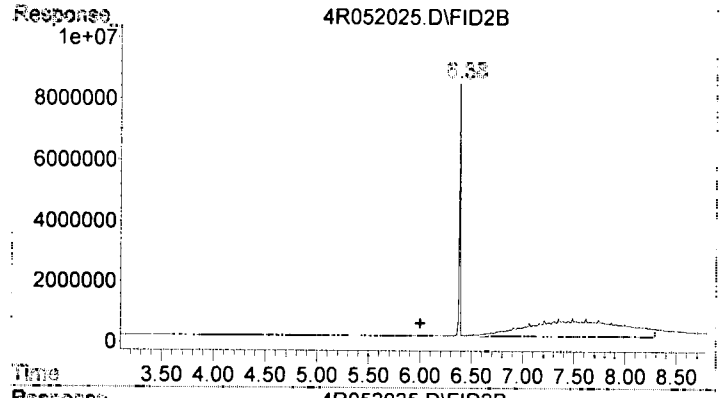
Quantitation Report (Not Reviewed)

Data File : G:\4\DATA\2019-05\9E20037\4R052025.D Vial: 66
Acq On : 21 May 2019 5:36 Operator: KEH
Sample : 9E20037-CCV4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: May 21 8:05 2019 Quant Results File: 4R90418D.RES

Quant Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Tue May 21 08:03:05 2019
Response via : Multiple Level Calibration
DataAcq Meth : A4F60831.M

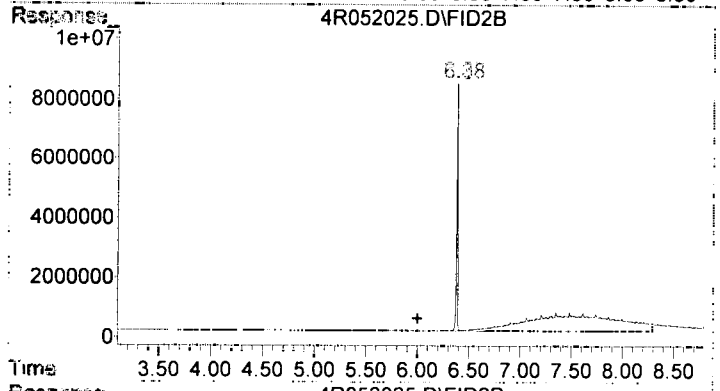
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





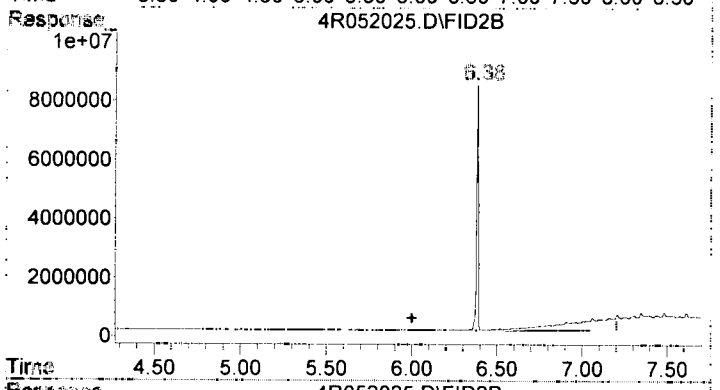
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 372678765
Conc: 326.76 ug/ml m



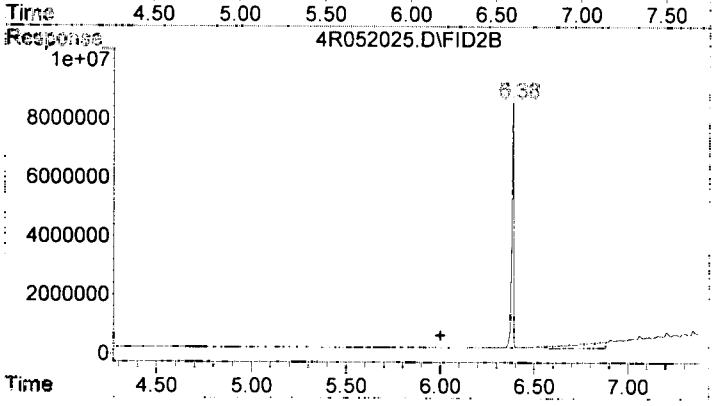
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 372678765
Conc: 326.76 ug/ml m



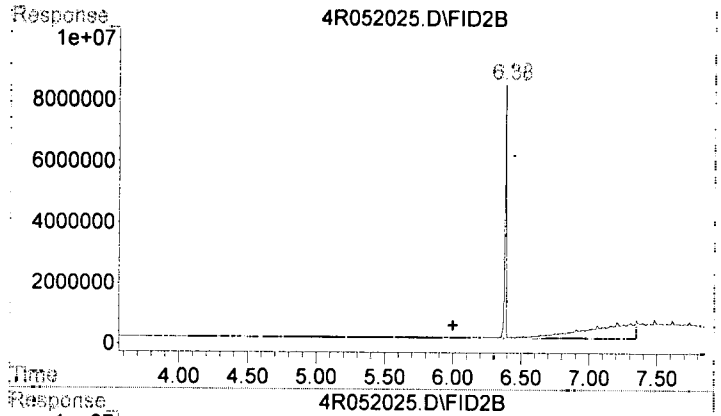
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 93956826
Conc: 82.38 ug/ml m



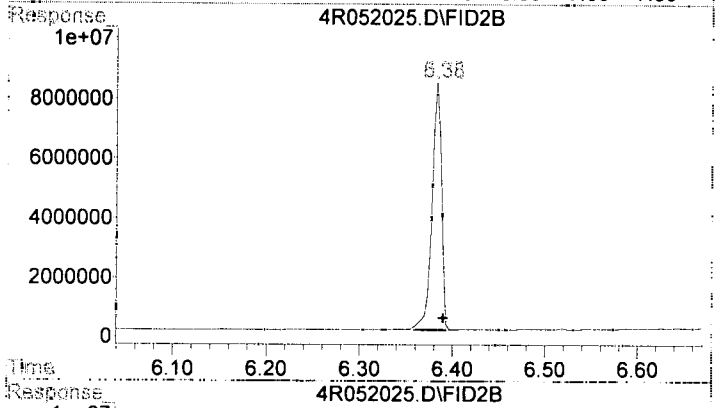
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 30851995
Conc: 36.04 ug/ml m



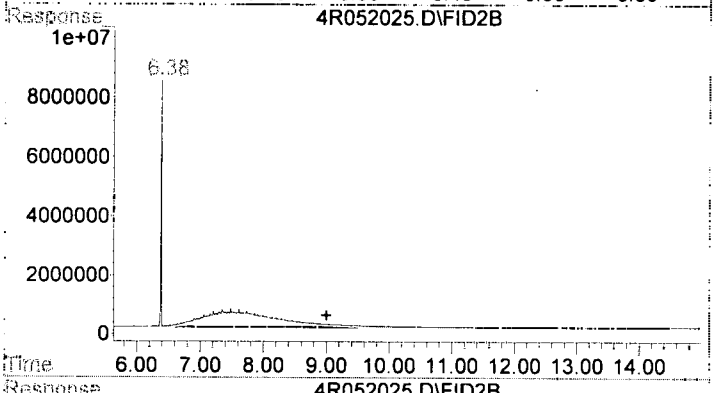
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 136907773
Conc: 129.78 ug/ml m



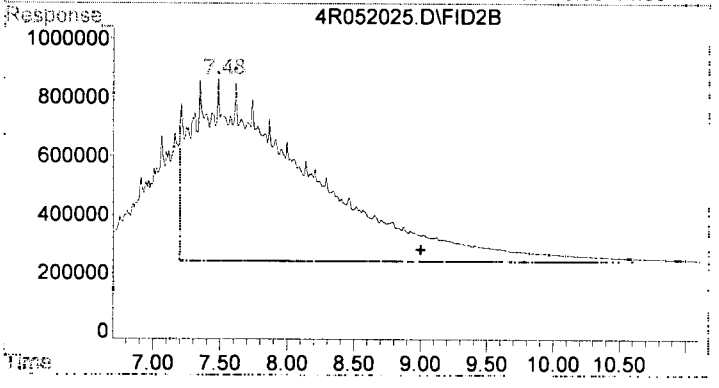
#6 o-Terphenyl

R.T.: 6.384 min
Delta R.T.: -0.006 min
Response: 59603343
Conc: 47.24 ug/ml



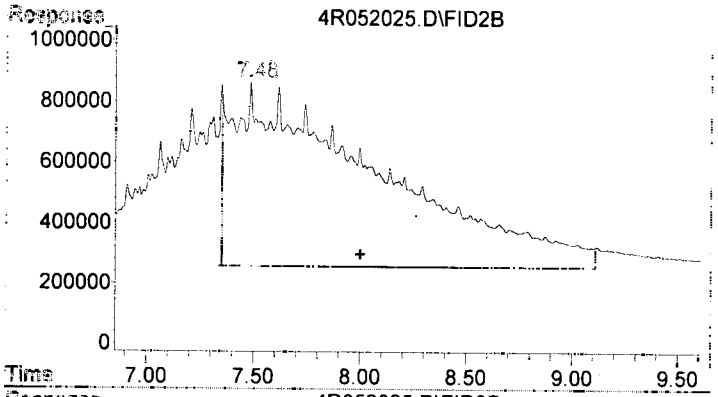
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 492214161
Conc: 469.09 ug/ml m



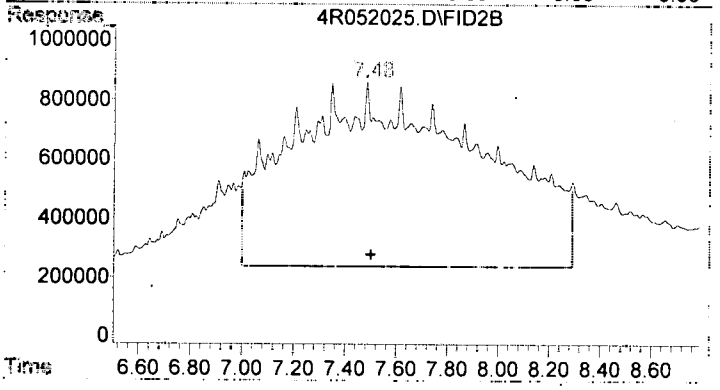
#8 RRO (C24-C40)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 377919231
Conc: 360.17 ug/ml m



#9 TPHmo (C25-C36)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 288399922
Conc: 454.67 ug/ml m



#10 CA LUFT ORO (C23-C32)

R.T.: 7.500 min
Delta R.T.: 0.000 min
Response: 320247924
Conc: 480.74 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 9F18031 (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:

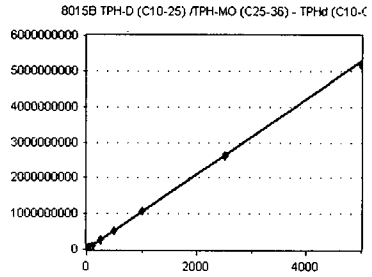
Element Calibration Review Sheet

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**

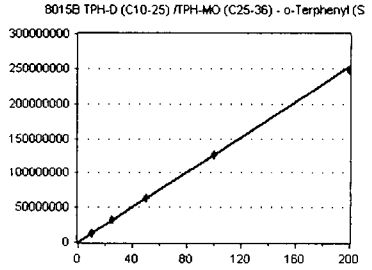


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	!.67869E+07	1071476.000	6.00
9D18031-CAL2	40	208758E+07	1052190.000	6.00
9D18031-CAL3	100	045048E+08	1045048.000	6.00
9D18031-CAL4	250	669609E+08	1067844.000	6.00
9D18031-CAL5	500	295566E+08	1059113.000	6.00
9D18031-CAL6	1000	055236E+09	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**

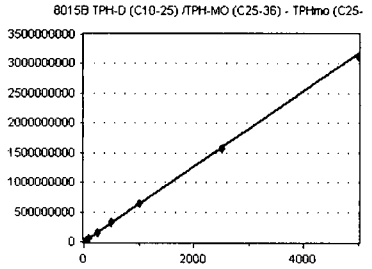


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	!.48367E+08	1241835.000	6.40

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

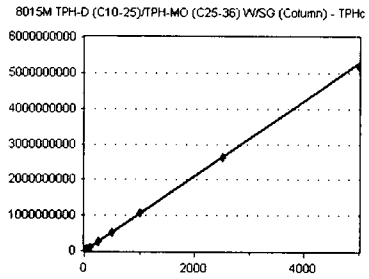
AVE RF **634299.200** RF RSD **2.39** AVE RT **8.00**

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)

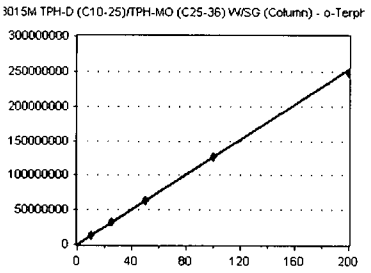


Curve Fit: **AVERAGE RF**

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)

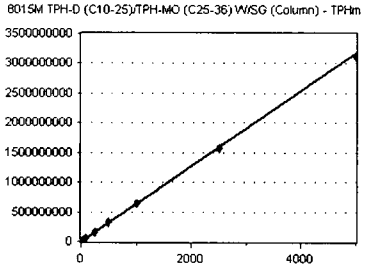


Curve Fit: **AVERAGE RF**

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**

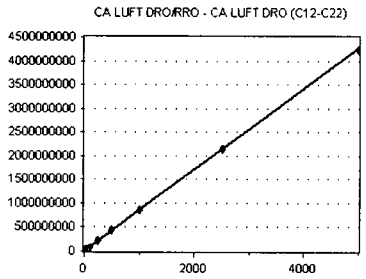
Element Calibration Review Sheet

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**

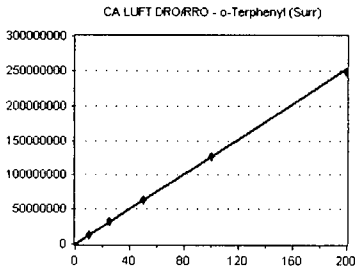


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	1.17237E+07	868948.000	6.00
9D18031-CAL2	40	390809E+07	847702.200	6.00
9D18031-CAL3	100	406751E+07	840675.100	6.00
9D18031-CAL4	250	161329E+08	864531.600	6.00
9D18031-CAL5	500	1.30197E+08	860394.000	6.00
9D18031-CAL6	1000	599682E+08	859968.200	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**

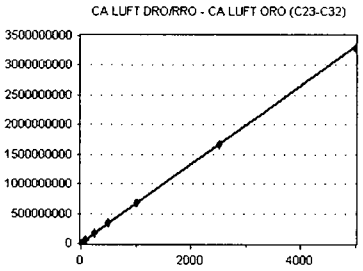


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

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**

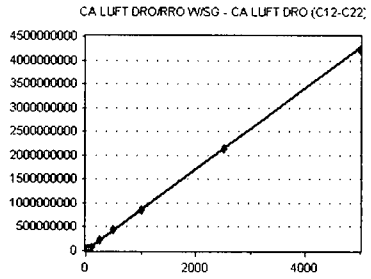
Element Calibration Review Sheet

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**

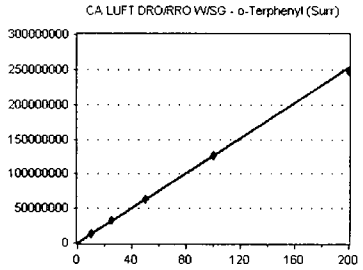


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	1.17237E+07	868948.000	6.00
9D18031-CAL2	40	390809E+07	847702.200	6.00
9D18031-CAL3	100	406751E+07	840675.100	6.00
9D18031-CAL4	250	161329E+08	864531.600	6.00
9D18031-CAL5	500	1.30197E+08	860394.000	6.00
9D18031-CAL6	1000	599682E+08	859968.200	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**

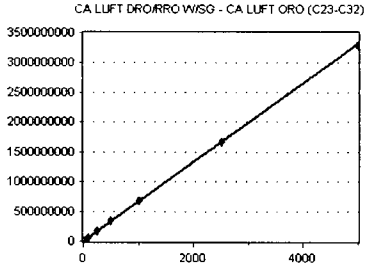


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

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**

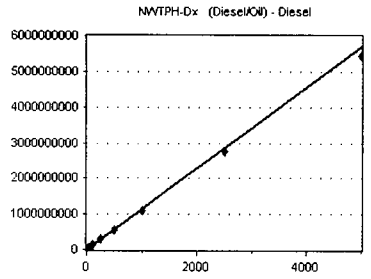
Element Calibration Review Sheet

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**

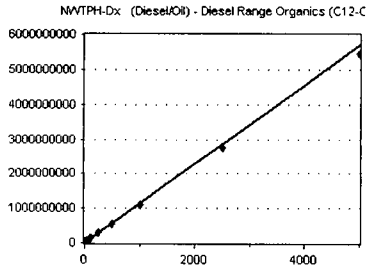


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	1.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

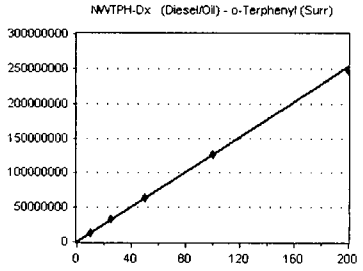


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	1.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

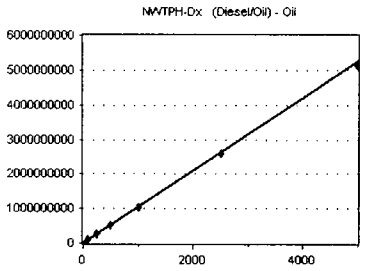


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

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

Oil

Curve Fit: **AVERAGE RF**

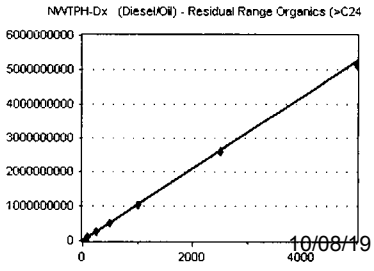


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	1.86643E+07	1108304.000	9.00
9D18031-CALG	250	506622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	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~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	1.86643E+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**

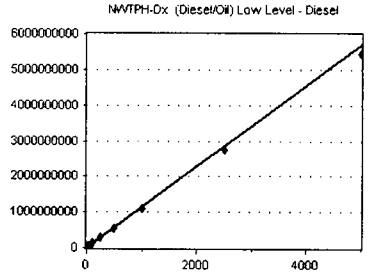
Element Calibration Review Sheet

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

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

Diesel

Curve Fit: **AVERAGE RF**

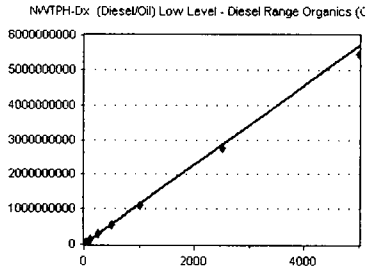


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

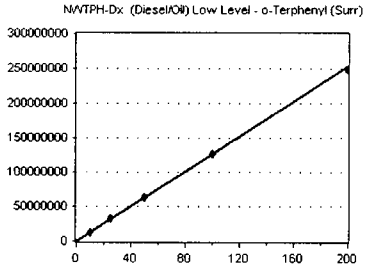


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

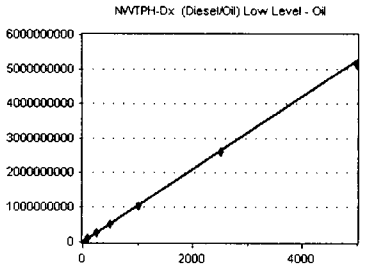


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

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

Oil

Curve Fit: **AVERAGE RF**

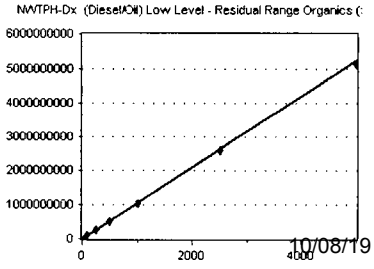


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~927874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	8.86643E+07	1108304.000	9.00
9D18031-CALG	250	506622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	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	8.86643E+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**

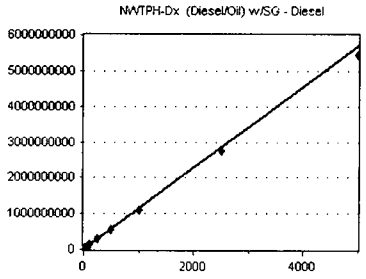
Element Calibration Review Sheet

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**

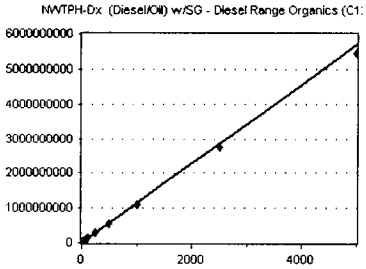


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

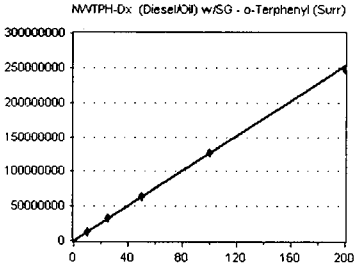


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	5.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

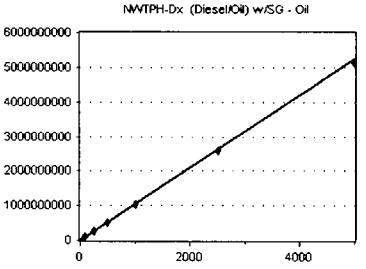


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	1.48367E+08	1241835.000	6.40

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

Oil

Curve Fit: **AVERAGE RF**

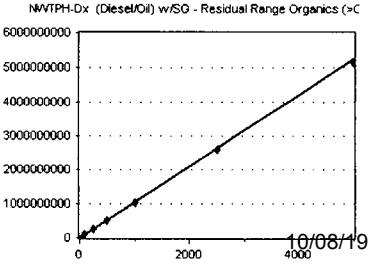


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	1.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	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**

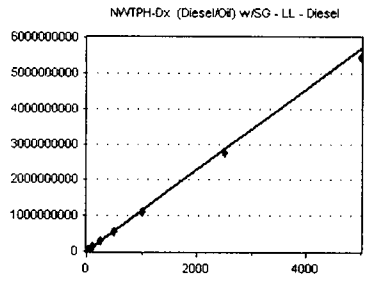
Element Calibration Review Sheet

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**

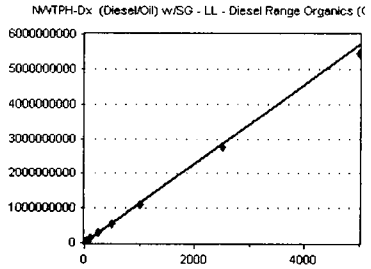


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

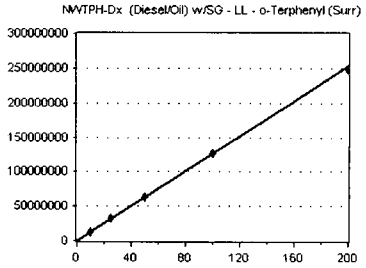


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

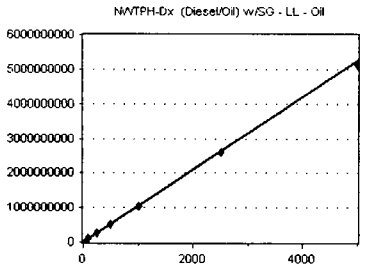


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	.48367E+08	1241835.000	6.40

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

Oil

Curve Fit: **AVERAGE RF**

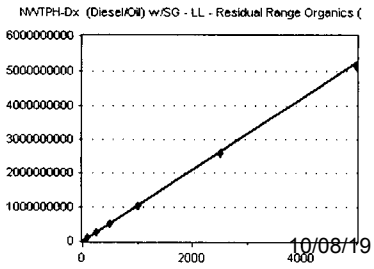


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~027874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	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**

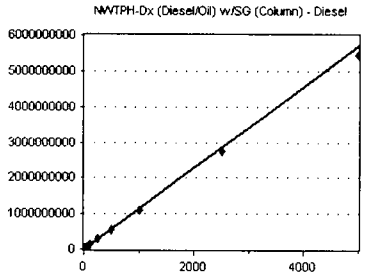
Element Calibration Review Sheet

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

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

Diesel

Curve Fit: **AVERAGE RF**

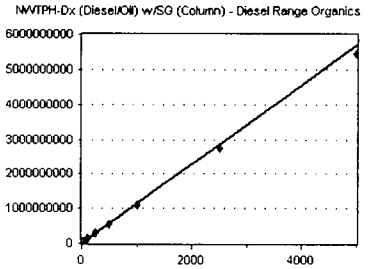


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

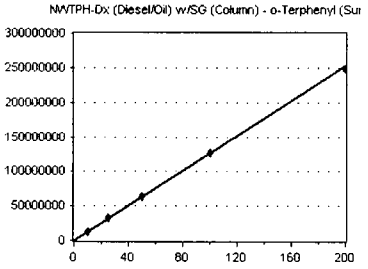


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL1	25	106382E+07	1242553.000	6.00
9D18031-CAL2	40	689096E+07	1172274.000	6.00
9D18031-CAL3	100	135692E+08	1135692.000	6.00
9D18031-CAL4	250	853091E+08	1141236.000	6.00
9D18031-CAL5	500	.59963E+08	1119926.000	6.00
9D18031-CAL6	1000	113983E+09	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**

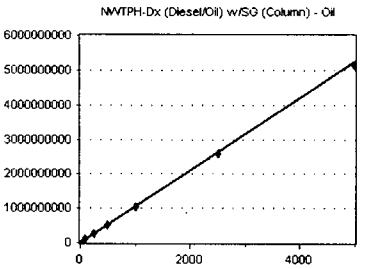


Standard	Concentration	Response	Response Factor	RT
9D18031-CAL9	10	255074E+07	1255074.000	6.39
9D18031-CALA	25	174645E+07	1269858.000	6.39
9D18031-CALB	50	348063E+07	1269613.000	6.39
9D18031-CALC	100	271551E+08	1271551.000	6.39
9D18031-CALD	200	.48367E+08	1241835.000	6.40

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

Oil

Curve Fit: **AVERAGE RF**

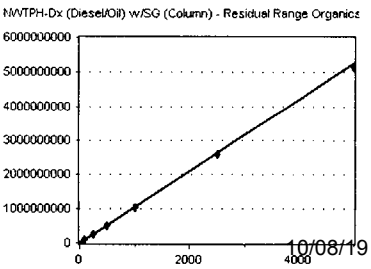


Standard	Concentration	Response	Response Factor	RT
~~9D18031-CALE~~	~~40~~	~~927874E+07~~	~~1256969.000~~	~~9.00~~
9D18031-CALF	80	.86643E+07	1108304.000	9.00
9D18031-CALG	250	606622E+08	1042649.000	9.00
9D18031-CALH	500	195821E+08	1039164.000	9.00
9D18031-CALI	1000	045982E+09	1045982.000	9.00
9D18031-CALJ	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~~	~~927874E+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**

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 L	"		"
"	+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 L	"	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 L	"	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 L	"	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 L	"	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

Kat 4/19/19

#	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

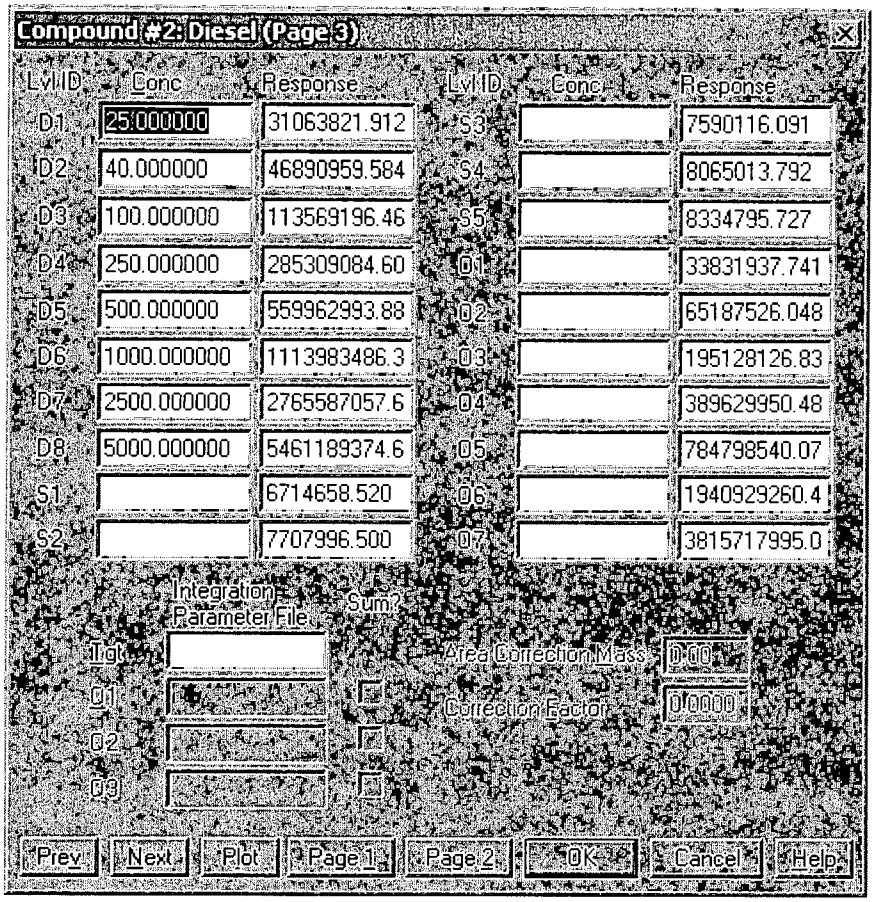
Method : G:\4\METHODS\4R90418D.M (Chemstation Integrator)
Title : DUALFID4R, NWTPH-Dx
Last Update : Fri Apr 19 14:53:05 2019
Response via : Initial Calibration
Total Cpnds : 10

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

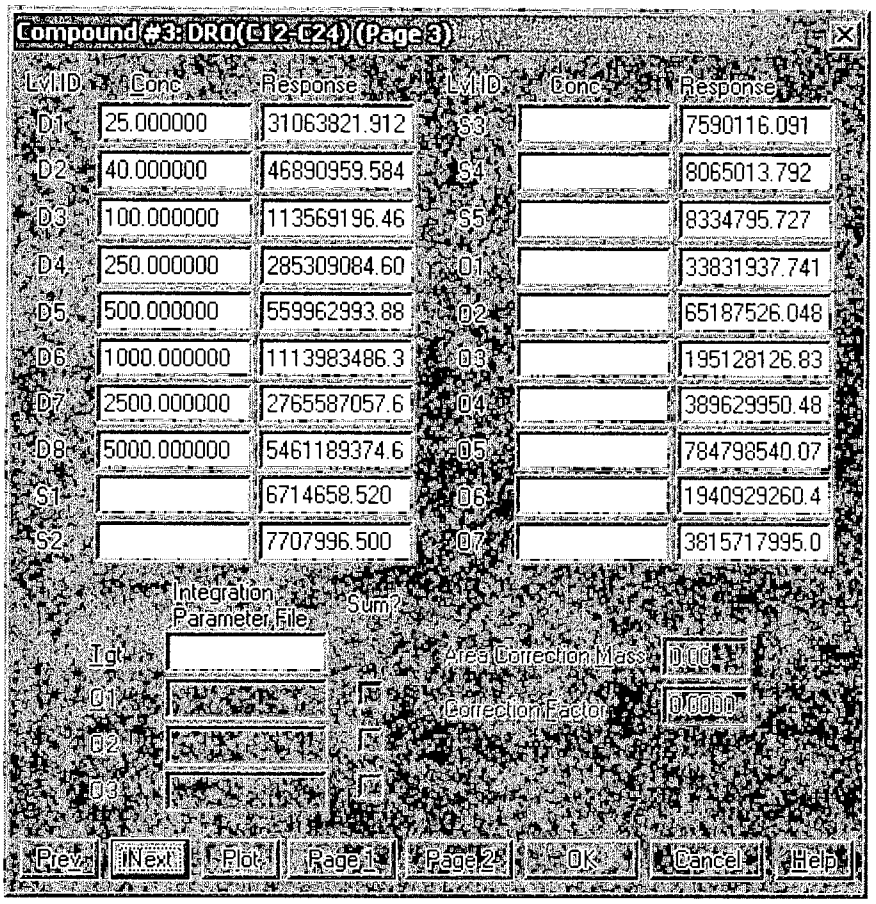
KCH 4/19/19

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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
0.00
Correction Factor
0.0000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

Kat 4/19/19


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
Area Correction Mass
Correction Factor
Prev
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Plot
Page 1
Page 2
OK
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Help

kat 4/19/19

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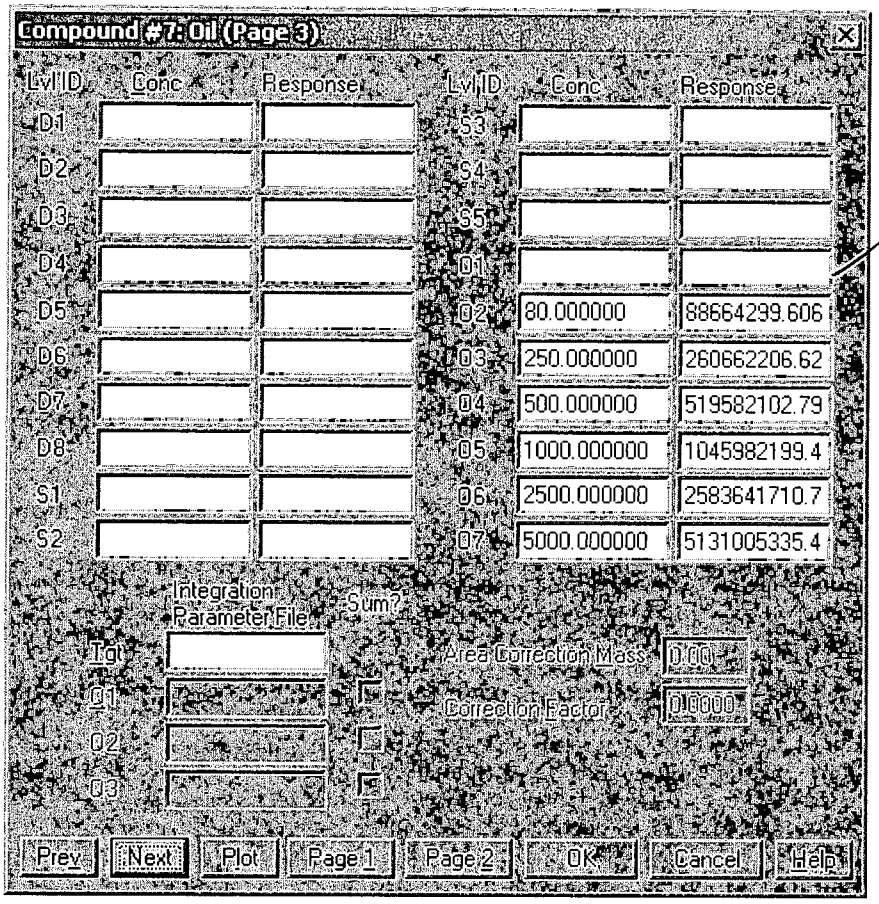
Compound #7: Oil (Page 3)
Lvl ID
Conc
Response
D1
D2
D3
D4
D5
D6
D7
D8
S1
S2
Lvl ID
Conc
Response
S3
S4
S5
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03
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Sum?
Tgt
01
02
03
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Correction Factor
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Page 2
OK
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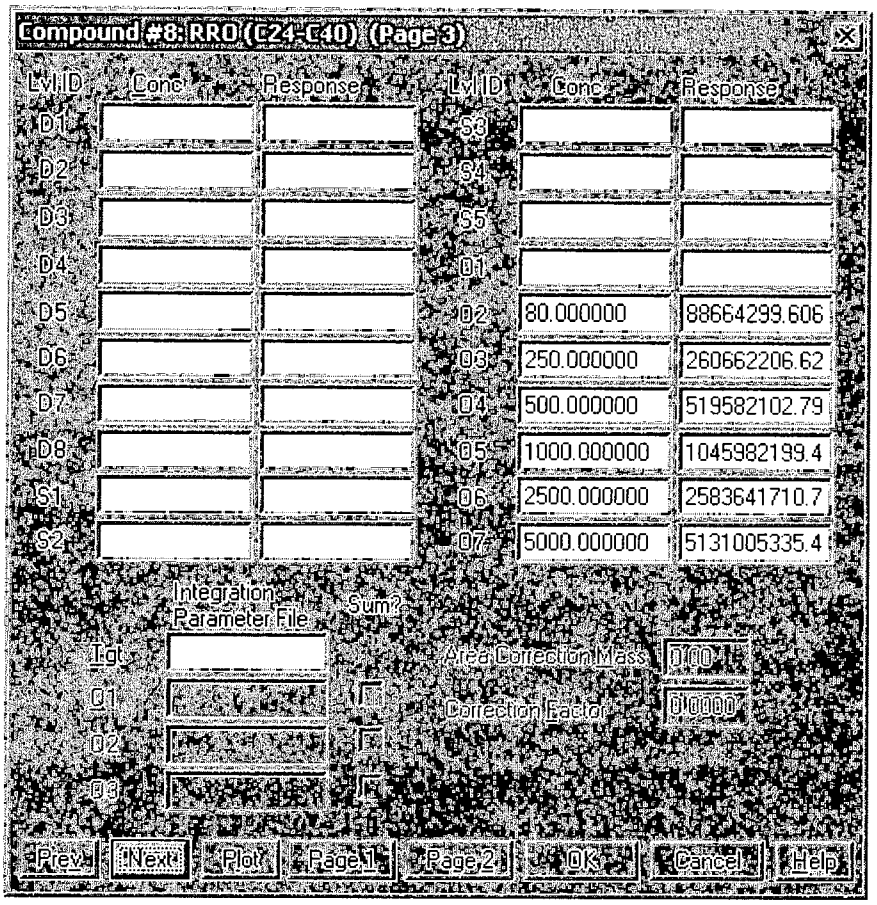
KeH 4/19/19


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
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02
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03
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04
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05
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1045982199.4
06
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2583641710.7
07
5000.000000
5131005335.4
Integration Parameter File
Sum?
Tgt
Area Correction Mass
0.0
01
Correction Factor
1.0000
02
03
Prev
Next
Plot
Page 1
Page 2
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kat 4/19/19

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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

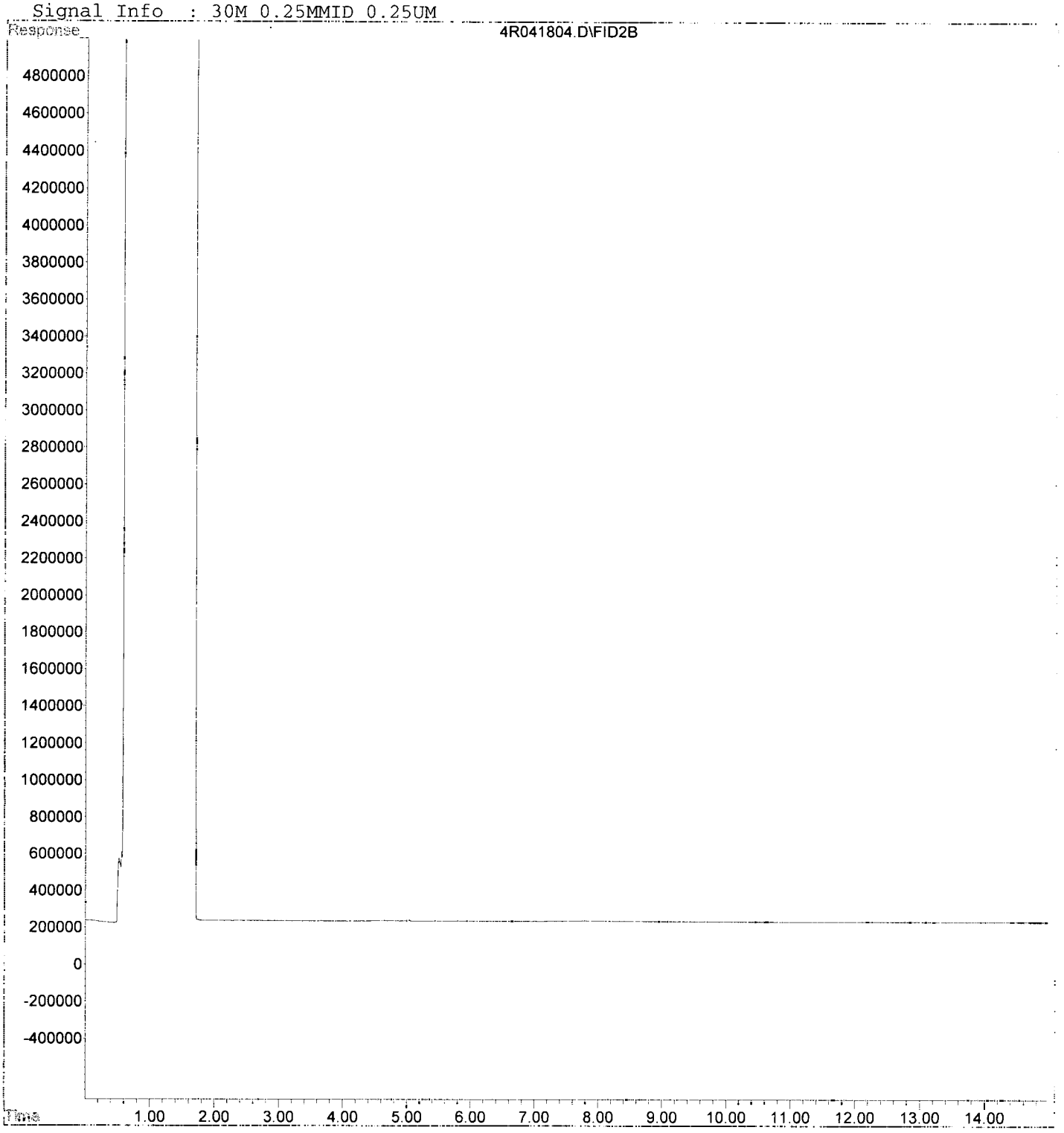
KKT 4/19/19

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		

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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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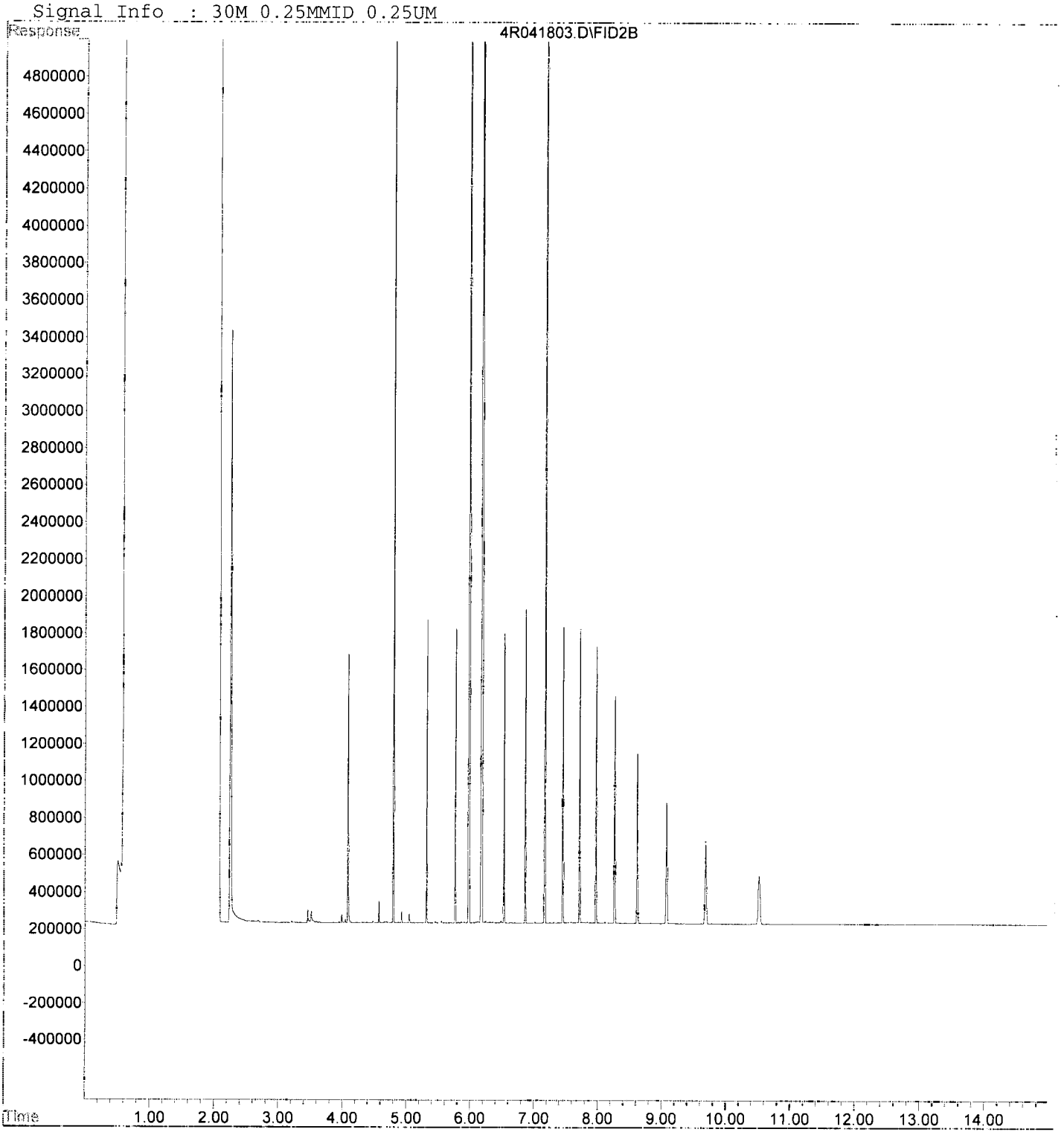
		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.53	10509629	6.141	ug/ml
		Target Compounds				
1)	H	Mineral Oil	6.00	355127746	244.988	ug/ml
2)	H	Diesel	6.00	355127746	244.988	ug/ml
3)	H	DRO(C12-C24)	6.00	355127746	244.988	ug/ml
4)	H	CA LUFT DRO (C12-C22)	6.00	241662170	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

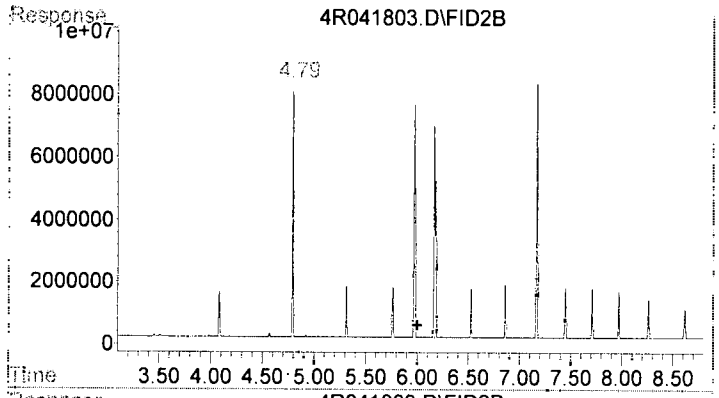
Quantitation Report (Not Reviewed)

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

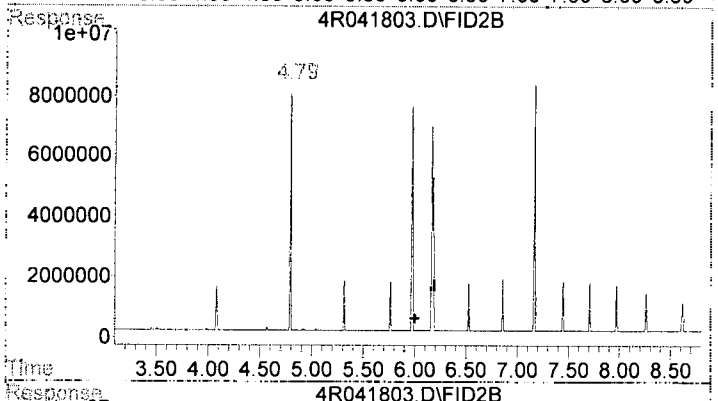
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





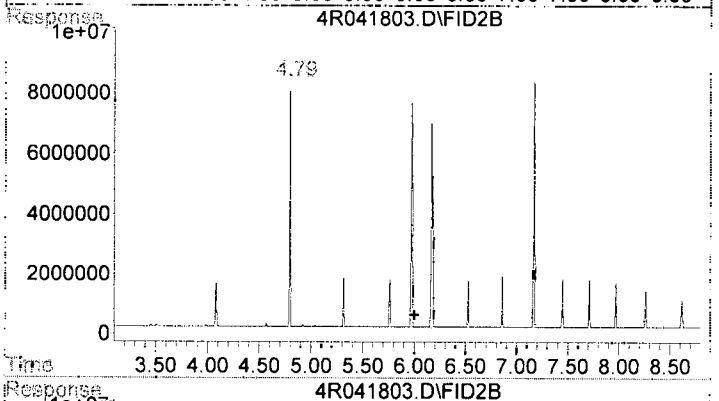
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 355127746
Conc: 244.99 ug/ml m



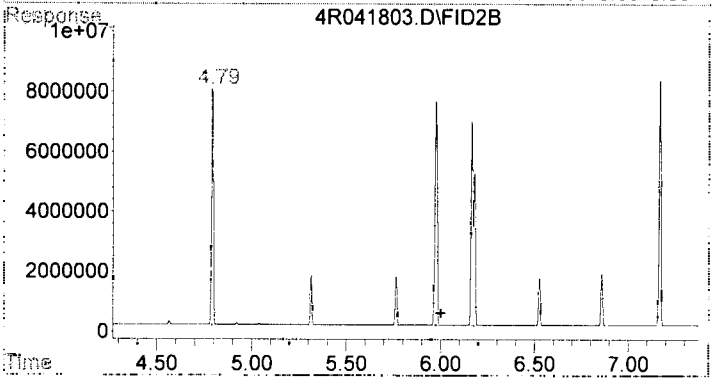
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 355127746
Conc: 244.99 ug/ml m



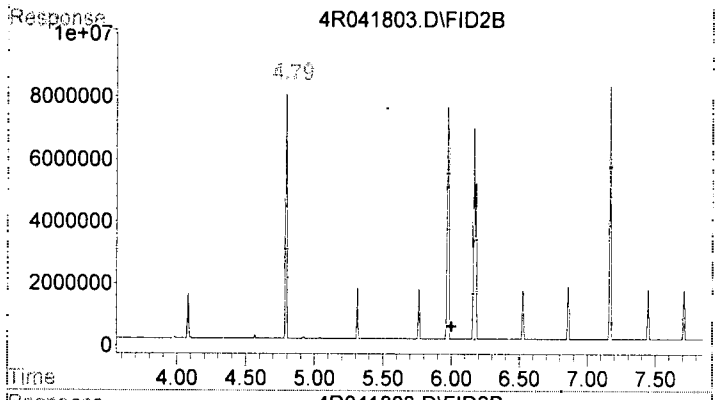
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 355127746
Conc: 244.99 ug/ml m



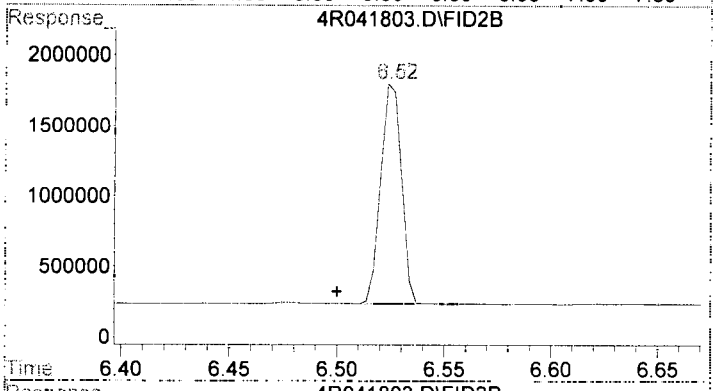
#4 CA LUFT DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 241662170
Conc: 225.49 ug/ml m



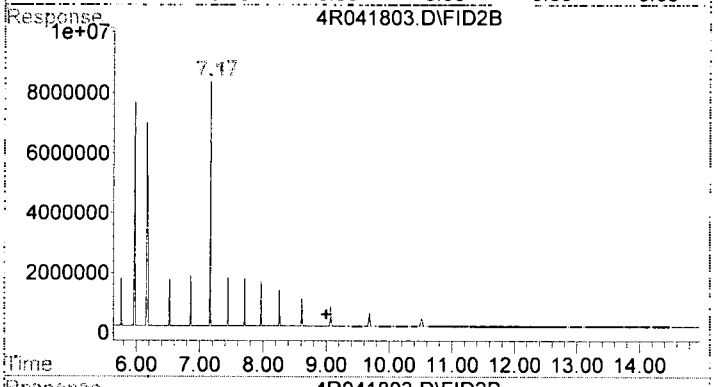
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 310330619
Conc: 230.17 ug/ml m



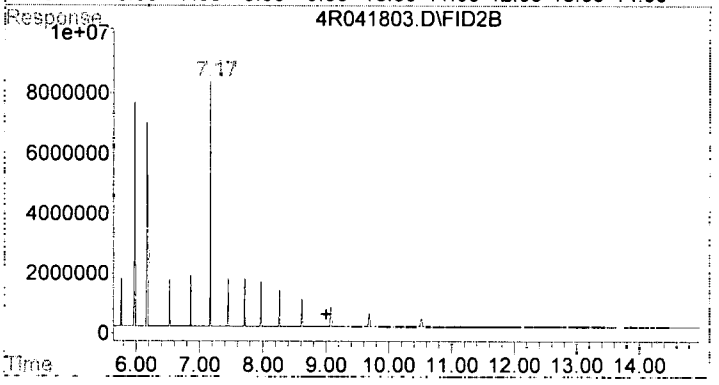
#6 o-Terphenyl

R.T.: 6.526 min
Delta R.T.: 0.026 min
Response: 10509629
Conc: 6.14 ug/ml



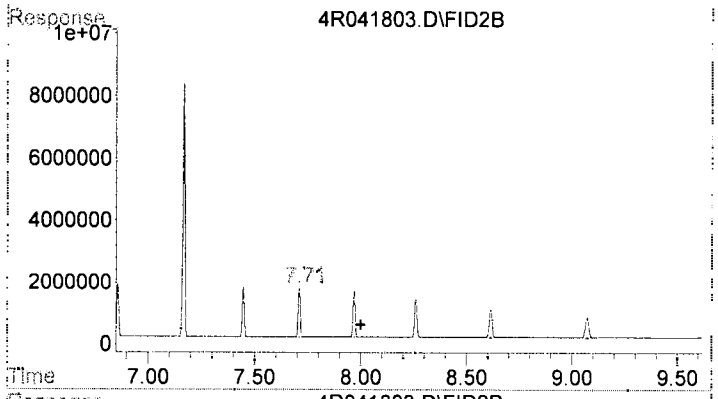
#7 Oil

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 227725877
Conc: 169.17 ug/ml m



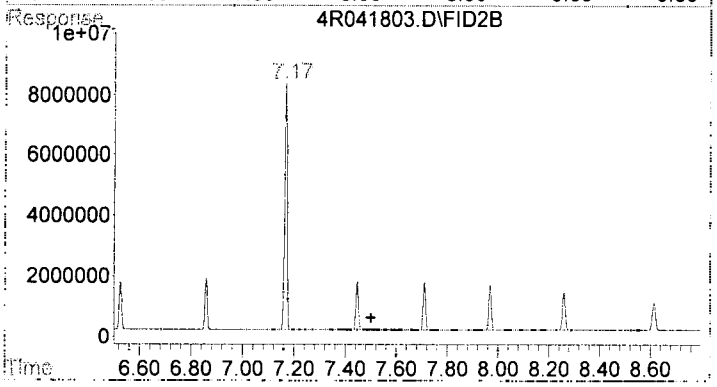
#8 RRO (C24-C40)

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

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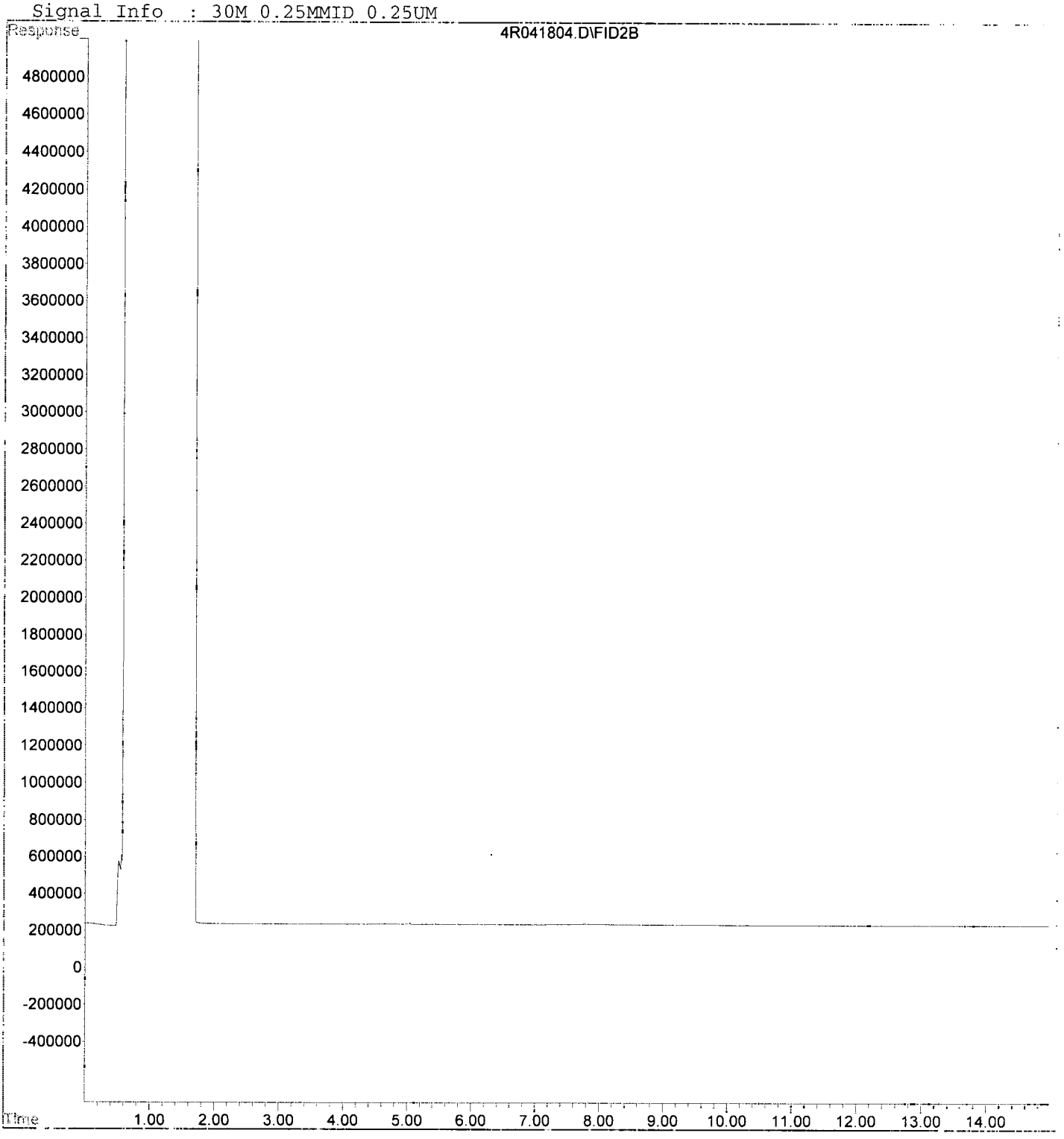
Quantitation Report (Not Reviewed)

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

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

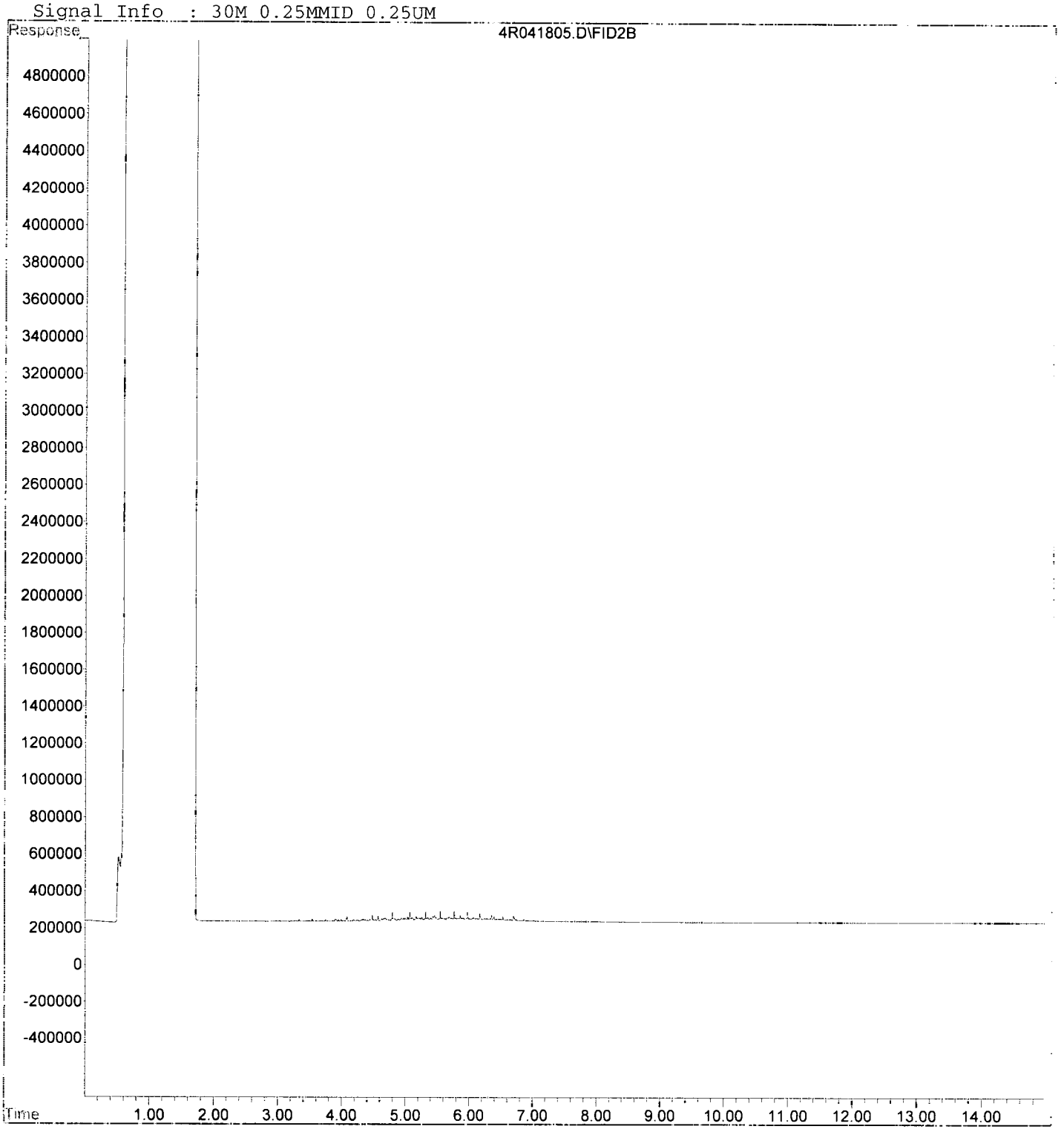
4R041805.D 4R90406D.M Fri Apr 19 14:30:32 2019 SV-GCMS3 Page 1

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

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

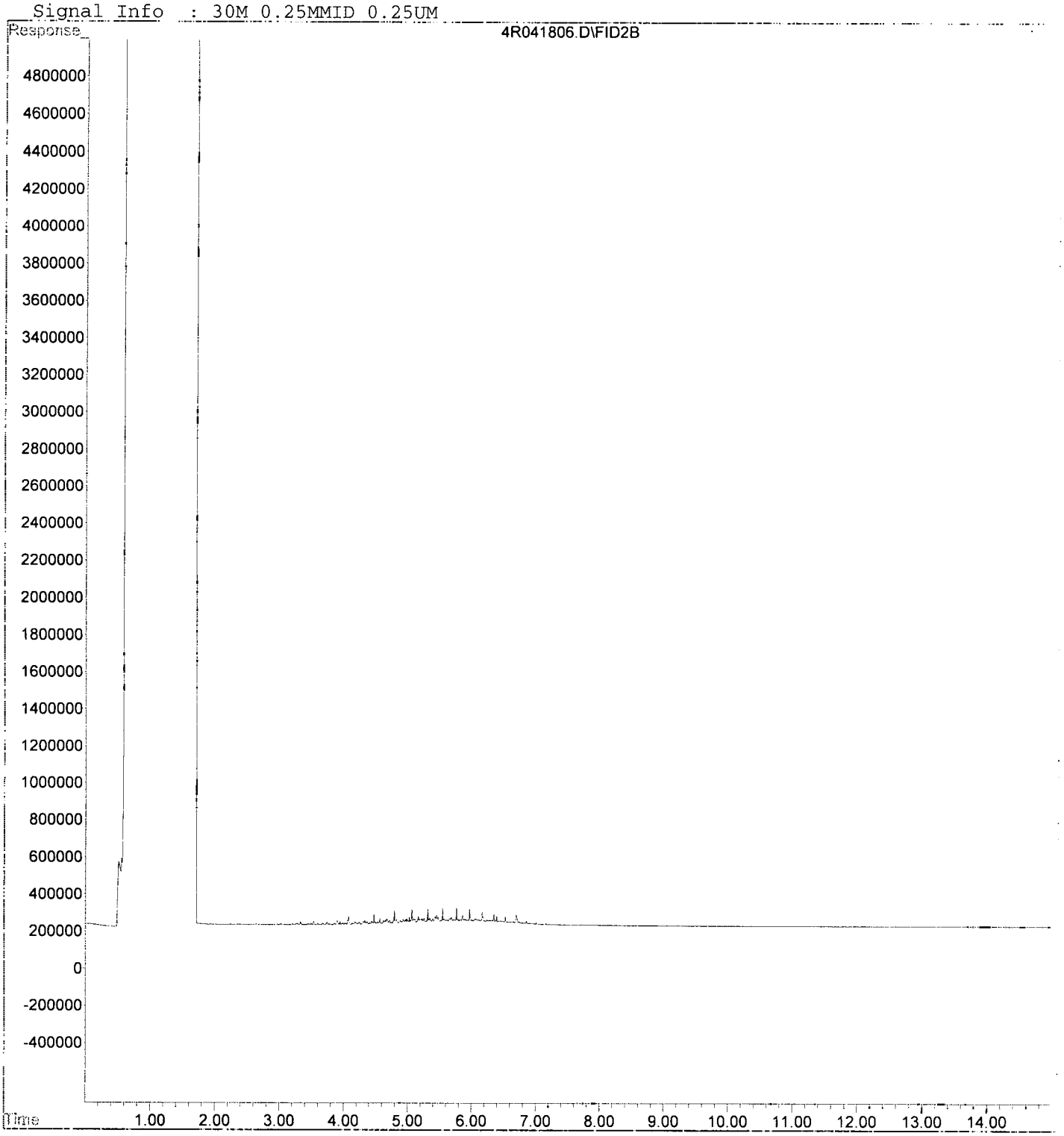
4R041806.D 4R90406D.M Fri Apr 19 14:30:33 2019 SV-GCMS3

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

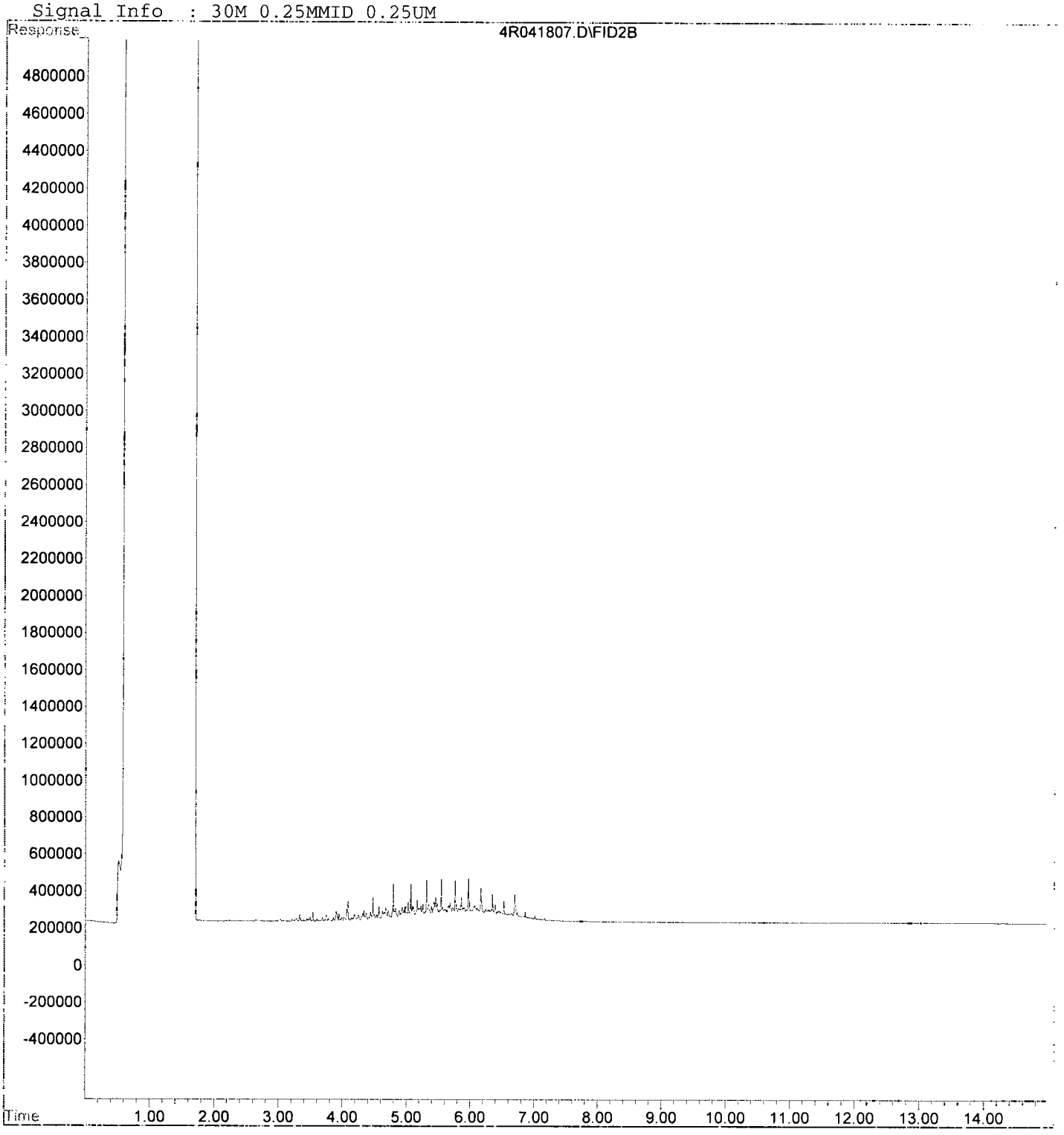
KGH 4/19/19

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

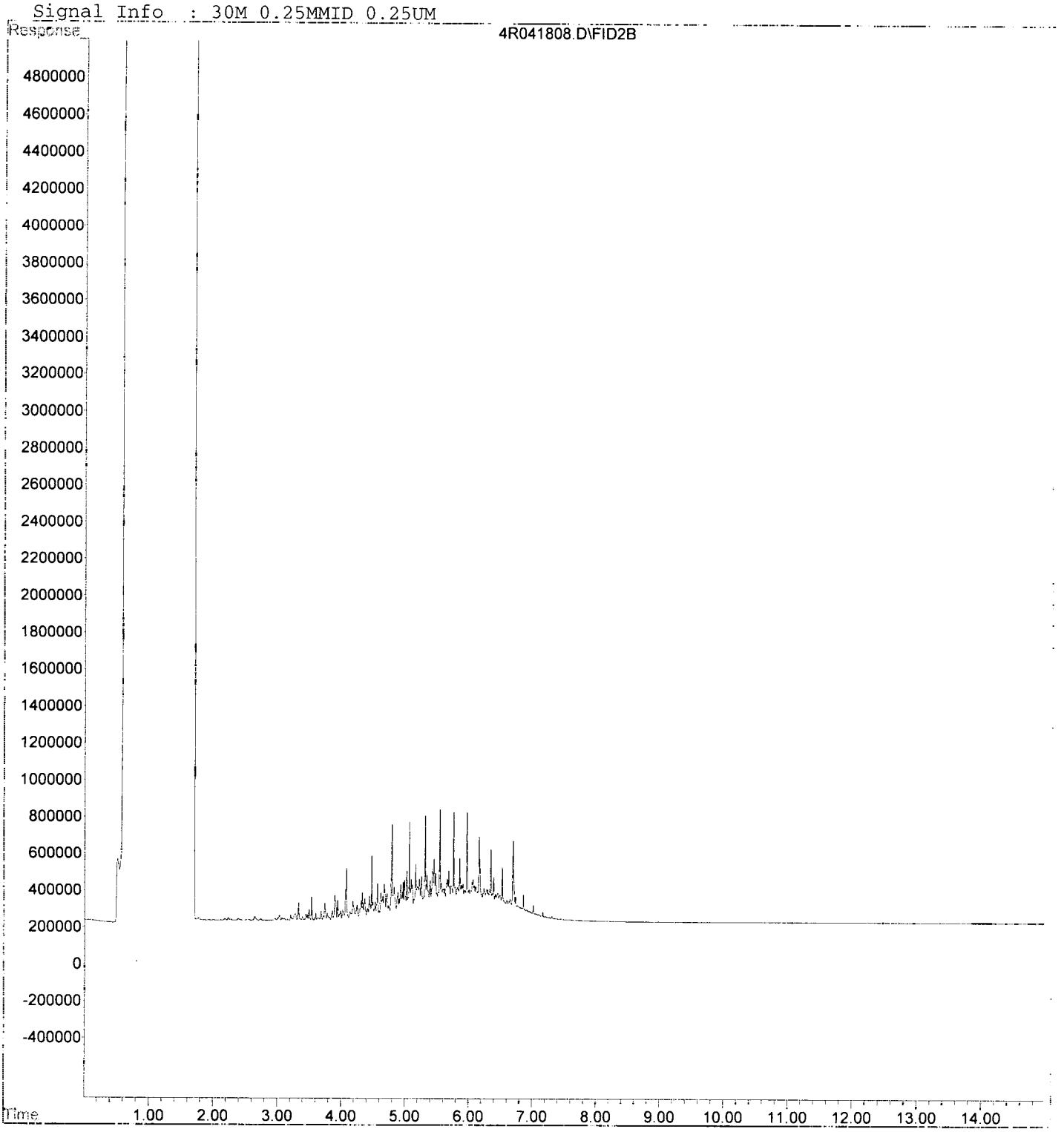
(f)=RT Delta > 1/2 Window (h)=Manual Int.

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.

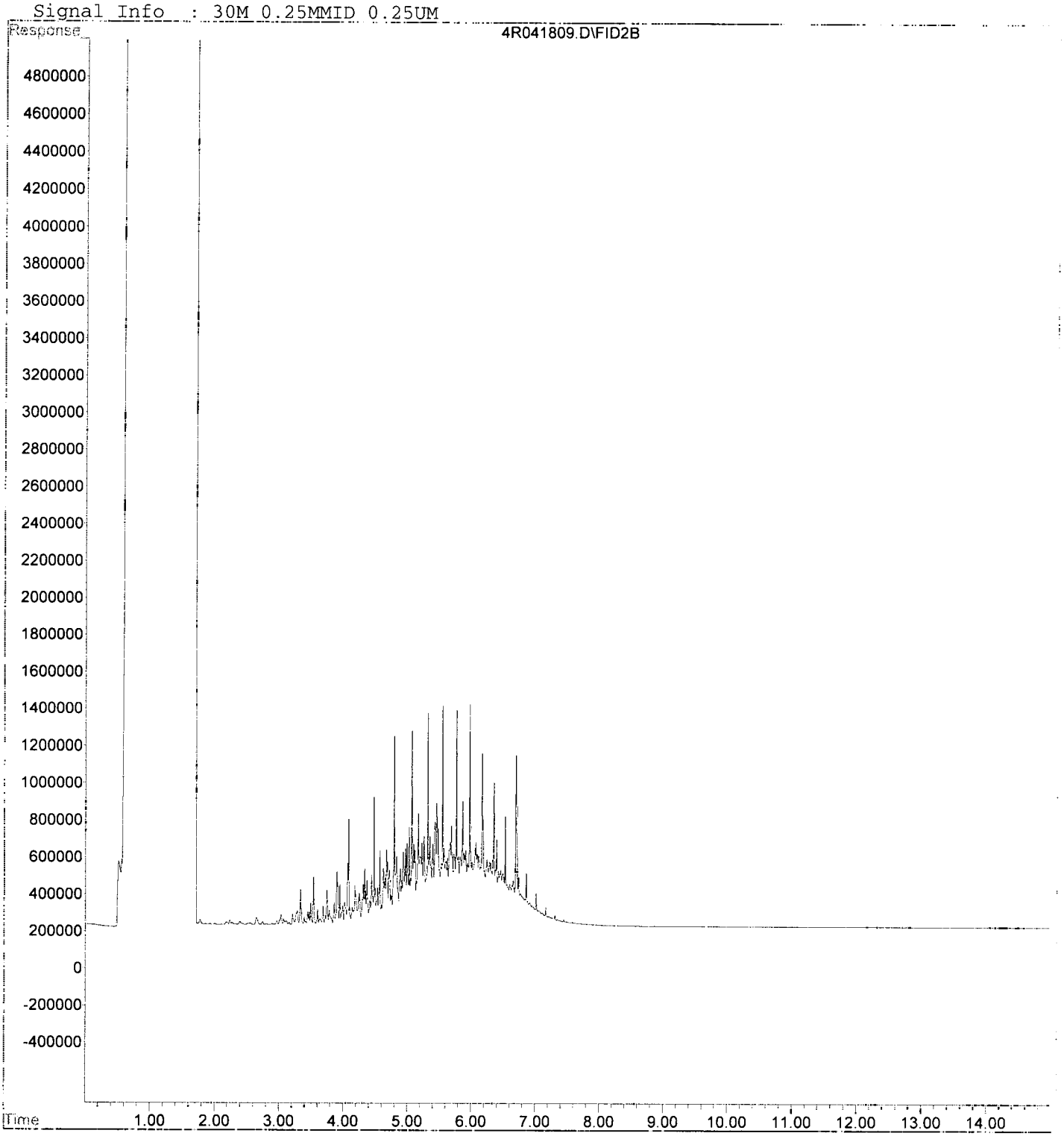
4R041809.D 4R90406D.M Fri Apr 19 14:30:35 2019 SV-GCMS3

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

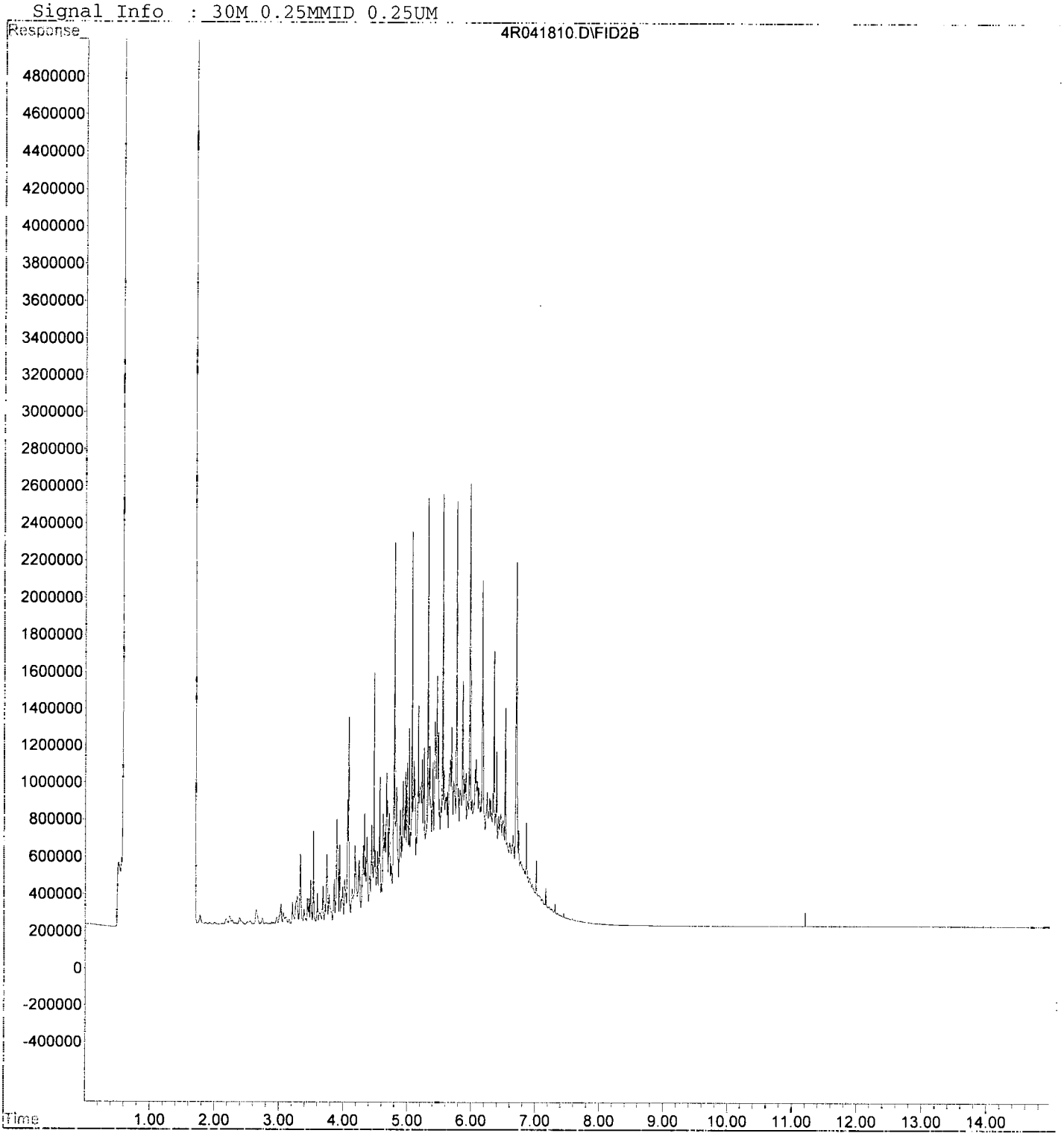
KEH 4/19/19

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

KEH 4/19/19

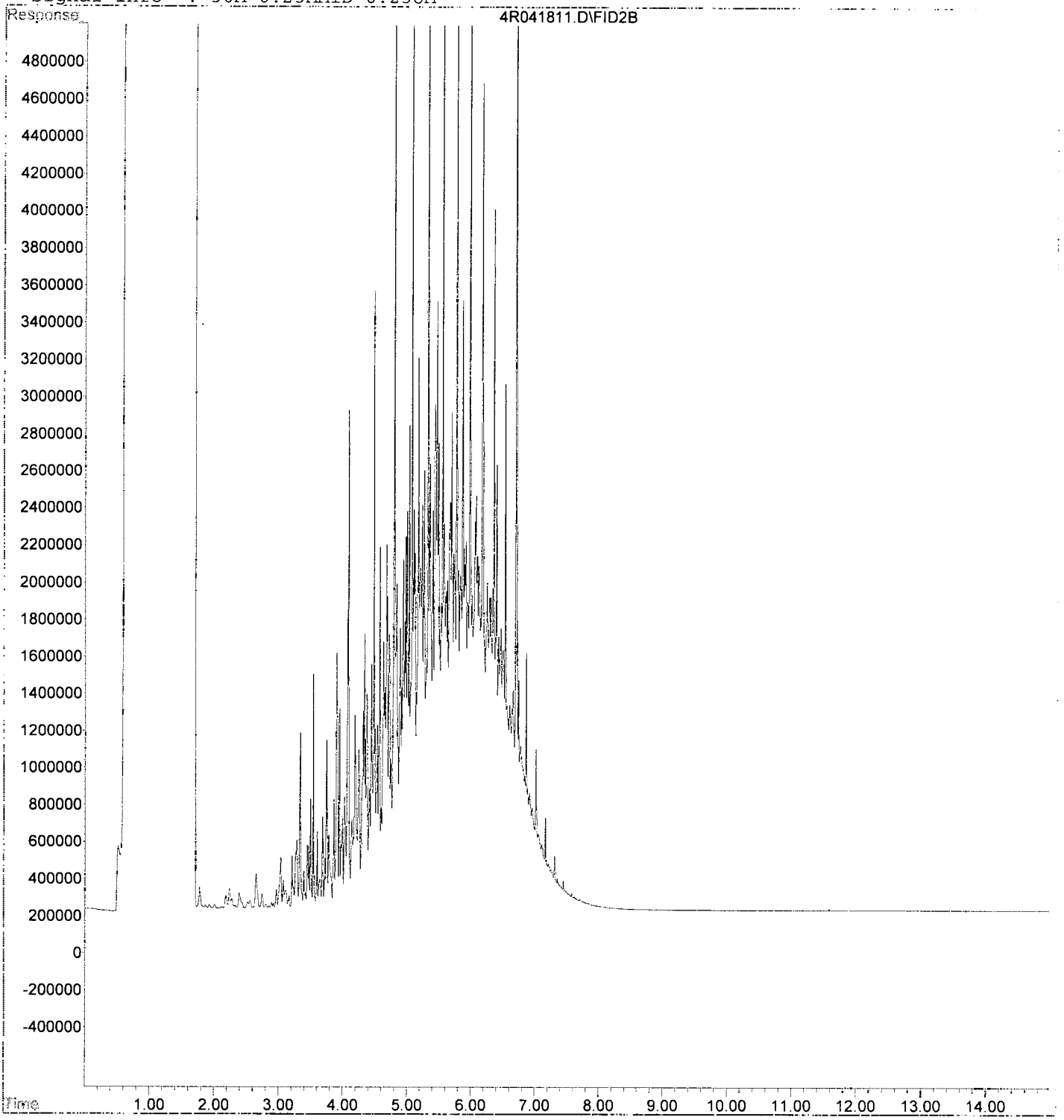
(f)=RT Delta > 1/2 Window (m)=manual int.
4R041811.D 4R90406D.M Fri Apr 19 14:30:36 2019 SV-GCMS3

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

✓

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

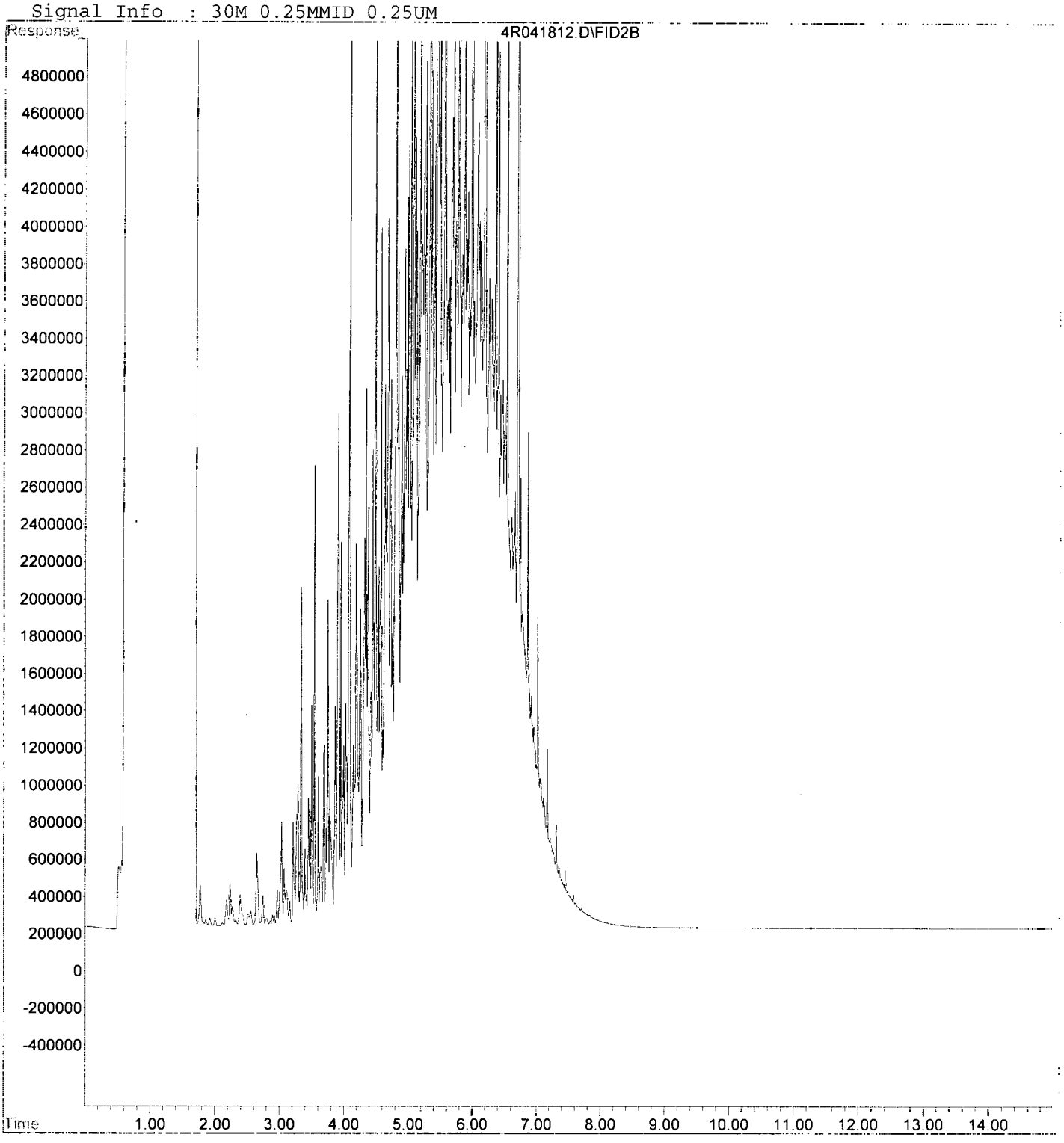
4R041812.D 4R90406D.M Fri Apr 19 14:30:37 2019 SV-GCMS3 Page 1

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

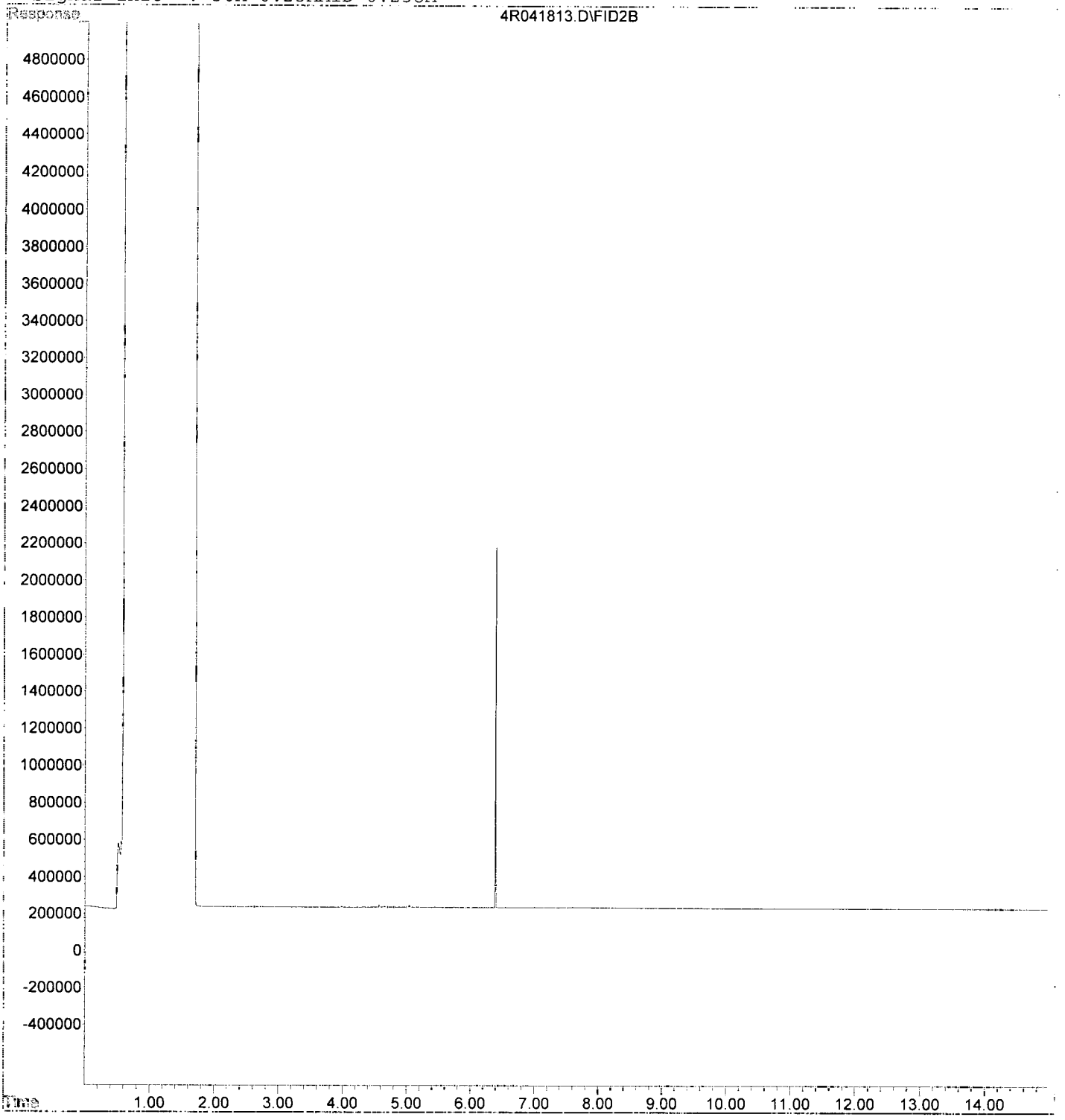
(f)=RT Delta > 1/2 Window (m)=manual int.
4R041813.D 4R90406D.M Fri Apr 19 14:30:37 2019 SV-GCMS3

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.

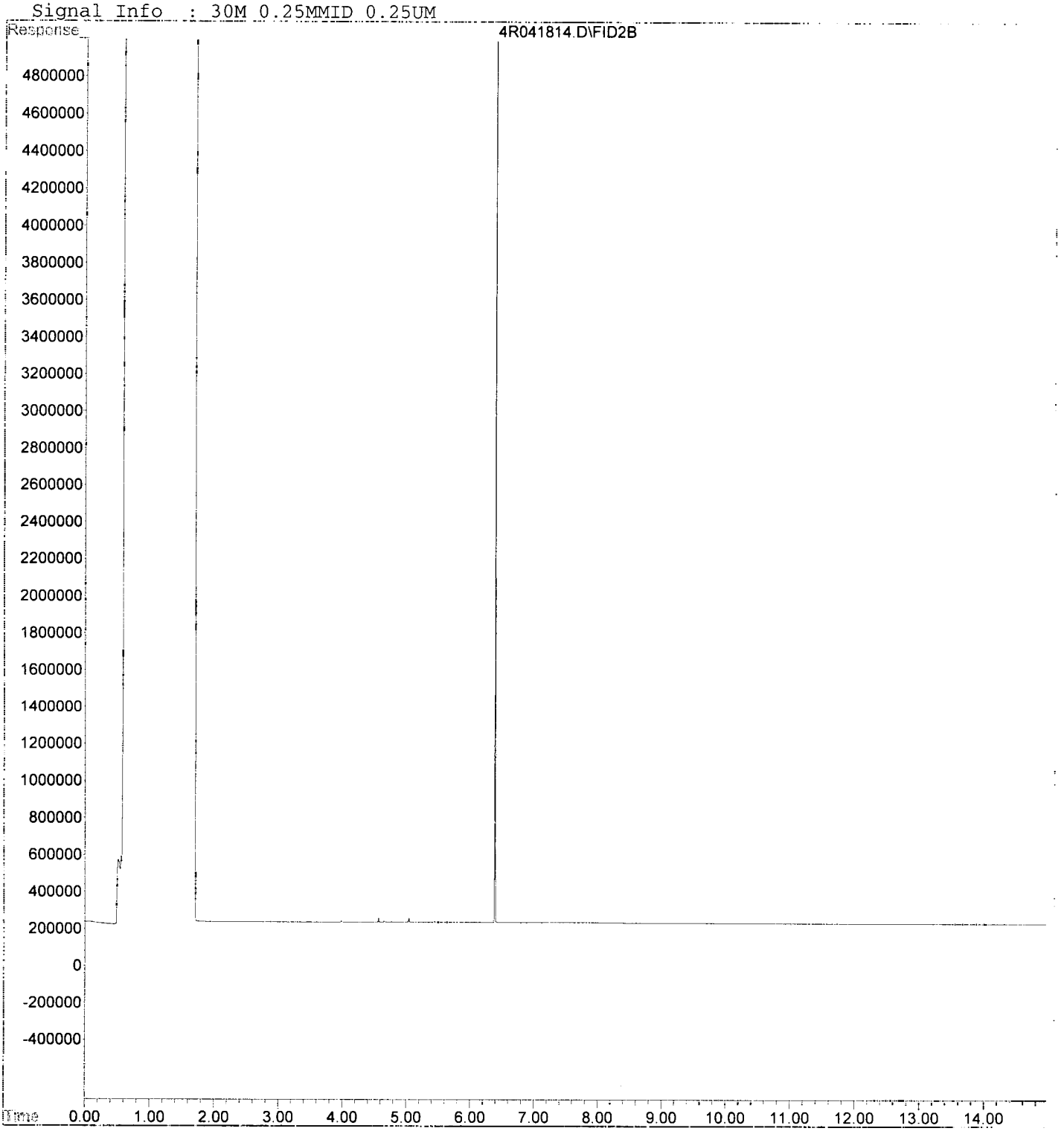
4R041814.D 4R90406D.M Fri Apr 19 14:30:38 2019 SV-GCMS3 Page 1

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

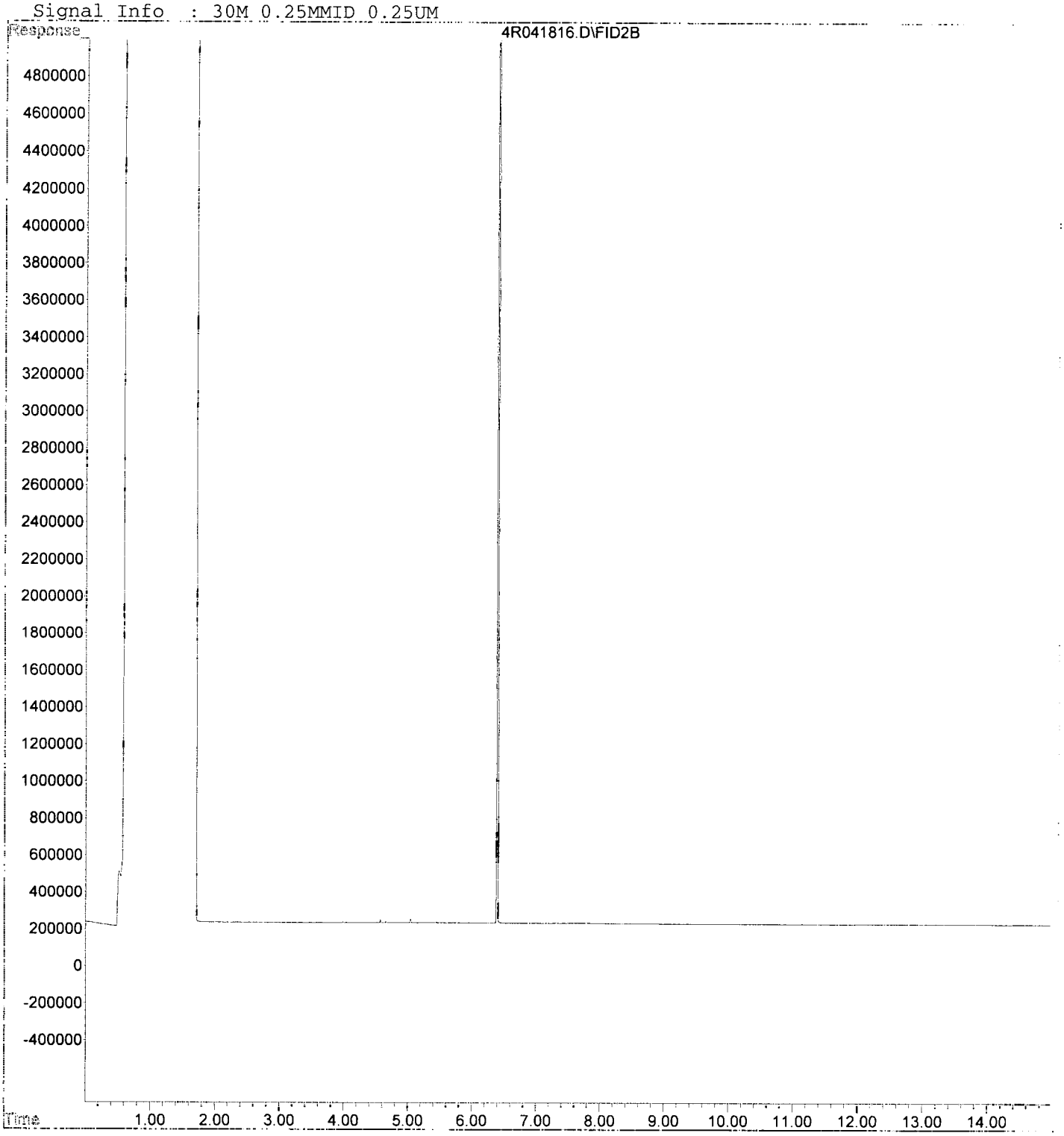
(f)=RT Delta > 1/2 Window (m) =manual int.

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

KAT 4/19/19

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

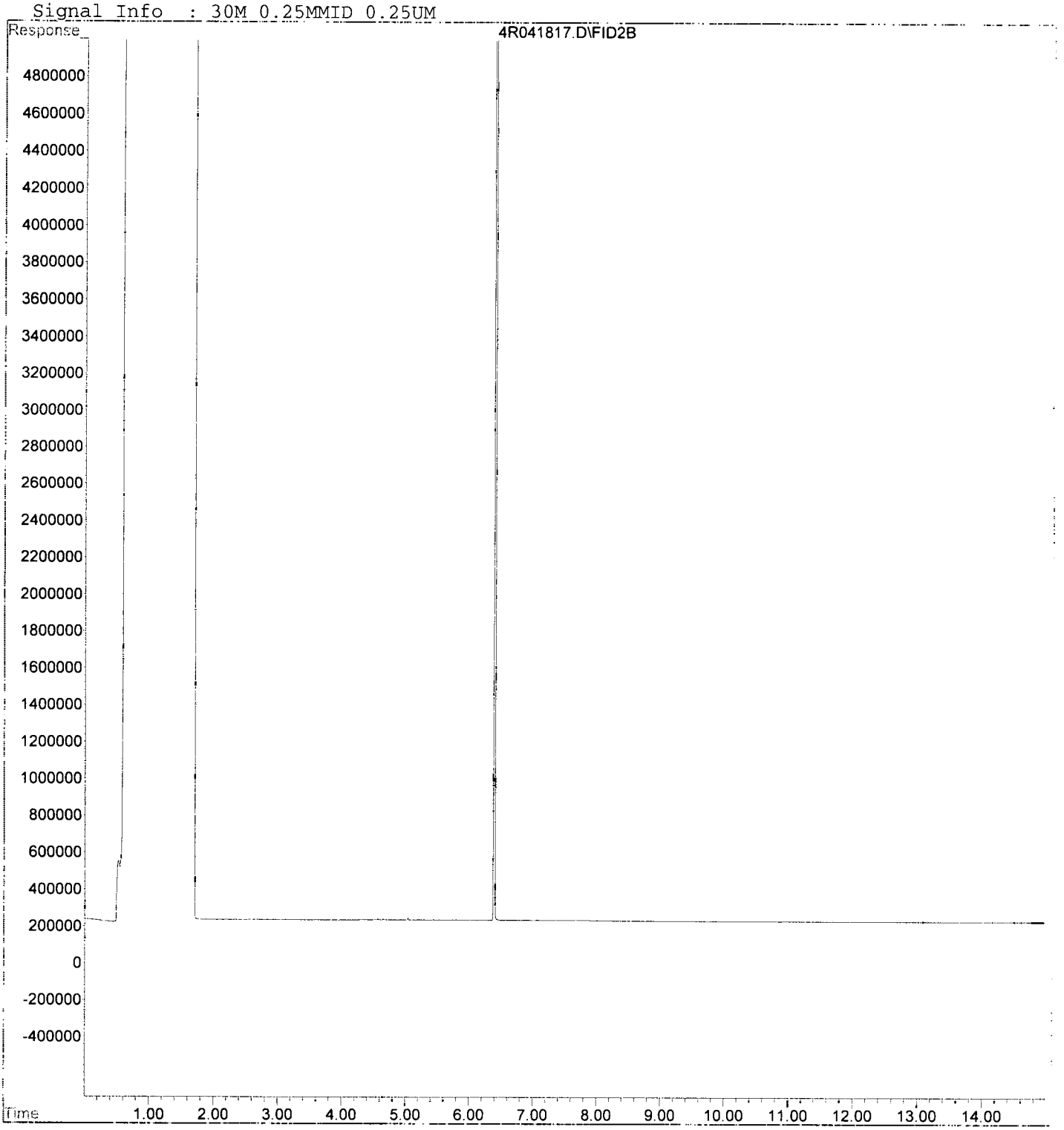
4R041817.D 4R90406D.M Fri Apr 19 14:30:39 2019 SV-GCMS3

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

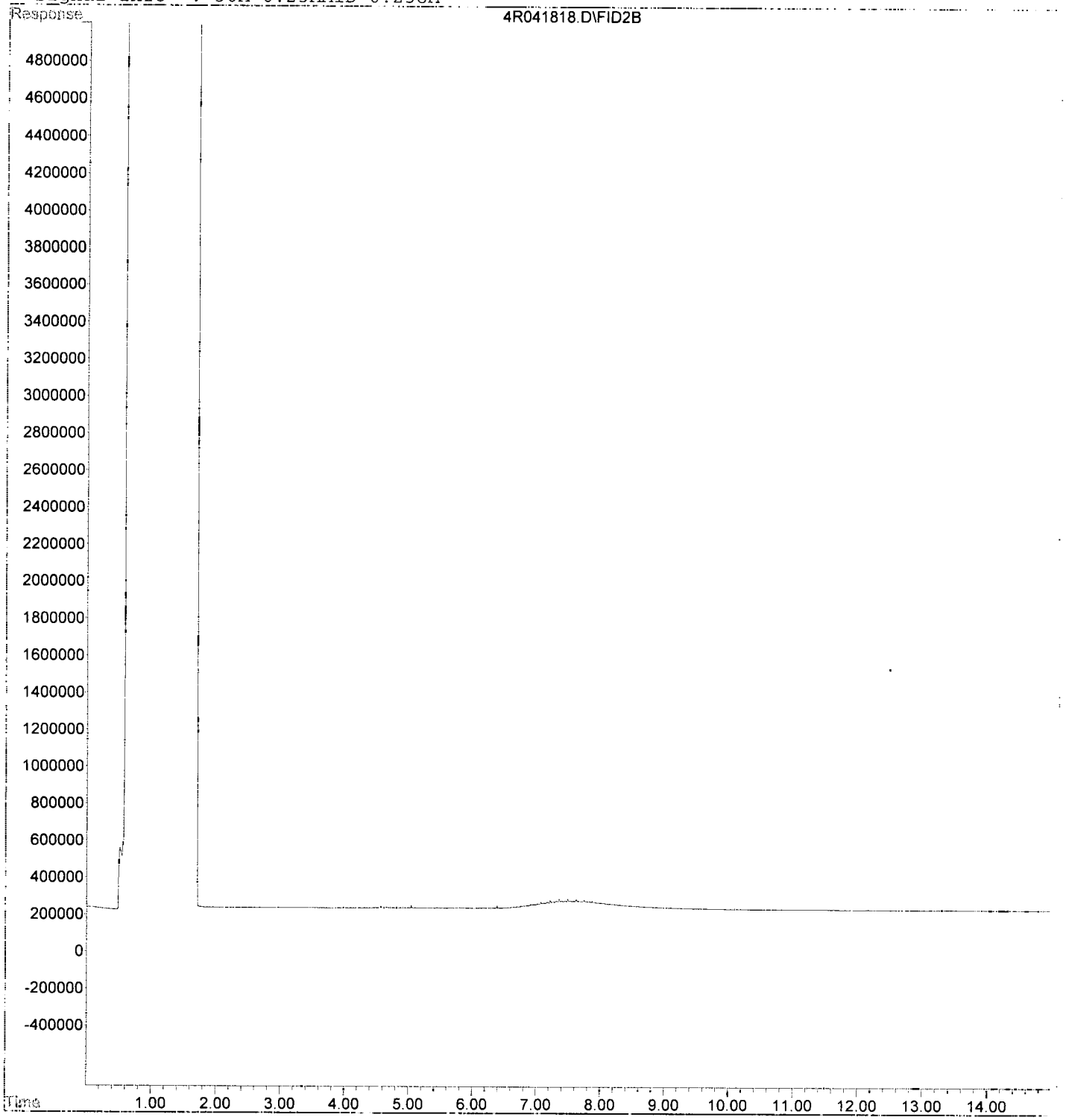
(f)=RT Delta > 1/2 window (m)=manual int.
4R041818.D 4R90406D.M Fri Apr 19 14:30:40 2019 SV-GCMS3

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.

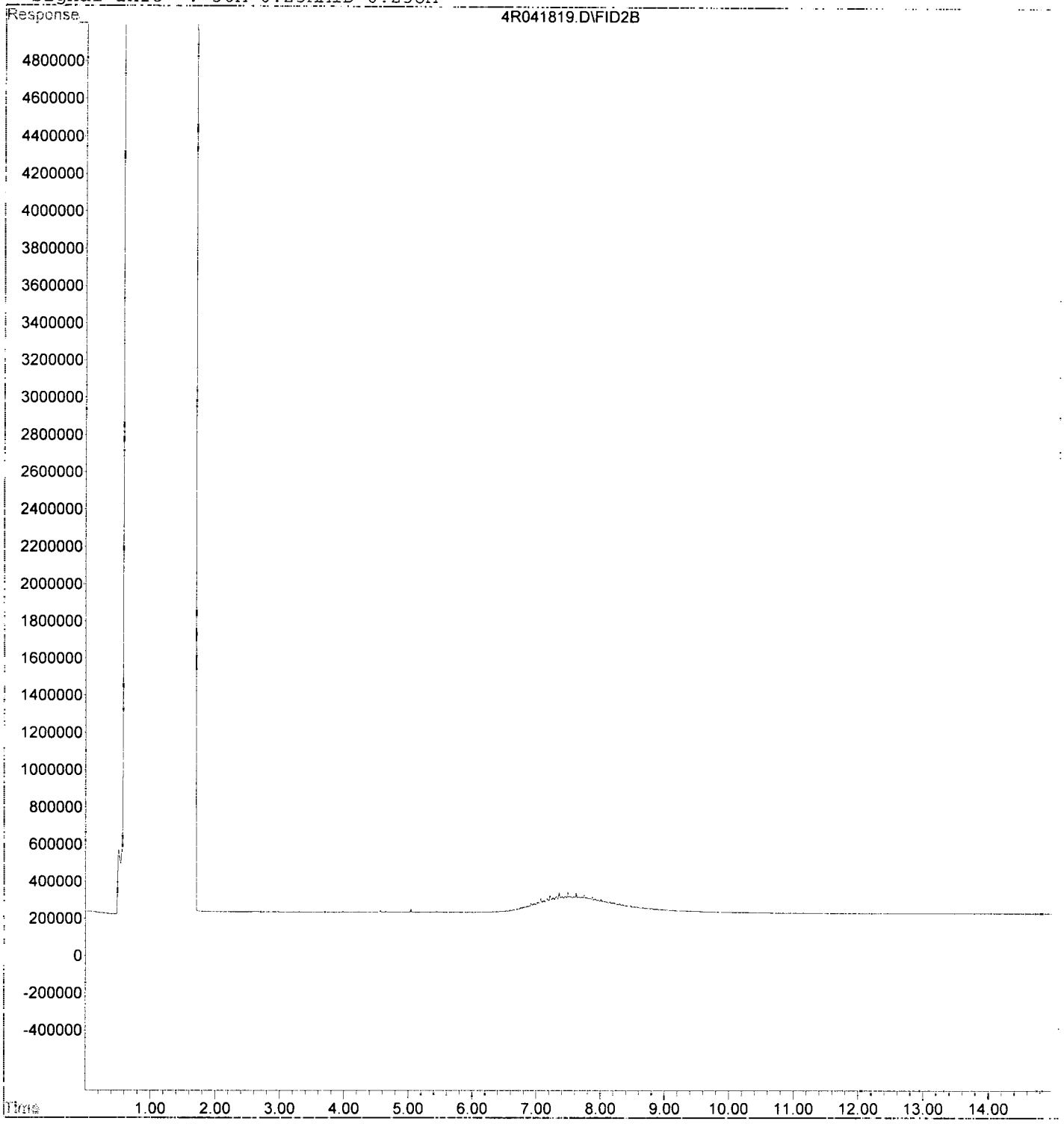
4R041819.D 4R90406D.M Fri Apr 19 14:30:41 2019 SV-GCMS3 Page 1

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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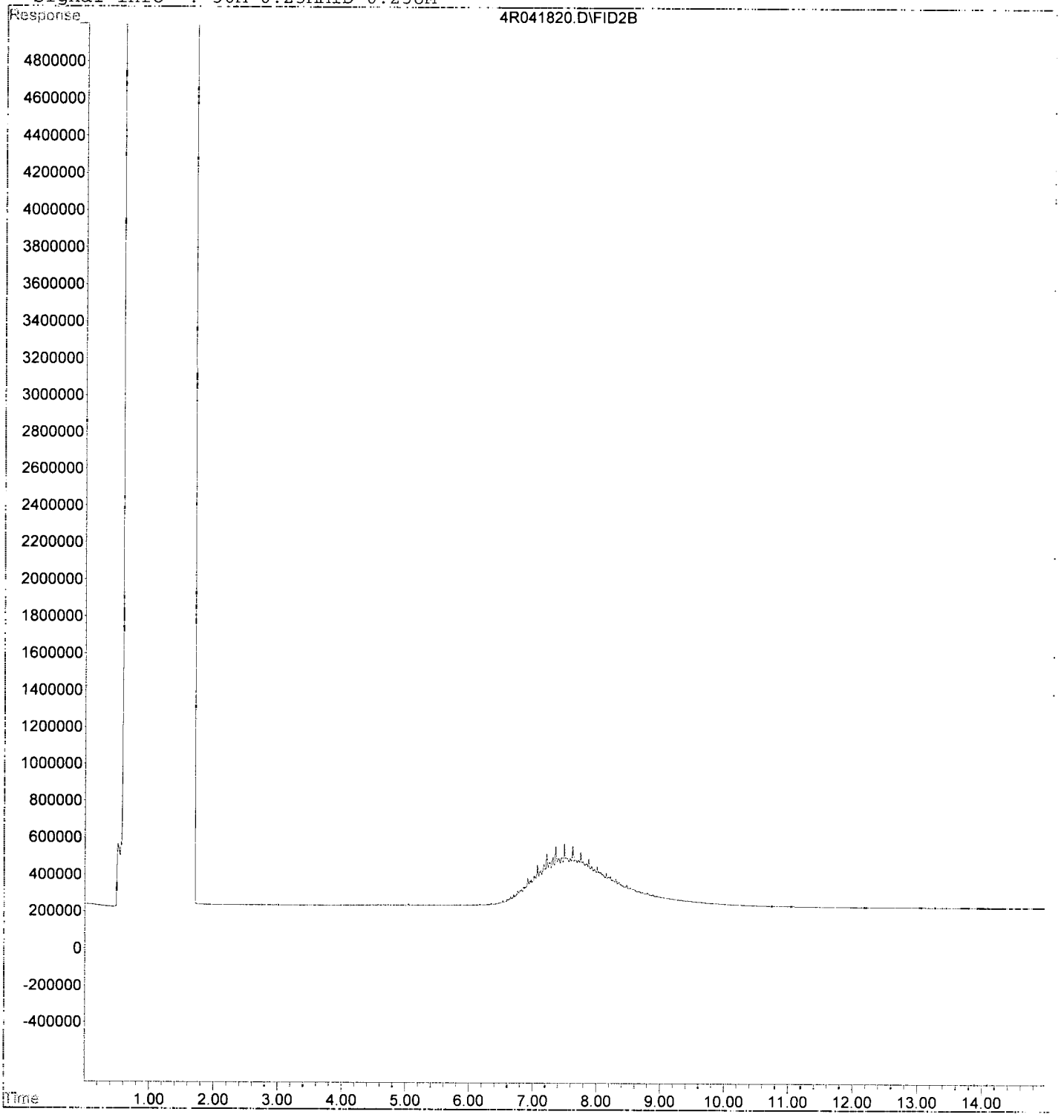
Quantitation Report (Not Reviewed)

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

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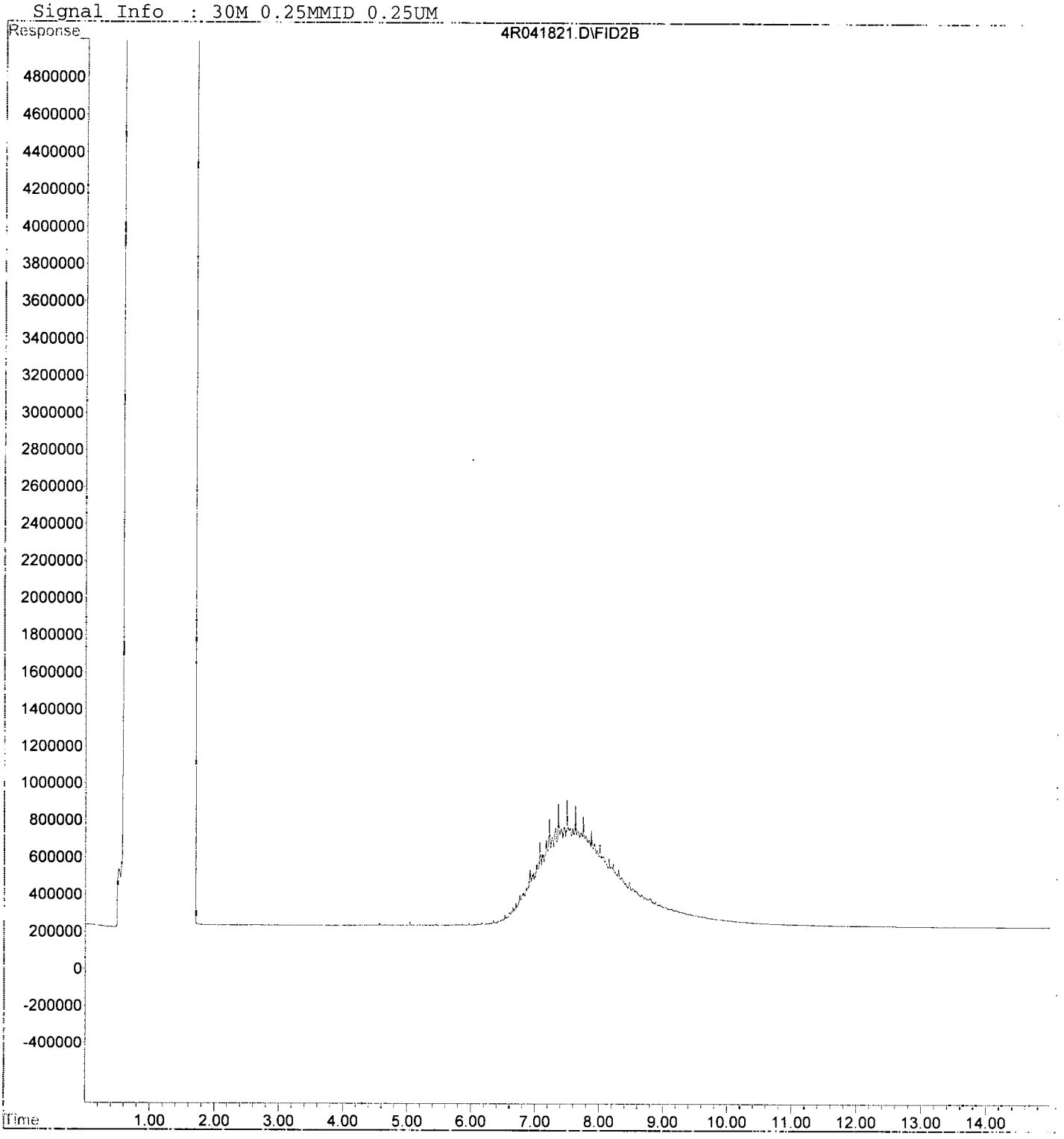
Quantitation Report (QT Reviewed)

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

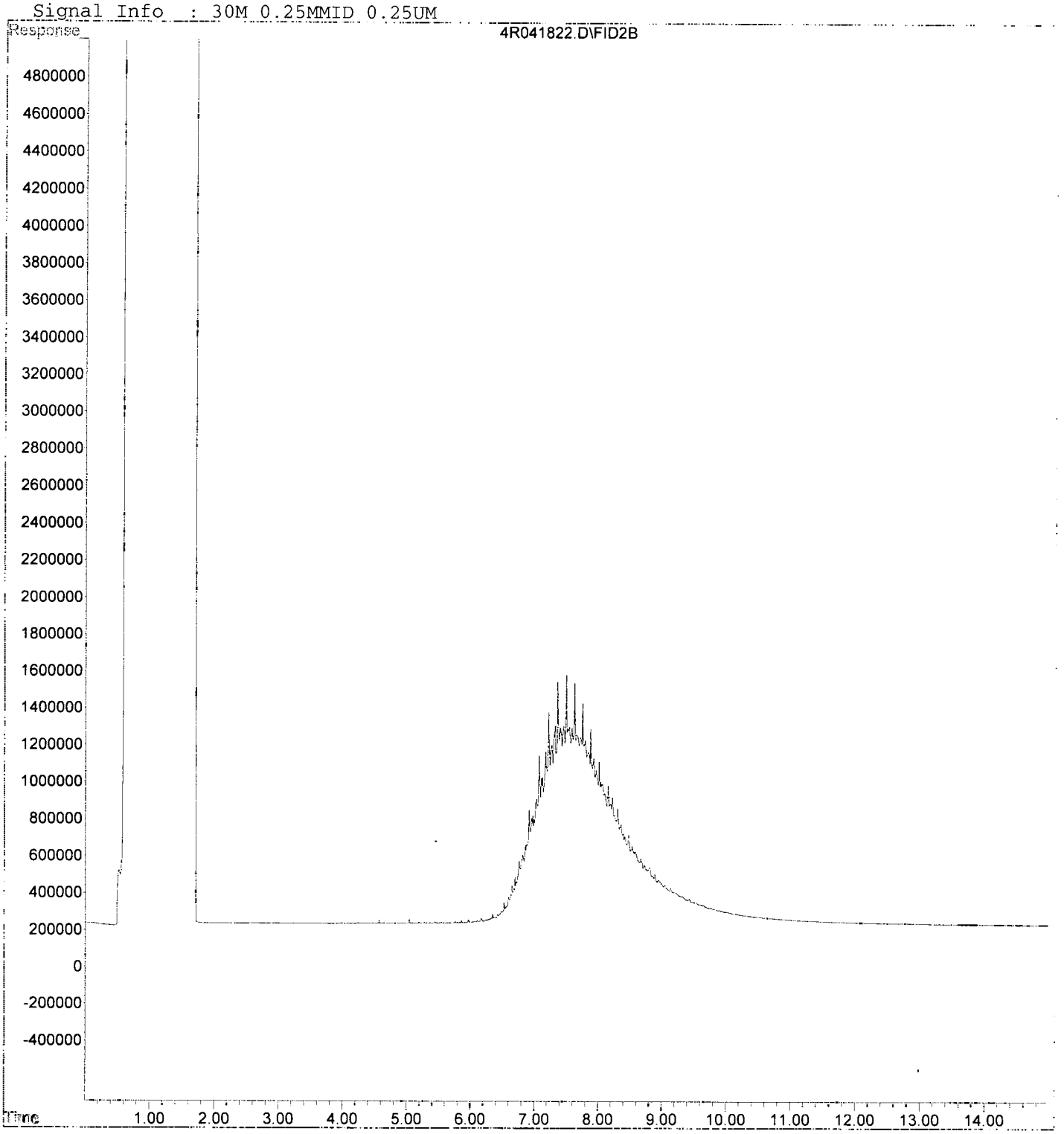
KEH 4/19/19

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.

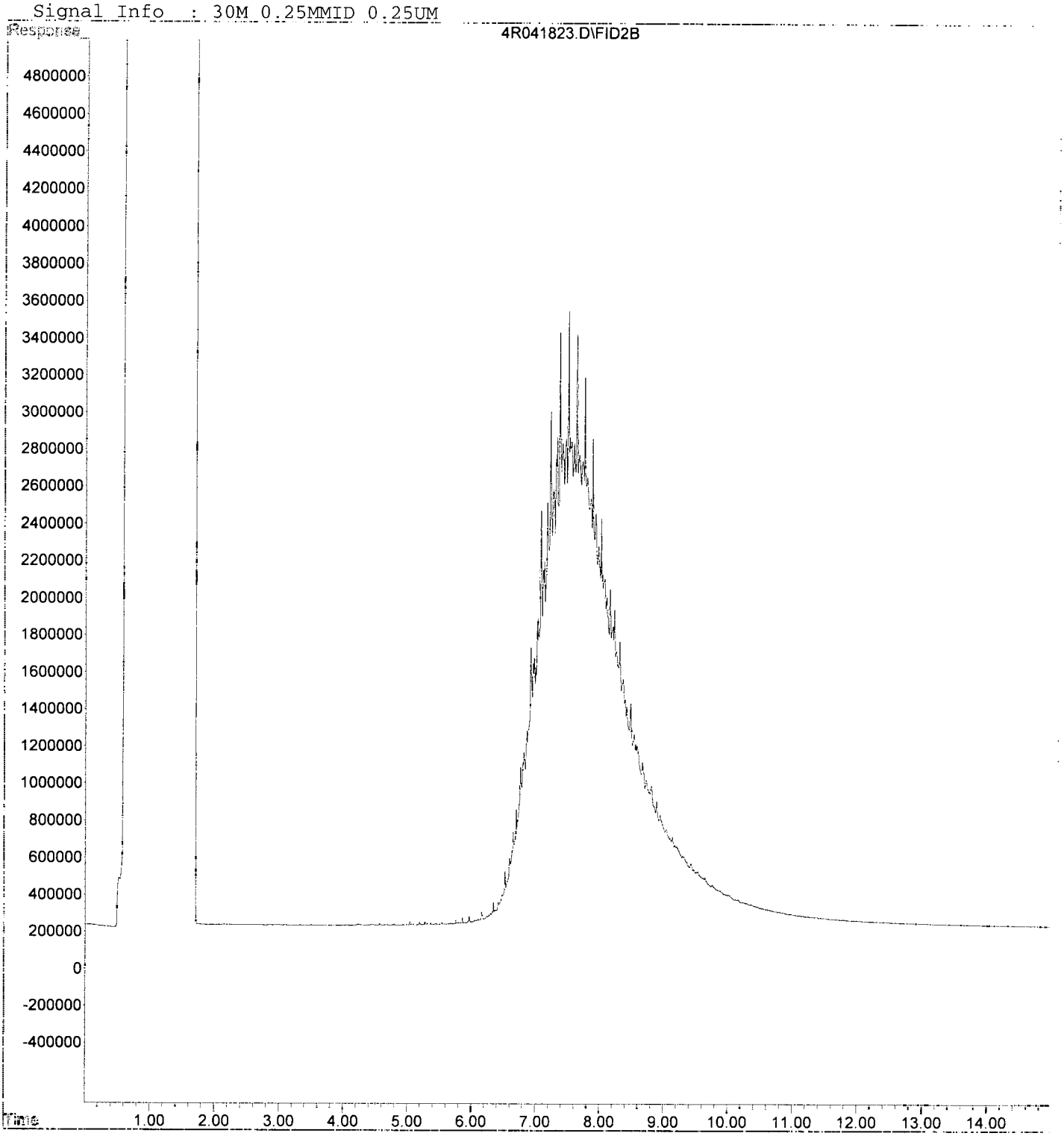
4R041823.D 4R90406D.M Fri Apr 19 14:30:43 2019 SV-GCMS3 Page 1

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

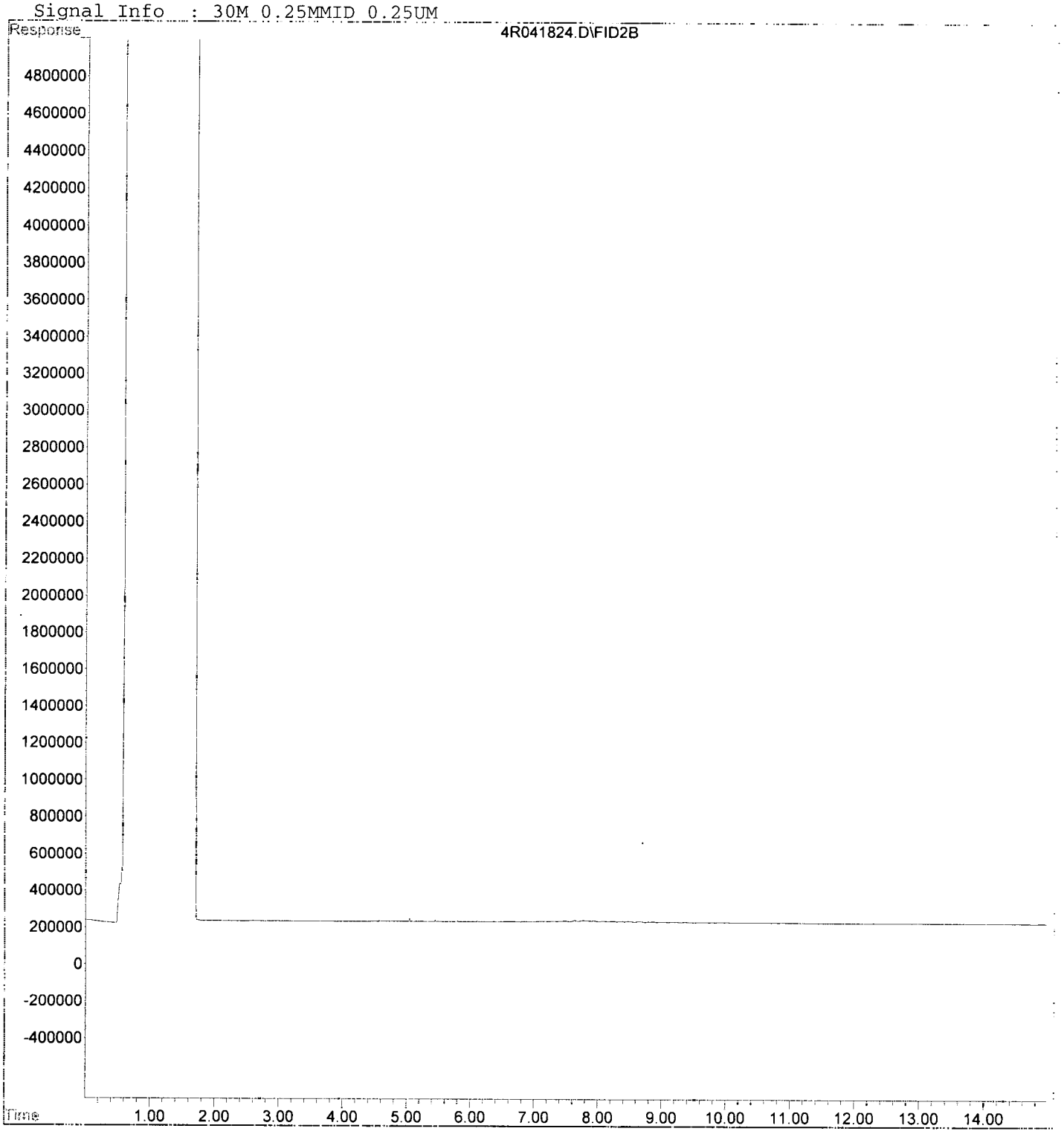
(f)=RT Delta > 1/2 Window (m)=manual int.

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

KAK 4/19/19

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

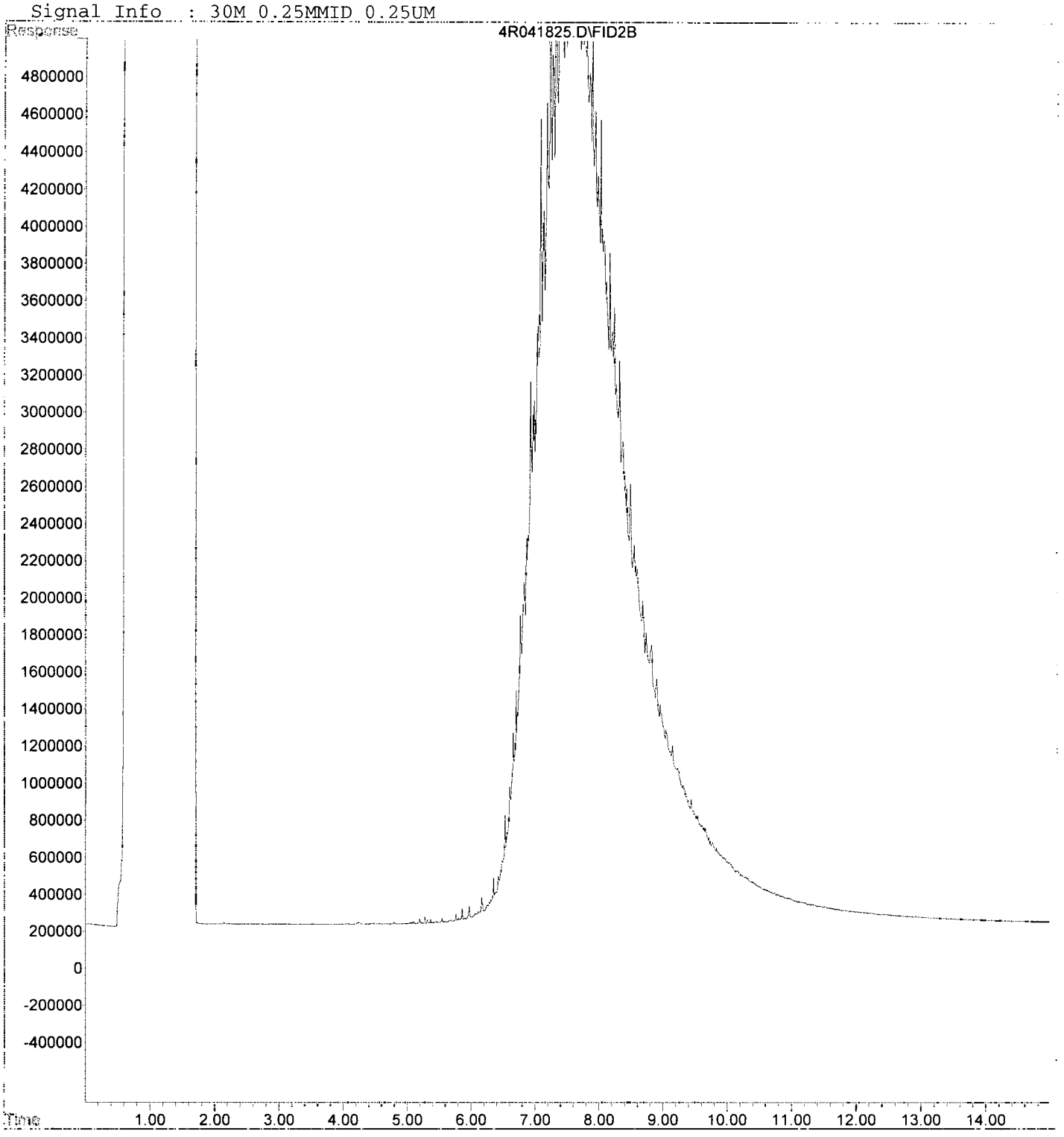
4R041825.D 4R90406D.M Fri Apr 19 14:30:44 2019 SV-GCMS3

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

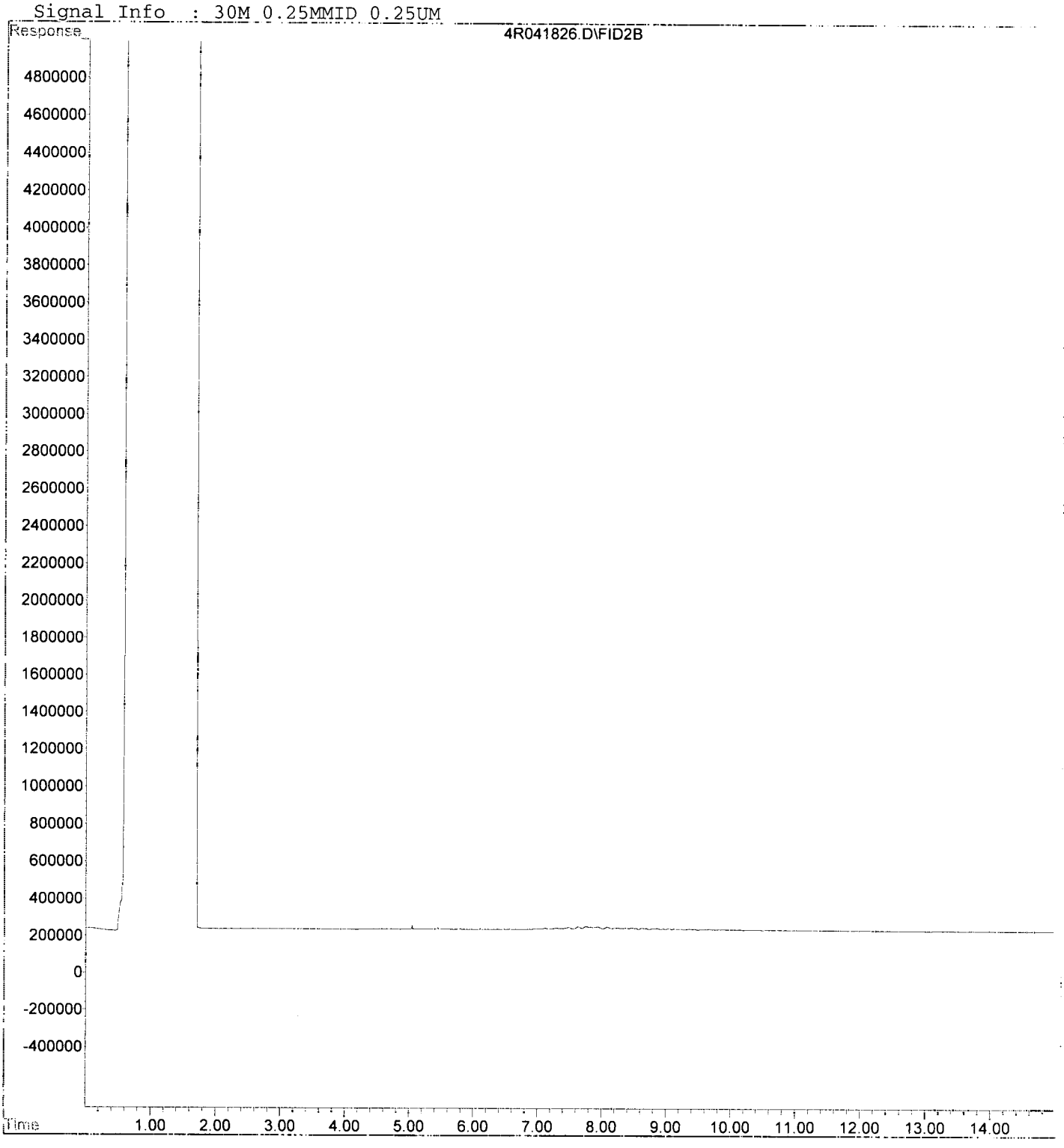
(f)=RT Delta > 1/2 Window (m) = manual int.

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

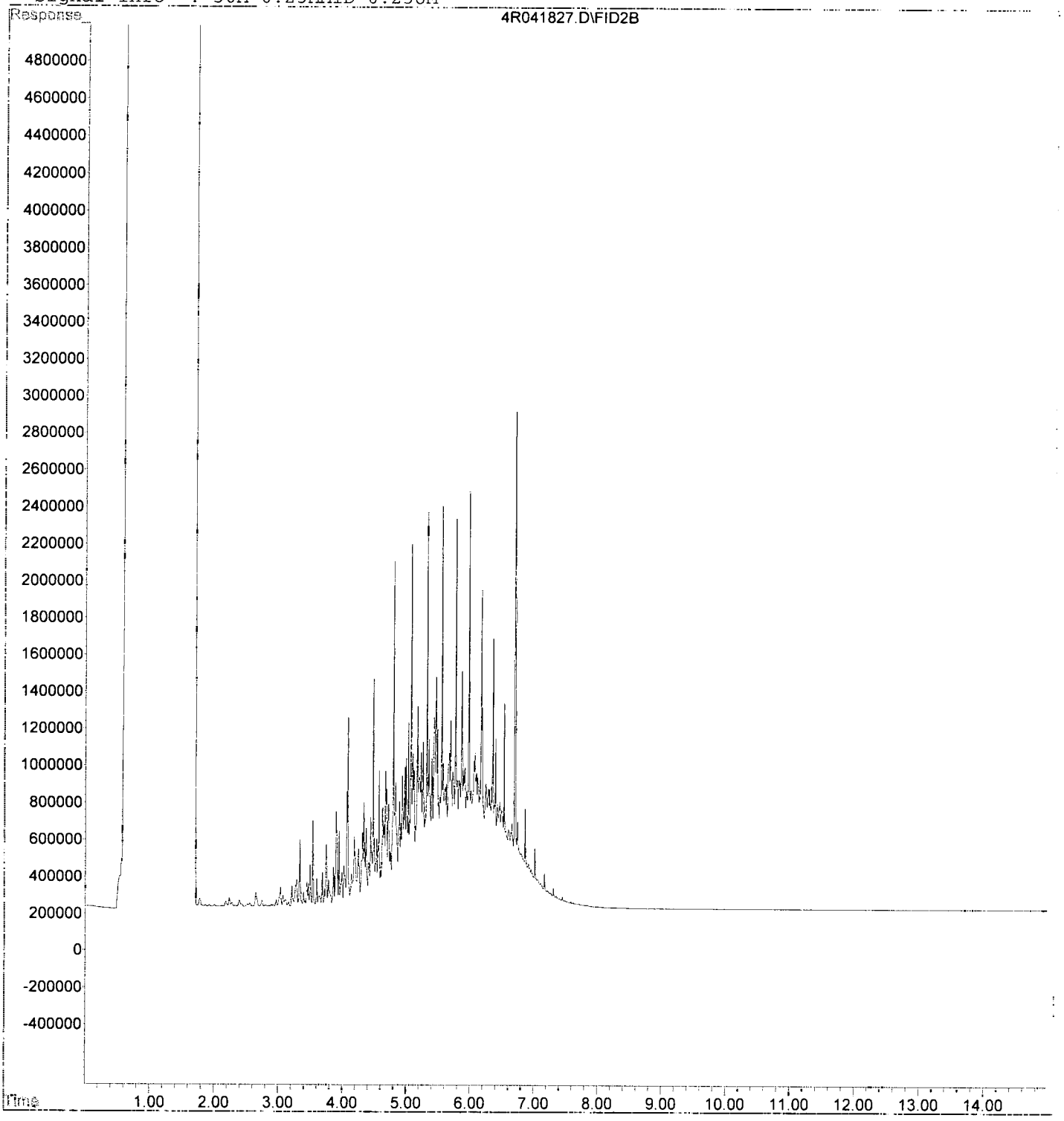
KEH 4/19/19

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

KH 4/19/19

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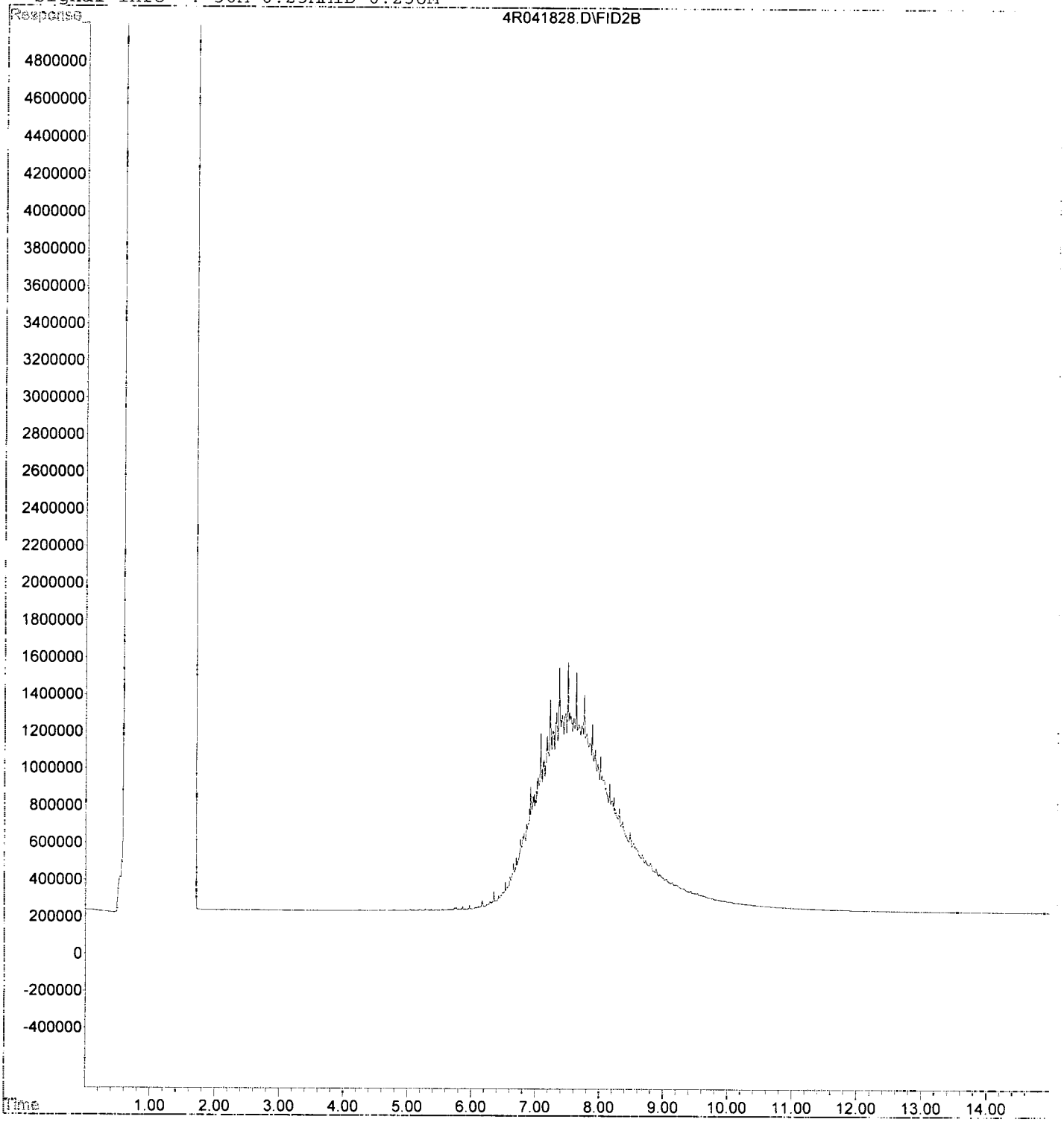
Quantitation Report (QT Reviewed)

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 (A9E0582-01RE1)

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

E Solid	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:
		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	~~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	@		Y N	

acc 5/21/19

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

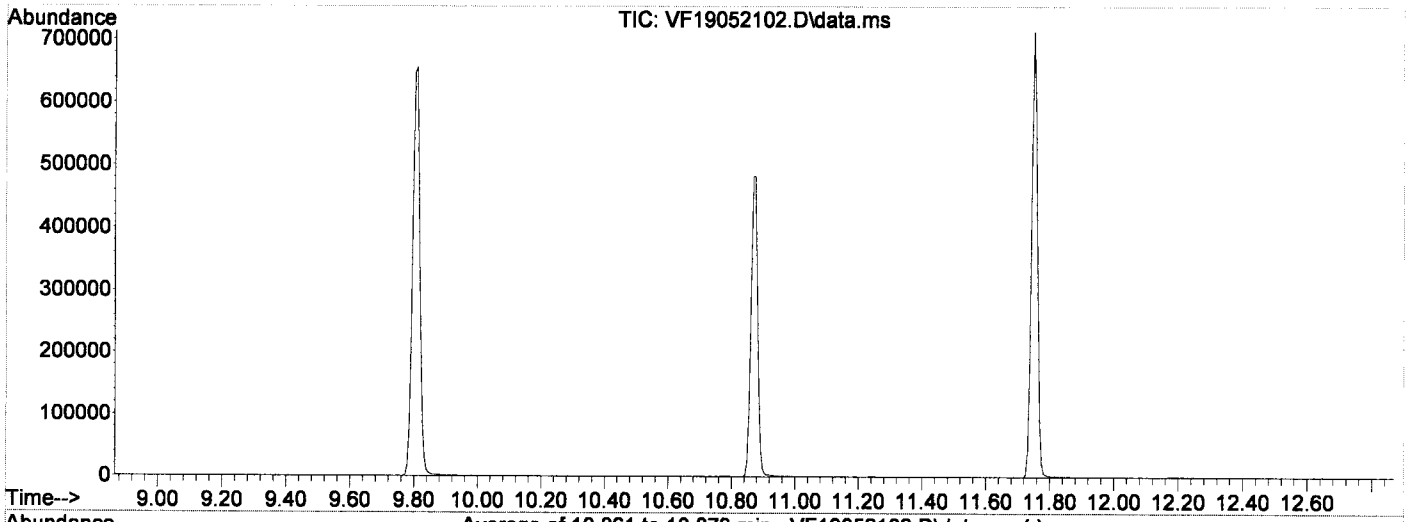
Data Reviewed By: 5/22/19

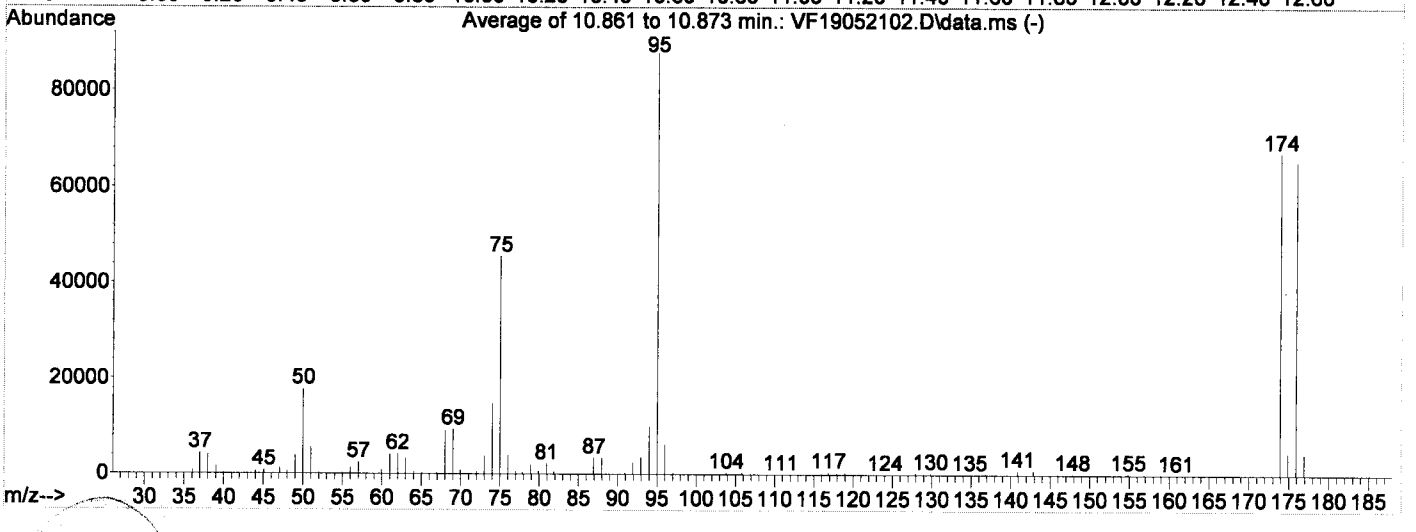
Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

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

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

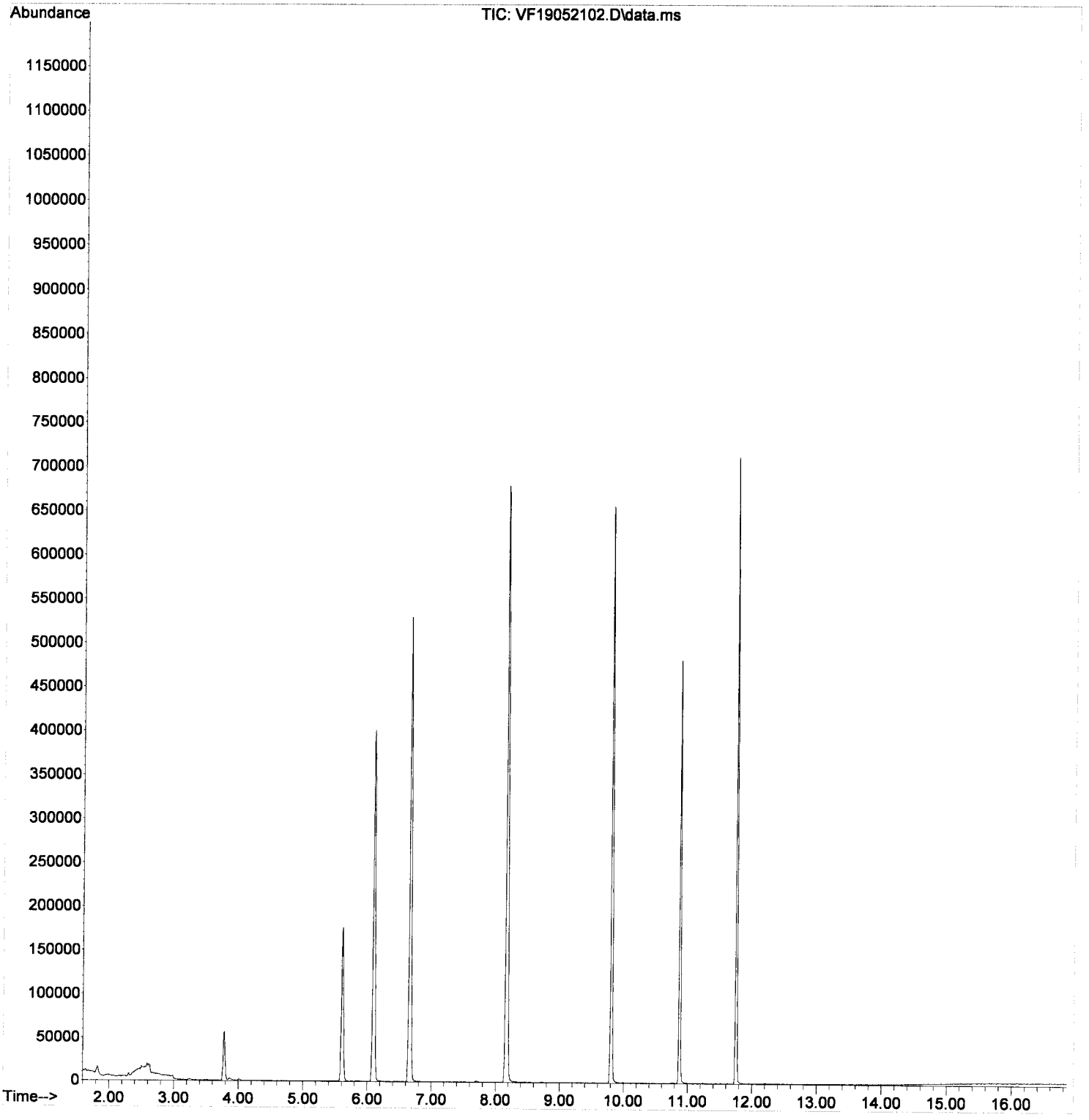
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.098	168	305021	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.809	117	349527	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	148454	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (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

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

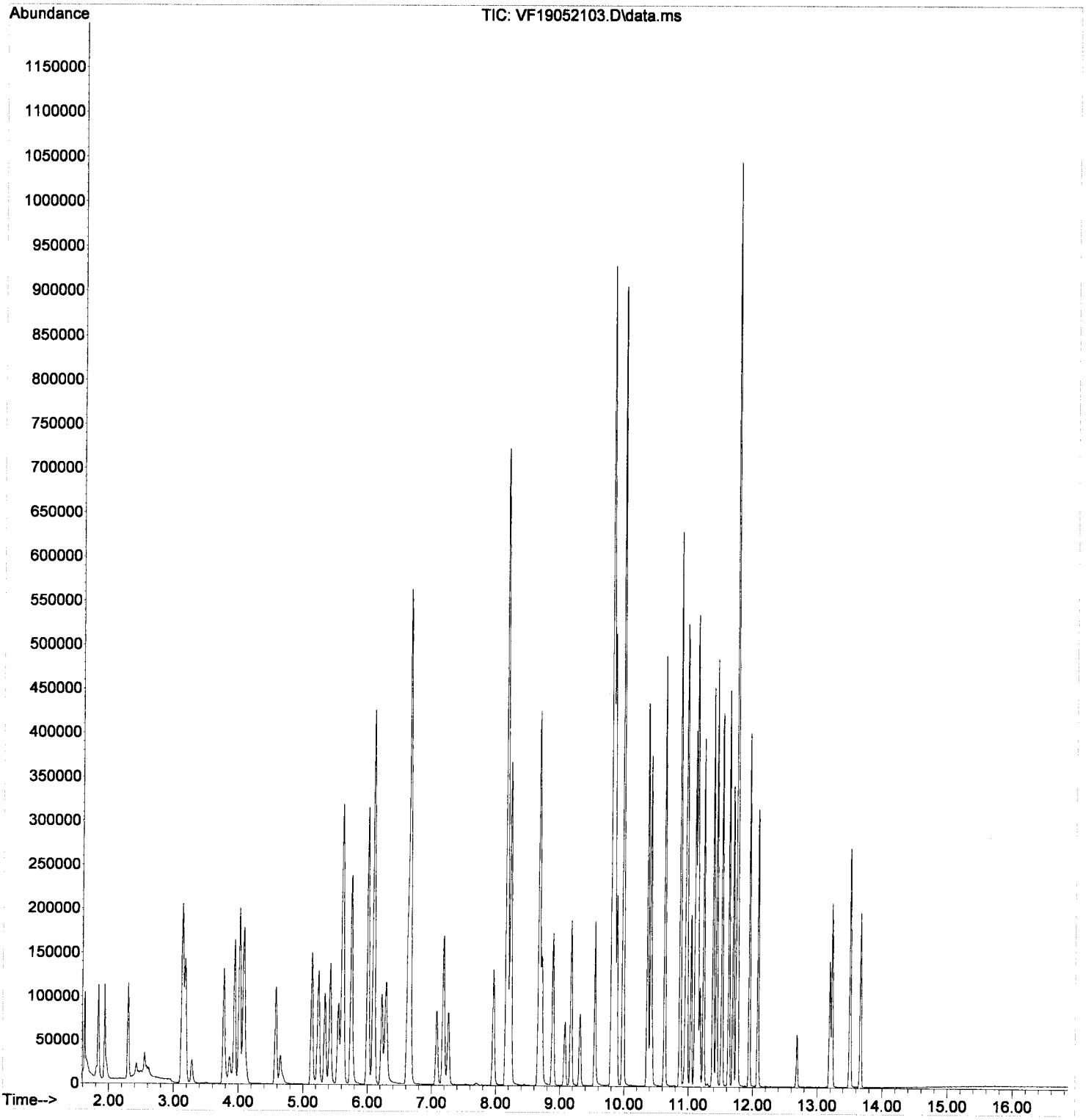
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	186934	19.15	ug/L		94
50) Ethylbenzene	9.842	91	323004	19.81	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.879	131	52085	23.27	ug/L		97
52) m,p-Xylenes (2)	9.982	91	483768	42.36	ug/L		98
53) o-Xylene	10.366	91	235140	21.39	ug/L		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

5/26/19

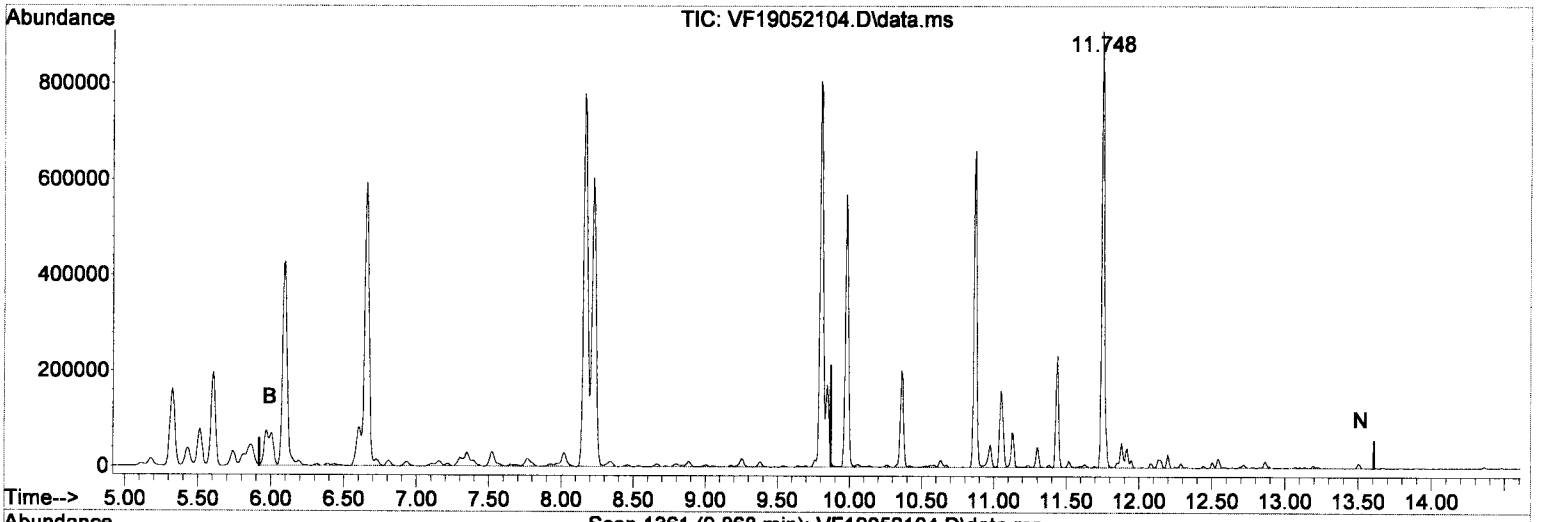
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	324051	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	1246532	48.79	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	906254	57.60	ug/L	0.00
4) Chlorobenzene-d5 (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	-

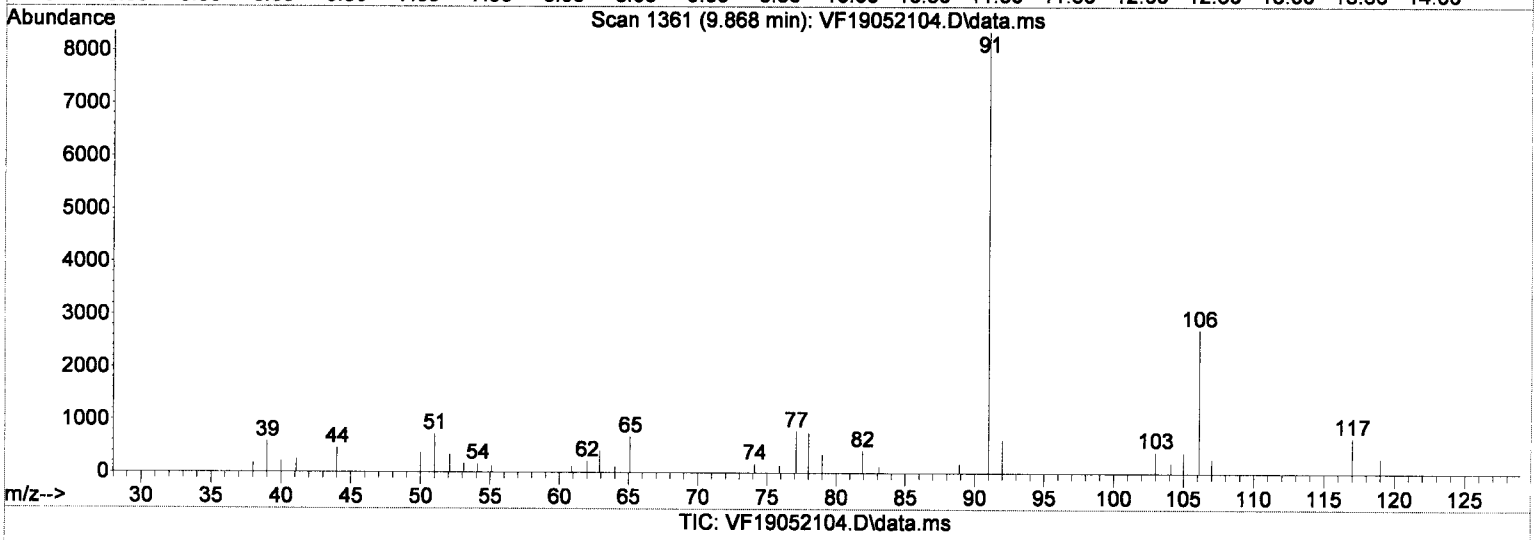
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

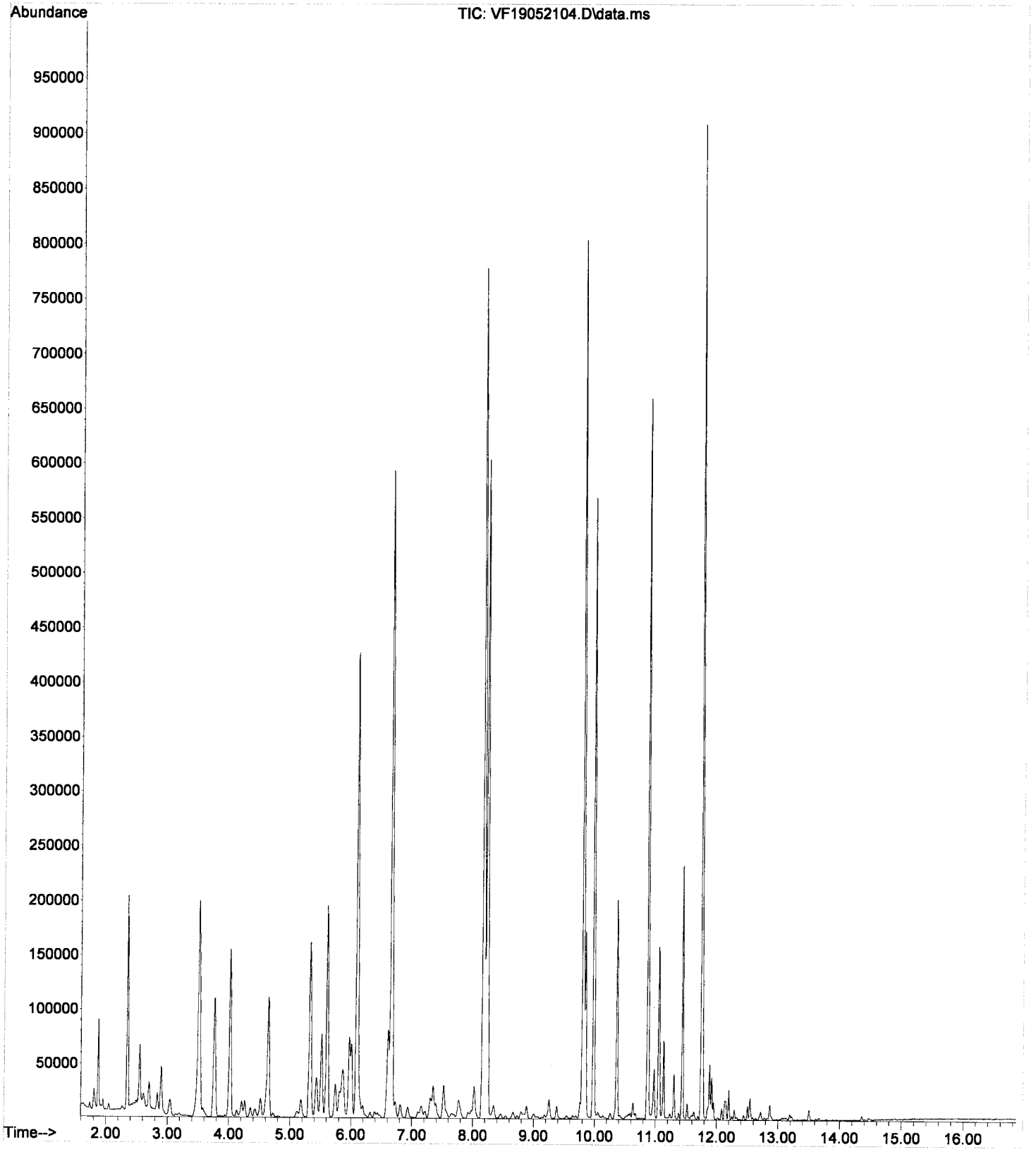
(8) NWTPH-Gx (H)

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

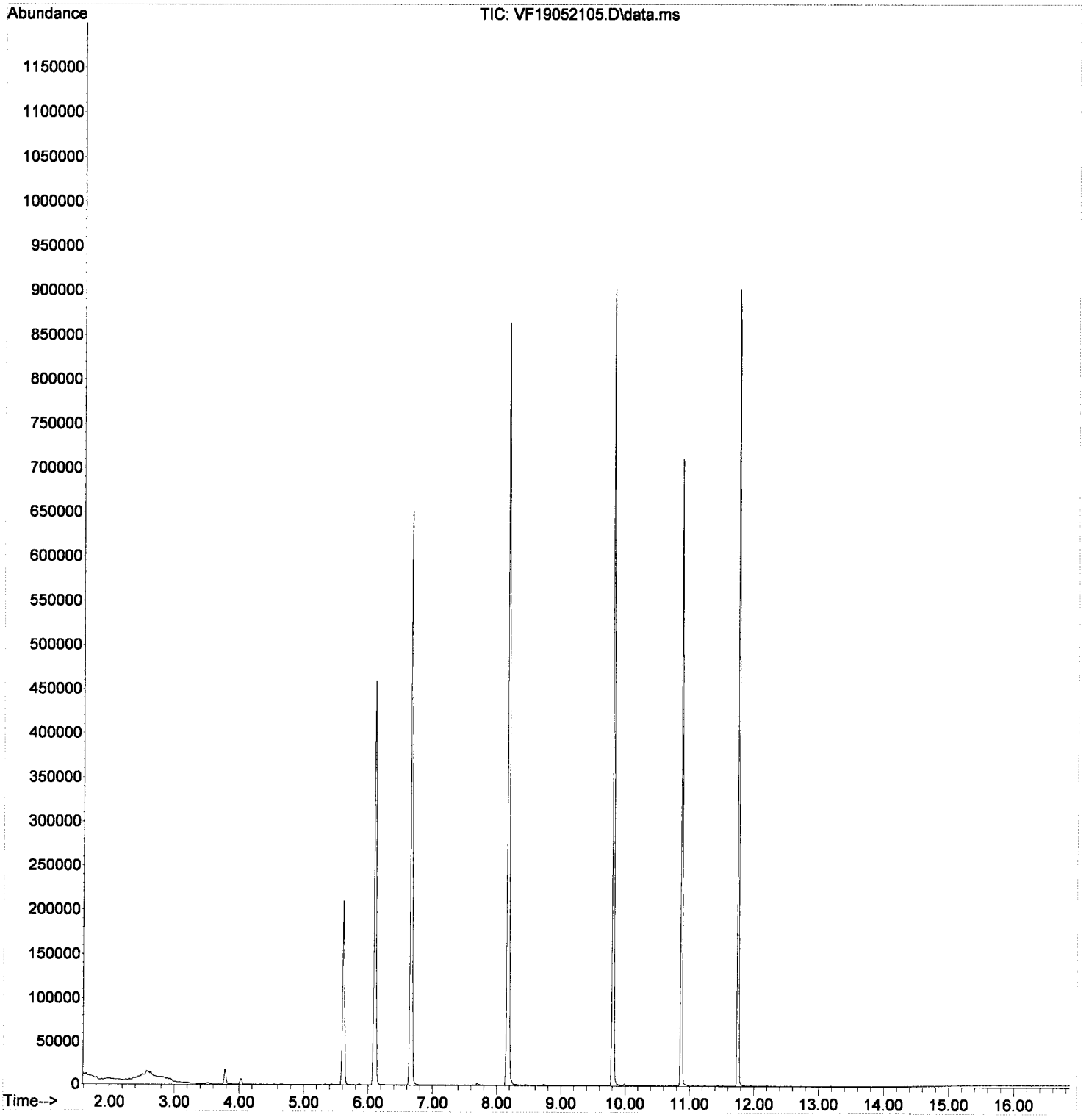
CMDL

(#) = 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

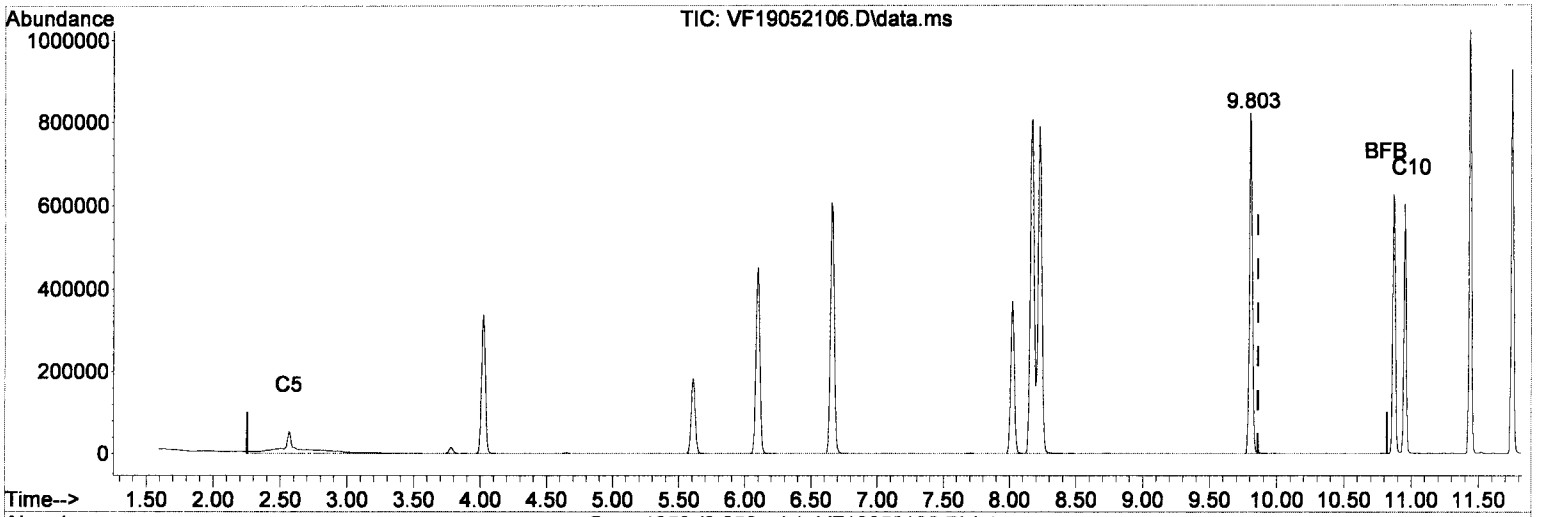
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	335724	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1248297	47.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	877704	53.85	ug/L	0.00
4) Chlorobenzene-d5 (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	

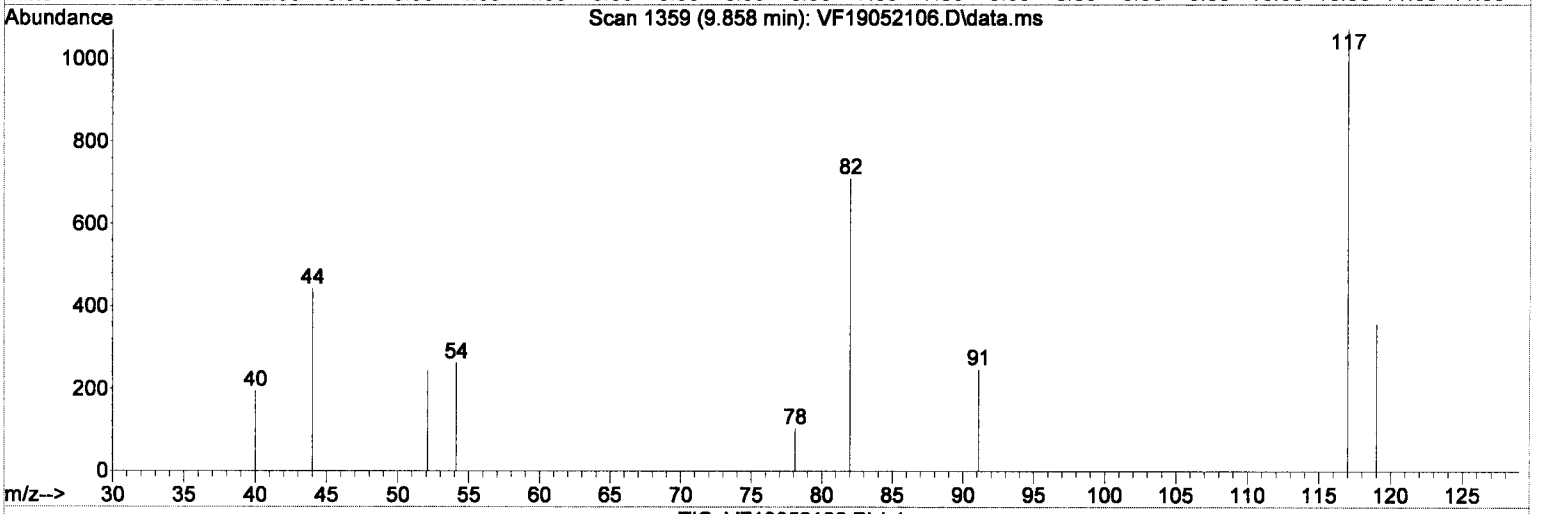
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

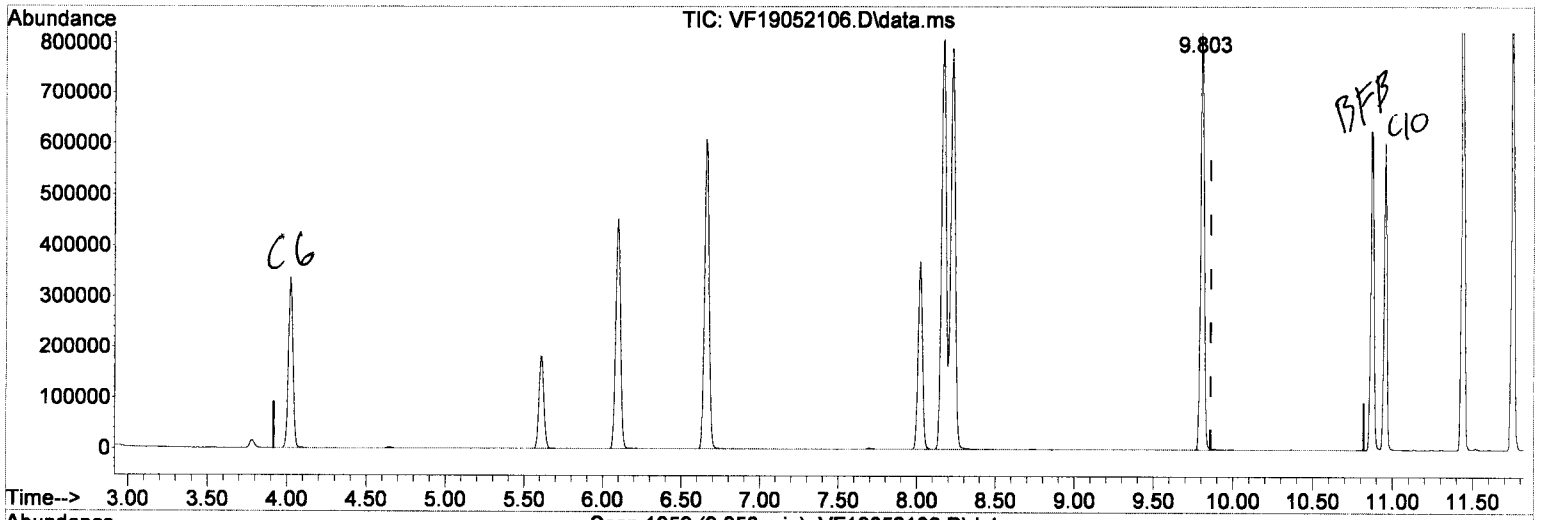
response 3503320

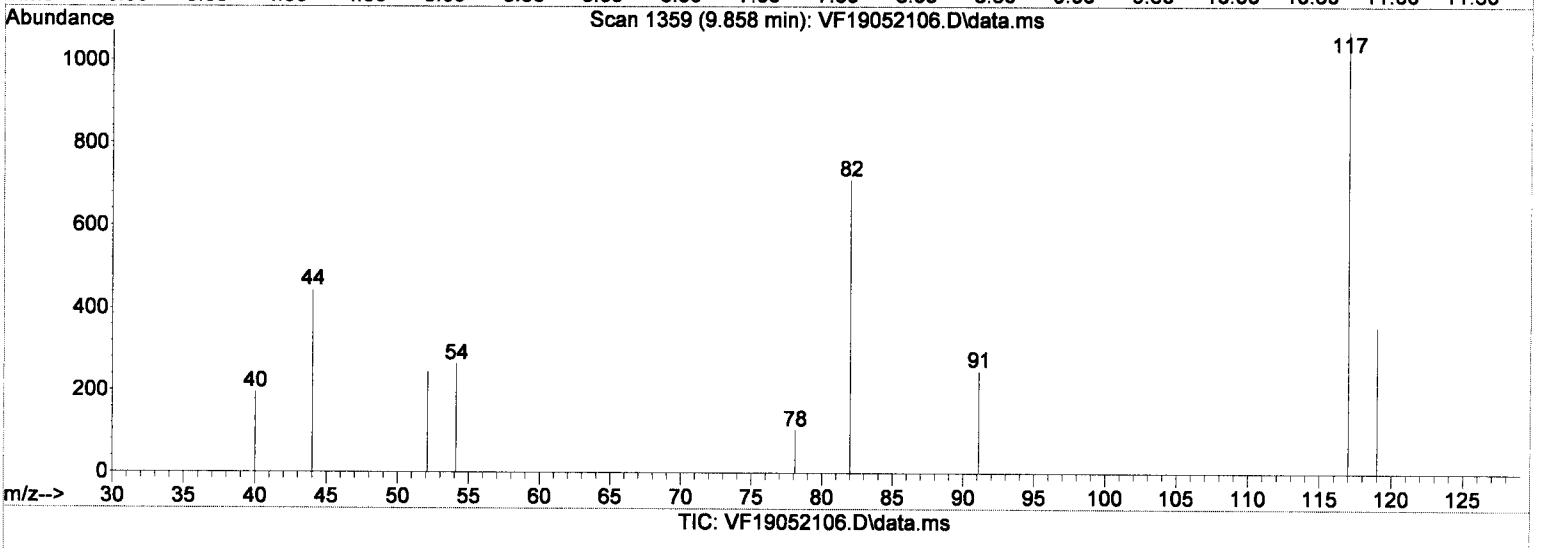
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.27#
0.00	0.00	0.94#
0.00	0.00	0.00

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

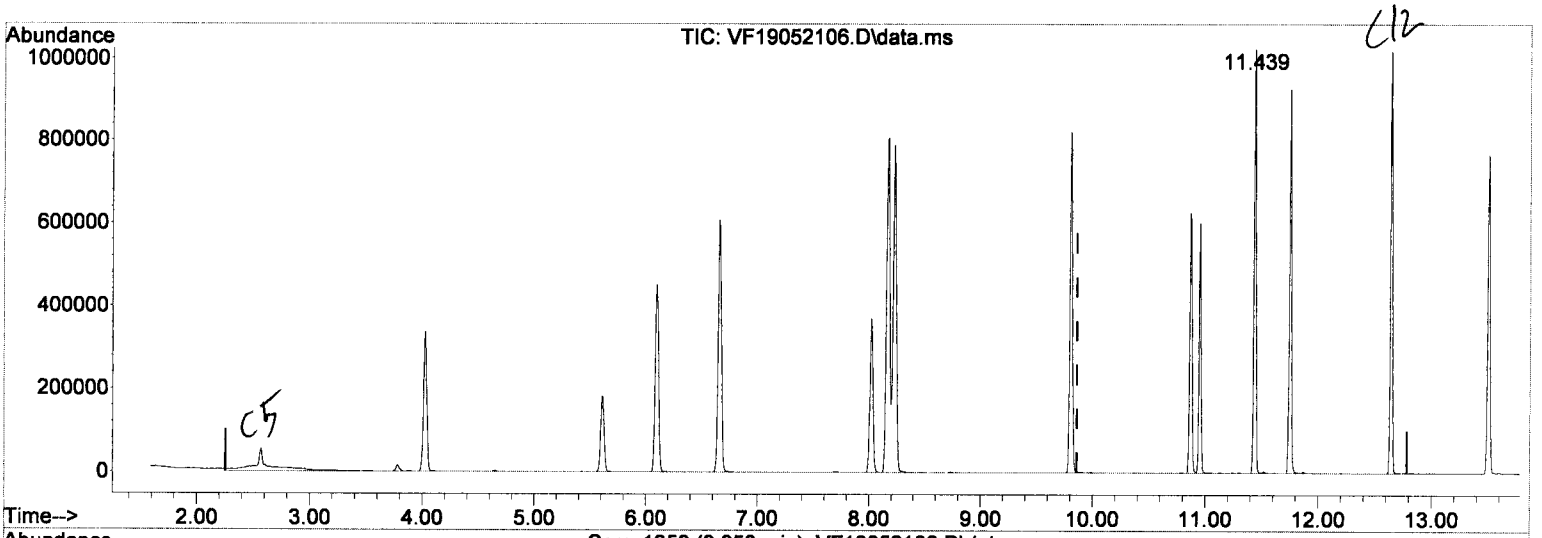
response 3380013

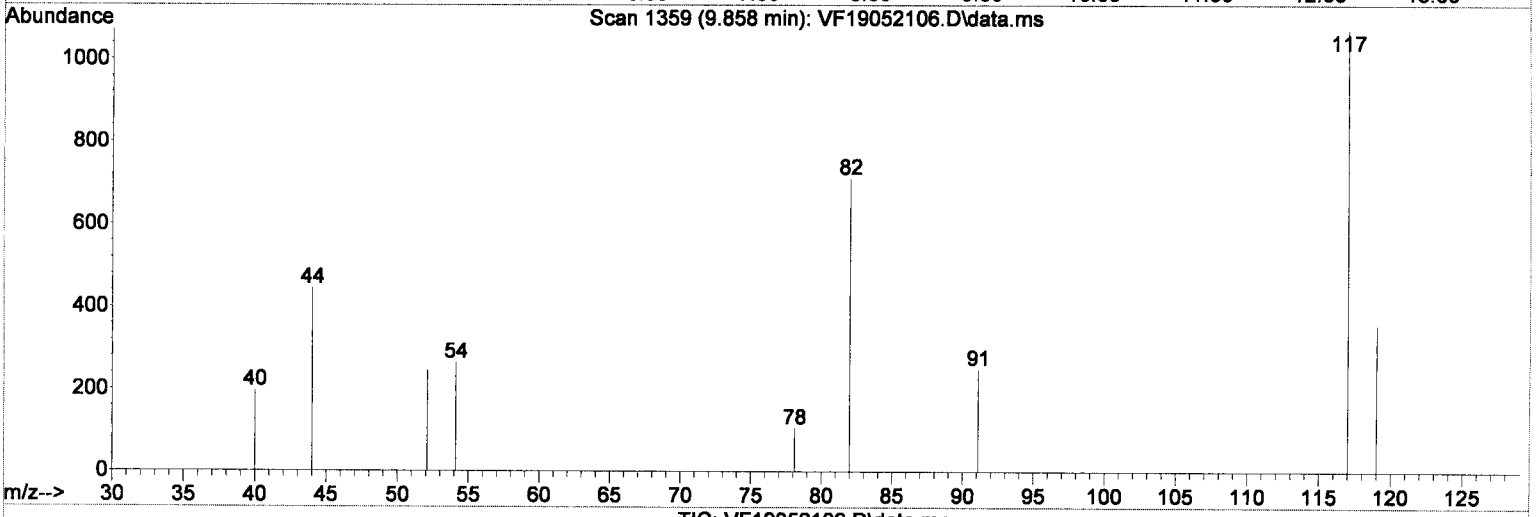
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.31#
0.00	0.00	0.97#
0.00	0.00	0.00

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

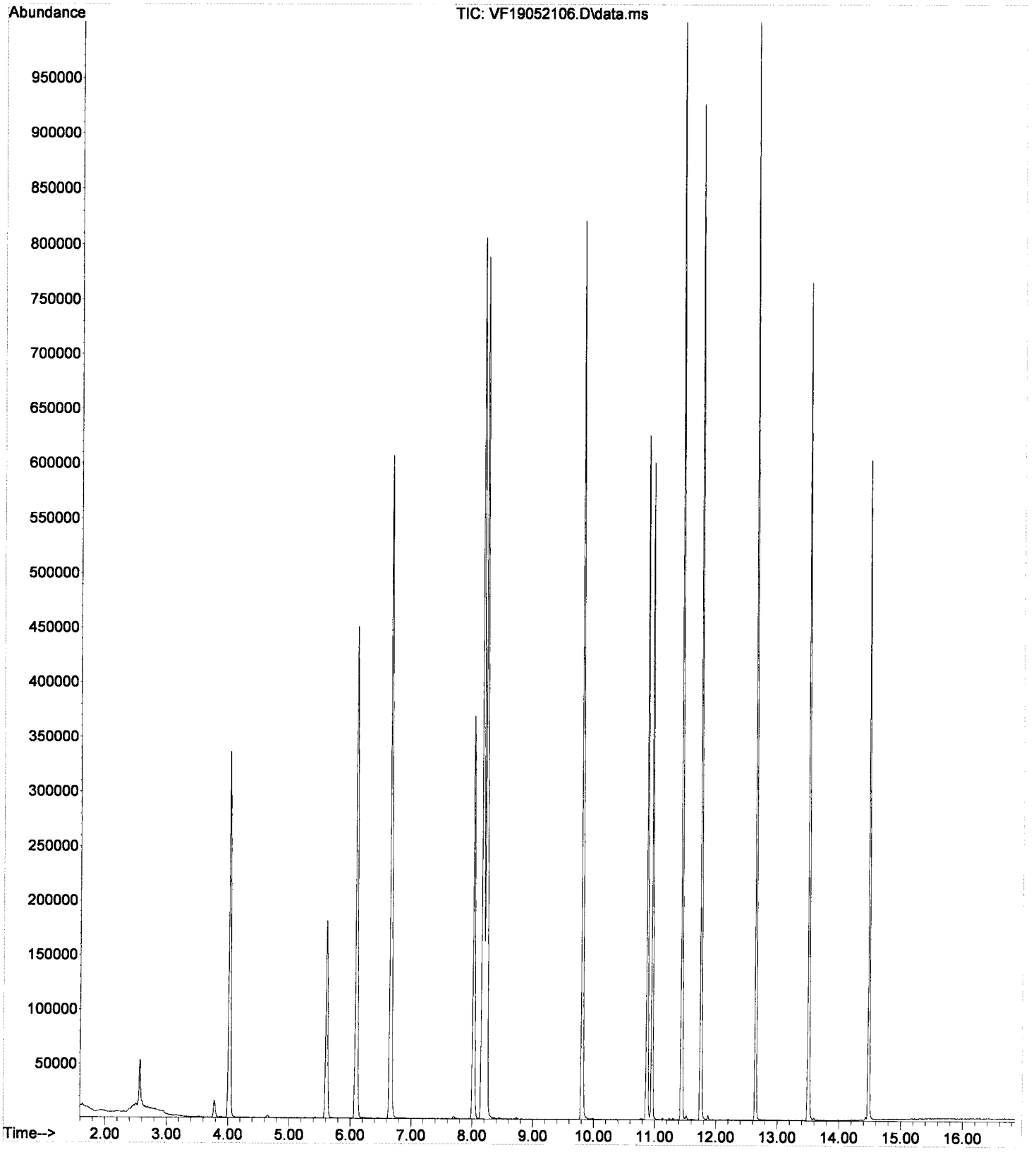
(7) CA-LUFT (C5-C12) (H)

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 : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:43:42 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

5/22/19

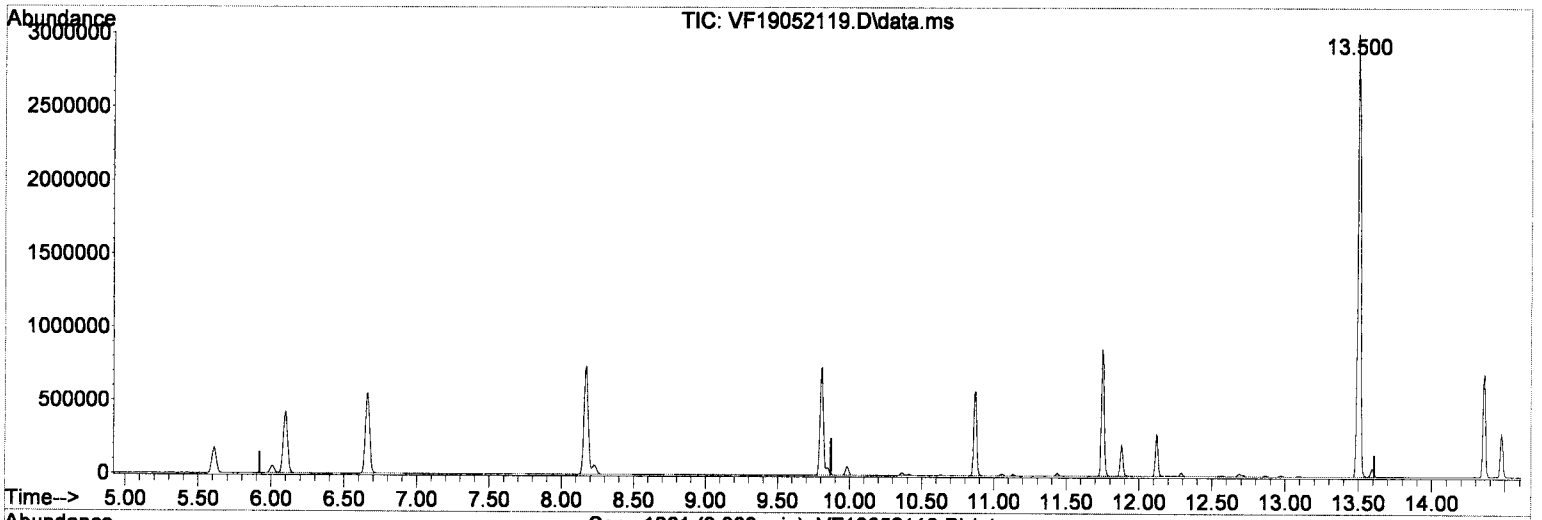
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.096	168	309875	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1146084	46.91 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	816633	54.28 ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	1268713	0.00 ug/L	0.00
10) Toluene-d8 (NR)	8.171	TIC	1494439	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	1133994	0.00 ug/L	0.00
Target Compounds					Qvalue
5) TPHg (C5-C9)	9.860	TIC	832932m	32.51 ug/L	NR
6) TPHg (C6-C10)	9.860	TIC	758650m	51.01 ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	1663767m	88.21 ug/L	
8) NWTPH-Gx	9.870	TIC	5393681m	621.56 ug/L	

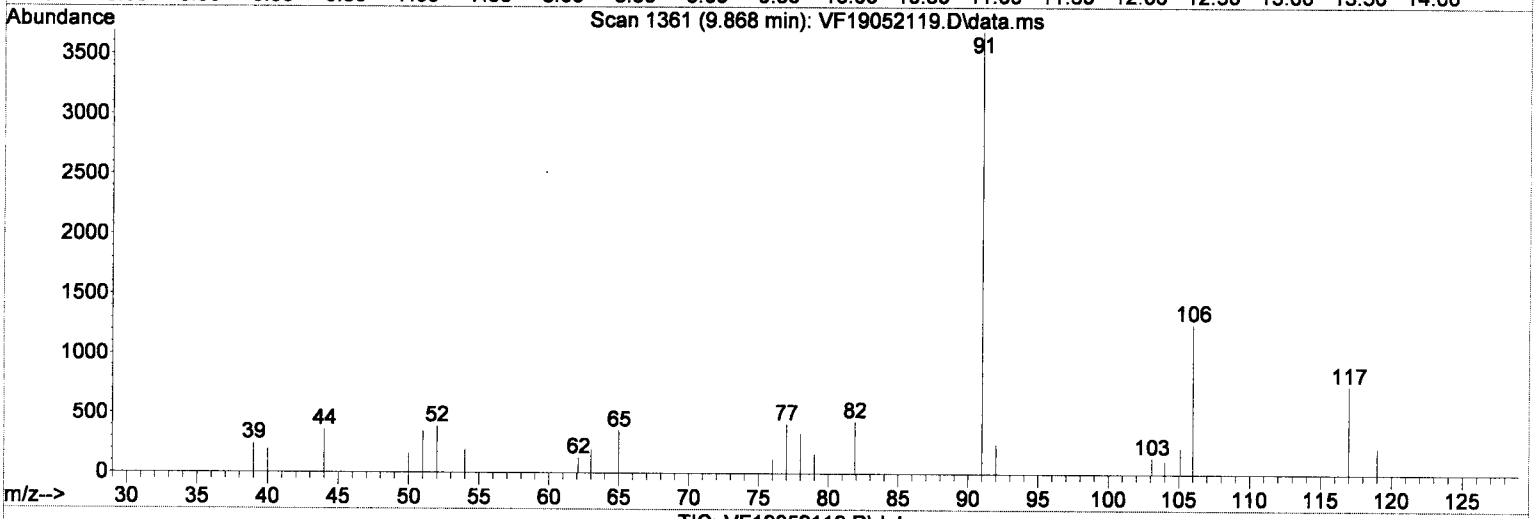
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:43:42 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: VF19052119.D\data.ms

(8) NWTPH-Gx (H)

9.870min (0.000) 621.56 ug/L m

response 5393681

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	3.26#
0.00	0.00	2.42#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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

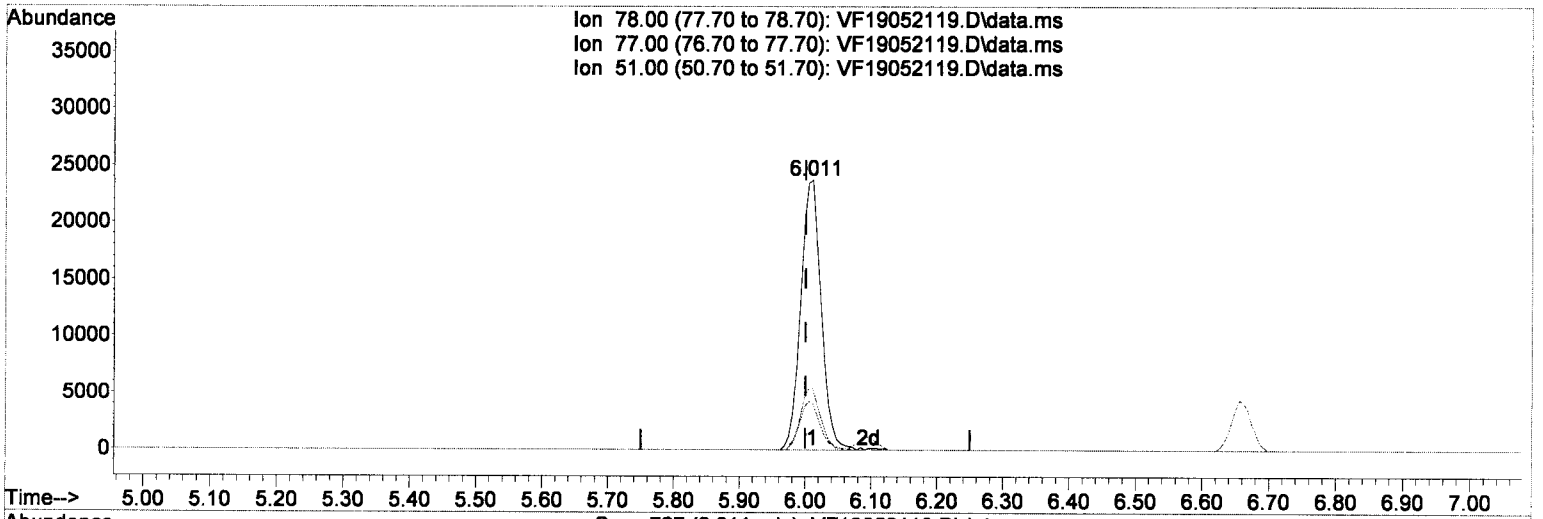
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)	
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	309875	50.00 ug/L		0.00	
37) Chlorobenzene-d5 (I)	9.807	117	389592	50.00 ug/L		0.00	
57) 1,4-Dichlorobenzene-d4...	11.748	152	173876	50.00 ug/L		0.00	
System Monitoring Compounds							
26) Dibromofluoromethane (S)	5.609	111	117255	47.16 ug/L		0.00	
32) 1,4-Difluorobenzene (S)	6.662	114	490019	51.18 ug/L		0.00	
39) Toluene-d8 (S)	8.171	98	556111	48.28 ug/L		0.00	
58) 4-Bromofluorobenzene (S)	10.872	174	136503	50.99 ug/L		0.00	
Target Compounds						Qvalue	
3) Chloromethane	1.844	50	400	0.09 ug/L	#	48	<MDL
5) Bromomethane	2.306	96	822	0.32 ug/L		89	
9) Carbon Disulfide	3.146	76	303	0.26 ug/L		77	
12) Methylene Chloride	3.778	84	4102	Below Cal		93	
13) Acetone	3.876	43	1496	0.94 ug/L		95	
15) n-Hexane	4.028	86	545	0.61 ug/L	#	84	
28) 2-Butanone (MEK)	5.761	43	299	0.13 ug/L		54	
29) Benzene	6.011	78	51331	3.43 ug/L		98	
40) Toluene	8.225	91	56205	3.41 ug/L		95	
50) Ethylbenzene	9.843	91	~~33690~~	~~2.15 ug/L~~		~~96~~	MI
52) m,p-Xylenes (2)	9.983	91	35119	3.20 ug/L		92	
53) o-Xylene	10.367	91	10993	1.04 ug/L		98	
54) Styrene	10.415	104	4911	0.81 ug/L		97	
56) Isopropylbenzene	10.634	105	3303	0.28 ug/L		94	<MDL
60) n-Propylbenzene	10.981	91	1475	0.11 ug/L		99	
63) 1,3,5-Trimethylbenzene	11.133	105	5952	0.66 ug/L		98	
67) tert-Butylbenzene	11.437	91	1112	0.22 ug/L	#	47	<MDL
68) 1,2,4-Trimethylbenzene	11.437	105	9739	1.08 ug/L		95	
69) sec-Butylbenzene	11.516	105	1306	0.12 ug/L		84	<MDL
73) n-Butylbenzene	11.948	91	929	0.12 ug/L		92	
77) 1,2,4-Trichlorobenzene	13.226	180	234	0.09 ug/L		82	
78) Naphthalene	13.500	128	2034974	192.45 ug/L		99	
79) 1,2,3-Trichlorobenzene	13.670	180	312	0.11 ug/L	#	63	<MDL

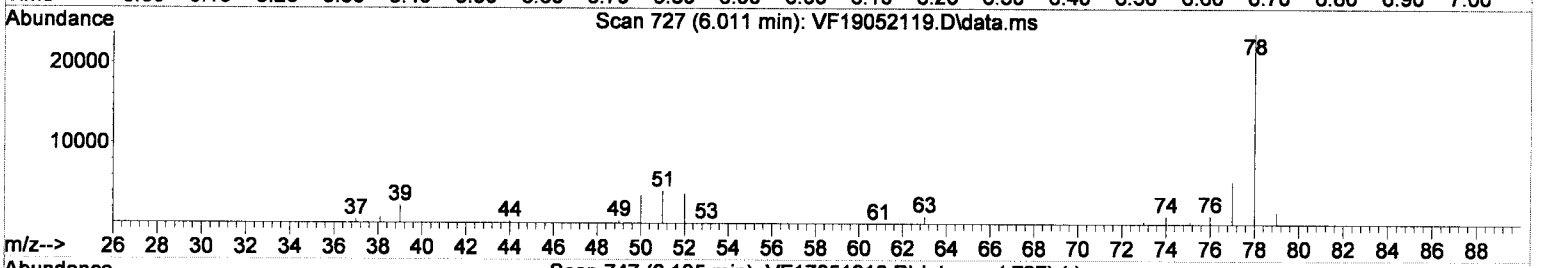
(#) = qualifier out of range (m) = manual integration (+) = signals summed

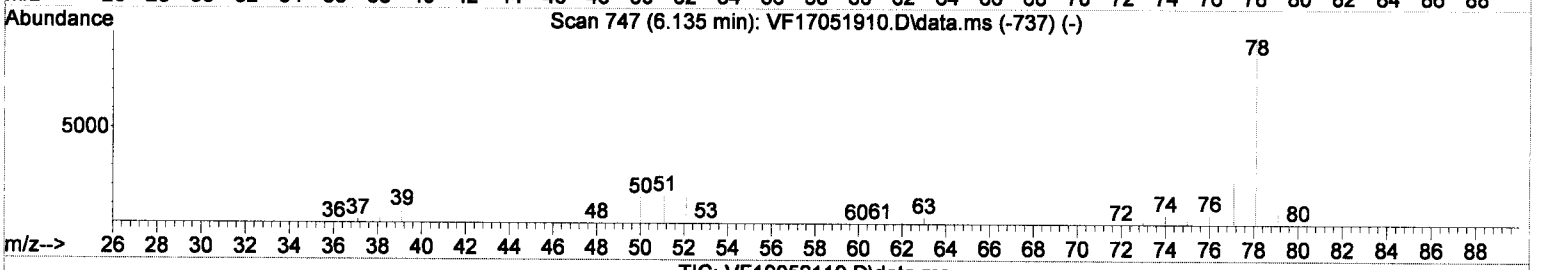
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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







TIC: VF19052119.D\data.ms

(29) Benzene

6.011min (+0.011) 3.43 ug/L

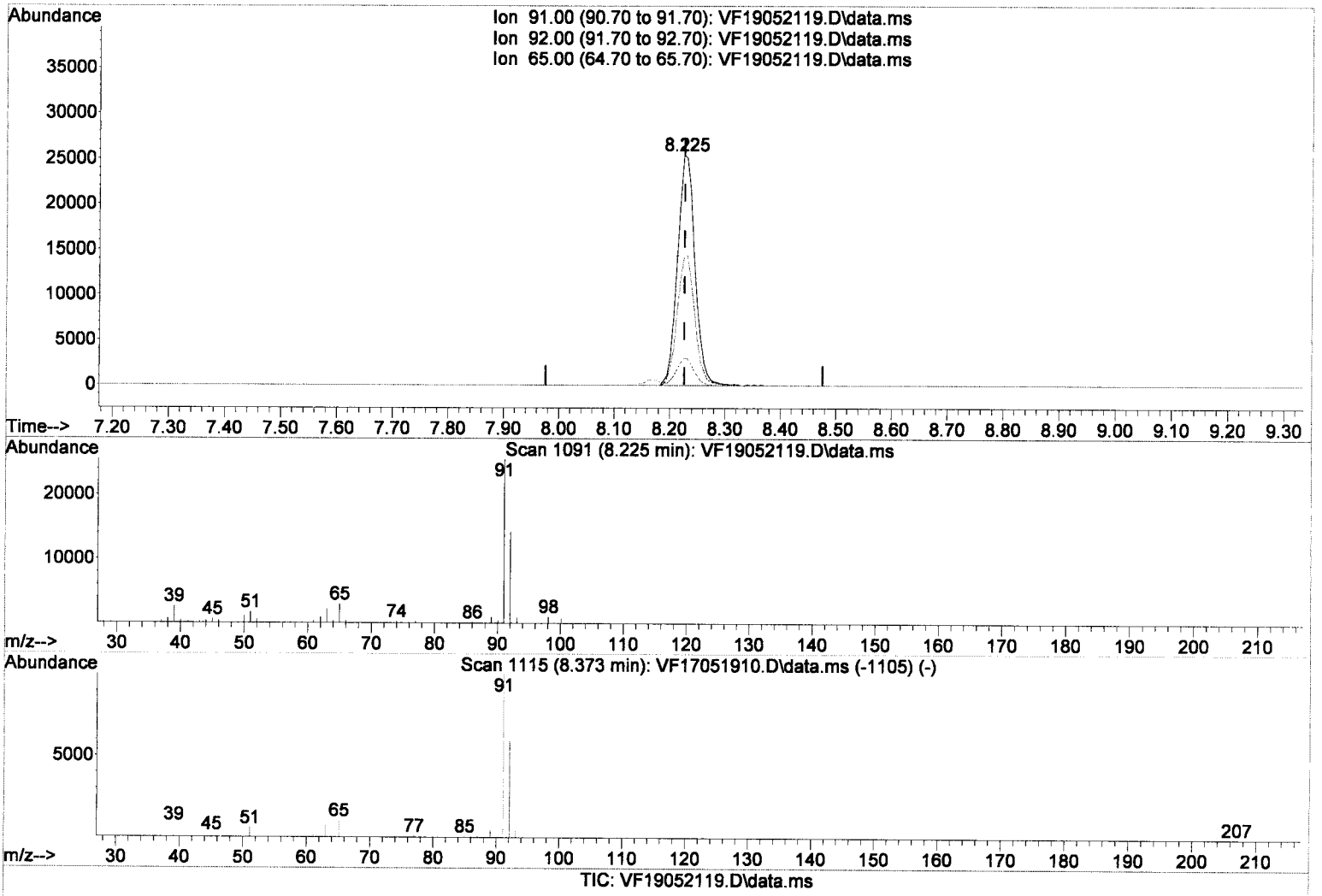
response 51331

Ion	Exp%	Act%
78.00	100	100
77.00	23.20	22.83
51.00	15.50	17.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(40) Toluene (C)

8.225min (-0.001) 3.41 ug/L

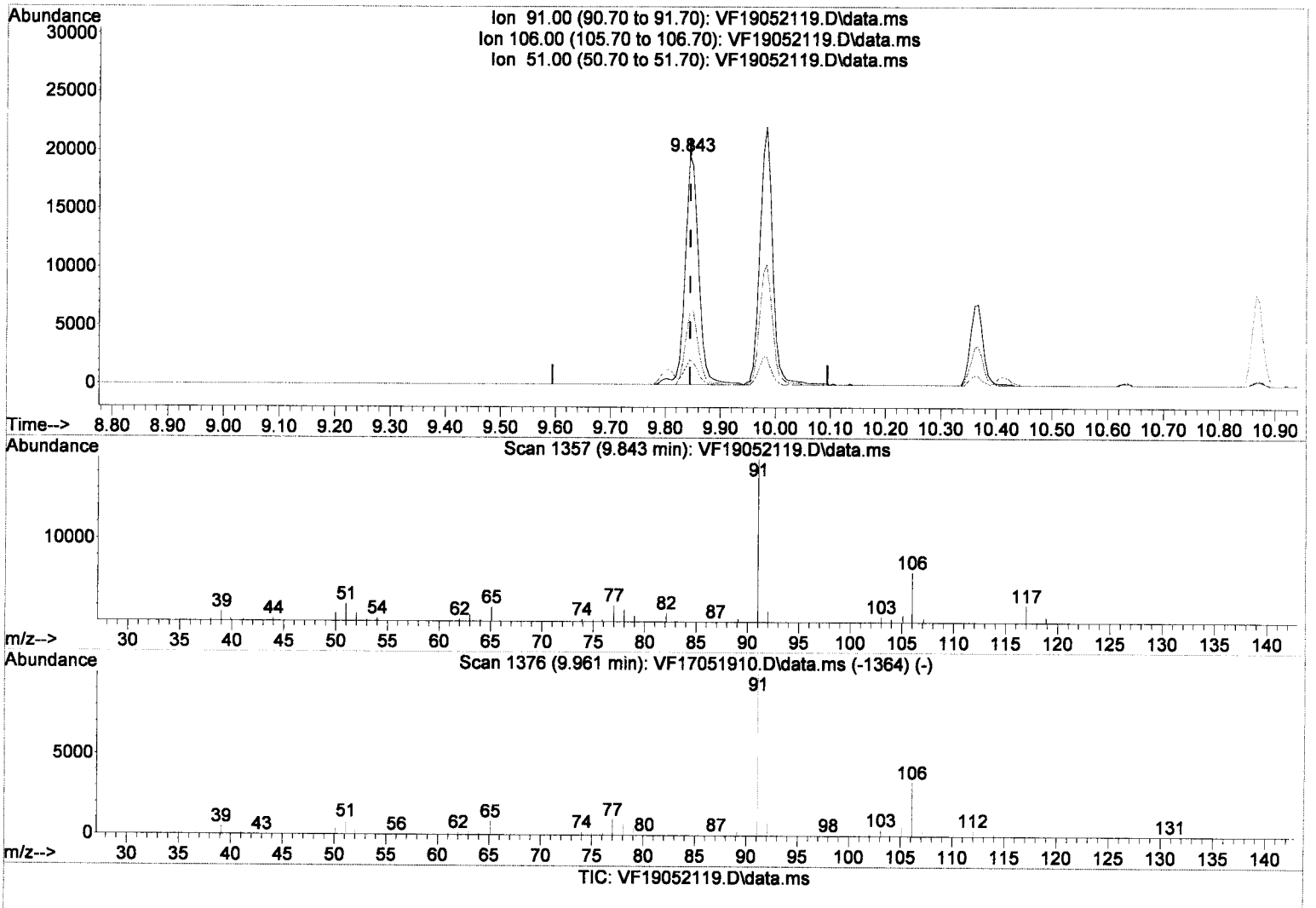
response 56205

Ion	Exp%	Act%
91.00	100	100
92.00	60.20	55.81
65.00	11.90	11.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(50) Ethylbenzene (C)

9.843min (-0.001) 2.15 ug/L

response 33690

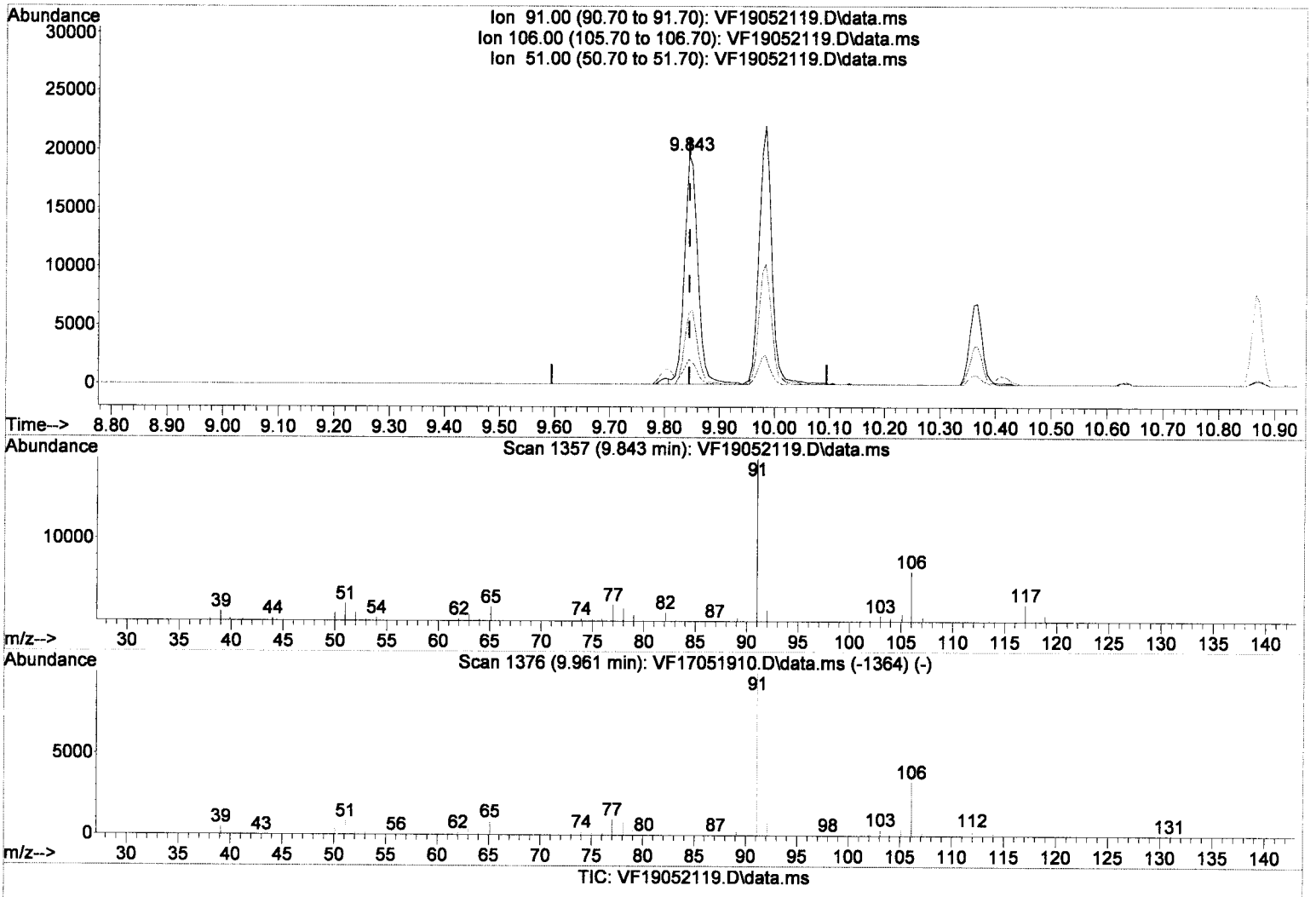
Ion	Exp%	Act%
91.00	100	100
106.00	33.20	30.97
51.00	9.50	10.92
0.00	0.00	0.00

MI

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(50) Ethylbenzene (C)

9.843min (-0.001) 2.11 ug/L m

response 33084

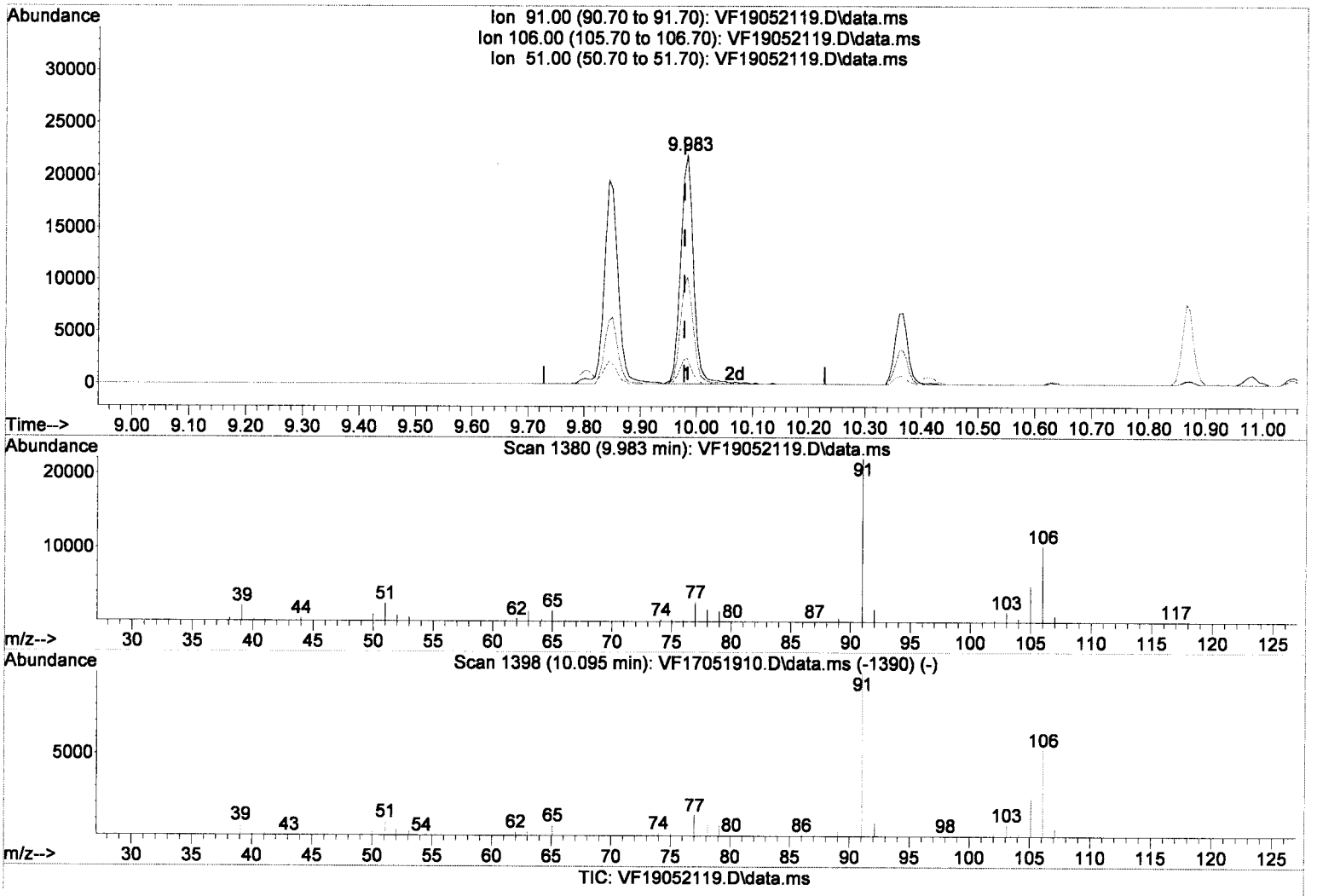
Ion	Exp%	Act%
91.00	100	100
106.00	33.20	30.97
51.00	9.50	10.92
0.00	0.00	0.00

5/22/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(52) m,p-Xylenes (2)

9.983min (+0.005) 3.20 ug/L

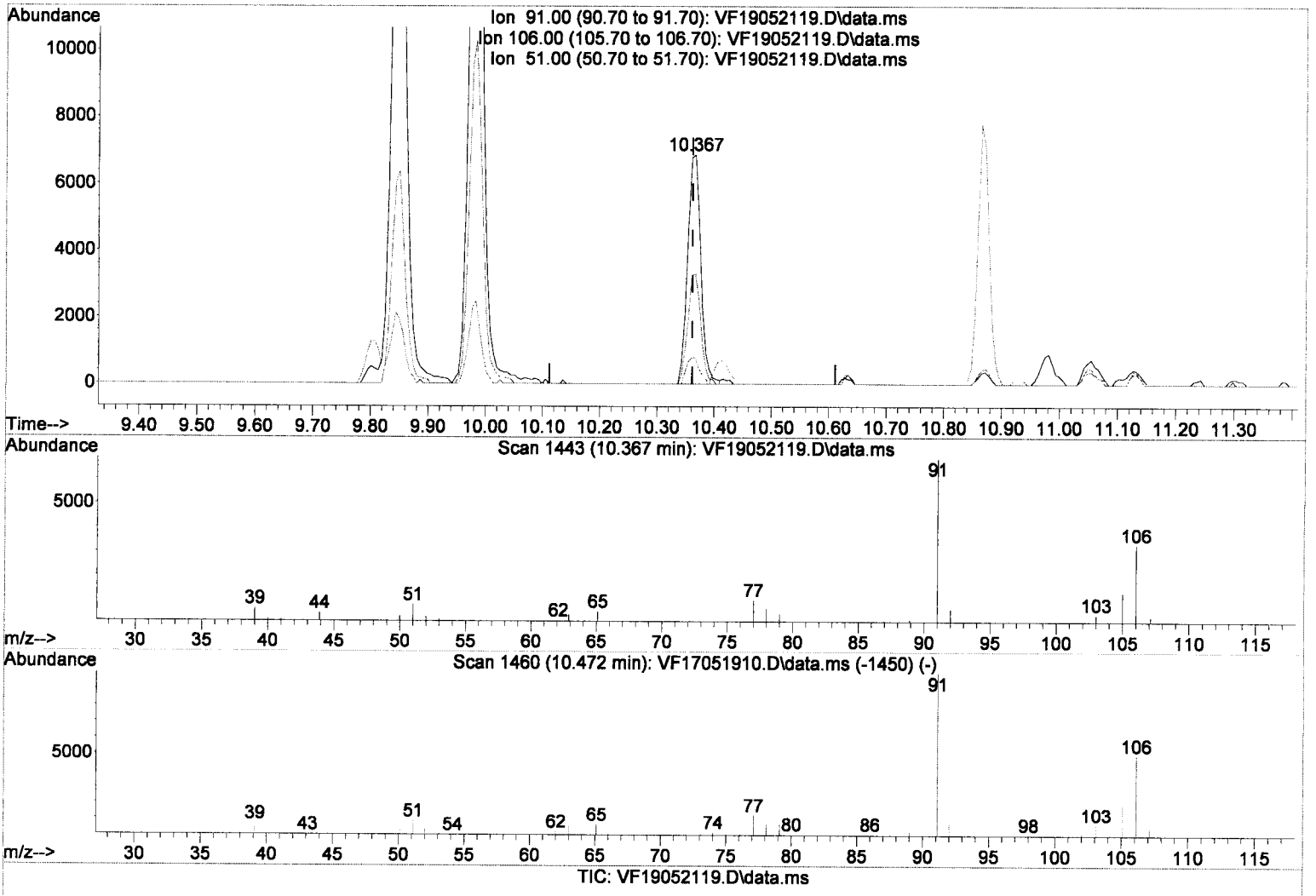
response 35119

Ion	Exp%	Act%
91.00	100	100
106.00	52.70	46.61
51.00	10.10	11.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(53) o-Xylene

10.367min (+0.005) 1.04 ug/L

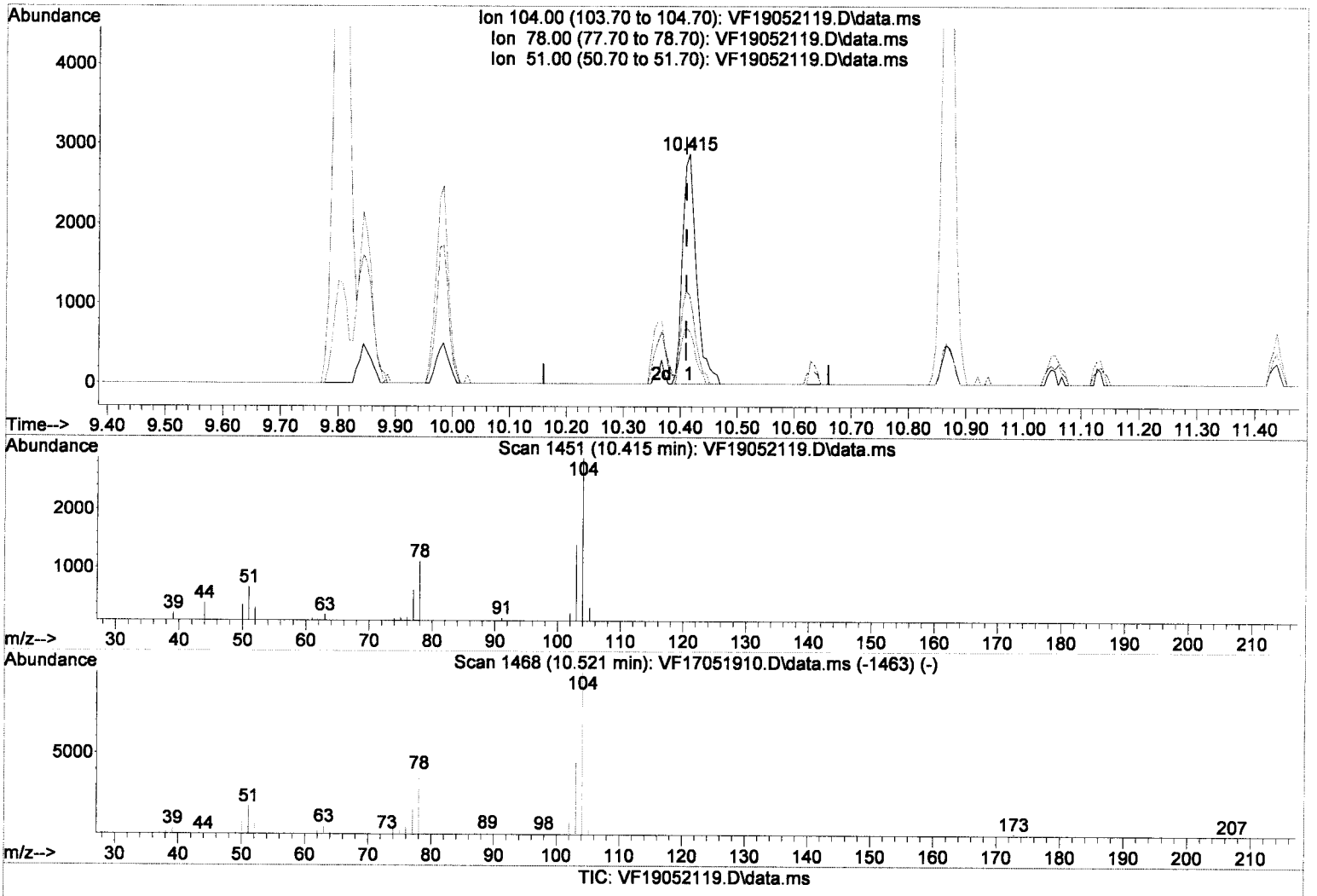
response 10993

Ion	Exp%	Act%
91.00	100	100
106.00	49.40	48.22
51.00	10.00	11.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(54) Styrene

10.415min (+0.005) 0.81 ug/L

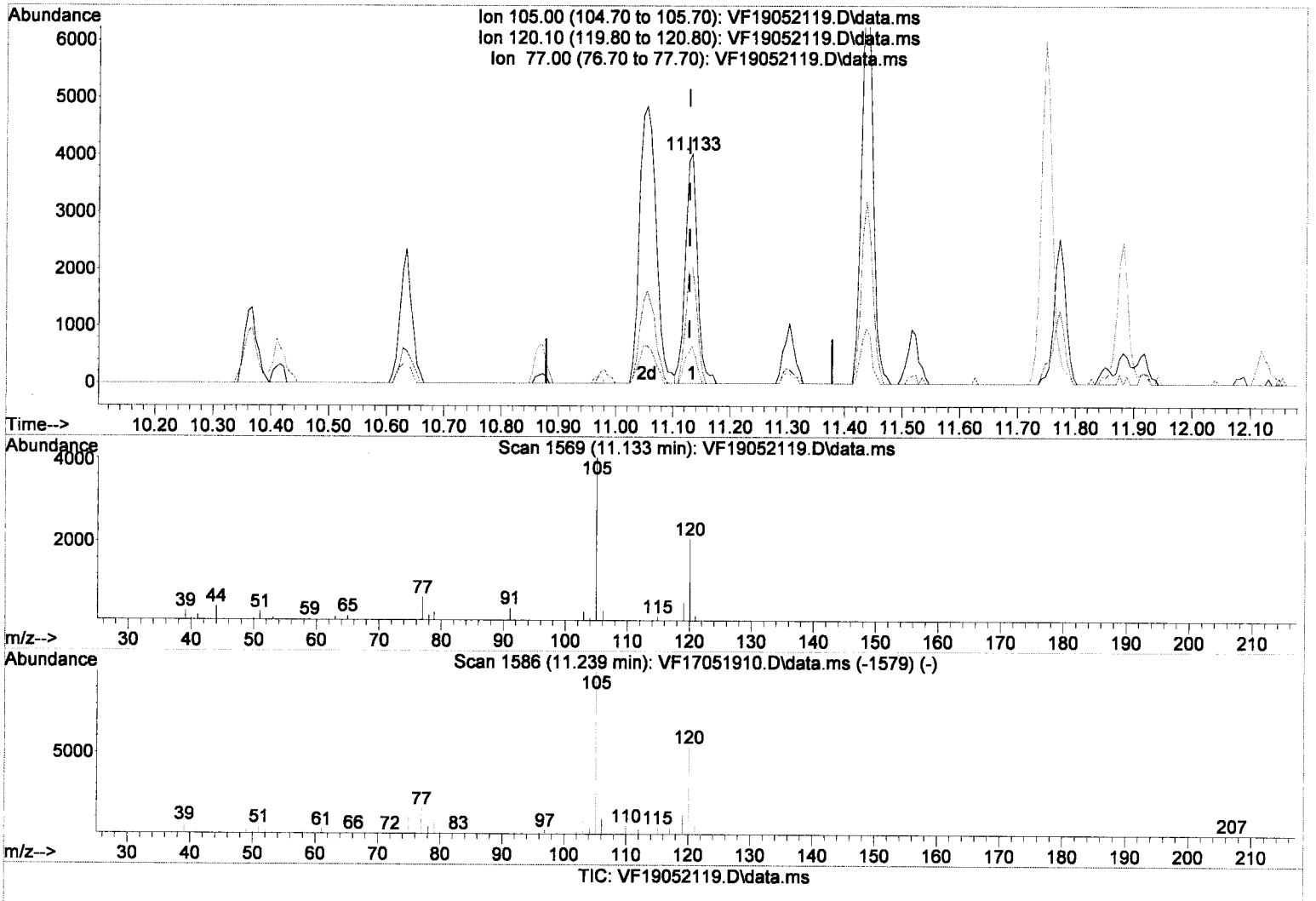
response 4911

Ion	Exp%	Act%
104.00	100	100
78.00	40.60	38.67
51.00	21.90	23.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(63) 1,3,5-Trimethylbenzene

11.133min (+0.005) 0.66 ug/L

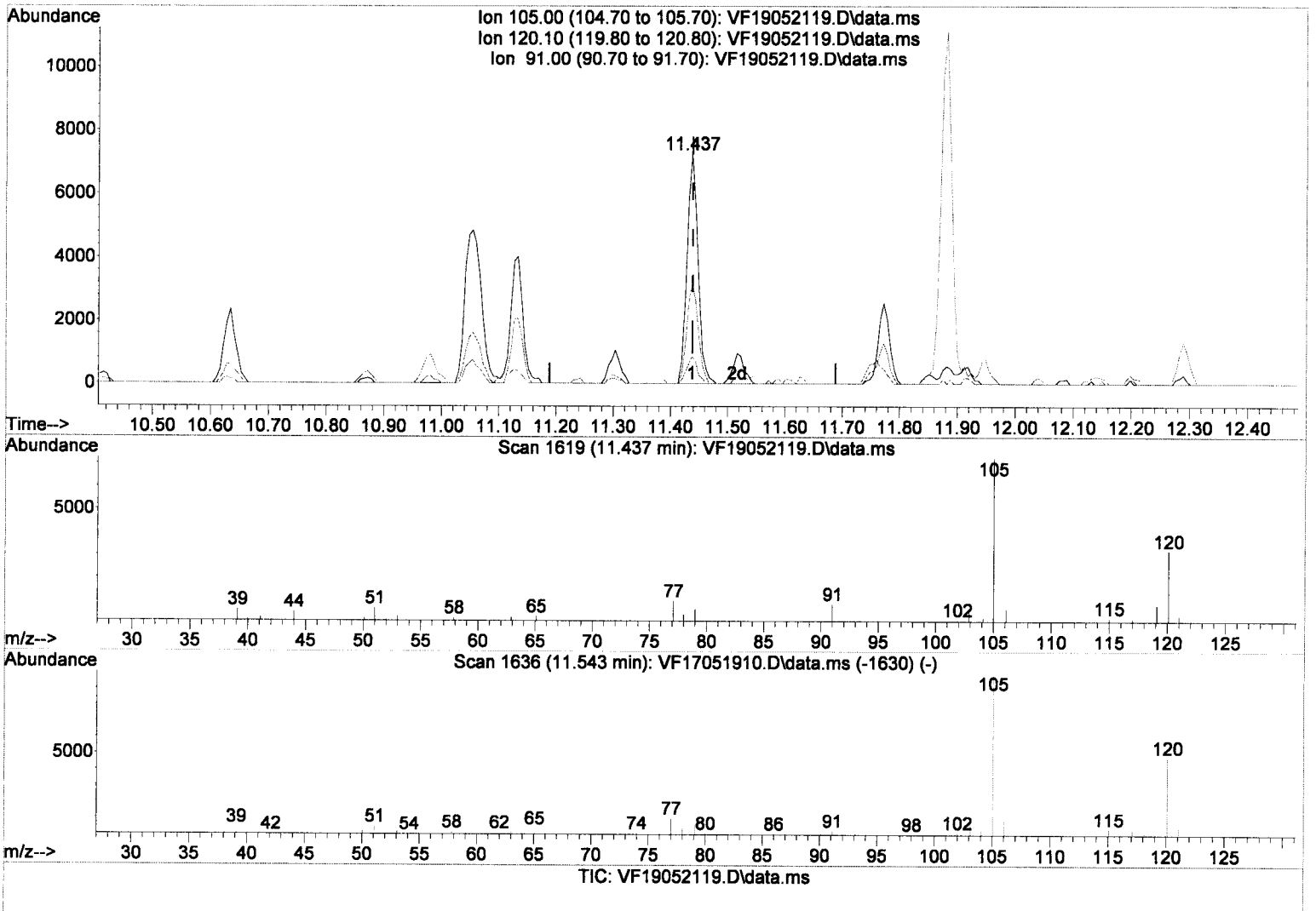
response 5952

Ion	Exp%	Act%
105.00	100	100
120.10	52.70	51.34
77.00	15.40	16.35
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(68) 1,2,4-Trimethylbenzene

11.437min (-0.001) 1.08 ug/L

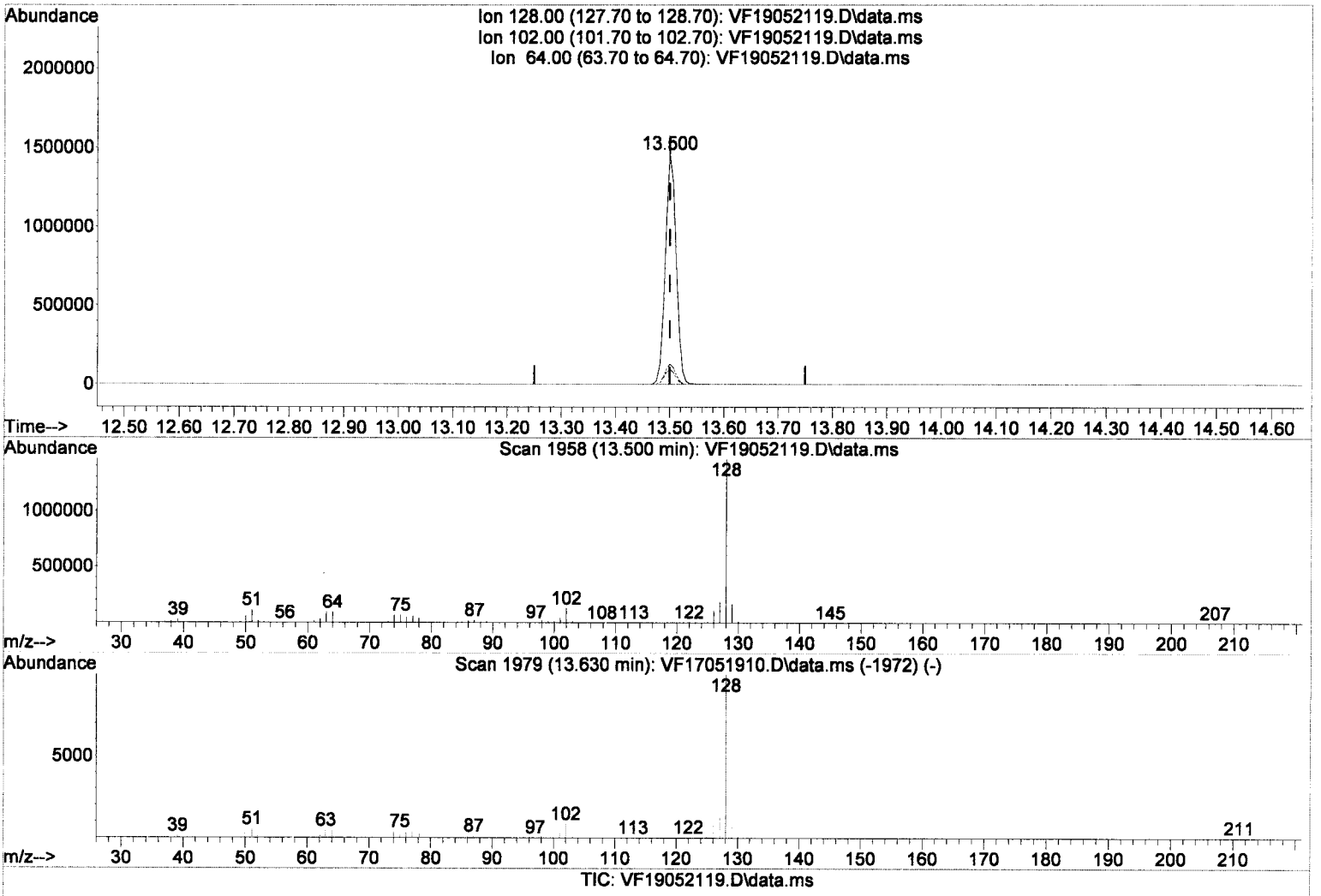
response 9739

Ion	Exp%	Act%
105.00	100	100
120.10	48.00	44.03
91.00	10.60	11.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(78) Naphthalene

13.500min (-0.000) 192.45 ug/L

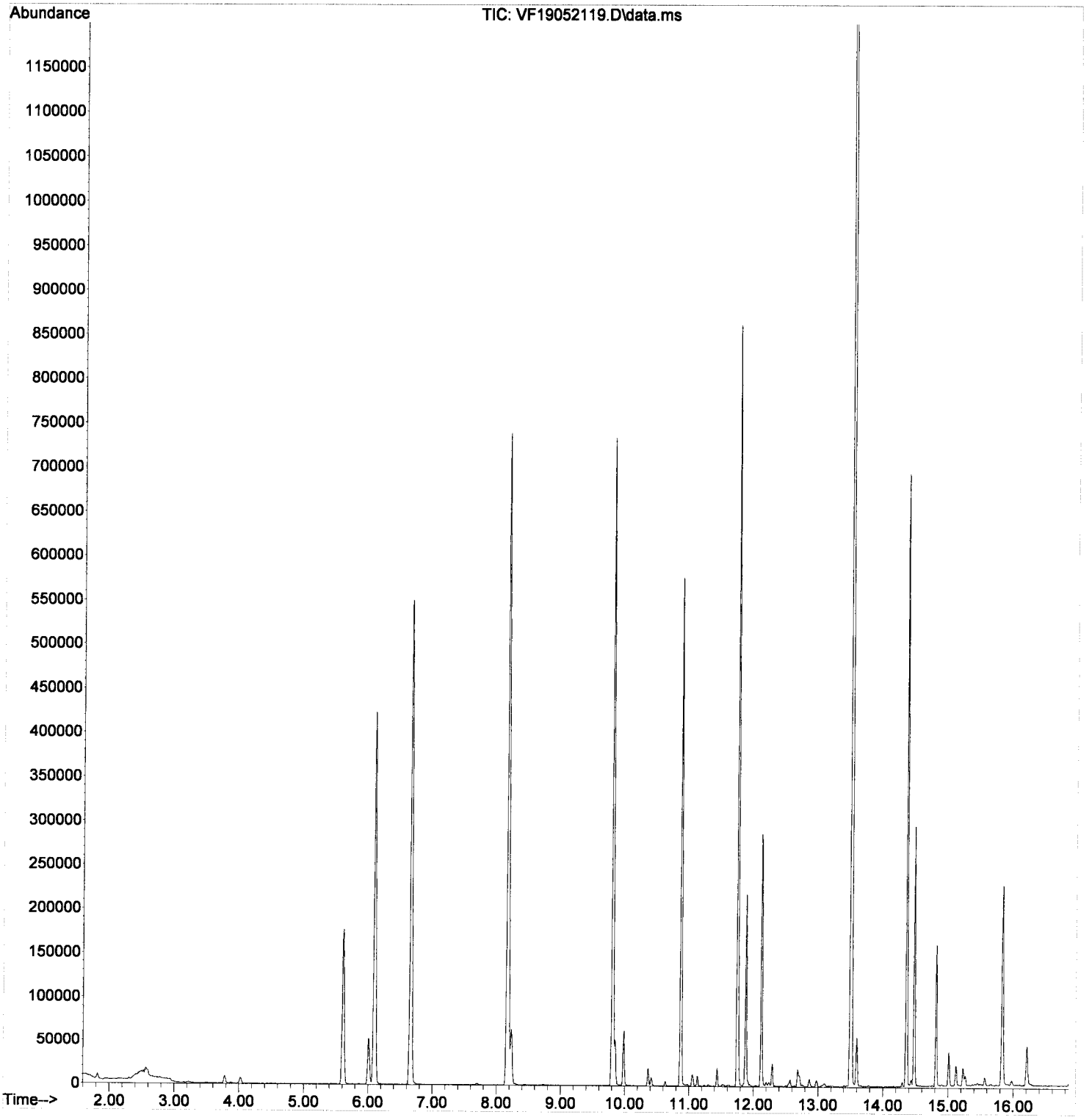
response 2034974

Ion	Exp%	Act%
128.00	100	100
102.00	8.50	8.82
64.00	6.40	6.49
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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, $BrCl_2CH$, 1112tetrachloroethane, & 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\
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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

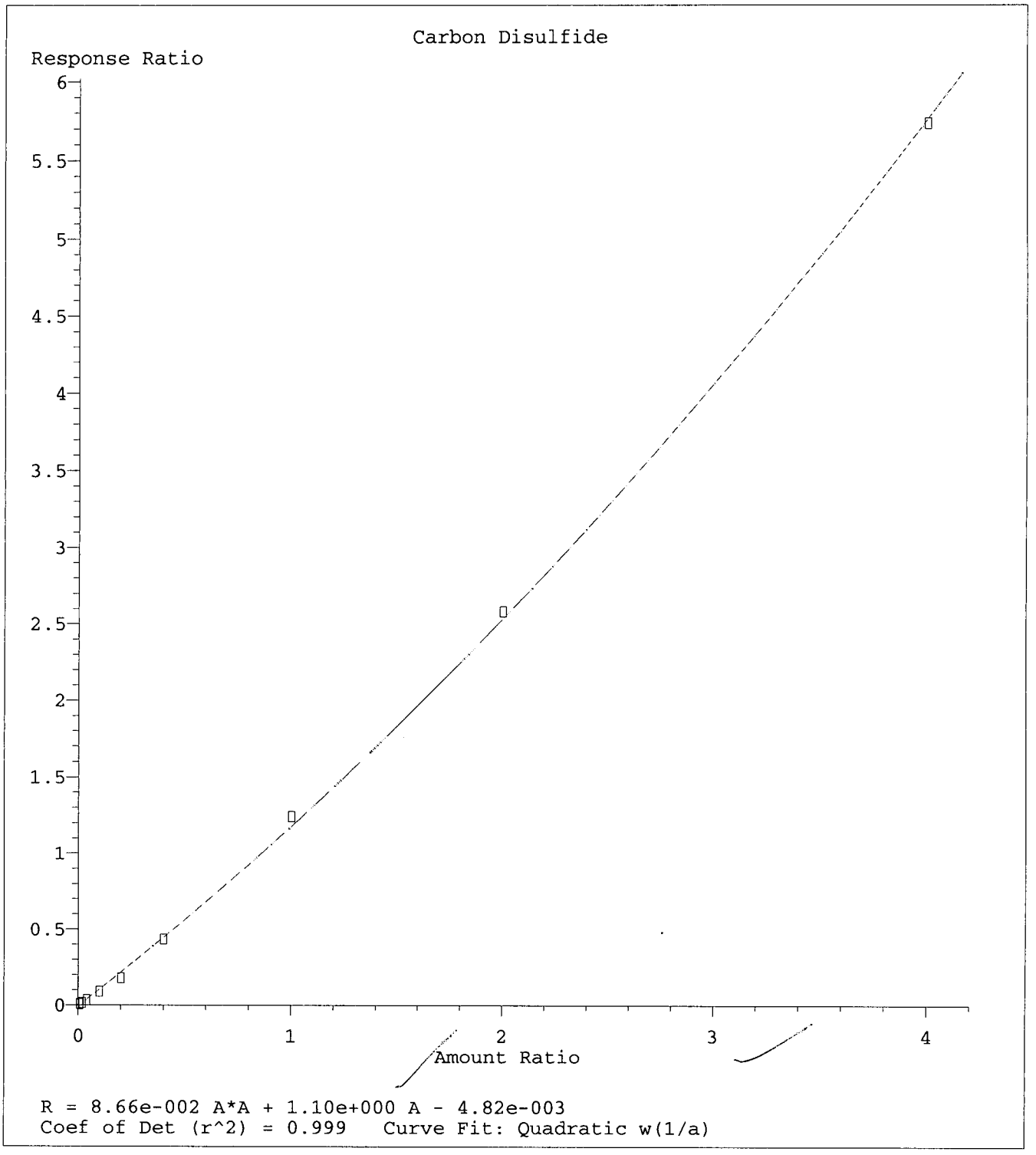
Total Cpnds : 79

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	Q l/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	Q l/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	Q l/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



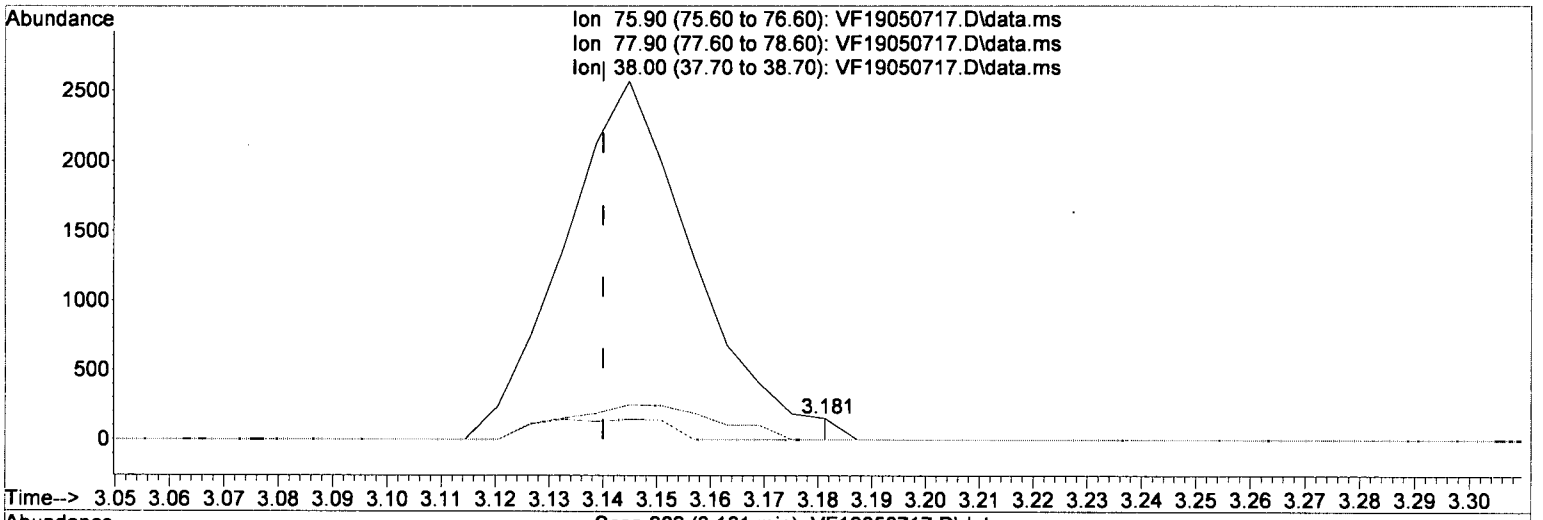
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

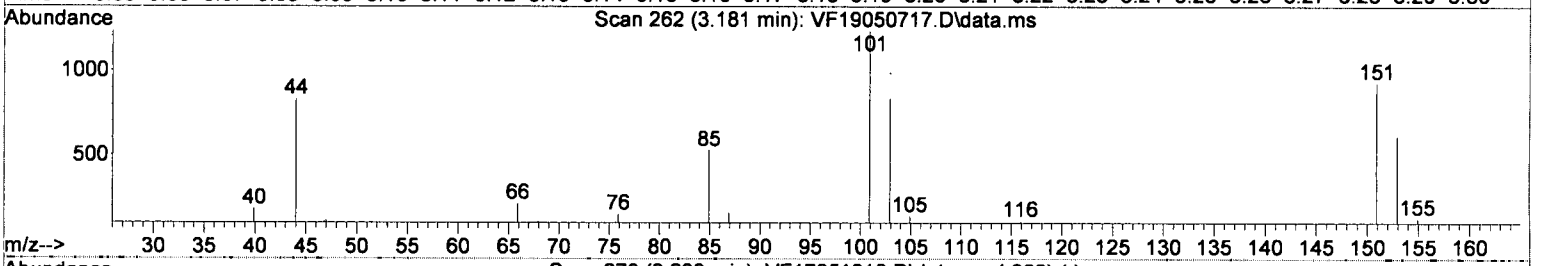
Int = 0.22

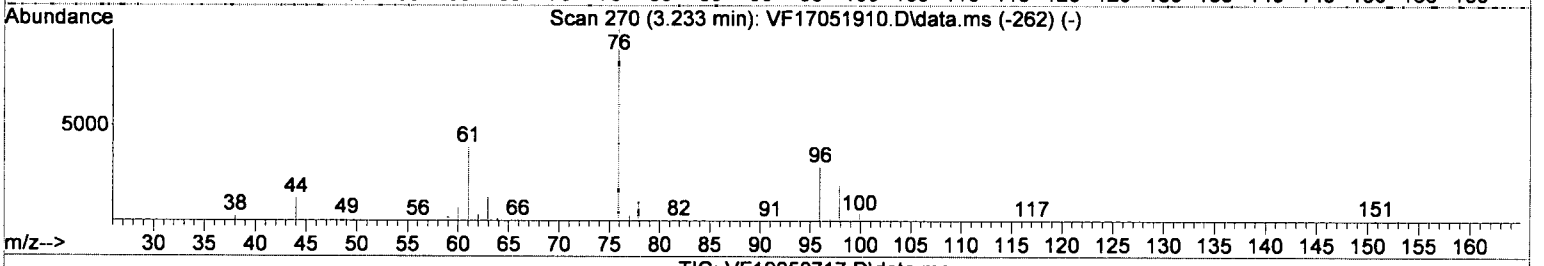
Quantitation Report (Qedit)

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







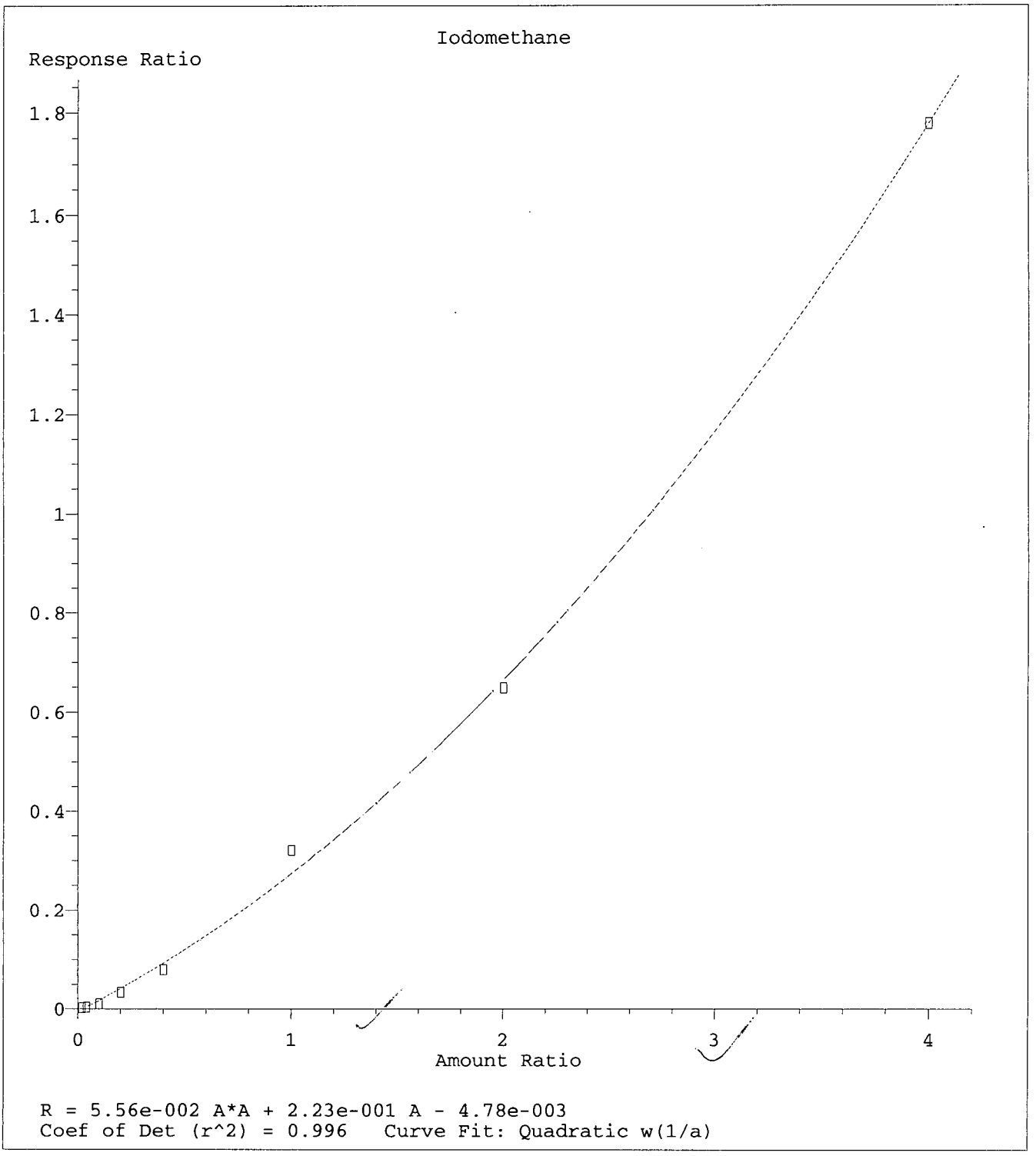
TIC: VF19050717.D\data.ms

(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



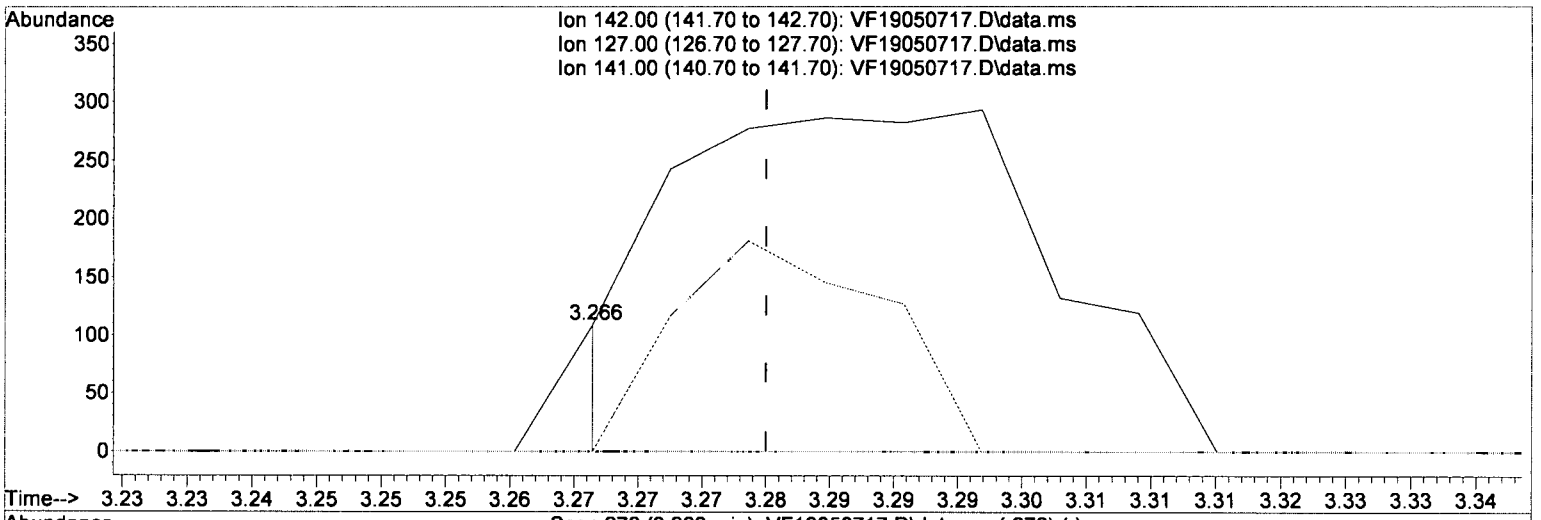
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

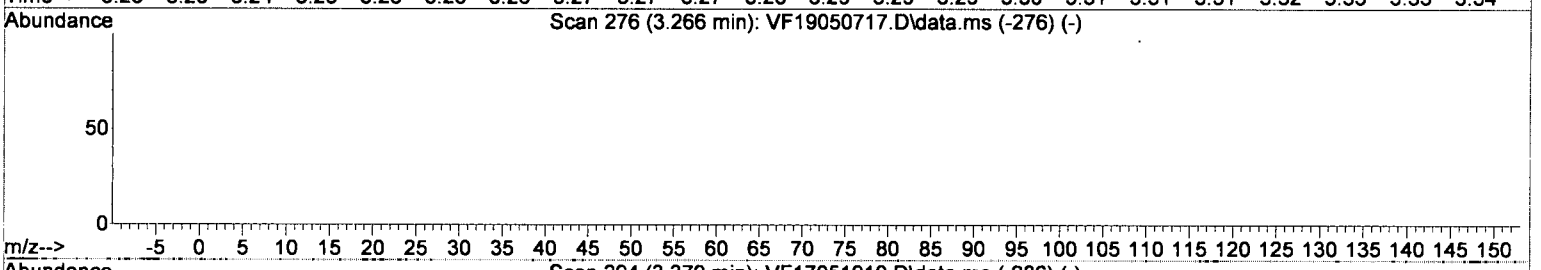
Int = 1.10

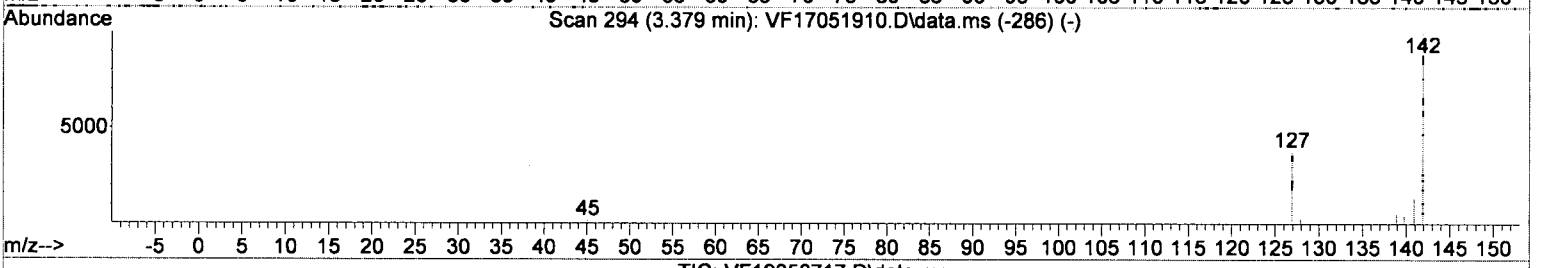
Quantitation Report (Qedit)

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







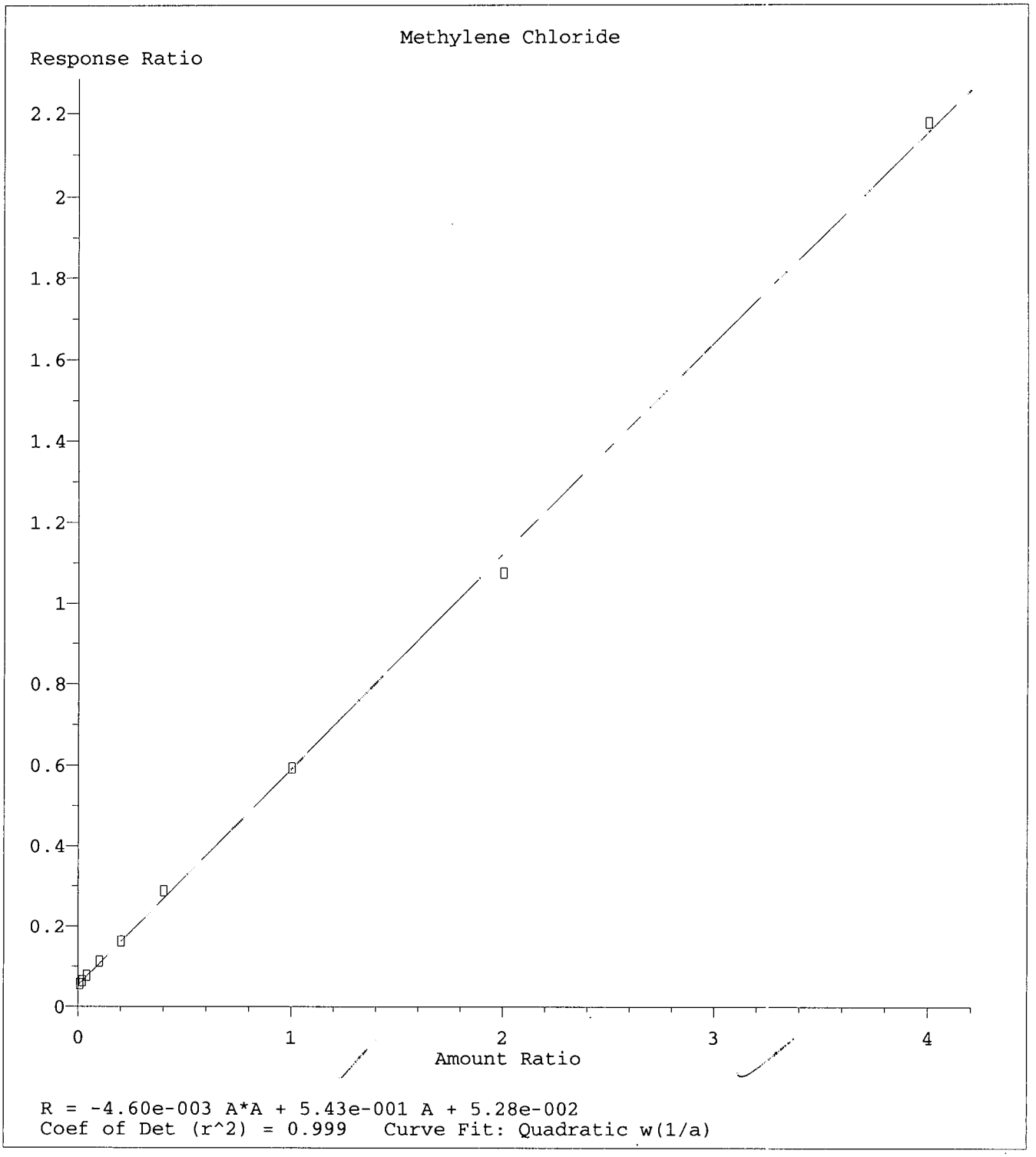
TIC: VF19050717.D\data.ms

(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



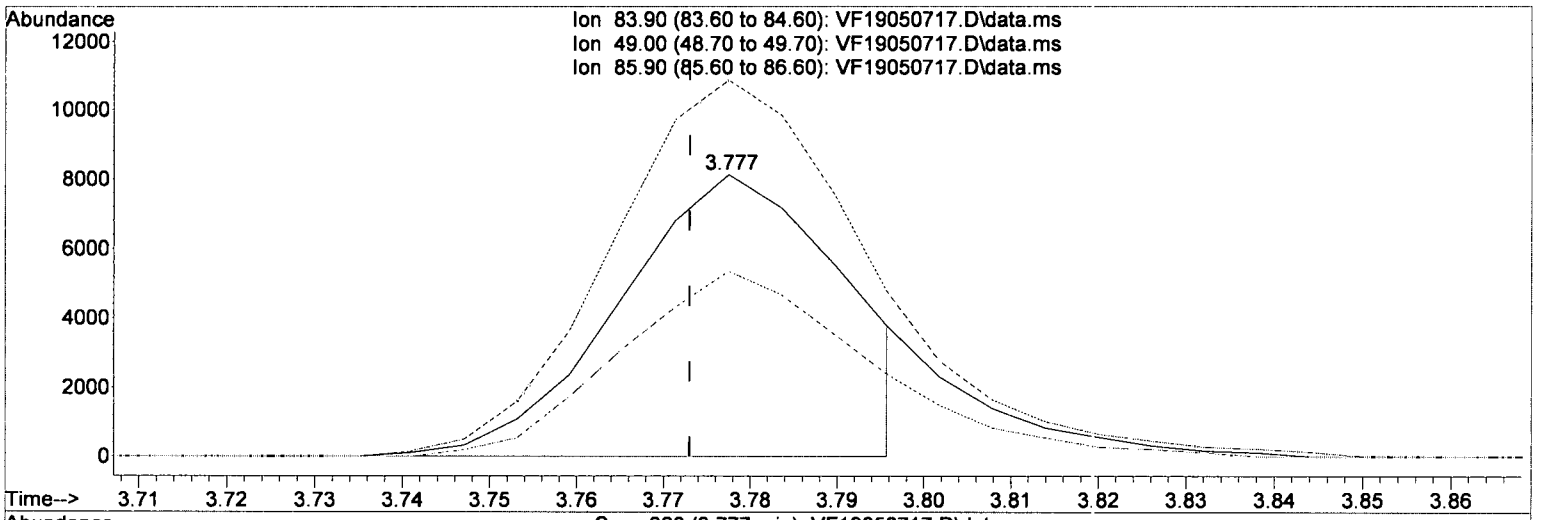
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

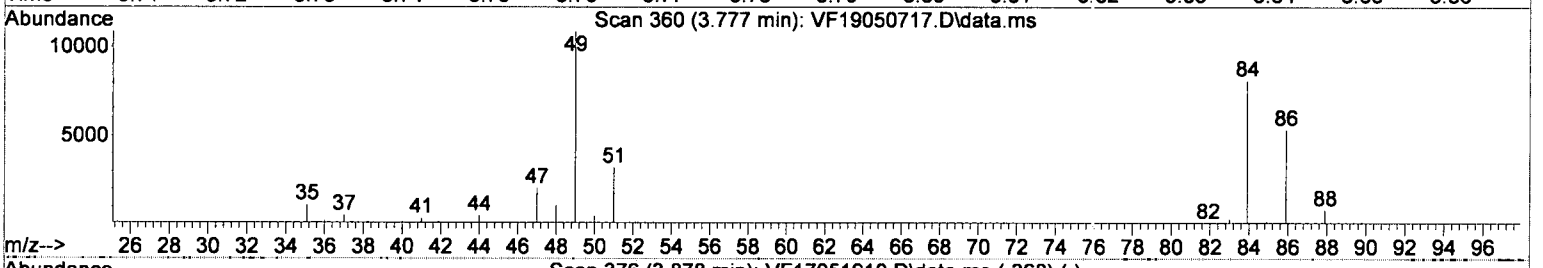
Int =(-)

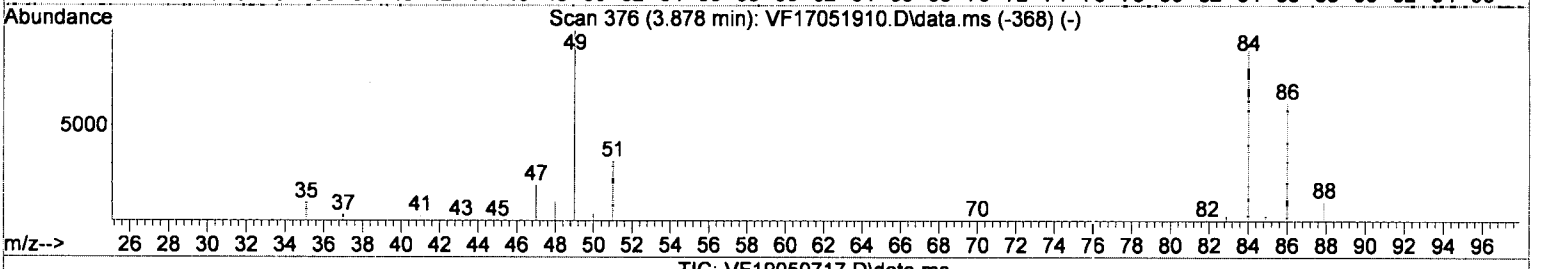
Quantitation Report (Qedit)

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







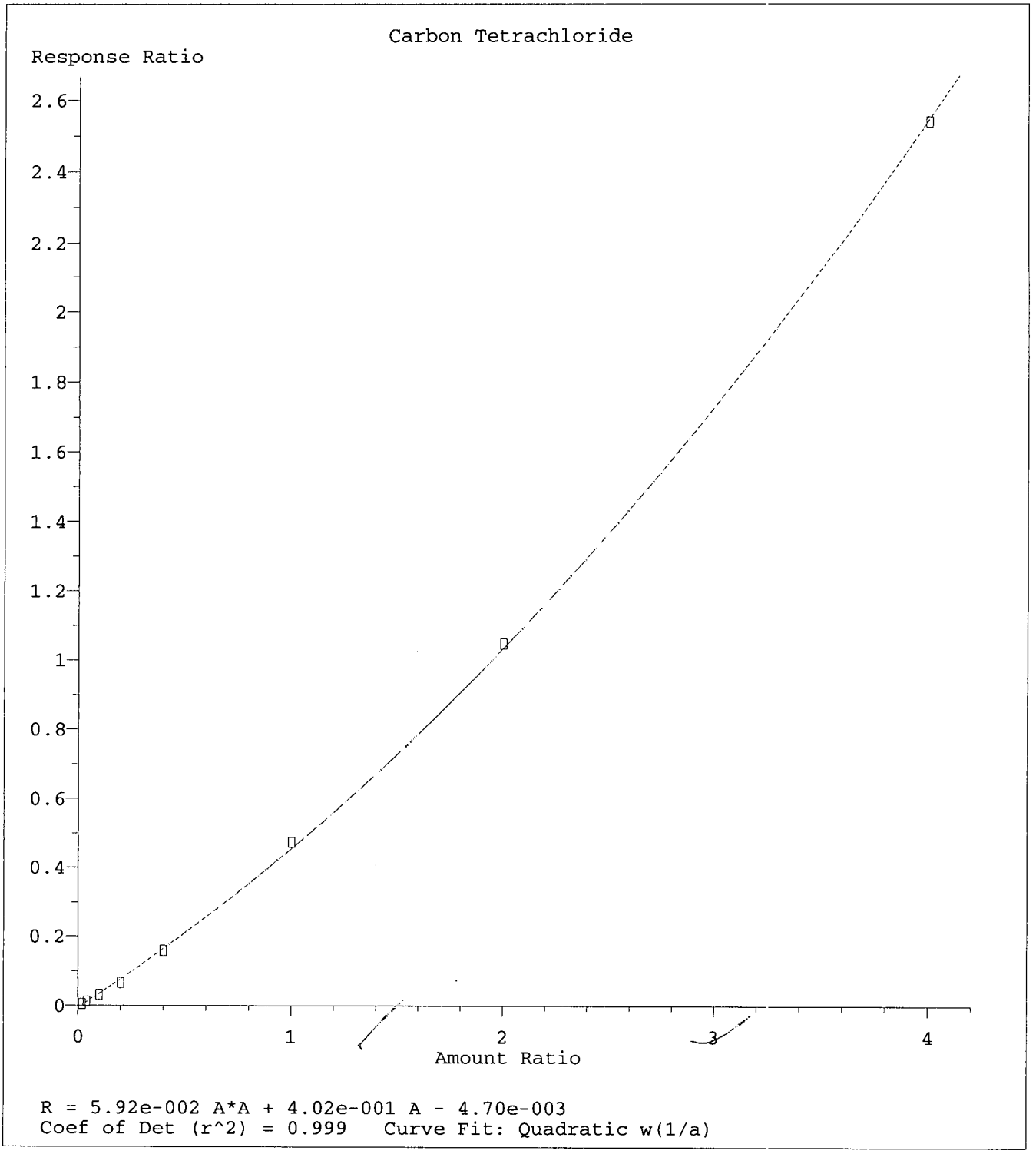
TIC: VF19050717.D\data.ms

(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

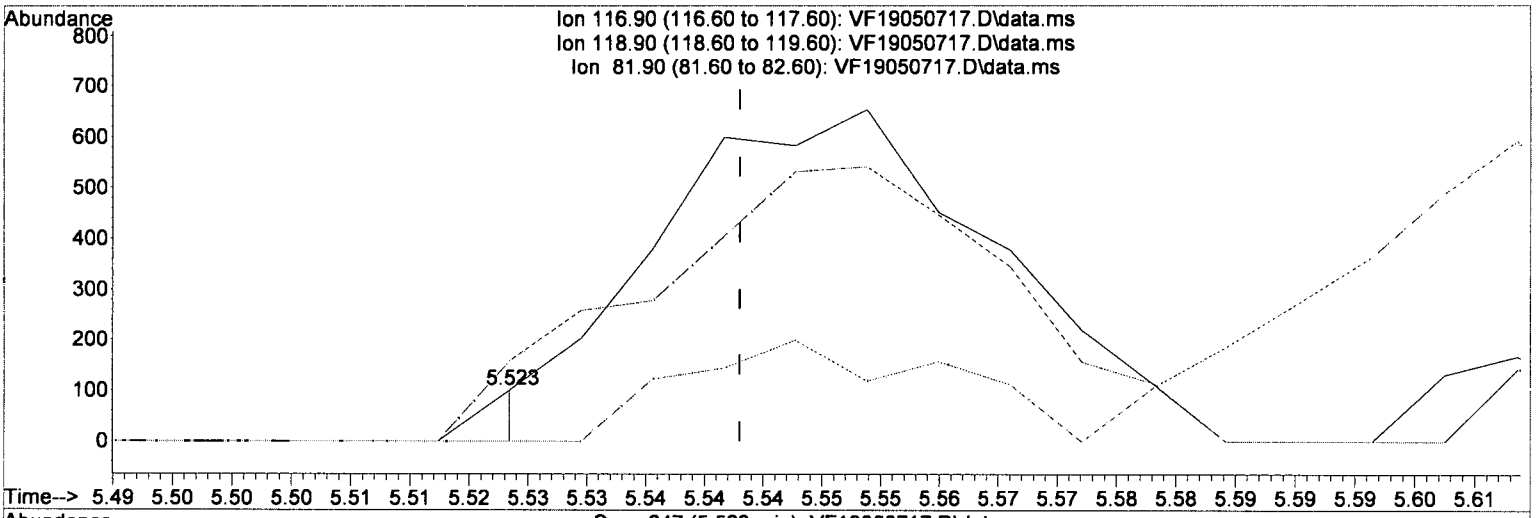
IuT = 0.60

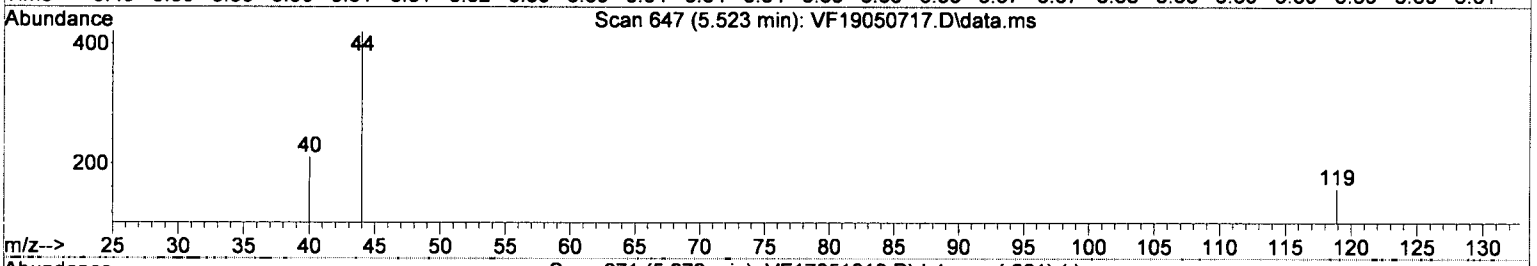
↑ MDL MRL

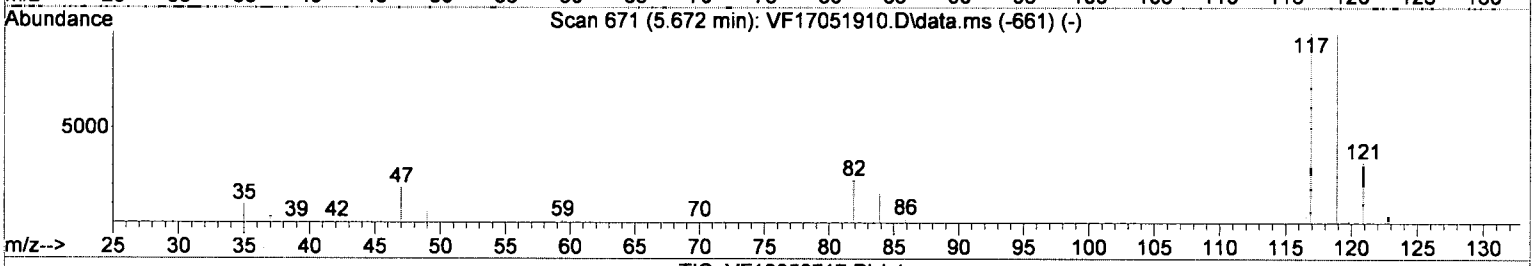
Quantitation Report (Qedit)

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







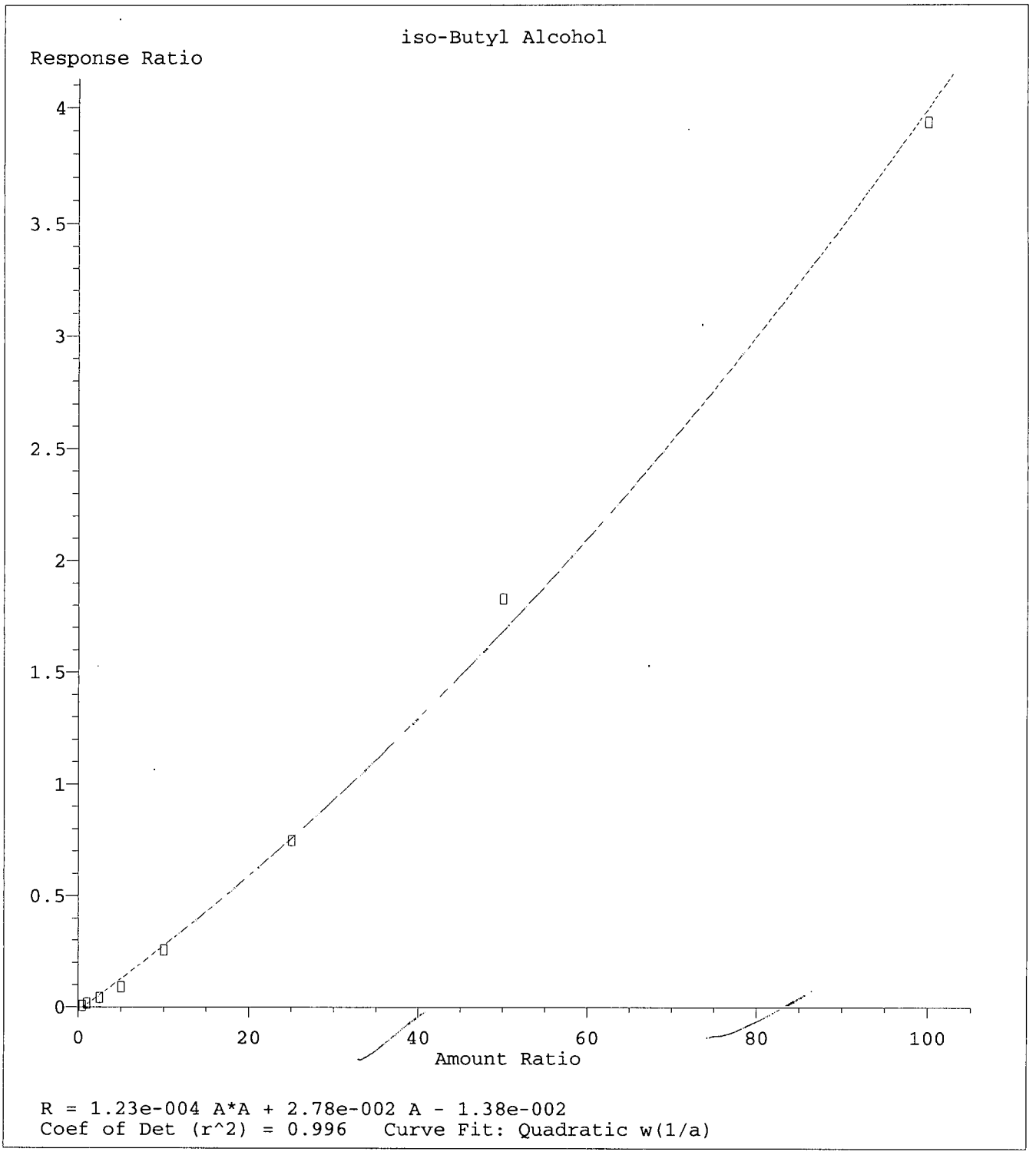
TIC: VF19050717.D\data.ms

(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



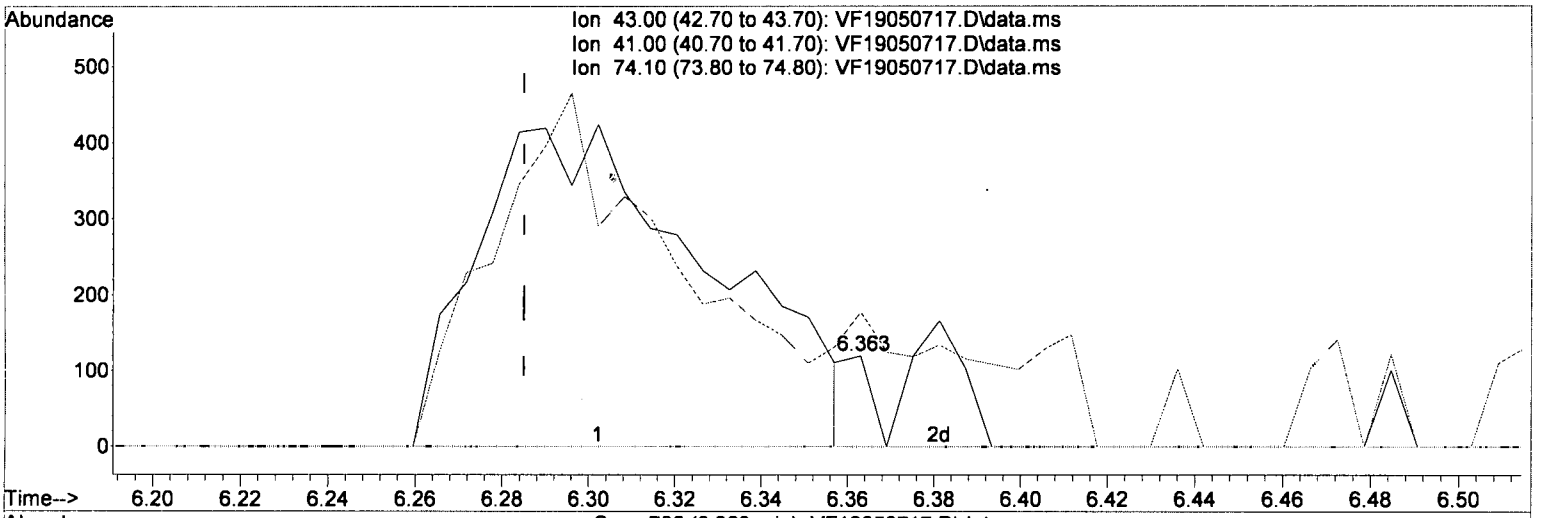
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

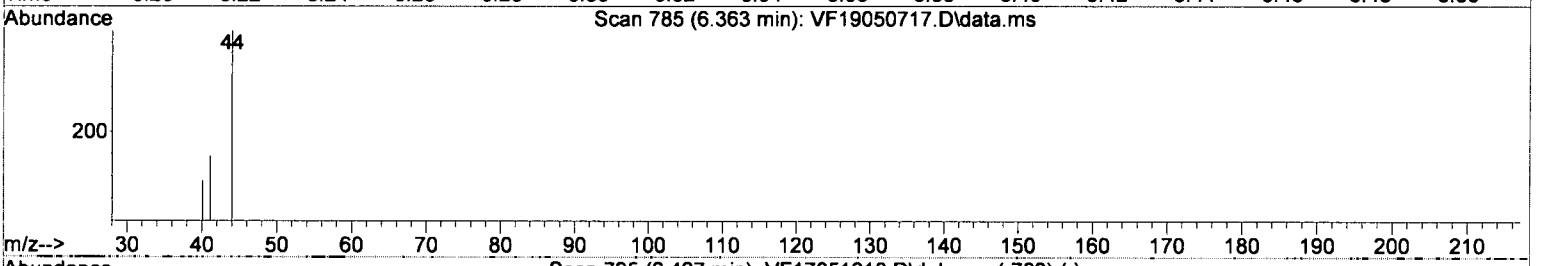
$\bar{x}_{WT} = 24.97$

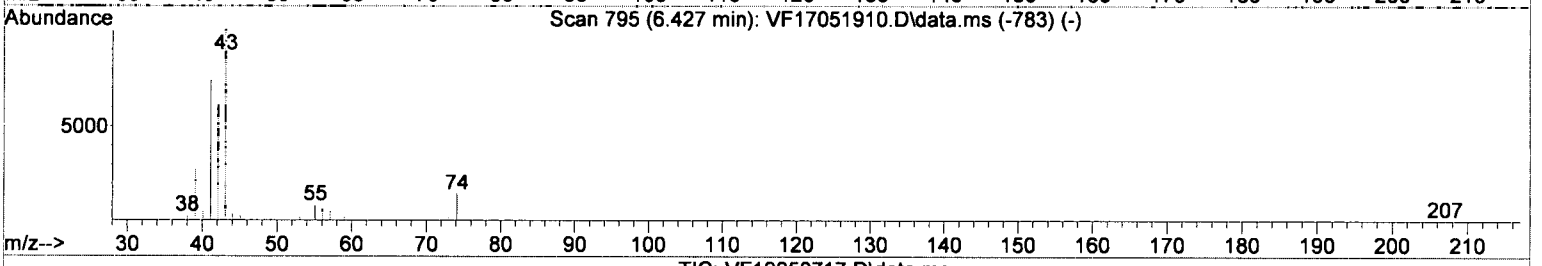
Quantitation Report (Qedit)

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







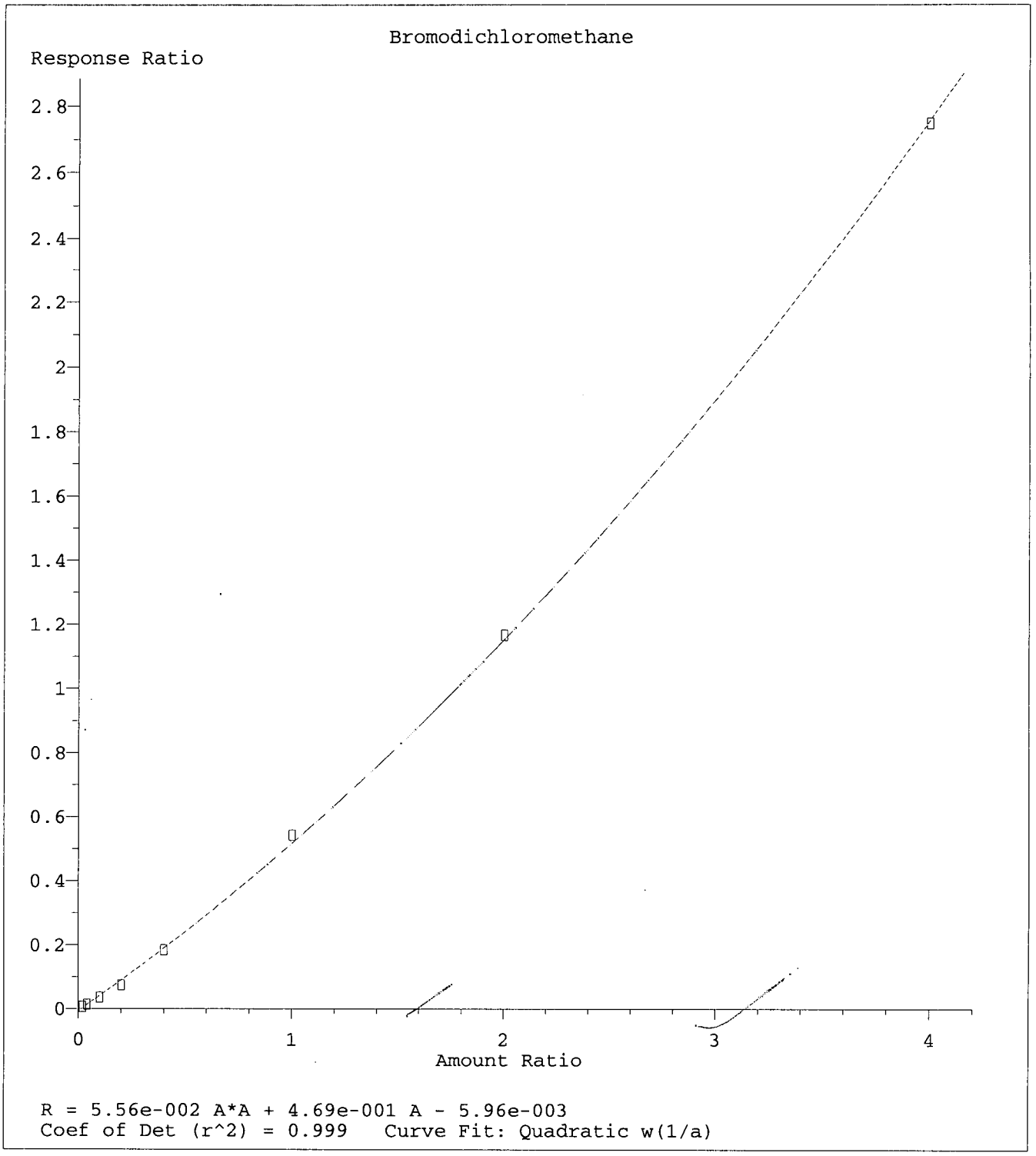
TIC: VF19050717.D\data.ms

(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

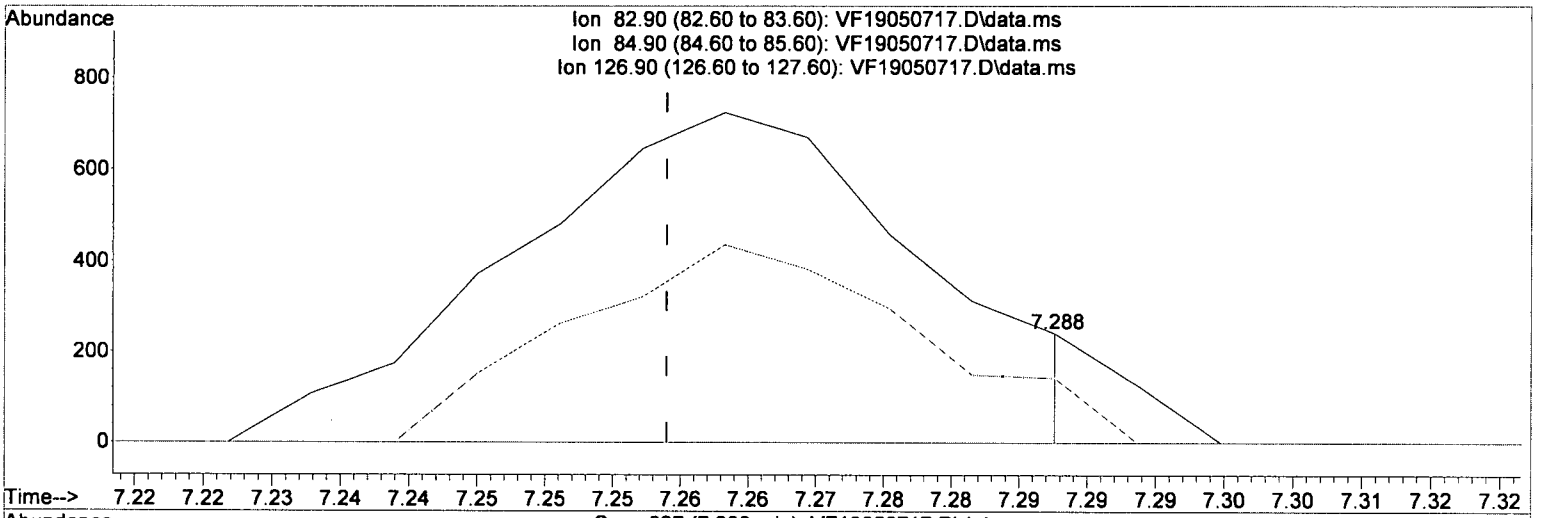
Int = 0.65

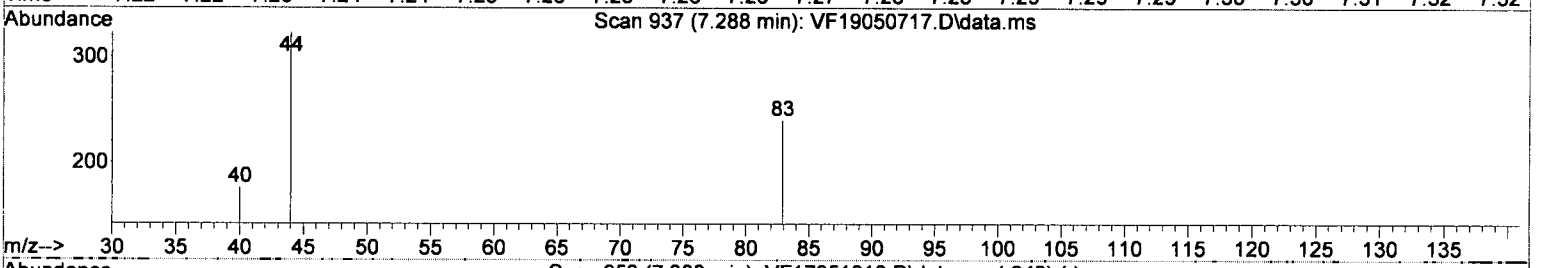
9 MDL MRL

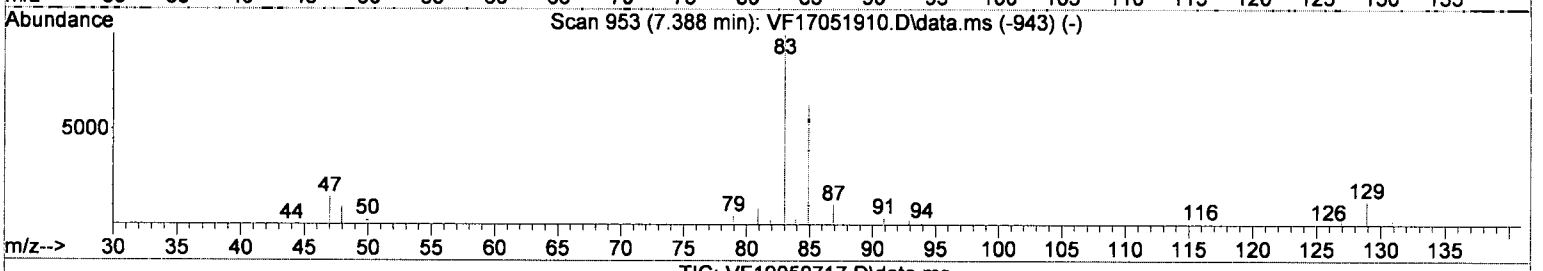
Quantitation Report (Qedit)

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







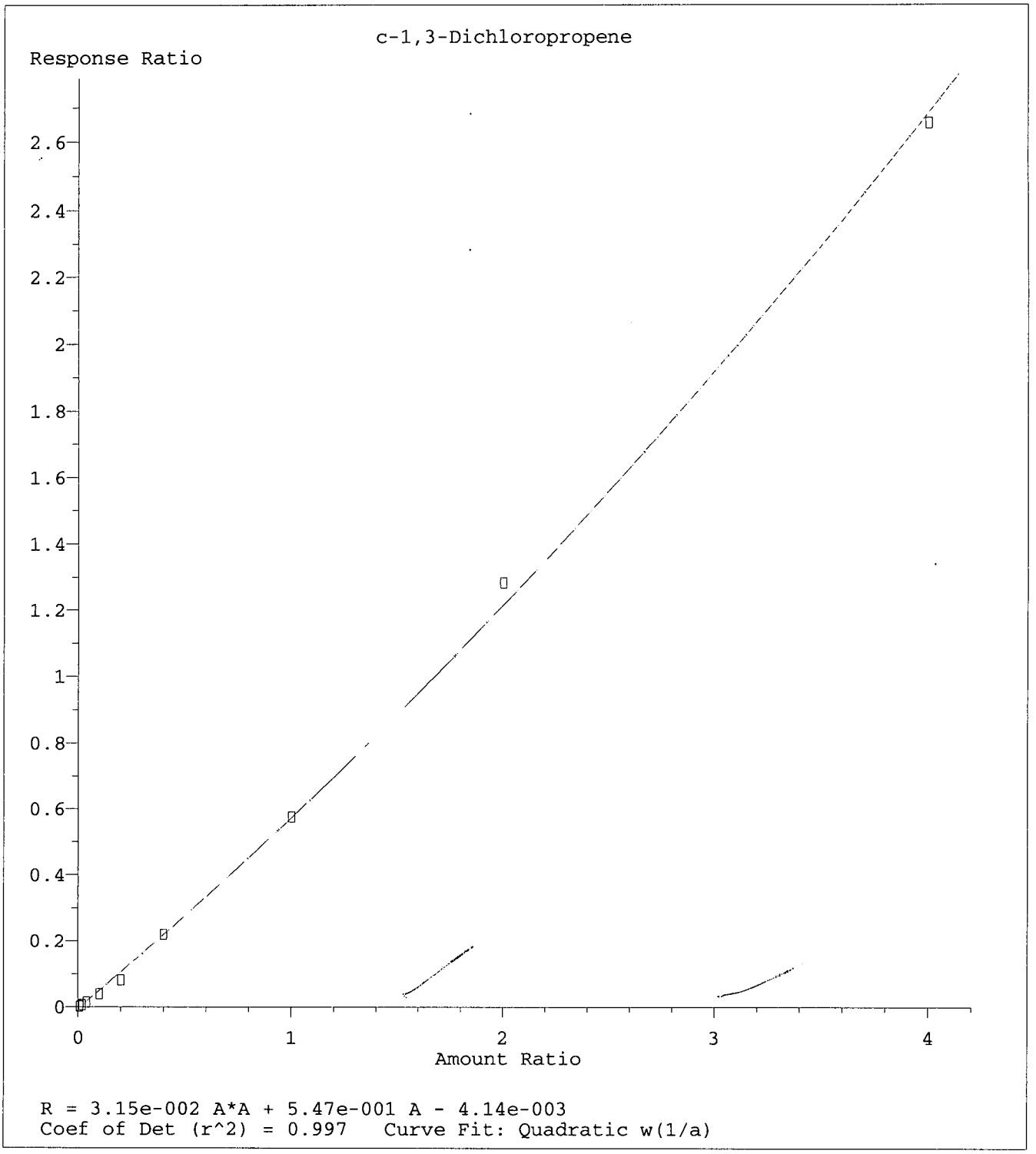
TIC: VF19050717.D\data.ms

(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



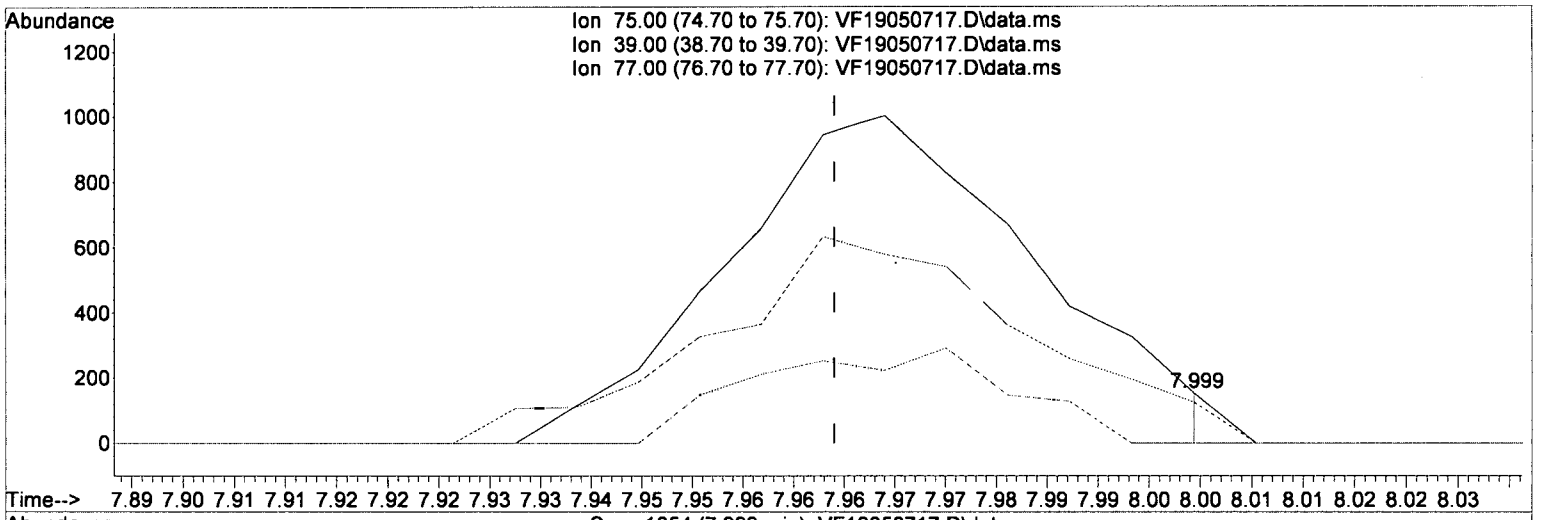
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

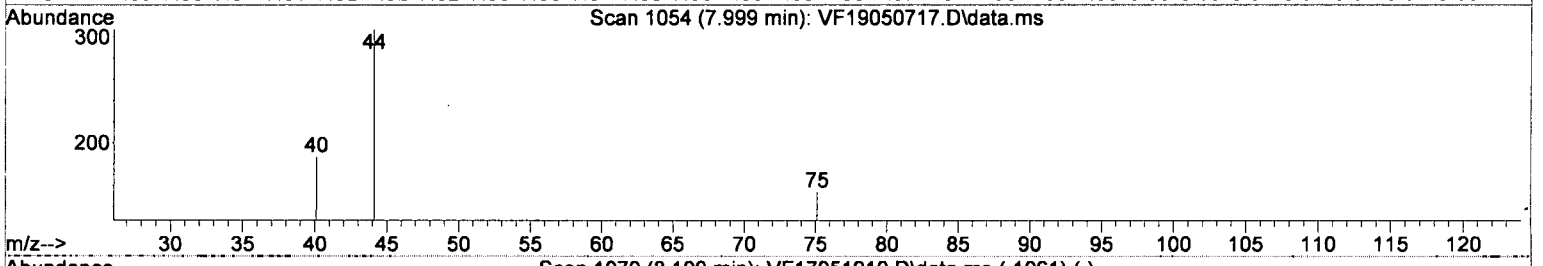
Int = 0.38

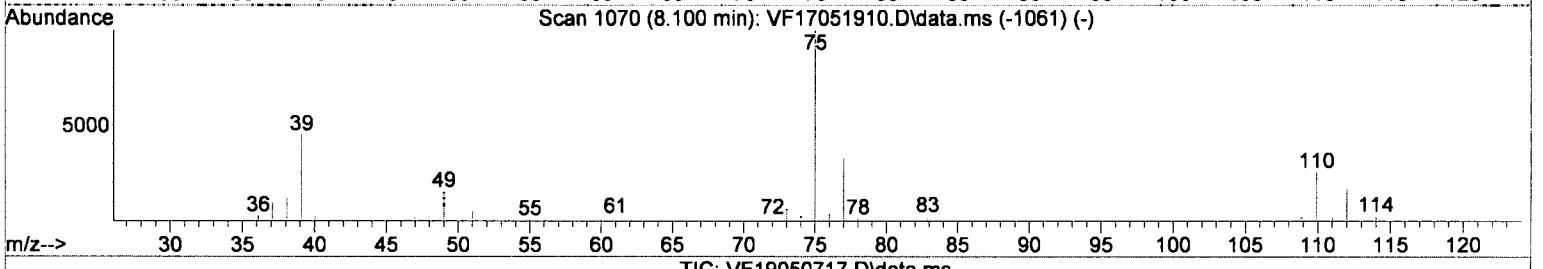
Quantitation Report (Qedit)

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







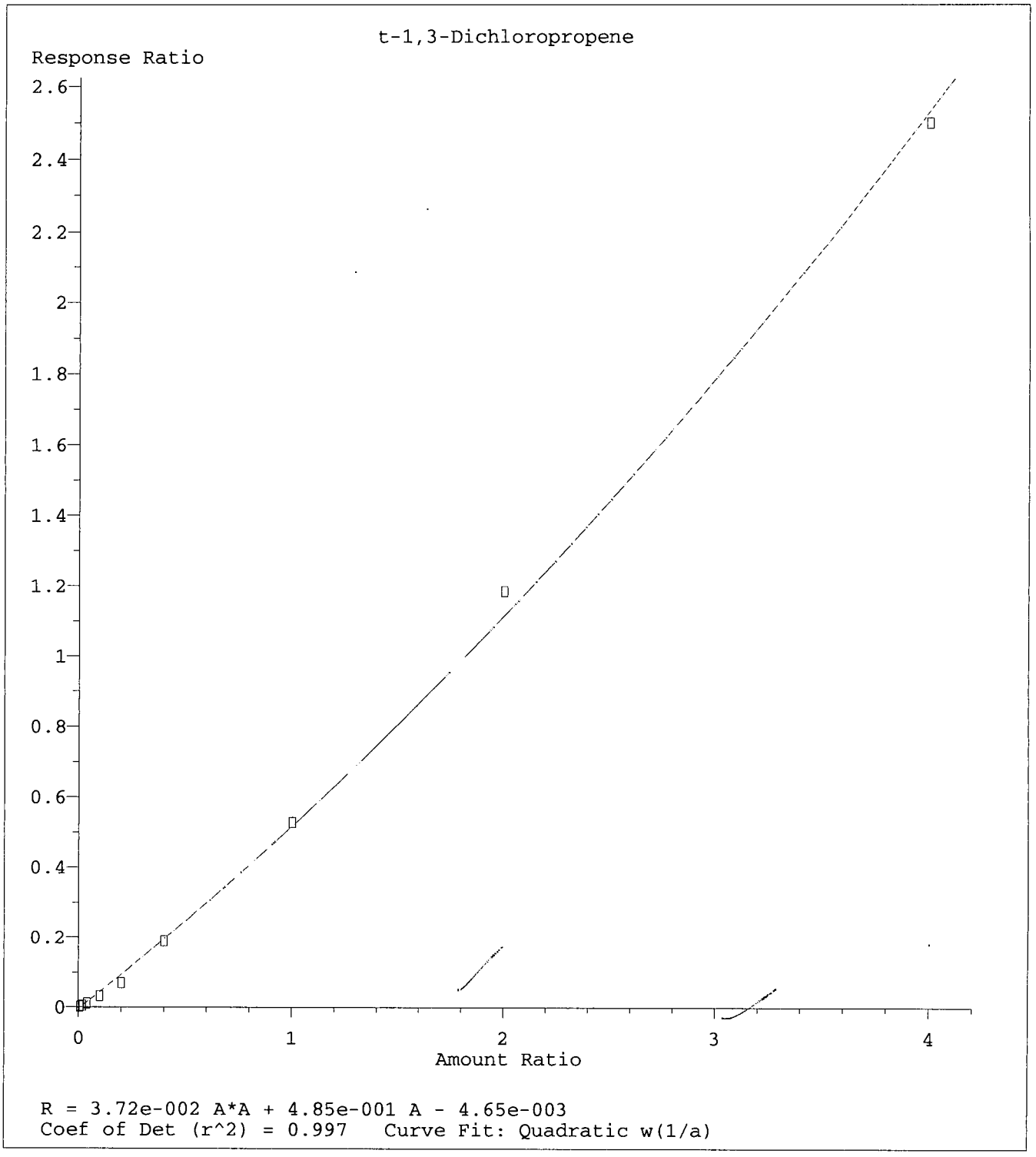
TIC: VF19050717.D\data.ms

(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



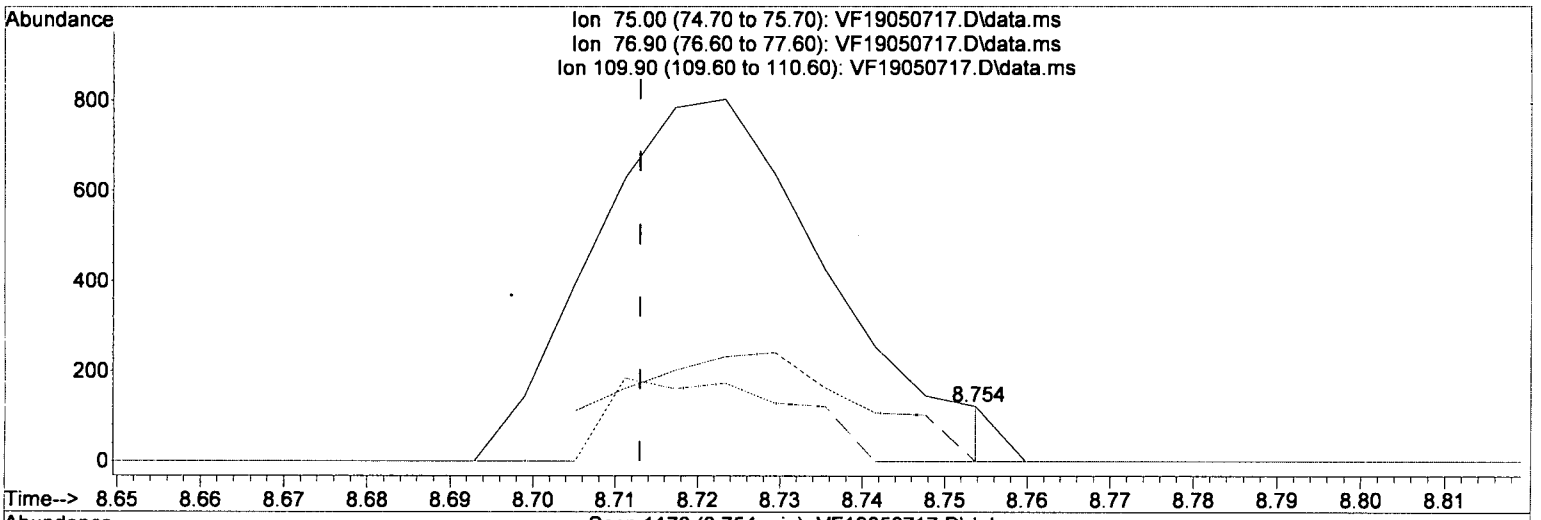
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

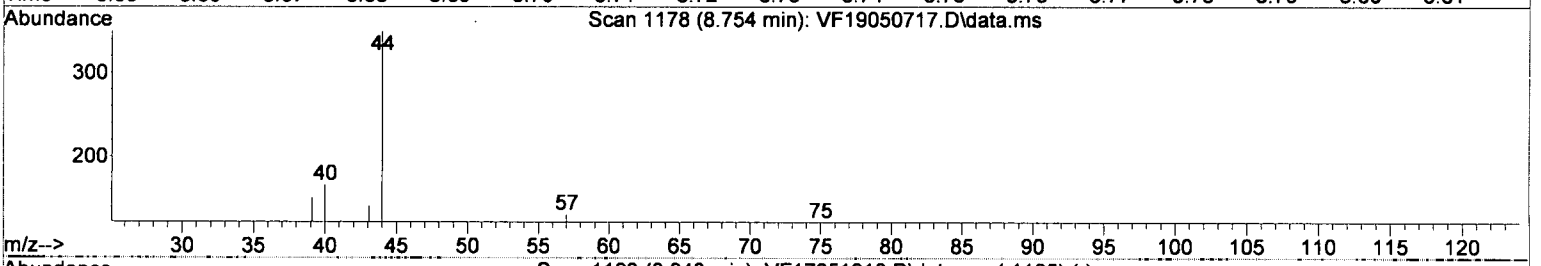
Int = 0.48

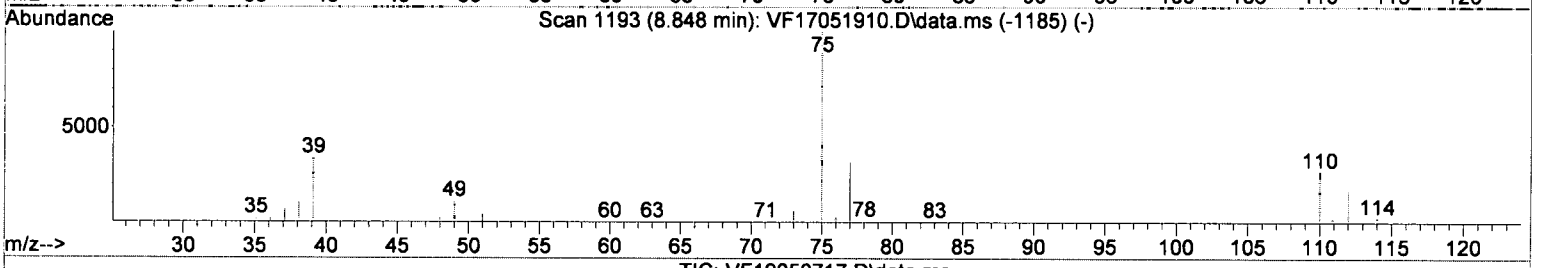
Quantitation Report (Qedit)

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







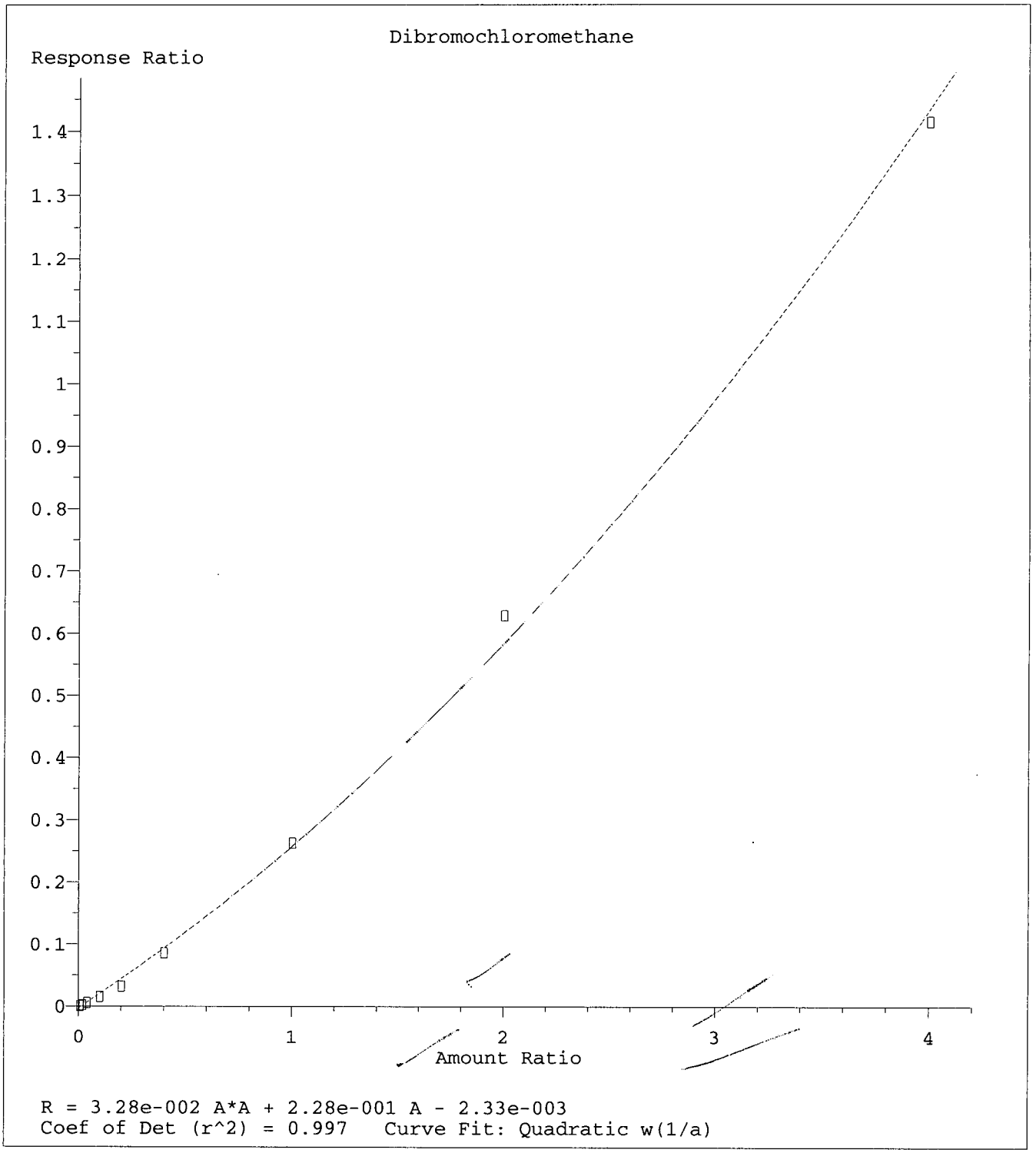
TIC: VF19050717.D\data.ms

(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



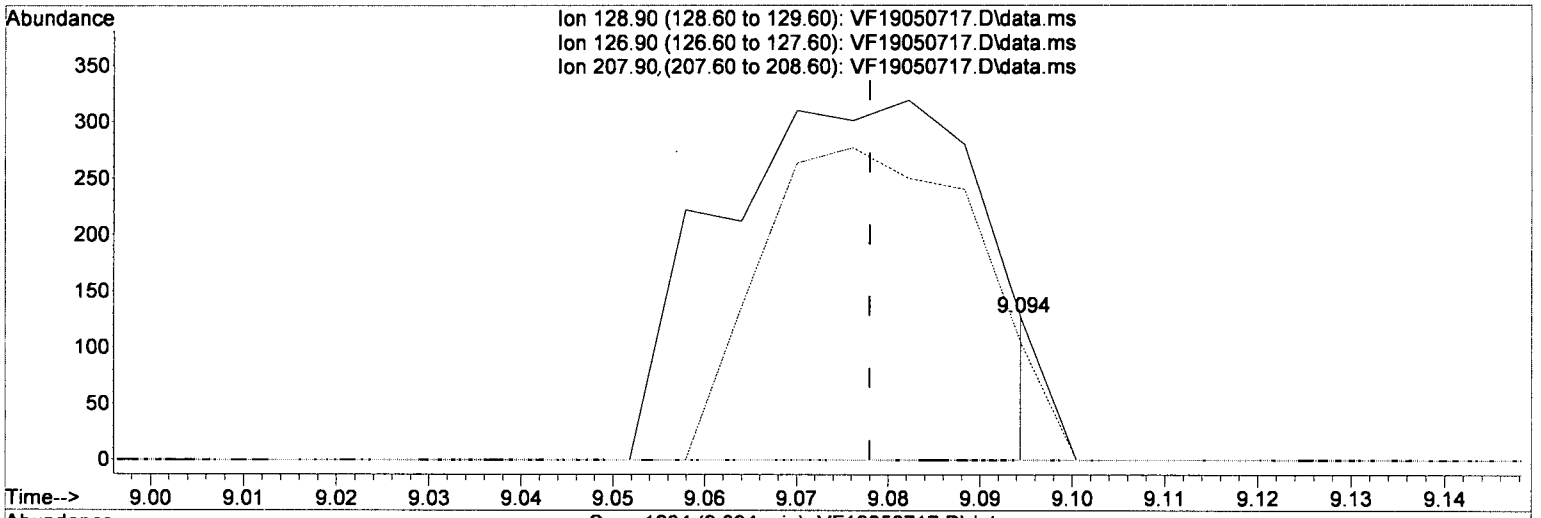
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

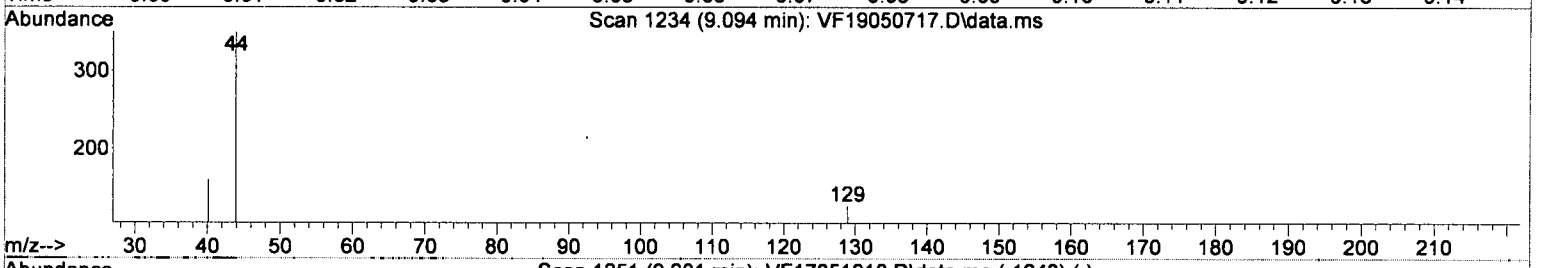
Int= 0.51

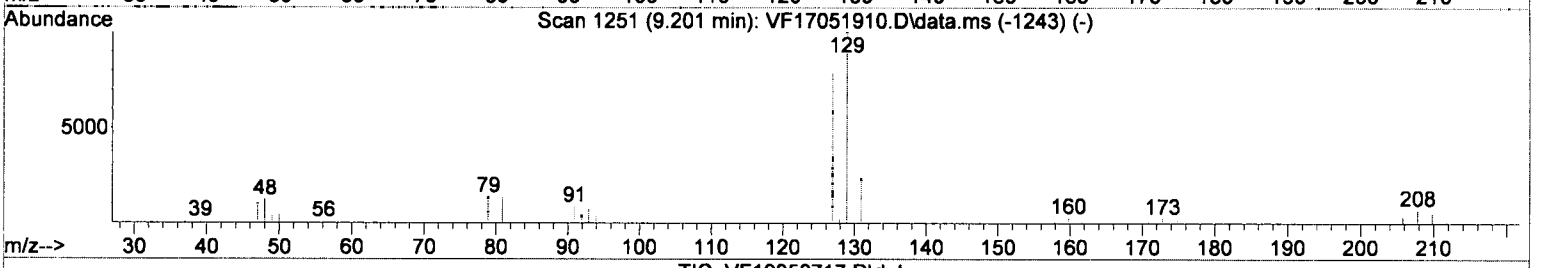
Quantitation Report (Qedit)

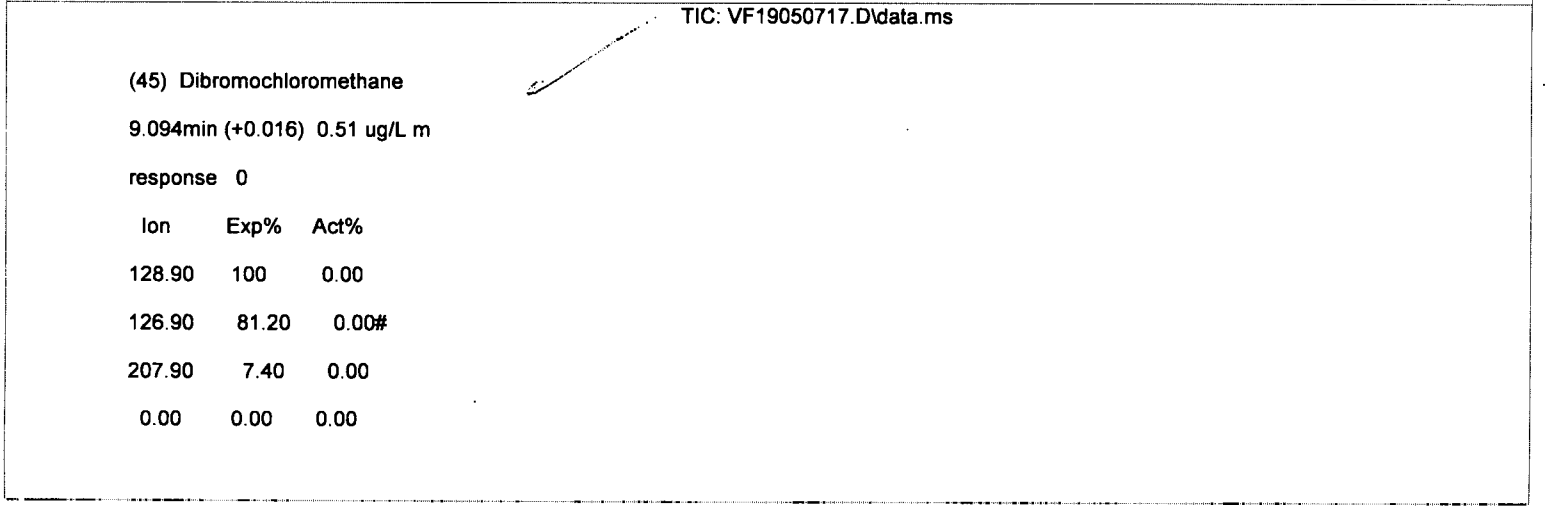
Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

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







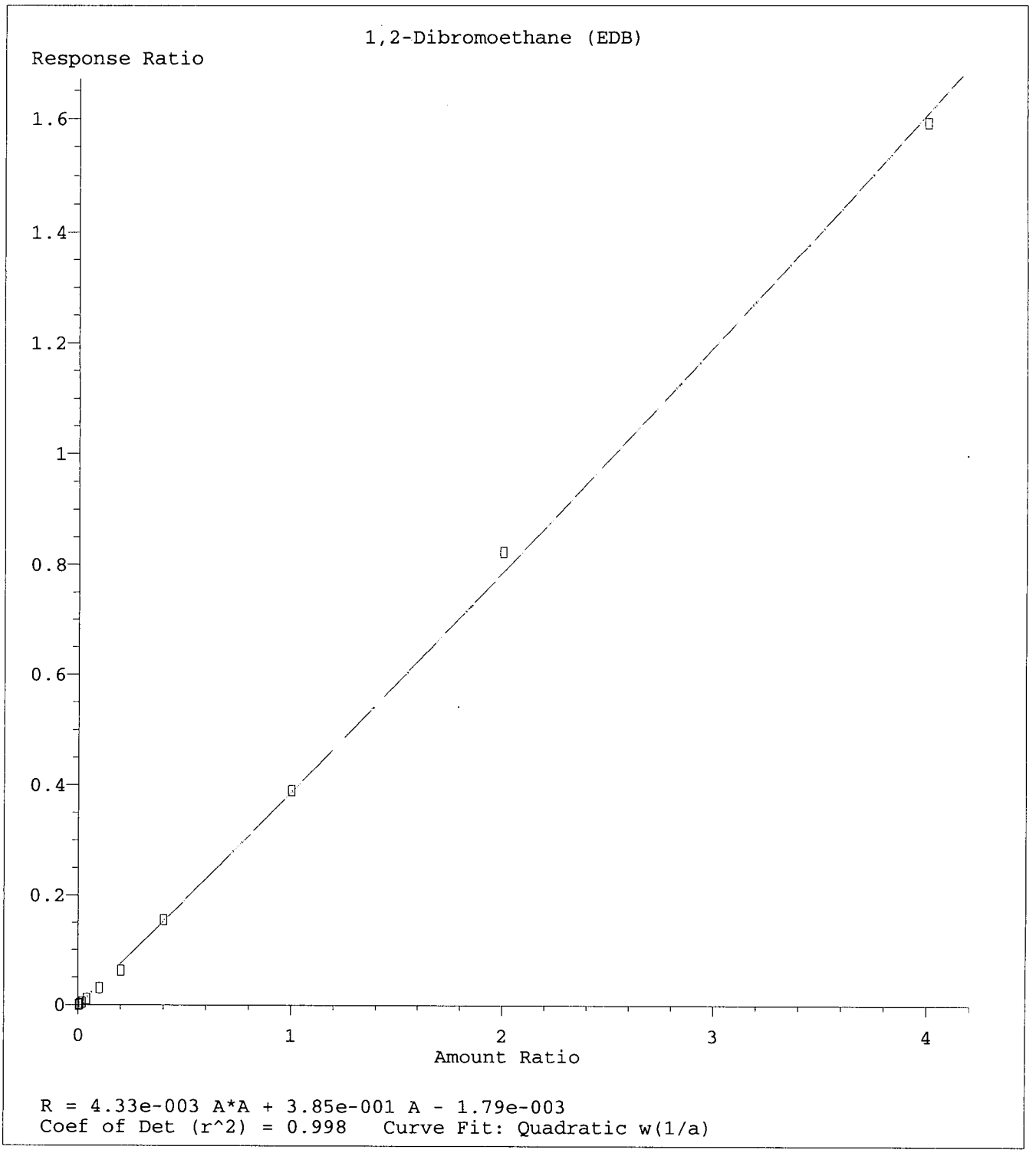


(45) Dibromochloromethane

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



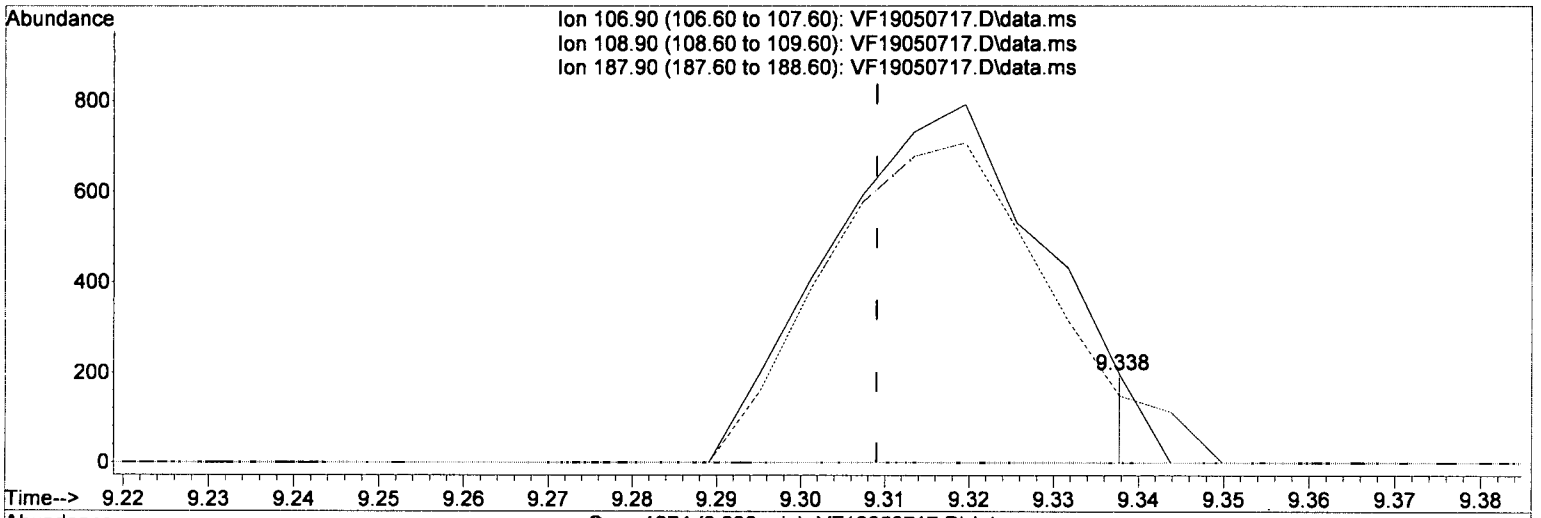
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

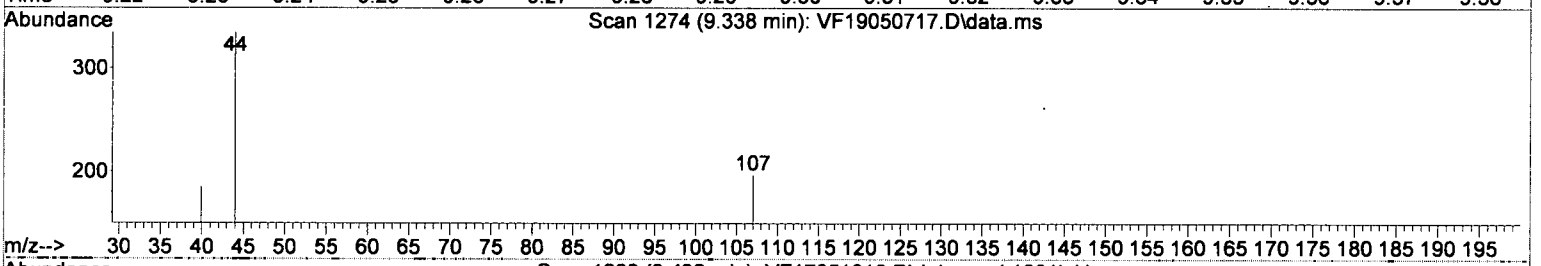
Int= 0.23

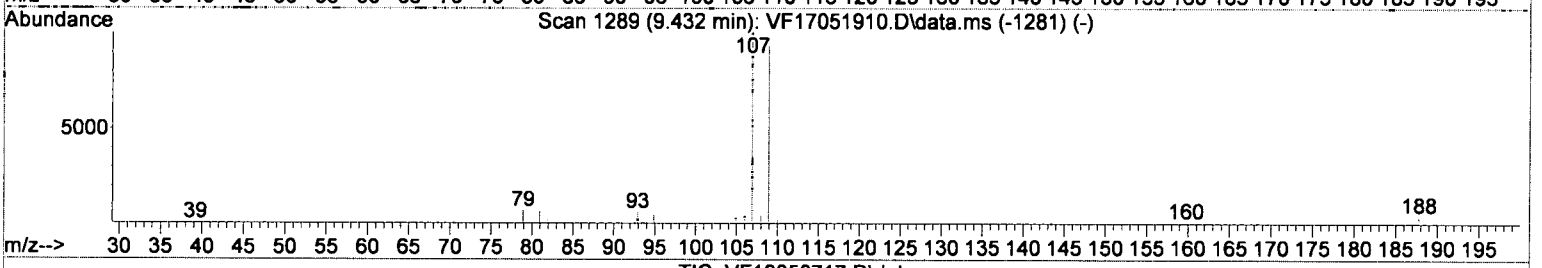
Quantitation Report (Qedit)

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







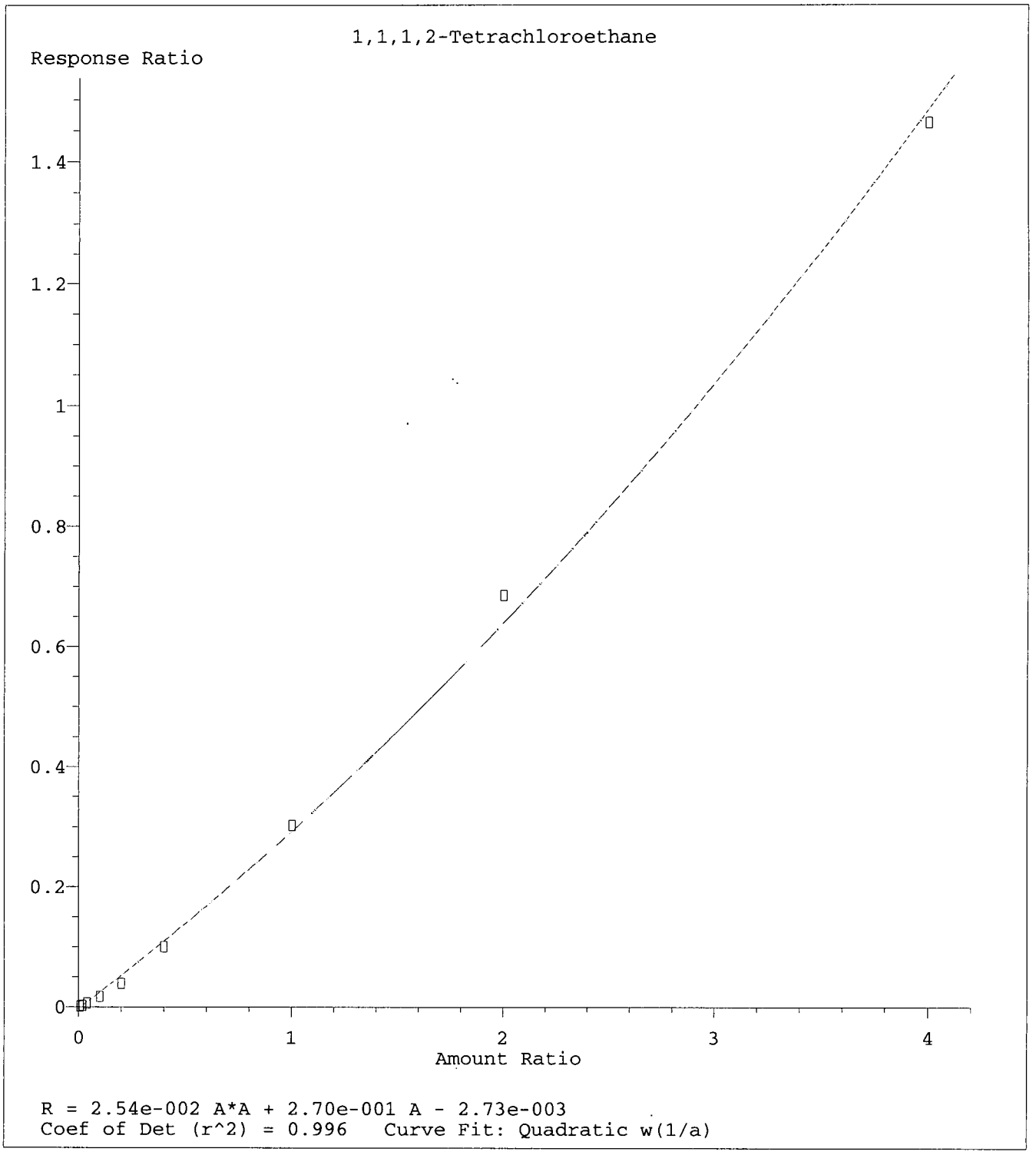
TIC: VF19050717.D\data.ms

(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



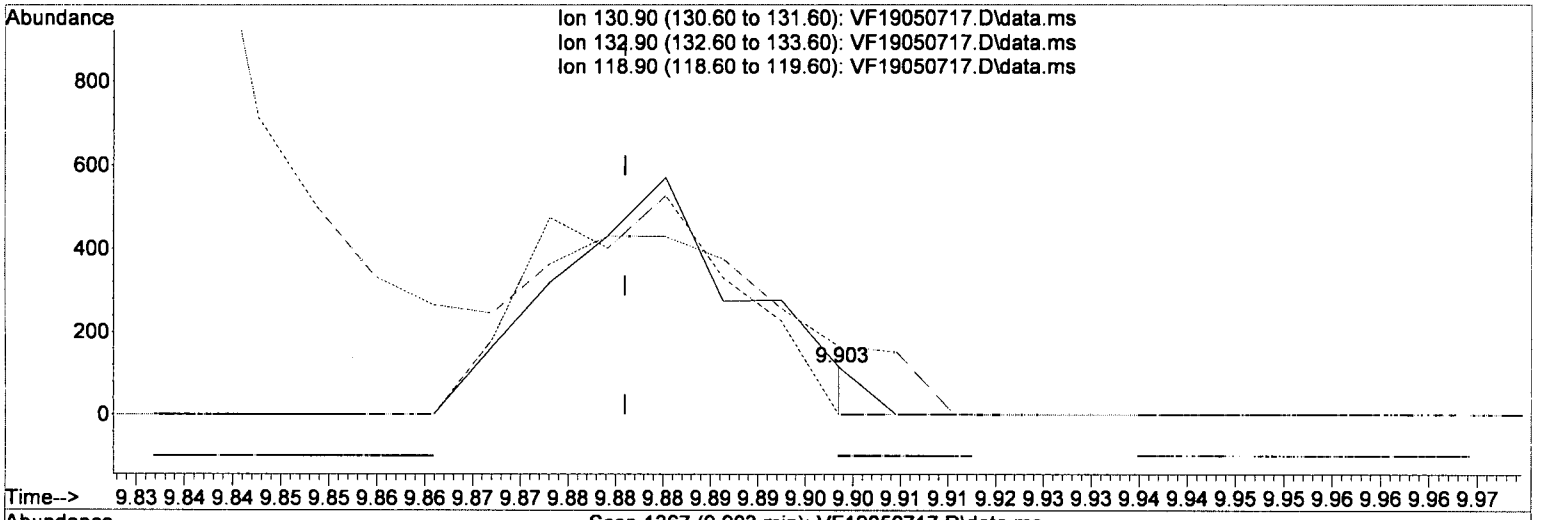
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

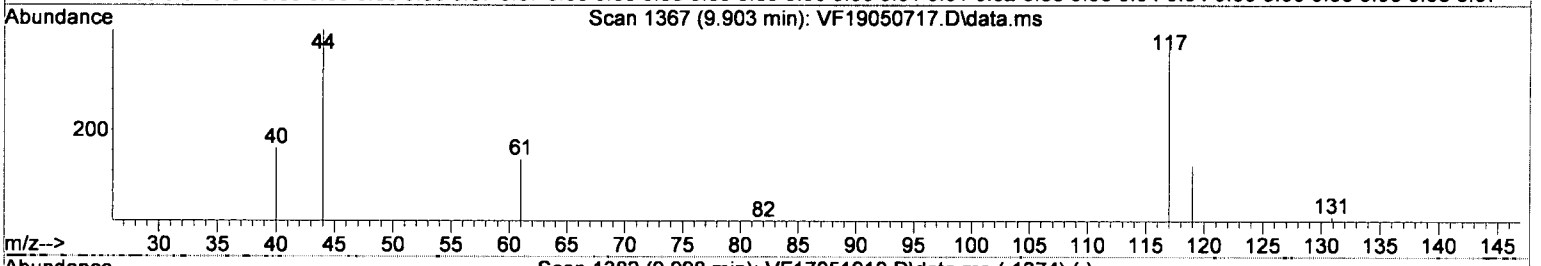
Int = 0.5 ppm/mL

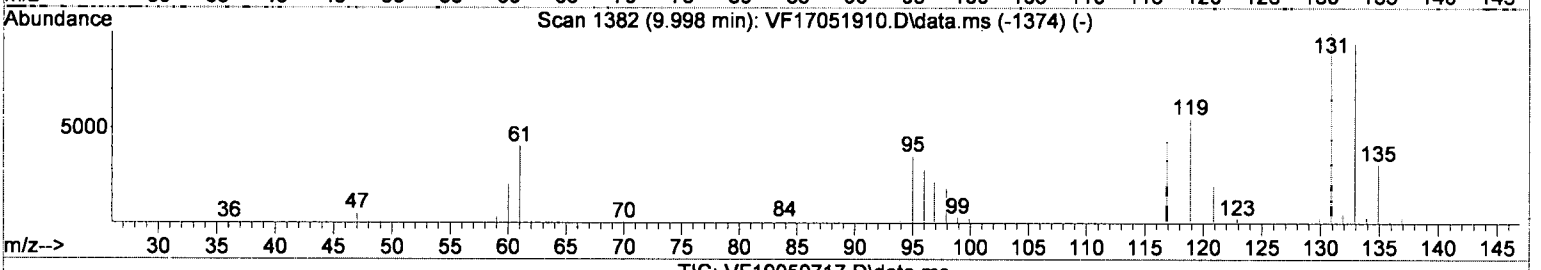
Quantitation Report (Qedit)

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







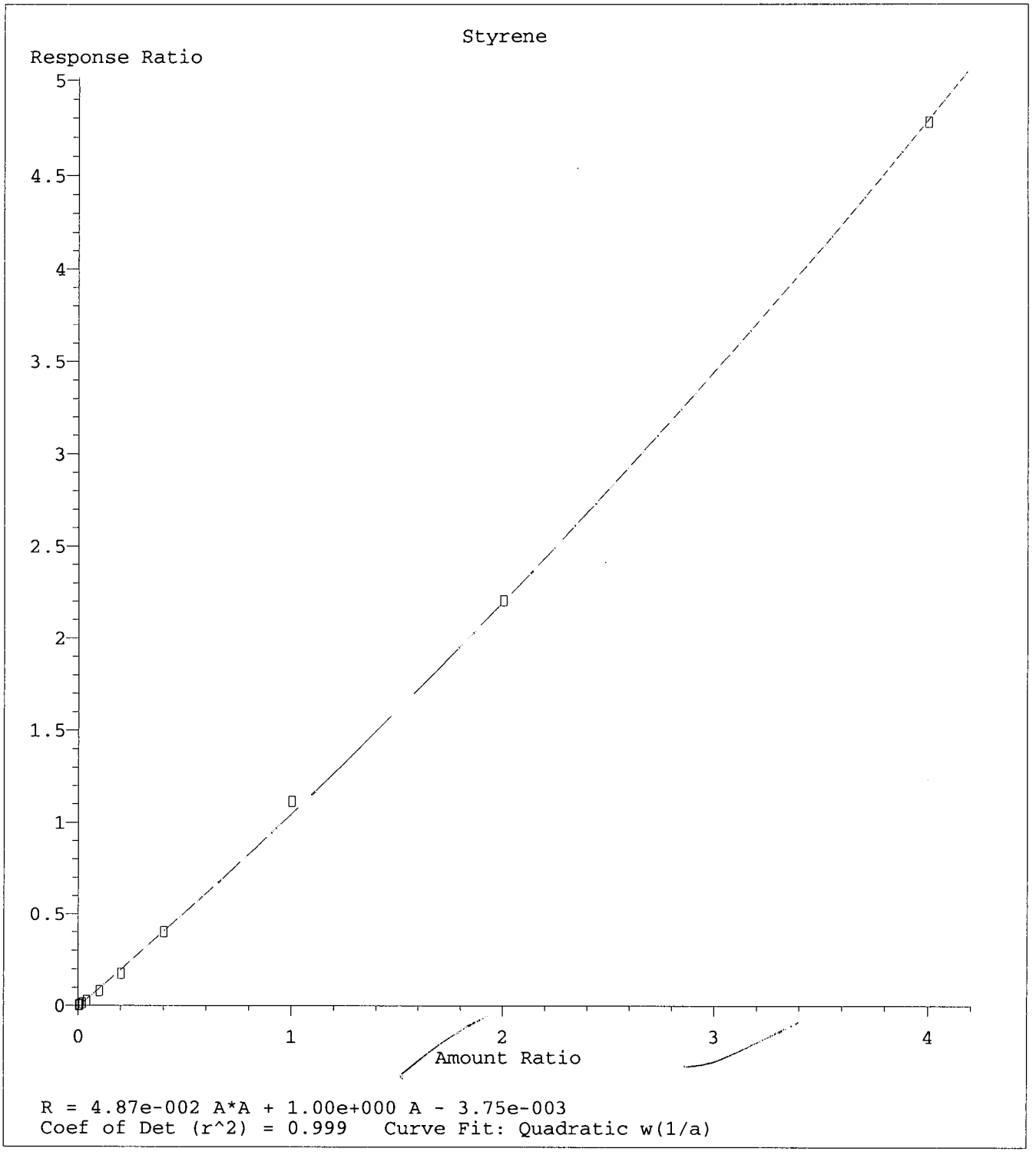
TIC: VF19050717.D\data.ms

(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



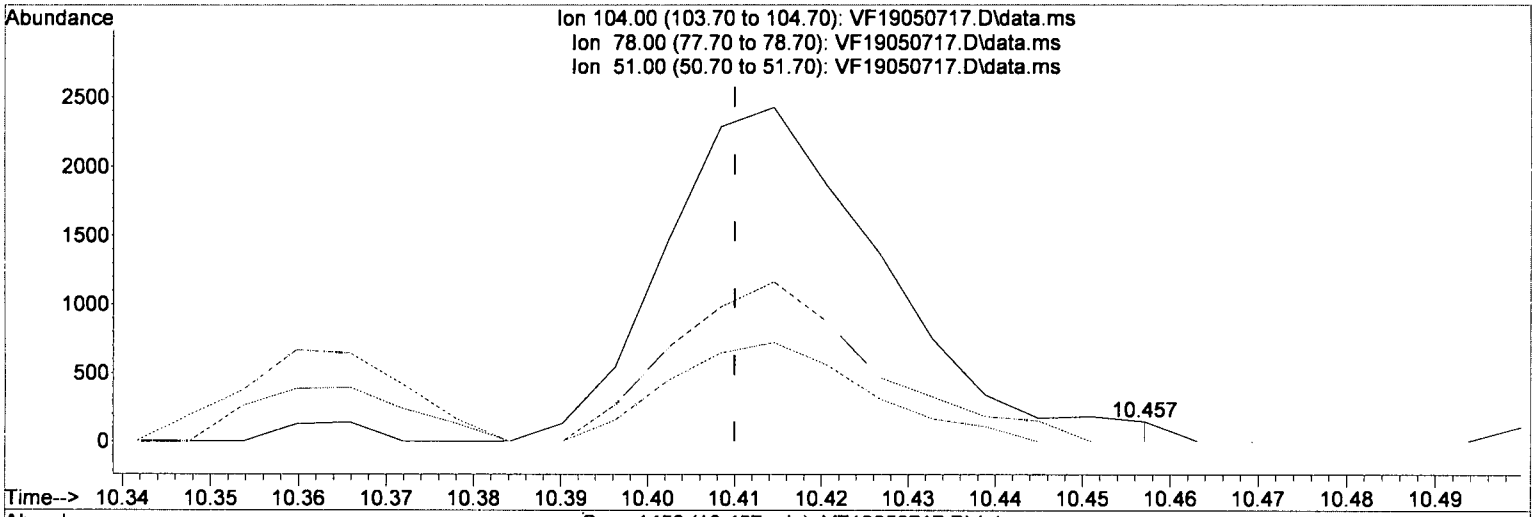
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

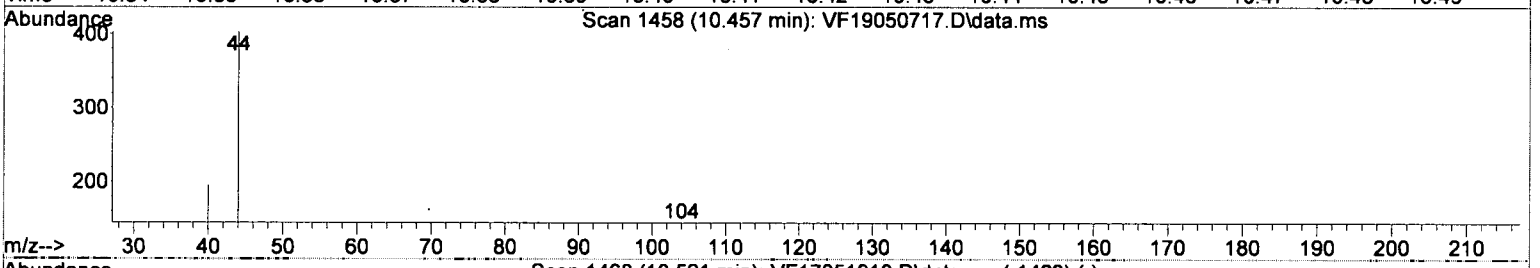
Int = 0.19

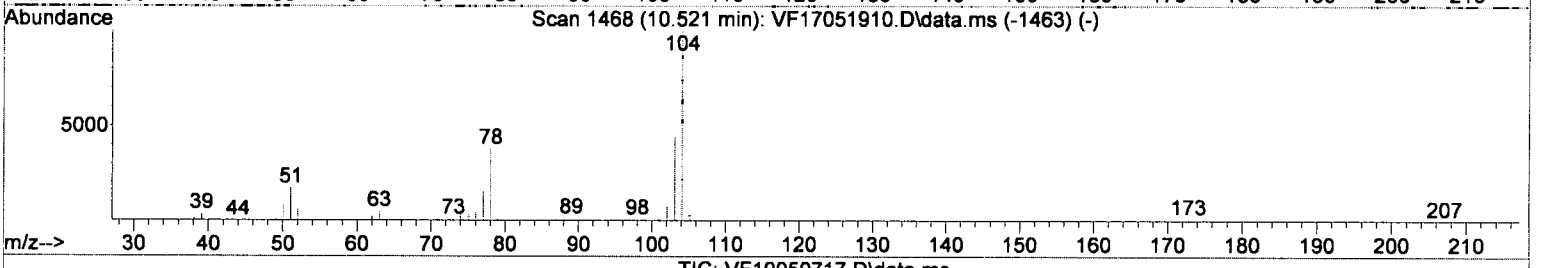
Quantitation Report (Qedit)

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







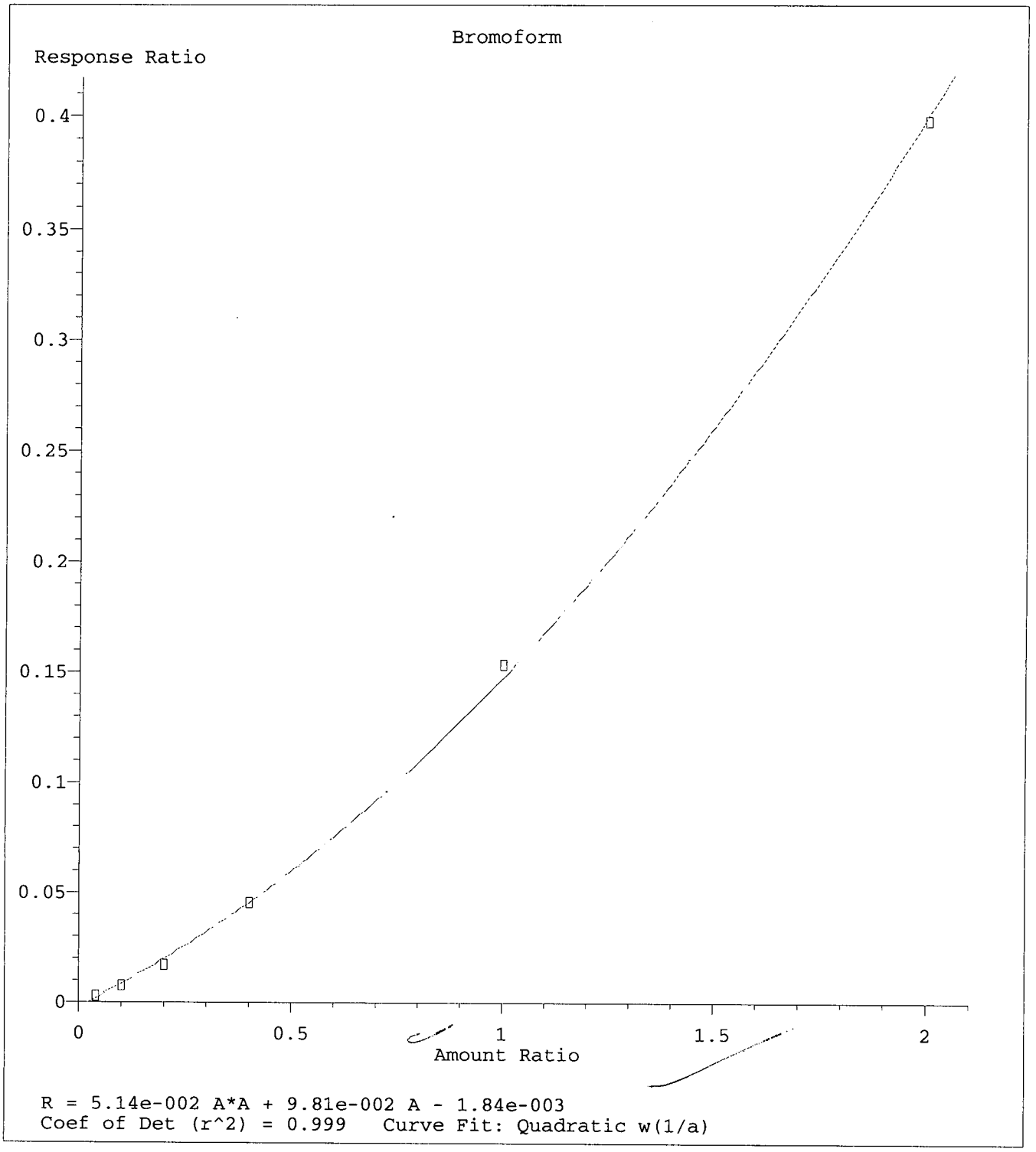
TIC: VF19050717.D\data.ms

(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



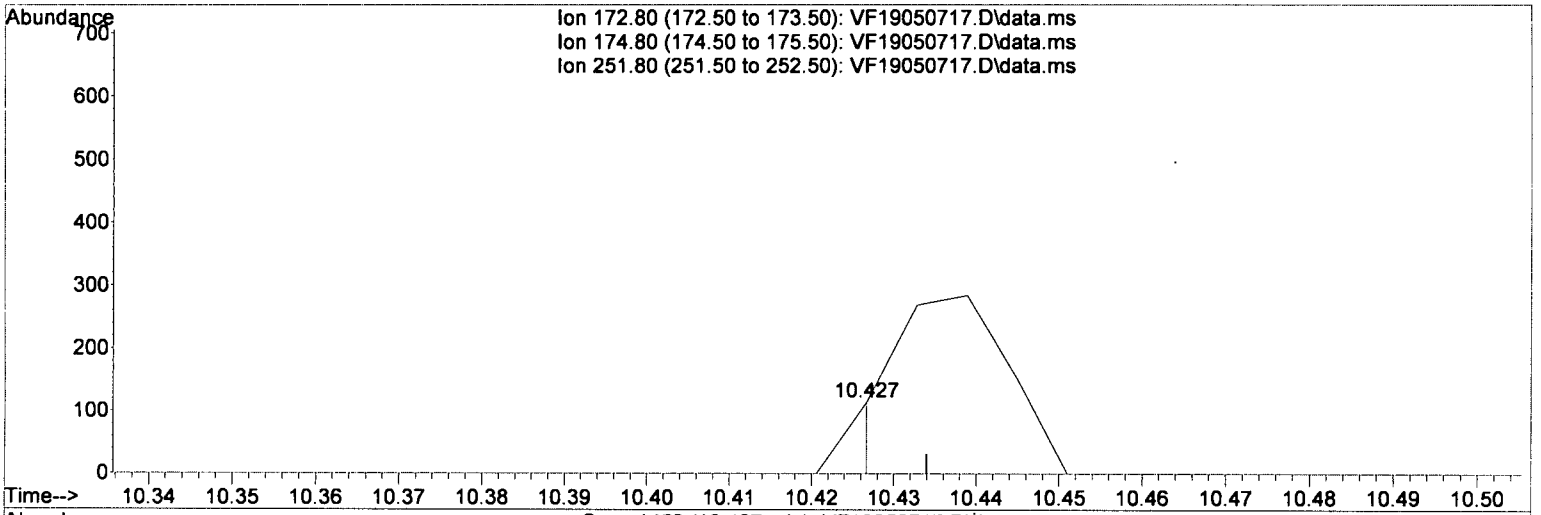
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

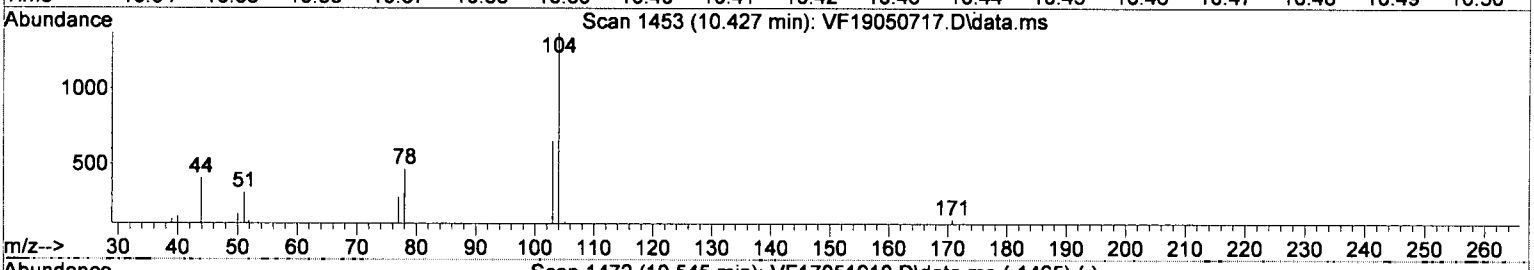
Int= 1.76
1 mol MRL

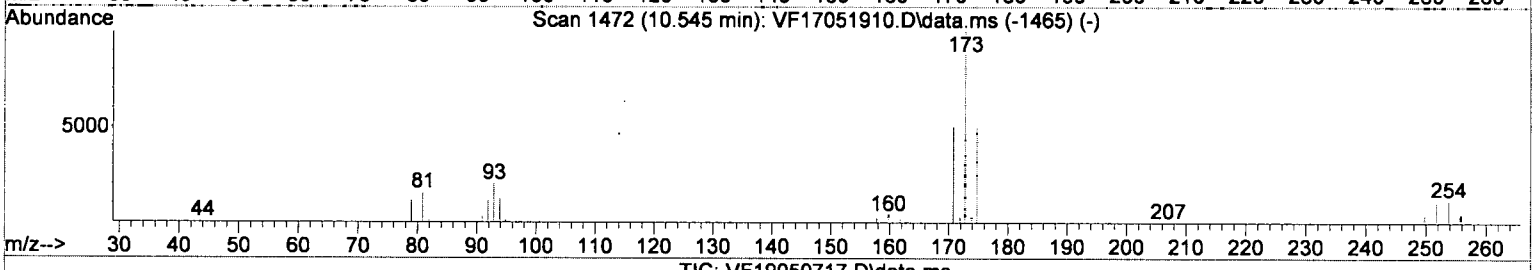
Quantitation Report (Qedit)

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







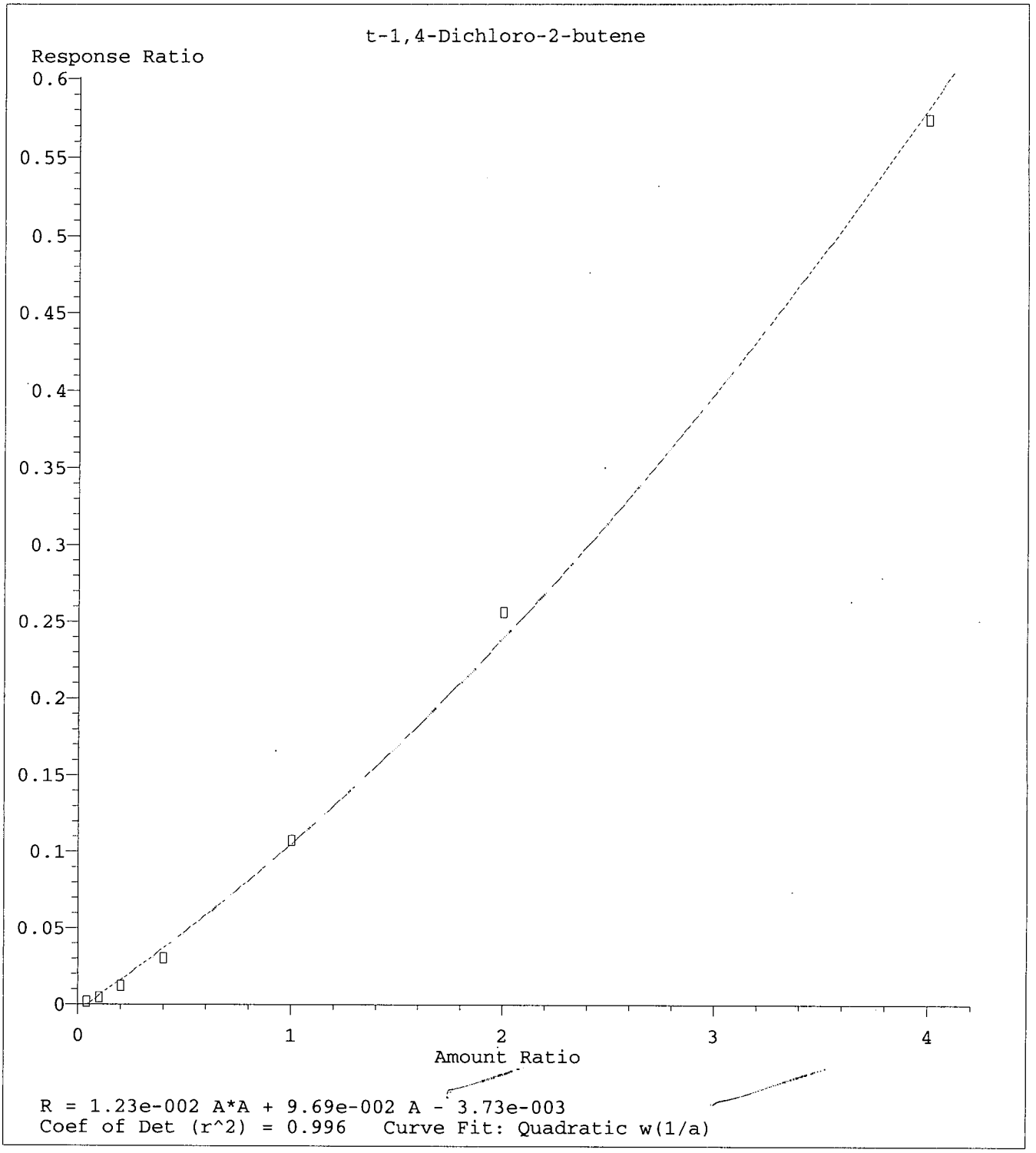
TIC: VF19050717.D\data.ms

(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



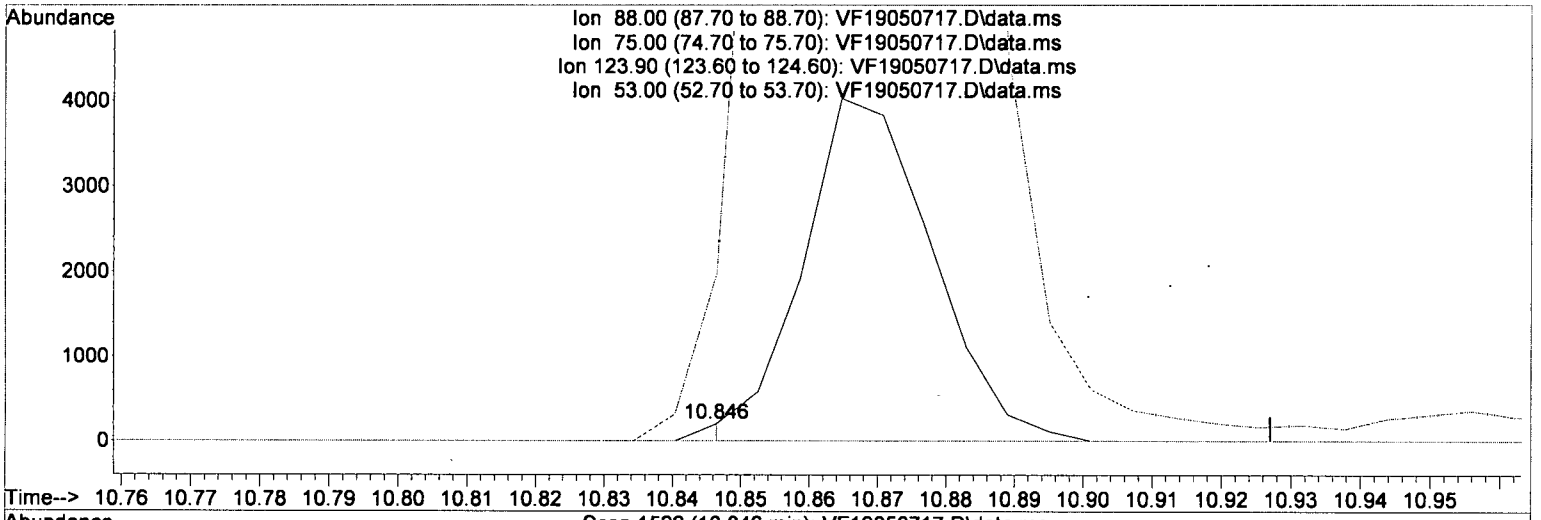
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

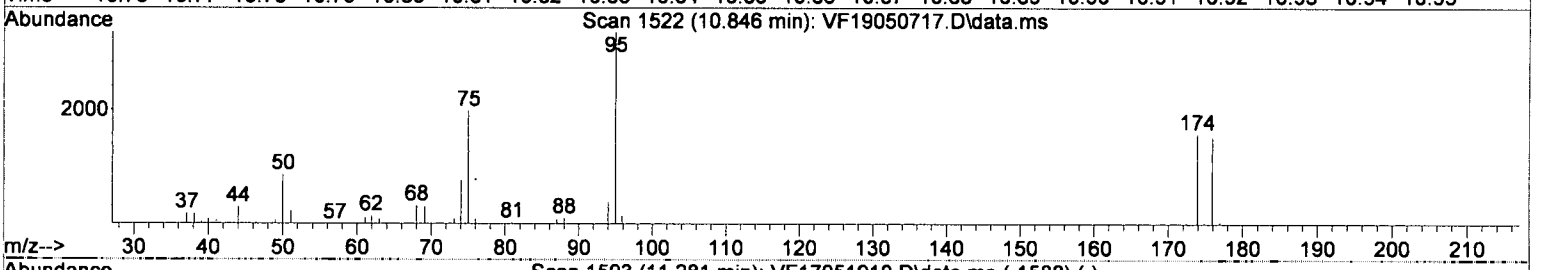
Int = 2,18

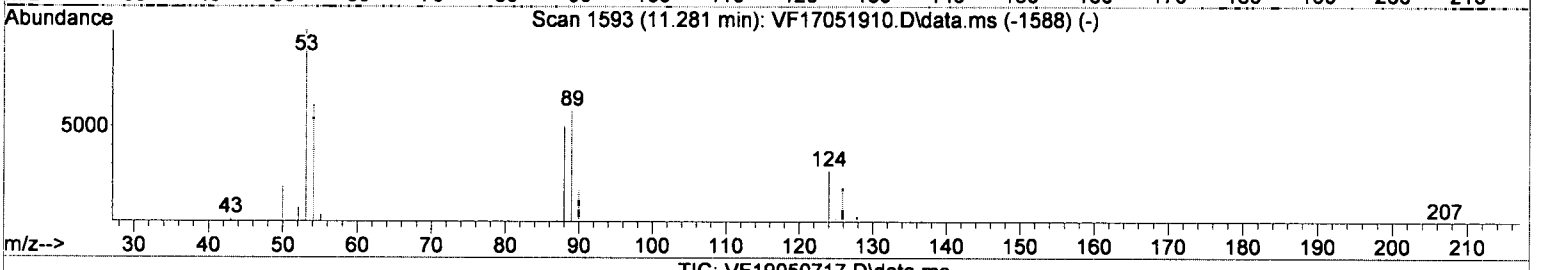
Quantitation Report (Qedit)

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







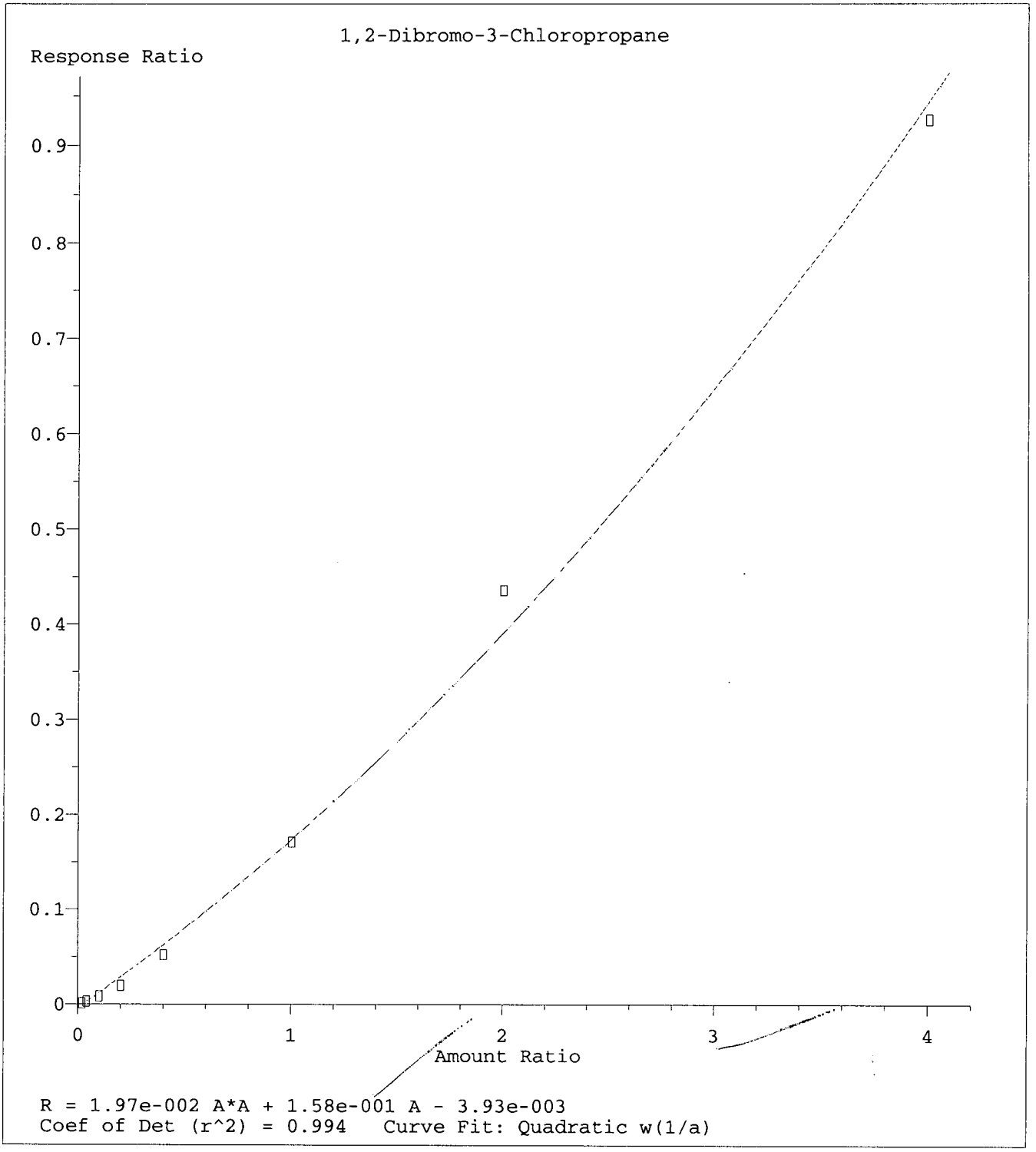
TIC: VF19050717.D\data.ms

(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#



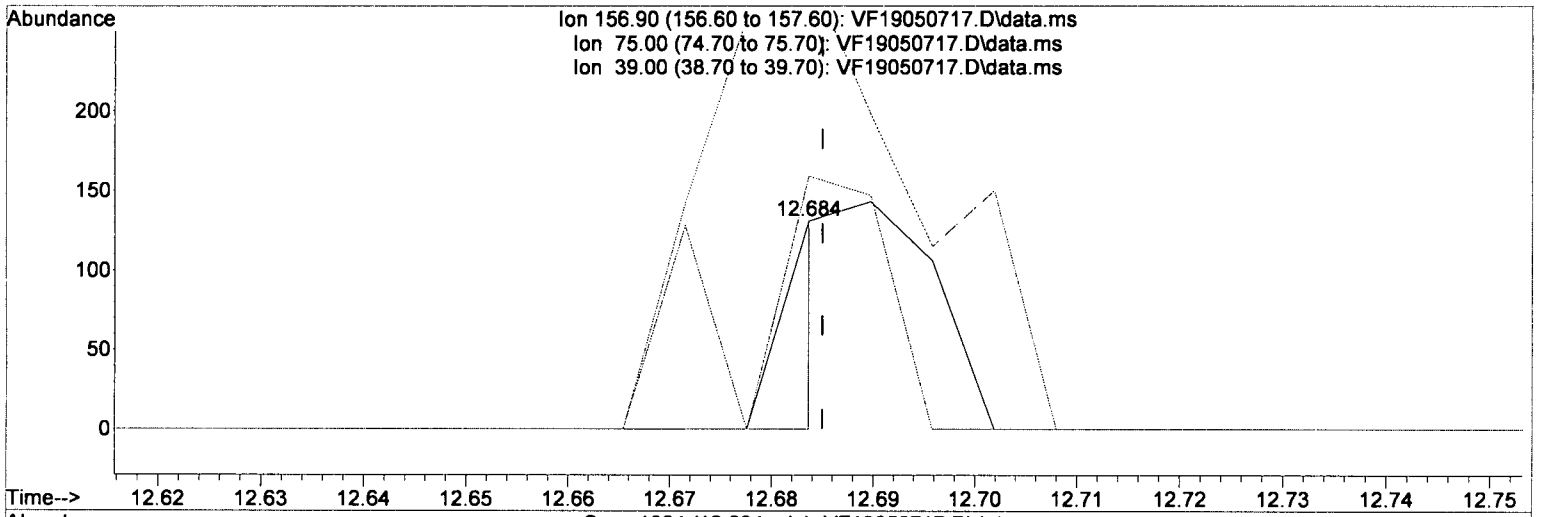
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

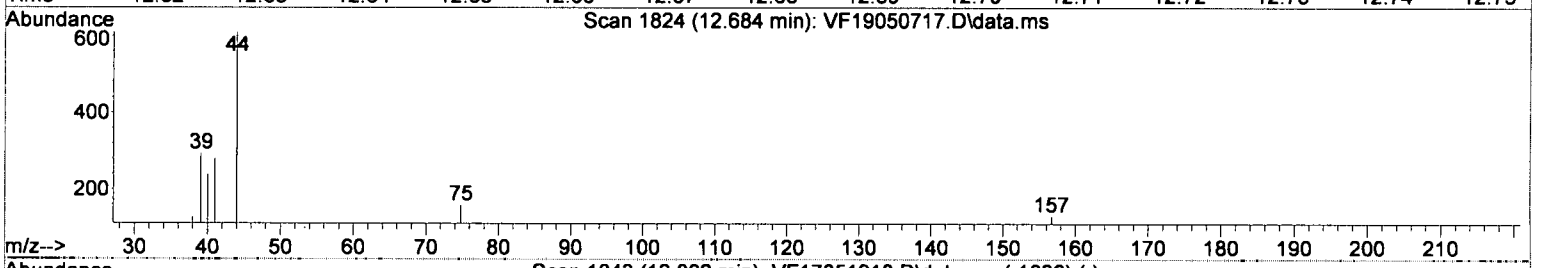
Int = 1.35

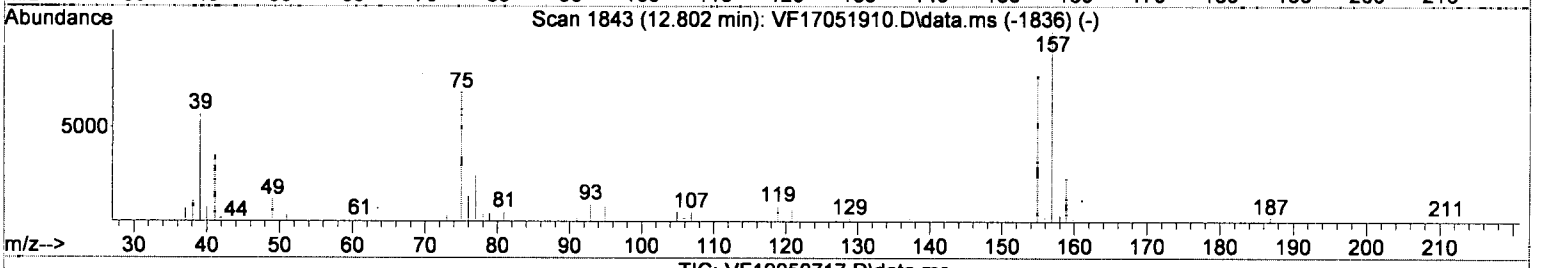
Quantitation Report (Qedit)

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







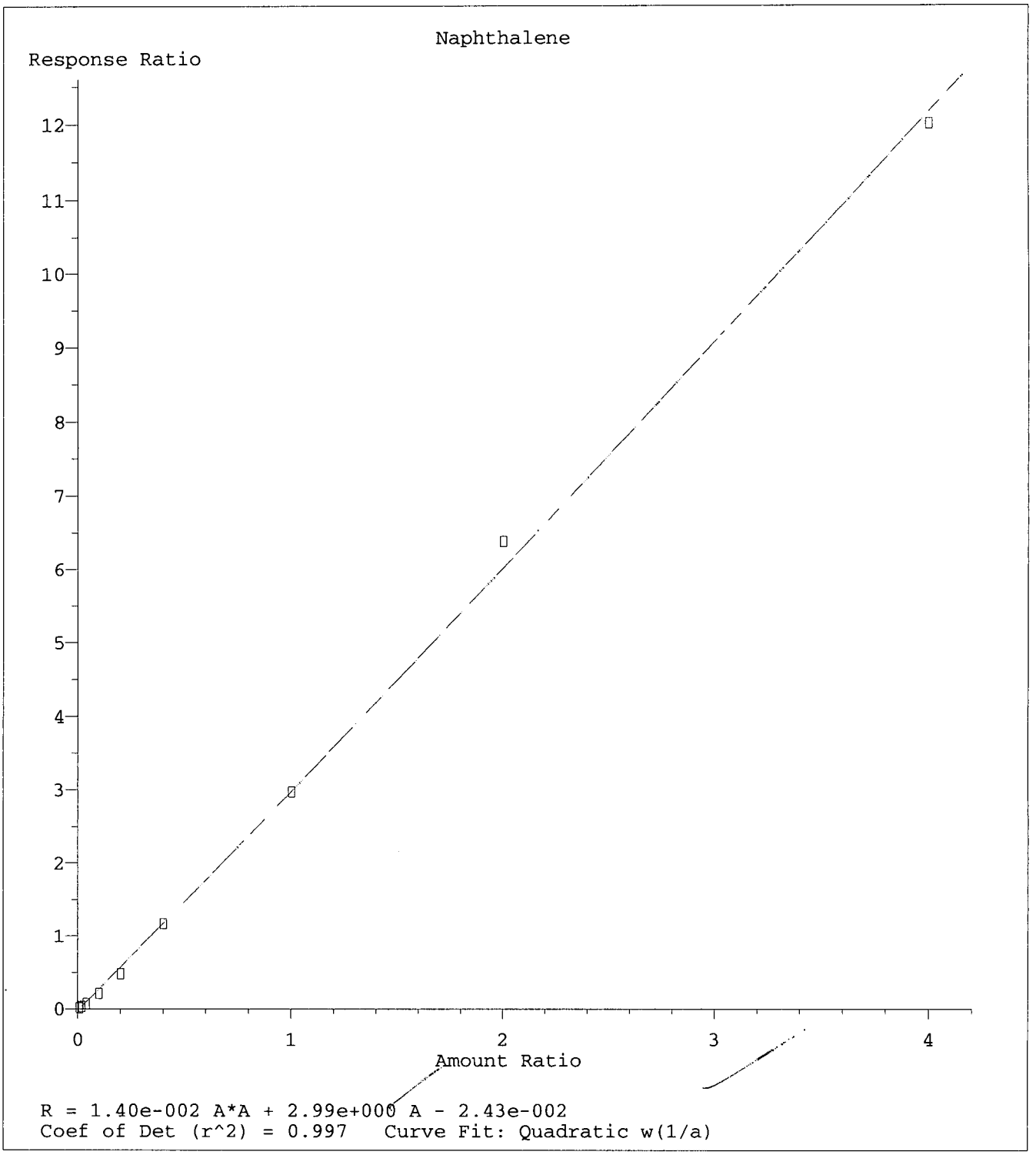
TIC: VF19050717.D\data.ms

(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



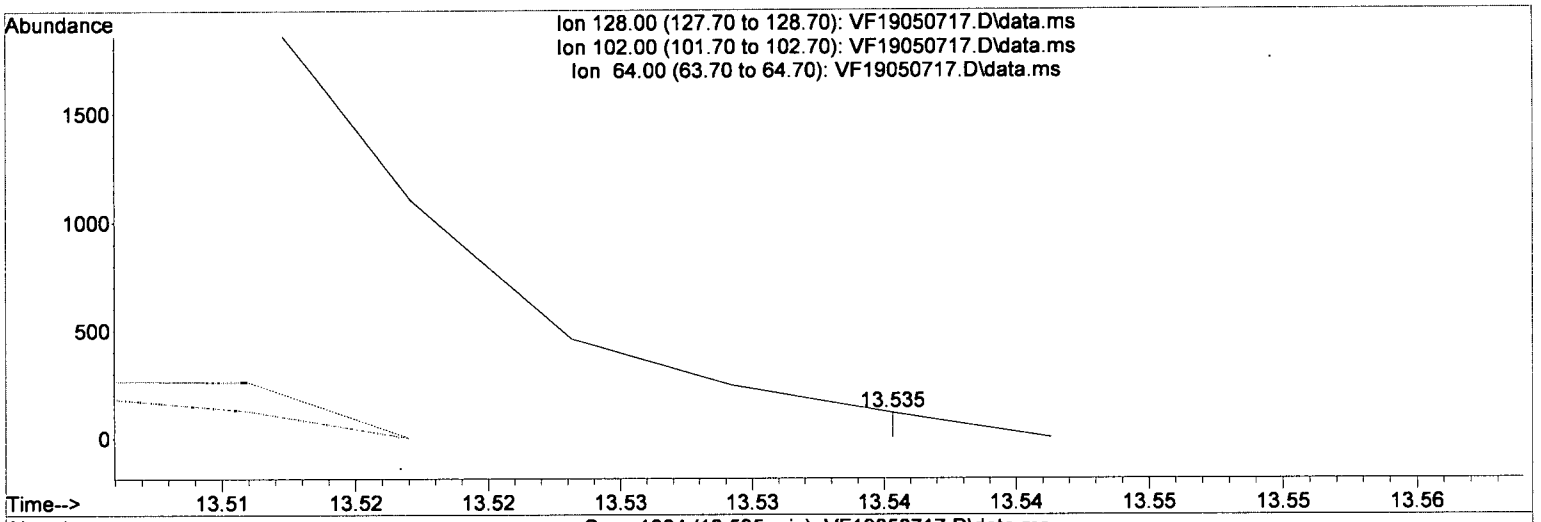
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

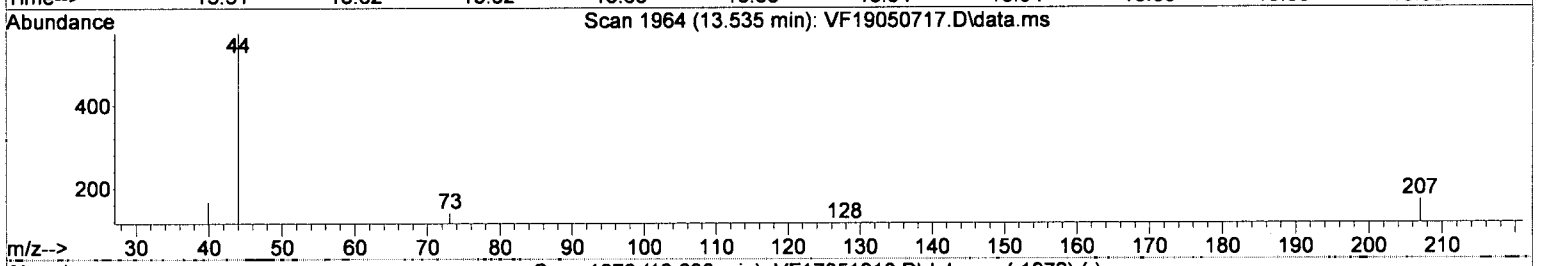
INT = 0.41

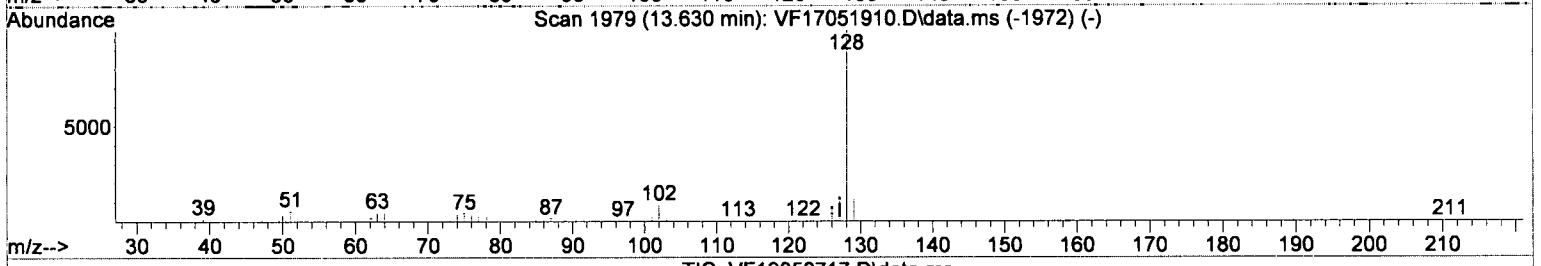
Quantitation Report (Qedit)

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

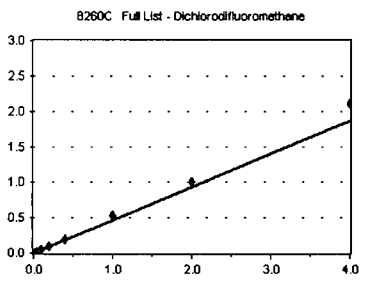
Element Calibration Review Sheet

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**

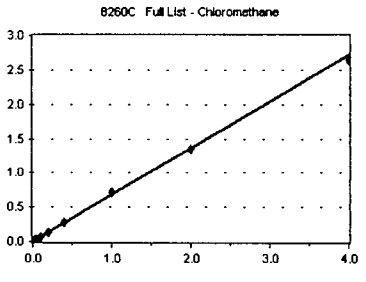


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	846	0.424	1.64
9E07048-CAL4	1	1965	0.375	1.63
9E07048-CAL5	2	4428	0.456	1.63
9E07048-CAL6	5	11506	0.462	1.63
9E07048-CAL7	10	23615	0.446	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**

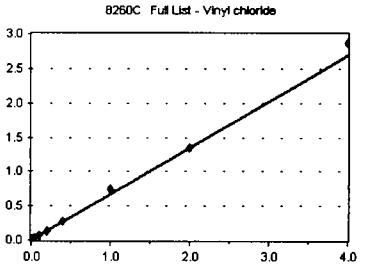


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1131~~	~~2.356~~	~~1.84~~
~~9E07048-CAL2~~	~~0.2~~	~~797~~	~~0.784~~	~~1.85~~
~~9E07048-CAL3~~	~~0.4~~	~~2048~~	~~1.026~~	~~1.85~~
9E07048-CAL4	1	3374	0.644	1.84
9E07048-CAL5	2	7222	0.743	1.84
9E07048-CAL6	5	16881	0.678	1.84
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**

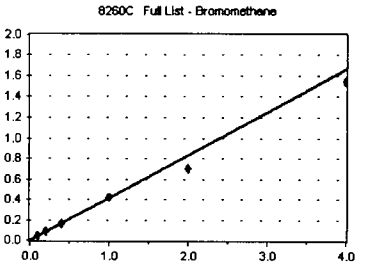


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	686	0.675	1.94
9E07048-CAL3	0.4	1253	0.628	1.95
9E07048-CAL4	1	3308	0.632	1.94
9E07048-CAL5	2	6417	0.660	1.94
9E07048-CAL6	5	16421	0.660	1.94
9E07048-CAL7	10	34298	0.648	1.94
9E07048-CAL8	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**

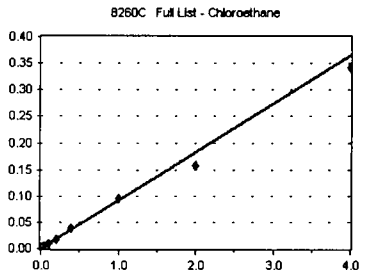
Element Calibration Review Sheet

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**

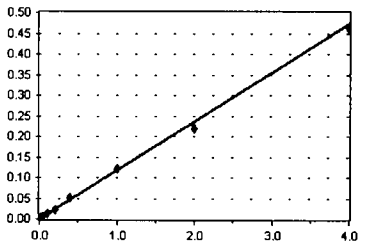


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	476	9.089	2.43
9E07048-CAL5	2	1082	0.111	2.42
9E07048-CAL6	5	2287	9.190	2.43
9E07048-CAL7	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**

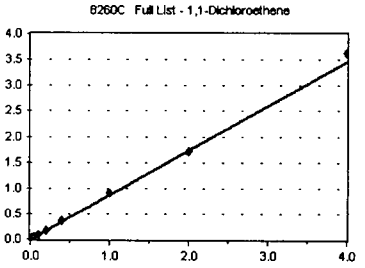


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	222	0.111	2.56
9E07048-CAL4	1	616	0.118	2.56
9E07048-CAL5	2	1256	0.129	2.56
9E07048-CAL6	5	3188	0.128	2.56
9E07048-CAL7	10	5854	0.111	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**

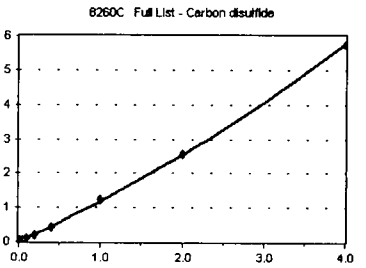


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	464	0.967	3.13
9E07048-CAL2	0.2	831	0.818	3.14
9E07048-CAL3	0.4	1699	0.851	3.14
9E07048-CAL4	1	4085	0.780	3.13
9E07048-CAL5	2	8224	0.846	3.13
9E07048-CAL6	5	21211	0.852	3.12
9E07048-CAL7	10	43446	0.821	3.14
9E07048-CAL8	20	89848	0.908	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**

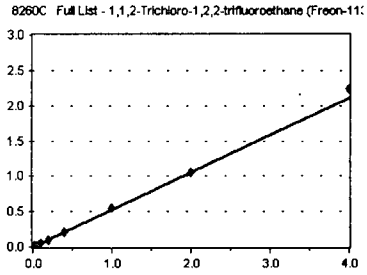
Element Calibration Review Sheet

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-trifluoroethane

Curve Fit: **AVERAGE RF**

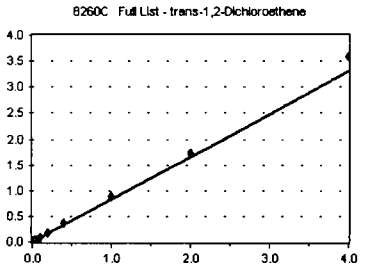


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	458	0.451	3.18
9E07048-CAL3	0.4	1041	0.522	3.18
9E07048-CAL4	1	2811	0.537	3.18
9E07048-CAL5	2	5055	0.520	3.18
9E07048-CAL6	5	13365	0.537	3.17
9E07048-CAL7	10	27267	0.515	3.18
9E07048-CAL8	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**

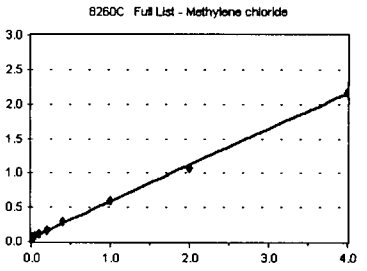


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	320	0.667	0.00
9E07048-CAL2	0.2	852	0.839	3.94
9E07048-CAL3	0.4	1577	0.790	3.95
9E07048-CAL4	1	4059	0.775	3.94
9E07048-CAL5	2	7974	0.820	3.94
9E07048-CAL6	5	21082	0.847	3.94
9E07048-CAL7	10	43282	0.818	3.94
9E07048-CAL8	20	88360	0.893	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**

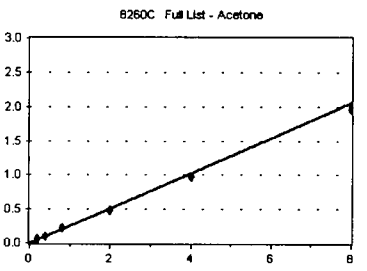


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~14820~~	~~30.870~~	~~3.78~~
~~9E07048-CAL2~~	~~0.2~~	~~13830~~	~~13.612~~	~~3.78~~
9E07048-CAL3	0.4	14007	7.017	3.78
9E07048-CAL4	1	16647	3.179	3.78
9E07048-CAL5	2	18649	1.919	3.78
9E07048-CAL6	5	27821	1.118	3.78
9E07048-CAL7	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**

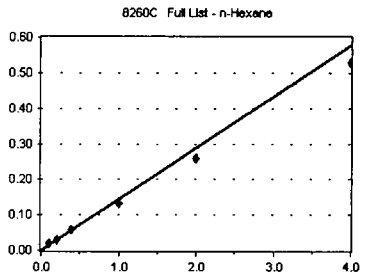
Element Calibration Review Sheet

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**

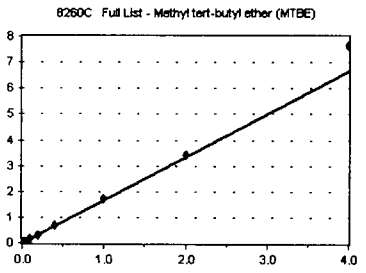


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1835~~	~~3.822~~	~~4.02~~
~~9E07048-CAL2~~	~~0.2~~	~~1841~~	~~1.812~~	~~4.02~~
~~9E07048-CAL3~~	~~0.4~~	~~2024~~	~~1.014~~	~~4.02~~
~~9E07048-CAL4~~	~~1~~	~~2150~~	~~0.411~~	~~4.02~~
~~9E07048-CAL5~~	~~2~~	~~2796~~	~~0.288~~	~~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**

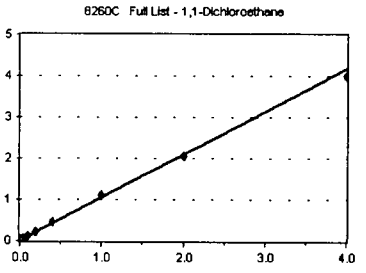


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	787	1.639	4.09
9E07048-CAL2	0.2	1746	1.719	4.08
9E07048-CAL3	0.4	3114	1.560	4.10
9E07048-CAL4	1	8040	1.535	4.09
9E07048-CAL5	2	15652	1.610	4.09
9E07048-CAL6	5	40294	1.619	4.09
9E07048-CAL7	10	82410	1.558	4.09
9E07048-CAL8	20	173881	1.758	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**

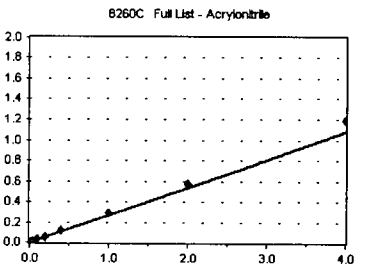


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	1.048	4.58
9E07048-CAL2	0.2	1018	1.002	4.58
9E07048-CAL3	0.4	1998	1.001	4.58
9E07048-CAL4	1	5157	0.985	4.58
9E07048-CAL5	2	10371	1.067	4.58
9E07048-CAL6	5	27022	1.086	4.58
9E07048-CAL7	10	54444	1.029	4.58
9E07048-CAL8	20	114004	1.153	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**

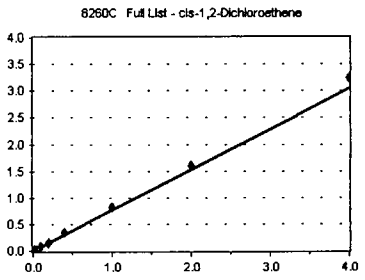
Element Calibration Review Sheet

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**

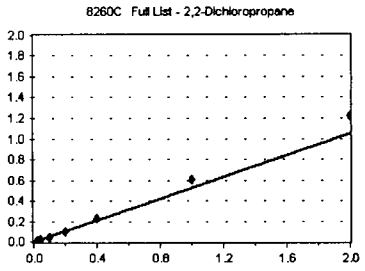


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	307	0.639	0.00
9E07048-CAL2	0.2	698	0.687	5.14
9E07048-CAL3	0.4	1447	0.725	5.14
9E07048-CAL4	1	3590	0.686	5.14
9E07048-CAL5	2	7621	0.784	5.13
9E07048-CAL6	5	19884	0.799	5.14
9E07048-CAL7	10	40226	0.760	5.14
9E07048-CAL8	20	83939	0.849	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**

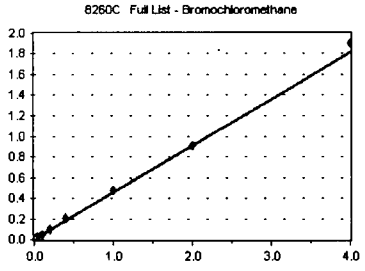


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~441~~	~~0.434~~	~~5.25~~
~~9E07048-CAL3~~	~~0.4~~	~~917~~	~~0.459~~	~~5.24~~
9E07048-CAL4	1	2310	0.441	5.24
9E07048-CAL5	2	4599	0.473	5.24
9E07048-CAL6	5	11848	0.476	5.24
9E07048-CAL7	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**

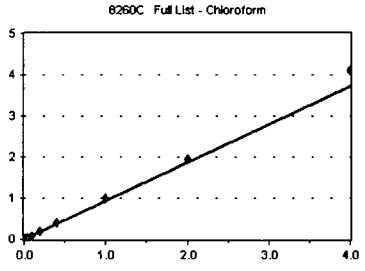


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	331	0.326	5.34
9E07048-CAL3	0.4	924	0.463	5.35
9E07048-CAL4	1	2190	0.418	5.35
9E07048-CAL5	2	4699	0.483	5.34
9E07048-CAL6	5	11857	0.476	5.34
9E07048-CAL7	10	24444	0.462	5.34
9E07048-CAL8	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**

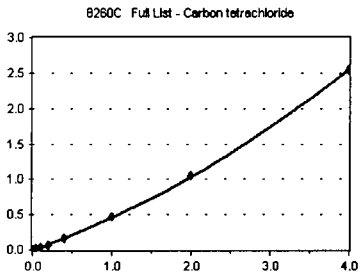
Element Calibration Review Sheet

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**

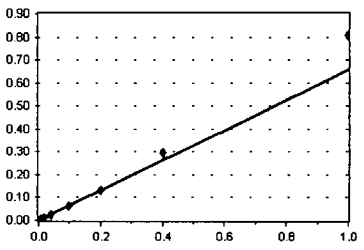


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~392~~	~~0.196~~	~~5.55~~
9E07048-CAL4	1	1343	0.256	5.55
9E07048-CAL5	2	2842	0.292	5.55
9E07048-CAL6	5	7941	0.319	5.55
9E07048-CAL7	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**

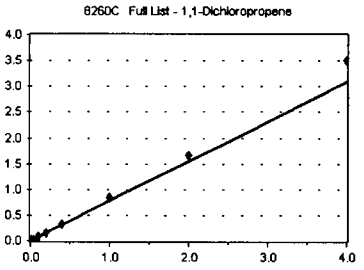


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~551~~	~~0.542~~	~~5.62~~
9E07048-CAL3	0.4	1217	0.610	5.63
9E07048-CAL4	1	2997	0.572	5.62
9E07048-CAL5	2	5724	0.589	5.62
9E07048-CAL6	5	15328	0.616	5.62
9E07048-CAL7	10	34343	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**

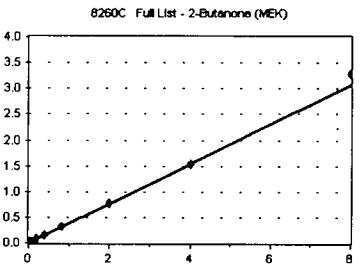


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	683	0.672	5.76
9E07048-CAL3	0.4	1416	0.709	5.75
9E07048-CAL4	1	3517	0.672	5.75
9E07048-CAL5	2	7332	0.754	5.75
9E07048-CAL6	5	19265	0.774	5.75
9E07048-CAL7	10	40206	0.760	5.75
9E07048-CAL8	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**

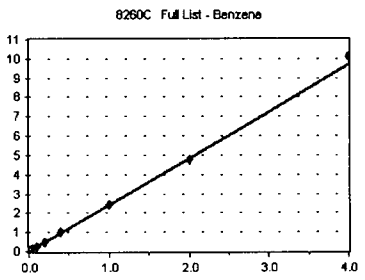
Element Calibration Review Sheet

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**

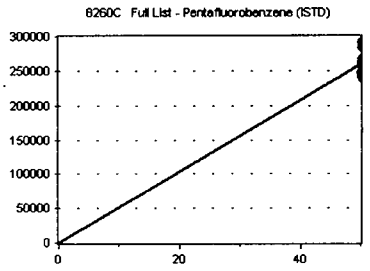


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1127	2.348	6.01
9E07048-CAL2	0.2	2458	2.419	6.01
9E07048-CAL3	0.4	4810	2.410	6.01
9E07048-CAL4	1	11954	2.283	6.01
9E07048-CAL5	2	23365	2.404	6.00
9E07048-CAL6	5	60741	2.441	6.01
9E07048-CAL7	10	124874	2.361	6.01
9E07048-CAL8	20	252305	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**

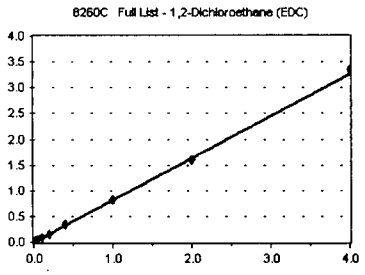


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	240040	4800.800	6.10
9E07048-CAL2	50	253997	5079.940	6.10
9E07048-CAL3	50	249504	4990.080	6.10
9E07048-CAL4	50	261850	5237.000	6.10
9E07048-CAL5	50	242998	4859.960	6.10
9E07048-CAL6	50	248863	4977.260	6.10
9E07048-CAL7	50	264477	5289.540	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**

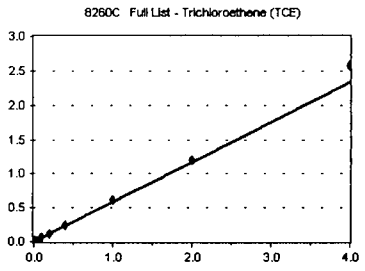


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.769	6.23
9E07048-CAL2	0.2	837	0.824	6.23
9E07048-CAL3	0.4	1552	0.778	6.23
9E07048-CAL4	1	4287	0.819	6.23
9E07048-CAL5	2	7997	0.823	6.22
9E07048-CAL6	5	21115	0.848	6.23
9E07048-CAL7	10	42029	0.795	6.23
9E07048-CAL8	20	86737	0.877	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**

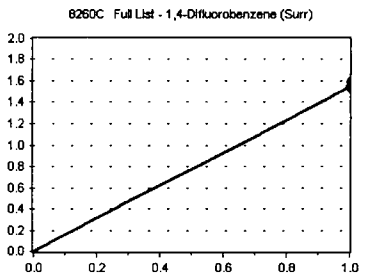
Element Calibration Review Sheet

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**

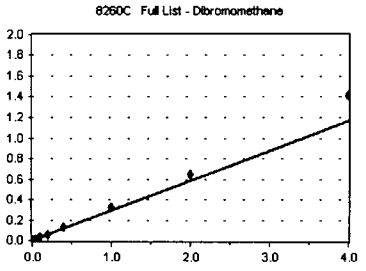


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	372792	1.553	6.66
9E07048-CAL2	50	393610	1.550	6.66
9E07048-CAL3	50	383811	1.538	6.66
9E07048-CAL4	50	402099	1.536	6.66
9E07048-CAL5	50	374305	1.540	6.66
9E07048-CAL6	50	382252	1.536	6.66
9E07048-CAL7	50	404994	1.531	6.66
9E07048-CAL8	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**

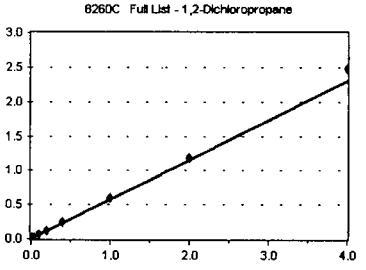


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	206	0.203	7.08
9E07048-CAL3	0.4	553	0.277	7.08
9E07048-CAL4	1	1342	0.256	7.08
9E07048-CAL5	2	2709	0.279	7.08
9E07048-CAL6	5	7109	0.286	7.08
9E07048-CAL7	10	15288	0.289	7.08
9E07048-CAL8	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**

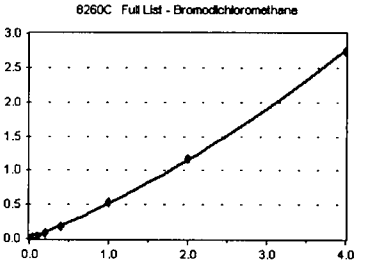


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	588	0.579	7.19
9E07048-CAL3	0.4	1034	0.518	7.19
9E07048-CAL4	1	2906	0.555	7.18
9E07048-CAL5	2	5465	0.562	7.18
9E07048-CAL6	5	14217	0.571	7.19
9E07048-CAL7	10	30050	0.568	7.19
9E07048-CAL8	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**

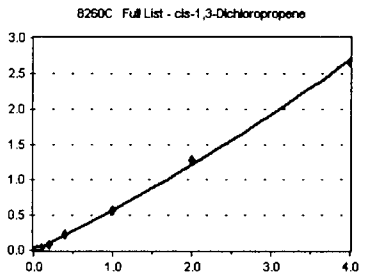
Element Calibration Review Sheet

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**

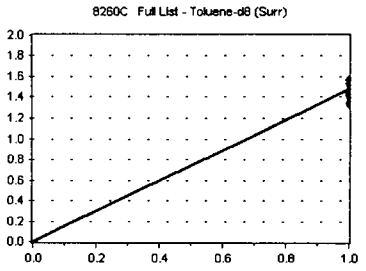


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~335~~	~~0.266~~	~~7.97~~
9E07048-CAL3	0.4	723	0.320	7.97
9E07048-CAL4	1	2124	0.330	7.97
9E07048-CAL5	2	4000	0.369	7.96
9E07048-CAL6	5	11116	0.398	7.97
9E07048-CAL7	10	26031	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**

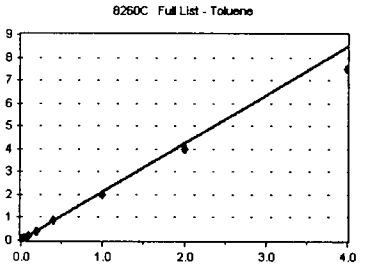


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	412832	1.570	8.17
9E07048-CAL2	50	451605	1.433	8.17
9E07048-CAL3	50	433301	1.536	8.17
9E07048-CAL4	50	463638	1.441	8.17
9E07048-CAL5	50	417114	1.539	8.17
9E07048-CAL6	50	428207	1.533	8.17
9E07048-CAL7	50	462102	1.452	8.17
9E07048-CAL8	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**

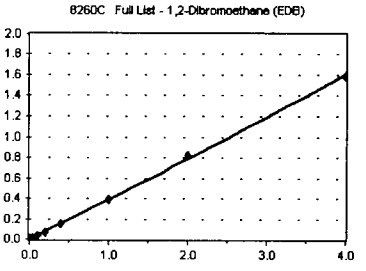


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1513	2.876	8.23
9E07048-CAL2	0.2	2847	2.259	8.23
9E07048-CAL3	0.4	4633	2.053	8.23
9E07048-CAL4	1	12595	1.958	8.23
9E07048-CAL5	2	22780	2.101	8.23
9E07048-CAL6	5	57774	2.069	8.23
9E07048-CAL7	10	124435	1.955	8.23
9E07048-CAL8	20	234051	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**

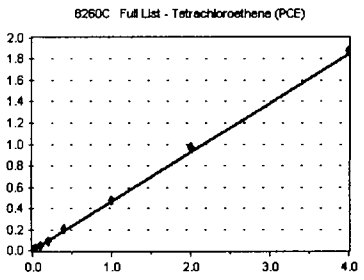
Element Calibration Review Sheet

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**

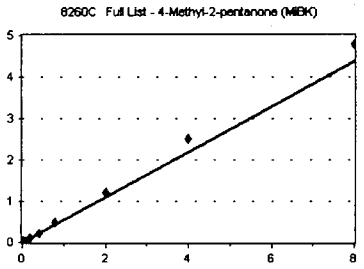


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	241	0.458	8.68
9E07048-CAL2	0.2	503	0.399	8.67
9E07048-CAL3	0.4	1054	0.467	8.68
9E07048-CAL4	1	2677	0.416	8.68
9E07048-CAL5	2	5076	0.468	8.68
9E07048-CAL6	5	13448	0.482	8.68
9E07048-CAL7	10	29011	0.456	8.68
9E07048-CAL8	20	56499	0.514	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**

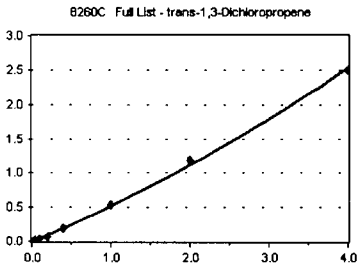


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~391~~	~~0.372~~	~~8.69~~
~~9E07048-CAL2~~	~~0.4~~	~~941~~	~~0.373~~	~~8.68~~
~~9E07048-CAL3~~	~~0.8~~	~~1734~~	~~0.384~~	~~8.68~~
9E07048-CAL4	2	5152	0.400	8.68
9E07048-CAL5	4	10467	0.483	8.68
9E07048-CAL6	10	28905	0.518	8.68
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**

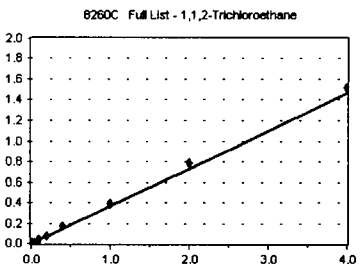


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	502	0.222	8.72
9E07048-CAL4	1	1582	0.246	8.72
9E07048-CAL5	2	3084	0.284	8.72
9E07048-CAL6	5	8937	0.320	8.72
9E07048-CAL7	10	22208	0.349	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**

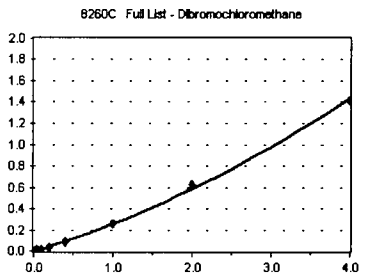
Element Calibration Review Sheet

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**

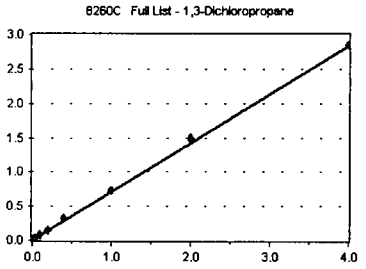


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	215	9.526	9.07
9E07048-CAL4	1	646	0.100	9.08
9E07048-CAL5	2	1529	0.141	9.08
9E07048-CAL6	5	4290	0.154	9.07
9E07048-CAL7	10	10099	0.159	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**

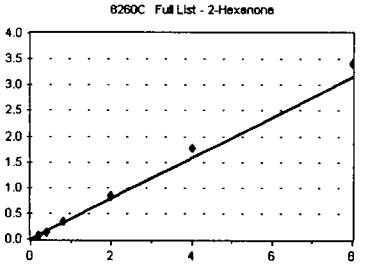


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.702	9.17
9E07048-CAL2	0.2	753	0.597	9.17
9E07048-CAL3	0.4	1532	0.679	9.18
9E07048-CAL4	1	4160	0.647	9.18
9E07048-CAL5	2	7762	0.716	9.17
9E07048-CAL6	5	20889	0.748	9.18
9E07048-CAL7	10	45205	0.710	9.18
9E07048-CAL8	20	88346	0.804	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**

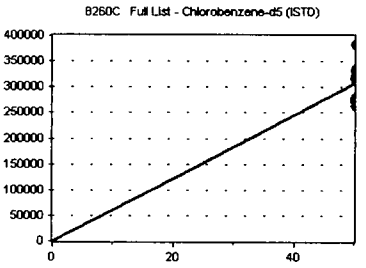


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.4~~	~~512~~	~~0.203~~	~~9.55~~
~~9E07048-CAL3~~	~~0.8~~	~~1043~~	~~0.231~~	~~9.55~~
~~9E07048-CAL4~~	~~2~~	~~3198~~	~~0.249~~	~~9.55~~
~~9E07048-CAL5~~	~~4~~	~~6383~~	~~0.294~~	~~9.55~~
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**

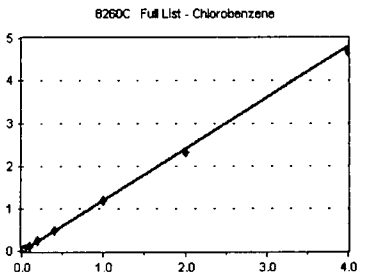
Element Calibration Review Sheet

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**

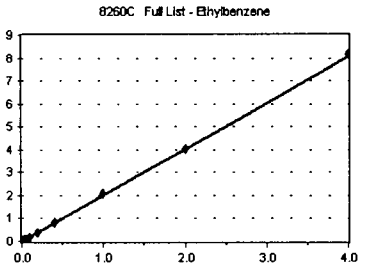


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	708	1.346	9.82
9E07048-CAL2	0.2	1621	1.286	9.82
9E07048-CAL3	0.4	2707	1.199	9.82
9E07048-CAL4	1	7684	1.194	9.82
9E07048-CAL5	2	12836	1.184	9.82
9E07048-CAL6	5	32582	1.167	9.82
9E07048-CAL7	10	74844	1.176	9.82
9E07048-CAL8	20	130501	1.188	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**

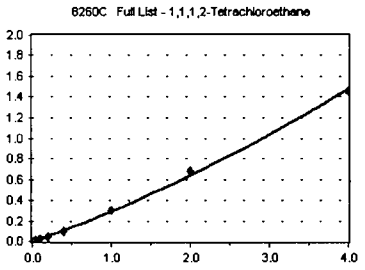


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1175	2.234	9.85
9E07048-CAL2	0.2	2644	2.098	9.85
9E07048-CAL3	0.4	4382	1.941	9.85
9E07048-CAL4	1	12168	1.892	9.85
9E07048-CAL5	2	20590	1.899	9.85
9E07048-CAL6	5	53767	1.925	9.85
9E07048-CAL7	10	123904	1.947	9.85
9E07048-CAL8	20	225958	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**

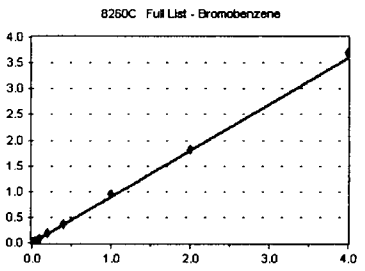


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	292	0.129	9.89
9E07048-CAL4	1	785	0.122	9.89
9E07048-CAL5	2	1701	0.157	9.89
9E07048-CAL6	5	4779	0.171	9.88
9E07048-CAL7	10	12247	0.192	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

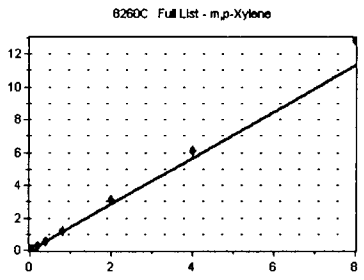
AVE RF **0.899** RF RSD **8.79** AVE RT **9.96**

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

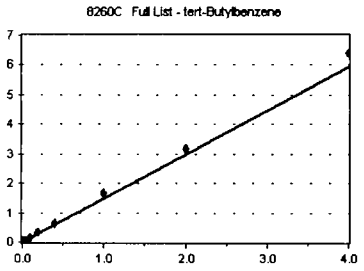


Curve Fit: **AVERAGE RF**

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

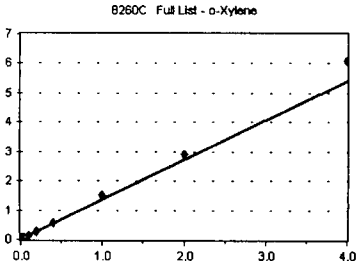


Curve Fit: **AVERAGE RF**

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

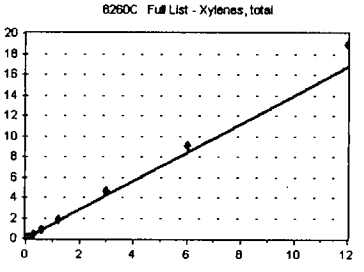


Curve Fit: **AVERAGE RF**

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**

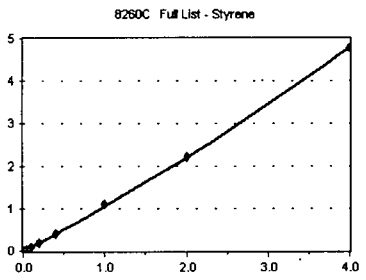
Element Calibration Review Sheet

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**

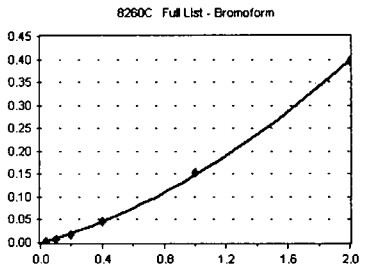


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	742	0.589	10.42
9E07048-CAL3	0.4	1408	0.624	10.42
9E07048-CAL4	1	4261	0.662	10.42
9E07048-CAL5	2	7423	0.685	10.42
9E07048-CAL6	5	22451	0.804	10.41
9E07048-CAL7	10	56305	0.885	10.41
9E07048-CAL8	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**

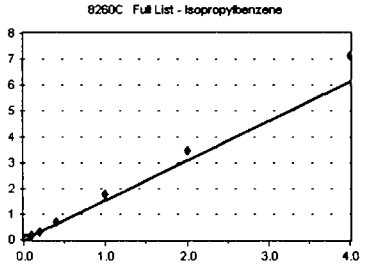


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	793	7.314	10.44
9E07048-CAL6	5	2131	7.631	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**

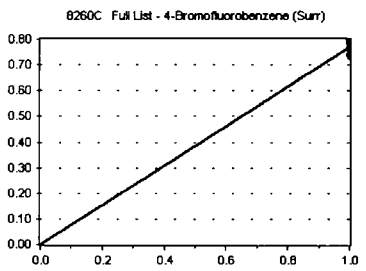


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~607~~	~~1.154~~	~~0.00~~
9E07048-CAL2	0.2	1621	1.286	10.63
9E07048-CAL3	0.4	2804	1.242	10.63
9E07048-CAL4	1	8865	1.378	10.63
9E07048-CAL5	2	14839	1.369	10.63
9E07048-CAL6	5	42773	1.532	10.63
9E07048-CAL7	10	101605	1.597	10.63
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**

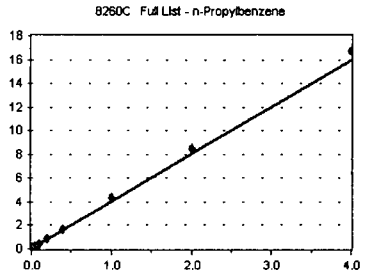
Element Calibration Review Sheet

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**

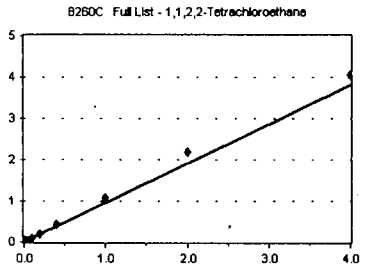


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	914	3.893	10.98
9E07048-CAL2	0.2	2125	3.768	10.98
9E07048-CAL3	0.4	3524	3.659	10.98
9E07048-CAL4	1	10761	3.802	10.97
9E07048-CAL5	2	18352	3.748	10.97
9E07048-CAL6	5	49128	3.903	10.97
9E07048-CAL7	10	115664	4.202	10.97
9E07048-CAL8	20	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**

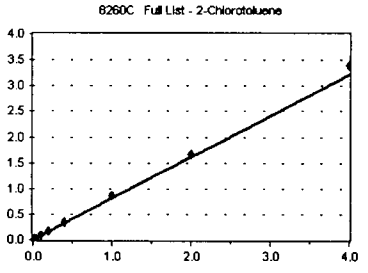


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~138~~	~~0.588~~	~~0.00~~
9E07048-CAL2	0.2	440	0.780	11.04
9E07048-CAL3	0.4	771	0.801	11.04
9E07048-CAL4	1	2364	0.835	11.04
9E07048-CAL5	2	4375	0.894	11.04
9E07048-CAL6	5	11560	0.918	11.04
9E07048-CAL7	10	27257	0.990	11.04
9E07048-CAL8	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**

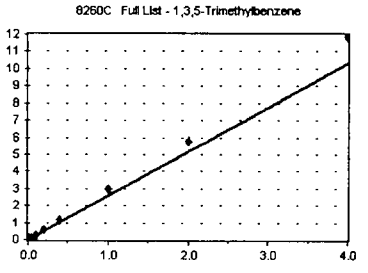


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	441	0.782	11.11
9E07048-CAL3	0.4	669	0.695	11.11
9E07048-CAL4	1	2215	0.783	11.11
9E07048-CAL5	2	3616	0.739	11.11
9E07048-CAL6	5	9901	0.787	11.11
9E07048-CAL7	10	23610	0.858	11.11
9E07048-CAL8	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**

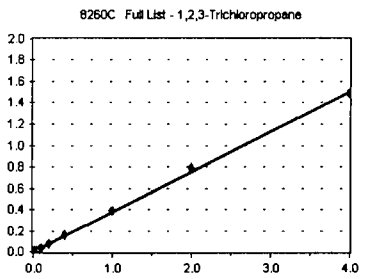
Element Calibration Review Sheet

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**

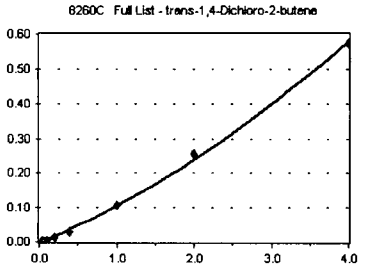


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~135~~	~~0.239~~	~~11.15~~
9E07048-CAL3	0.4	303	0.315	11.15
9E07048-CAL4	1	973	0.344	11.15
9E07048-CAL5	2	1924	0.393	11.15
9E07048-CAL6	5	4758	0.378	11.14
9E07048-CAL7	10	10739	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**

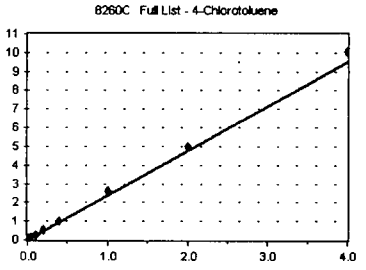


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	237	4.840	11.18
9E07048-CAL6	5	580	4.608	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**

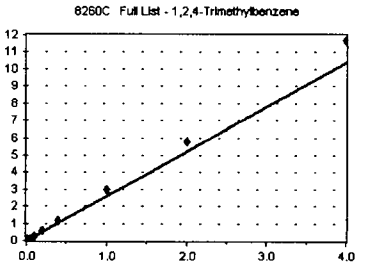


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	483	2.057	11.24
9E07048-CAL2	0.2	1253	2.222	11.24
9E07048-CAL3	0.4	2028	2.106	11.24
9E07048-CAL4	1	6529	2.307	11.24
9E07048-CAL5	2	11250	2.298	11.24
9E07048-CAL6	5	30163	2.397	11.23
9E07048-CAL7	10	71020	2.580	11.23
9E07048-CAL8	20	129493	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**

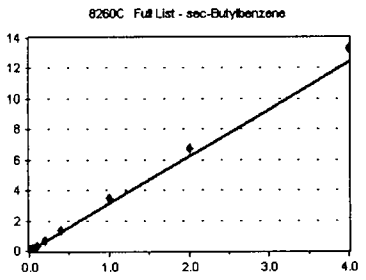
Element Calibration Review Sheet

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**

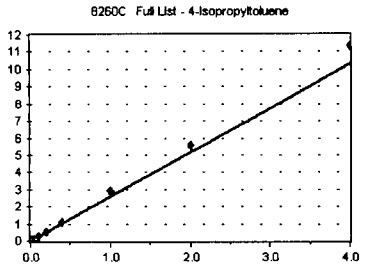


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	715	3.045	11.52
9E07048-CAL2	0.2	1494	2.649	11.52
9E07048-CAL3	0.4	2640	2.741	11.52
9E07048-CAL4	1	7874	2.782	11.52
9E07048-CAL5	2	14030	2.865	11.52
9E07048-CAL6	5	39097	3.106	11.52
9E07048-CAL7	10	92413	3.357	11.52
9E07048-CAL8	20	171858	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**

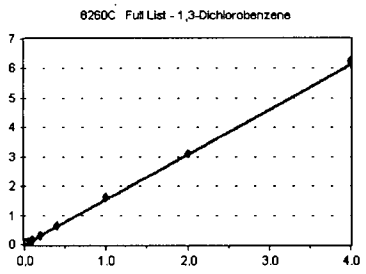


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~475~~	~~2.023~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~1097~~	~~1.945~~	~~11.63~~
~~9E07048-CAL3~~	~~0.4~~	~~1855~~	~~1.926~~	~~11.63~~
9E07048-CAL4	1	5898	2.084	11.63
9E07048-CAL5	2	10365	2.117	11.63
9E07048-CAL6	5	30161	2.396	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**

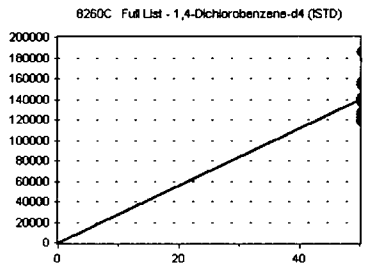


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	361	1.538	11.69
9E07048-CAL2	0.2	822	1.458	11.70
9E07048-CAL3	0.4	1391	1.444	11.70
9E07048-CAL4	1	4151	1.467	11.70
9E07048-CAL5	2	7501	1.532	11.70
9E07048-CAL6	5	19402	1.542	11.70
9E07048-CAL7	10	42681	1.551	11.70
9E07048-CAL8	20	82474	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**

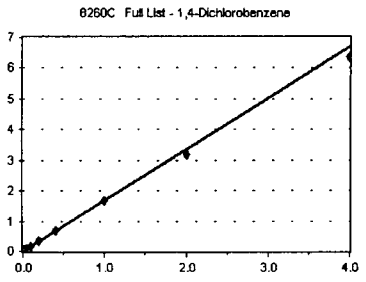
Element Calibration Review Sheet

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**

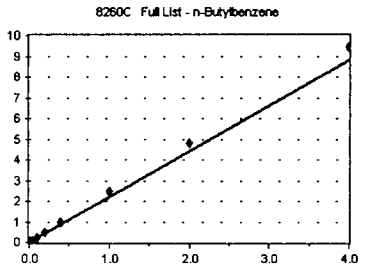


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	465	1.980	11.76
9E07048-CAL2	0.2	932	1.653	11.76
9E07048-CAL3	0.4	1636	1.699	11.76
9E07048-CAL4	1	4797	1.695	11.76
9E07048-CAL5	2	8234	1.682	11.76
9E07048-CAL6	5	20284	1.612	11.76
9E07048-CAL7	10	44850	1.629	11.76
9E07048-CAL8	20	85622	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**

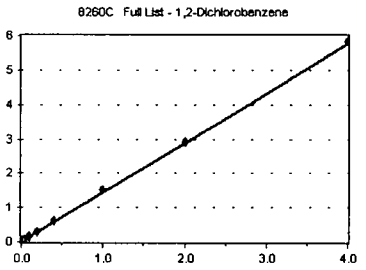


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	2.142	11.95
9E07048-CAL2	0.2	1099	1.949	11.95
9E07048-CAL3	0.4	1917	1.991	11.95
9E07048-CAL4	1	5710	2.017	11.95
9E07048-CAL5	2	9476	1.935	11.95
9E07048-CAL6	5	27019	2.147	11.95
9E07048-CAL7	10	65332	2.374	11.94
9E07048-CAL8	20	121885	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**

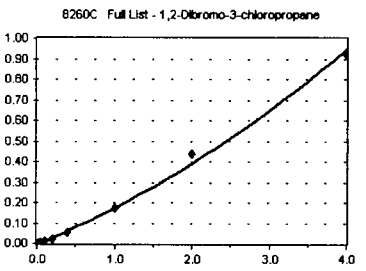


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	319	1.359	12.08
9E07048-CAL2	0.2	799	1.417	12.08
9E07048-CAL3	0.4	1327	1.378	12.08
9E07048-CAL4	1	3856	1.362	12.08
9E07048-CAL5	2	6890	1.407	12.08
9E07048-CAL6	5	18432	1.464	12.08
9E07048-CAL7	10	40089	1.456	12.08
9E07048-CAL8	20	79323	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

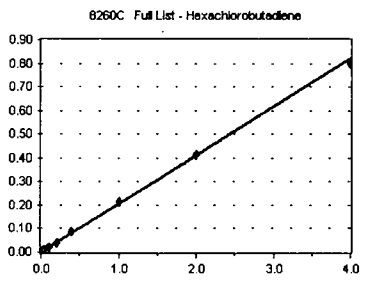
AVE RF **0.131** RF RSD **52.52** AVE RT **12.68**

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

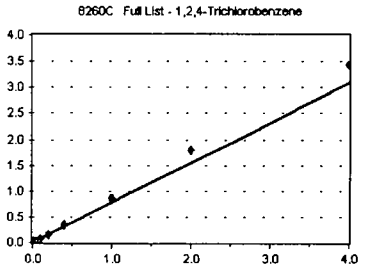


Curve Fit: **AVERAGE RF**

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

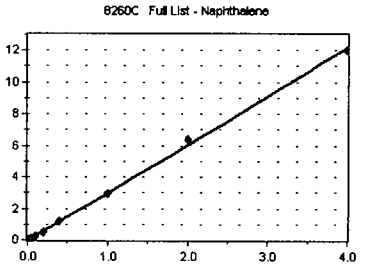


Curve Fit: **AVERAGE RF**

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

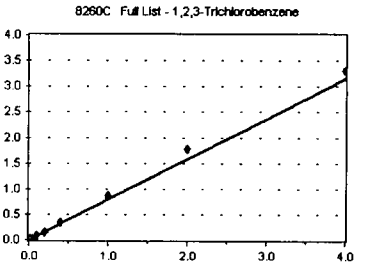


Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

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

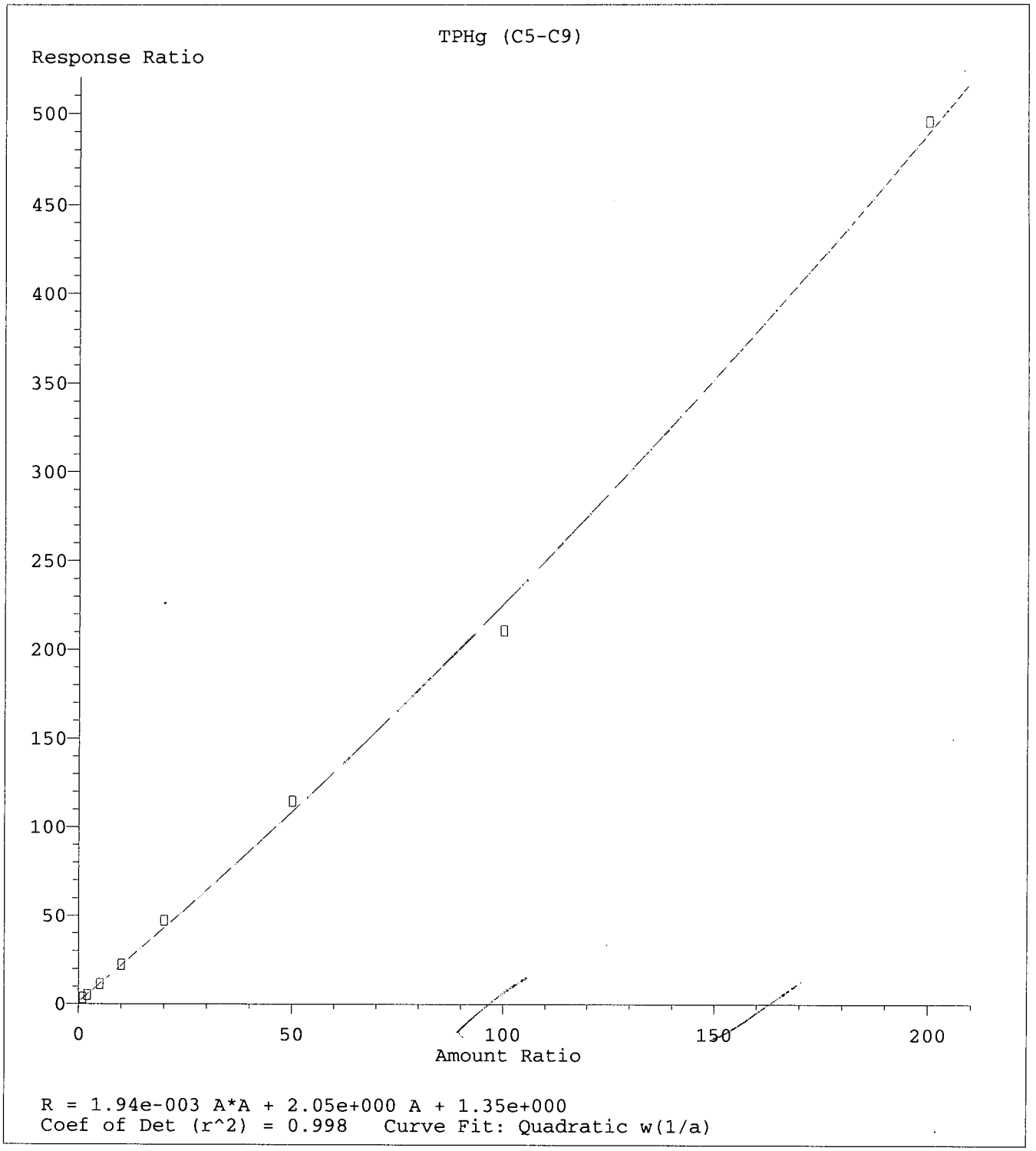
Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

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



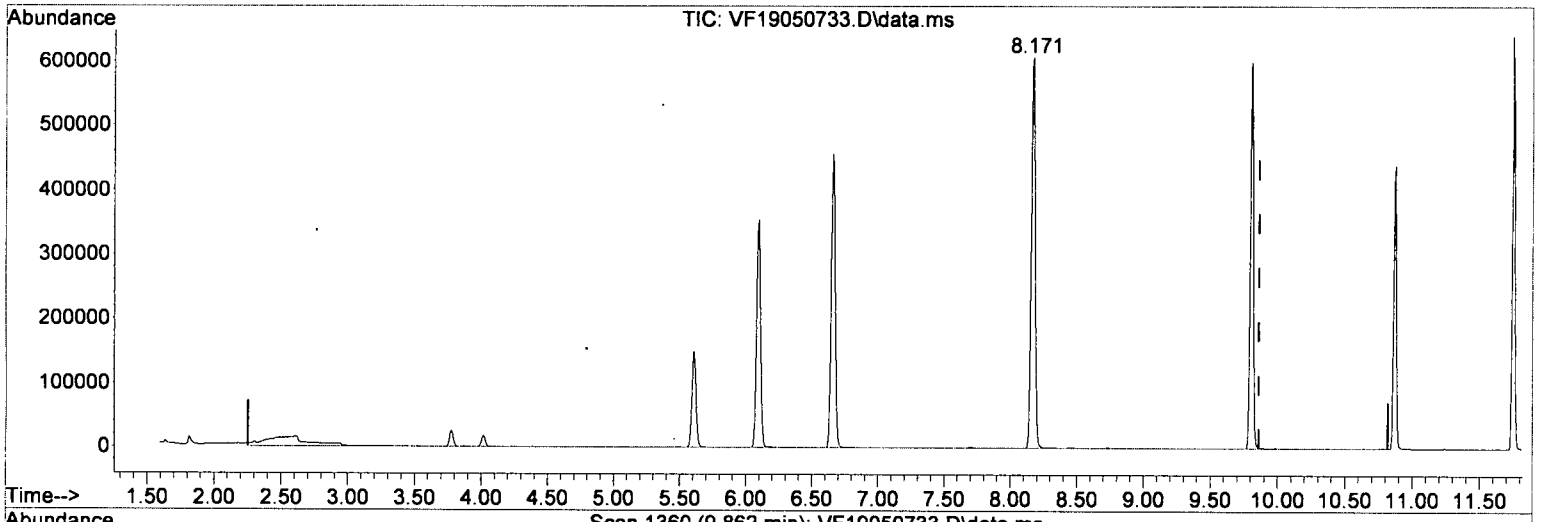
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

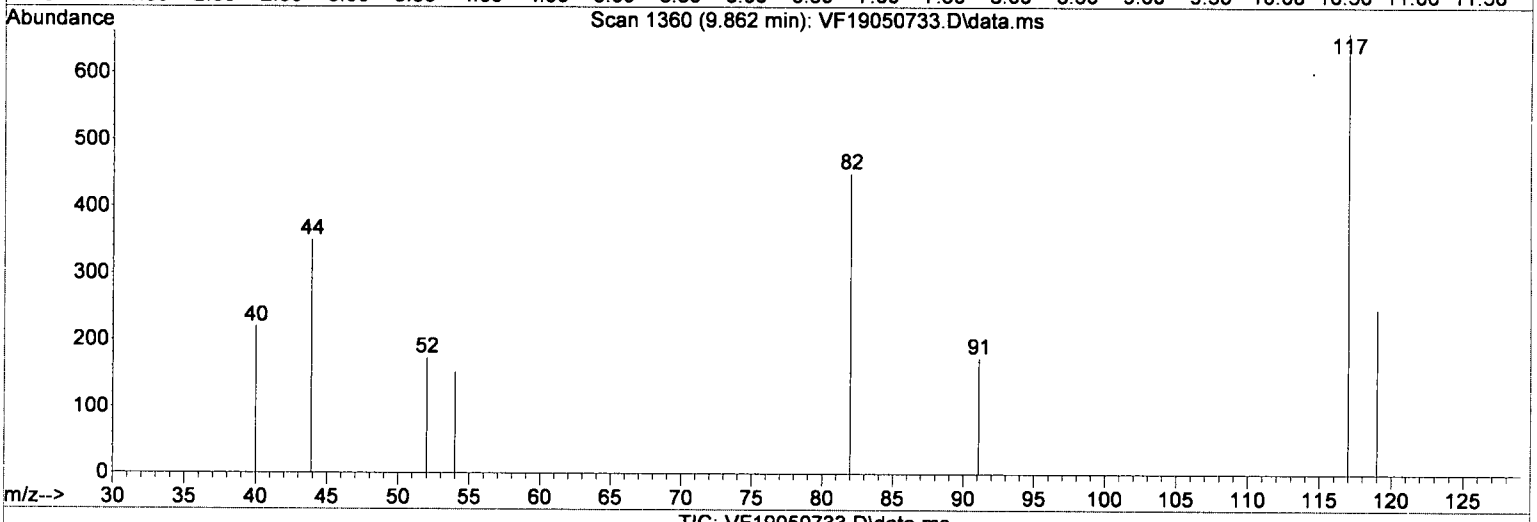
Int = 6.92

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





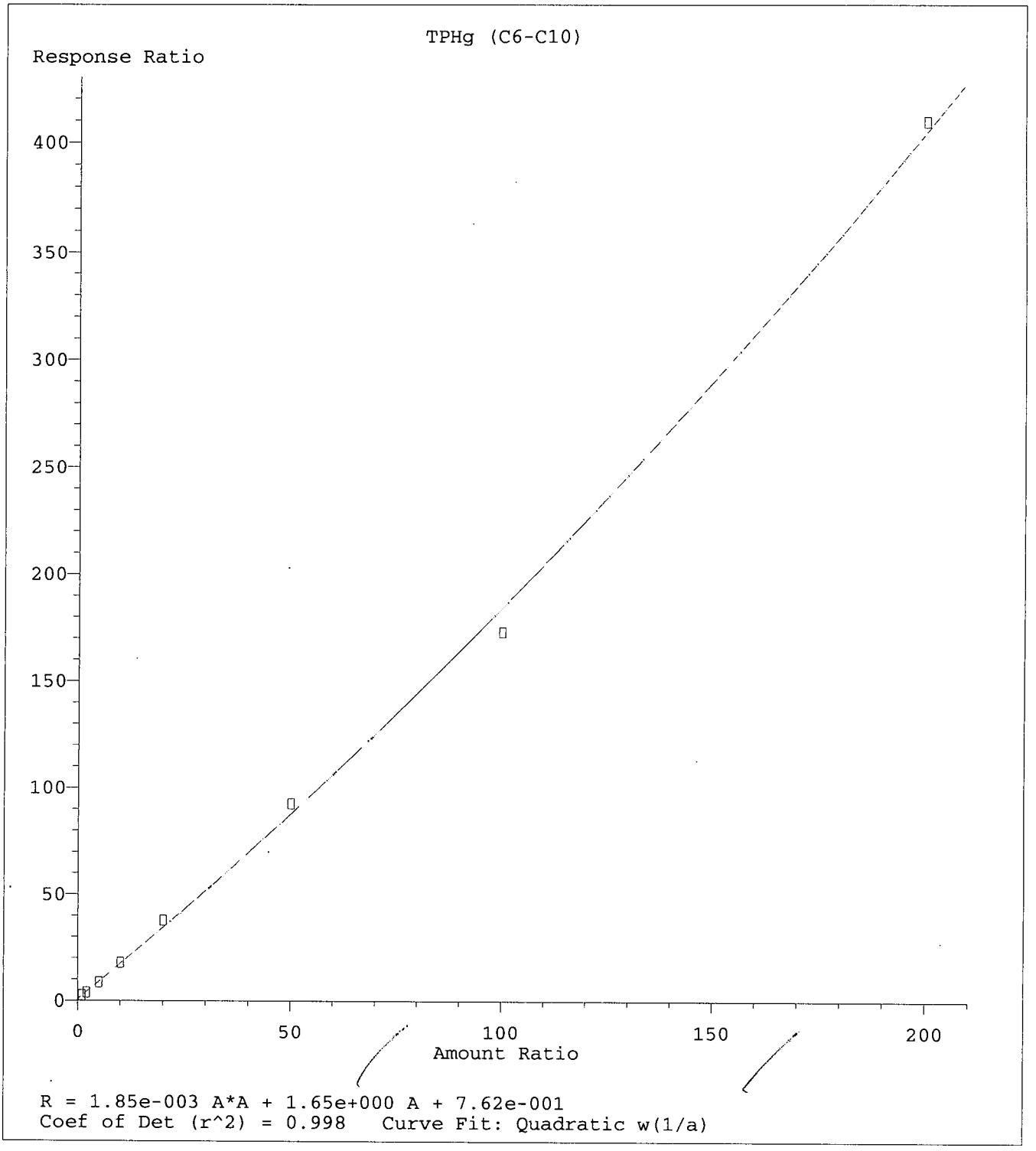
TIC: VF19050733.D\data.ms

(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



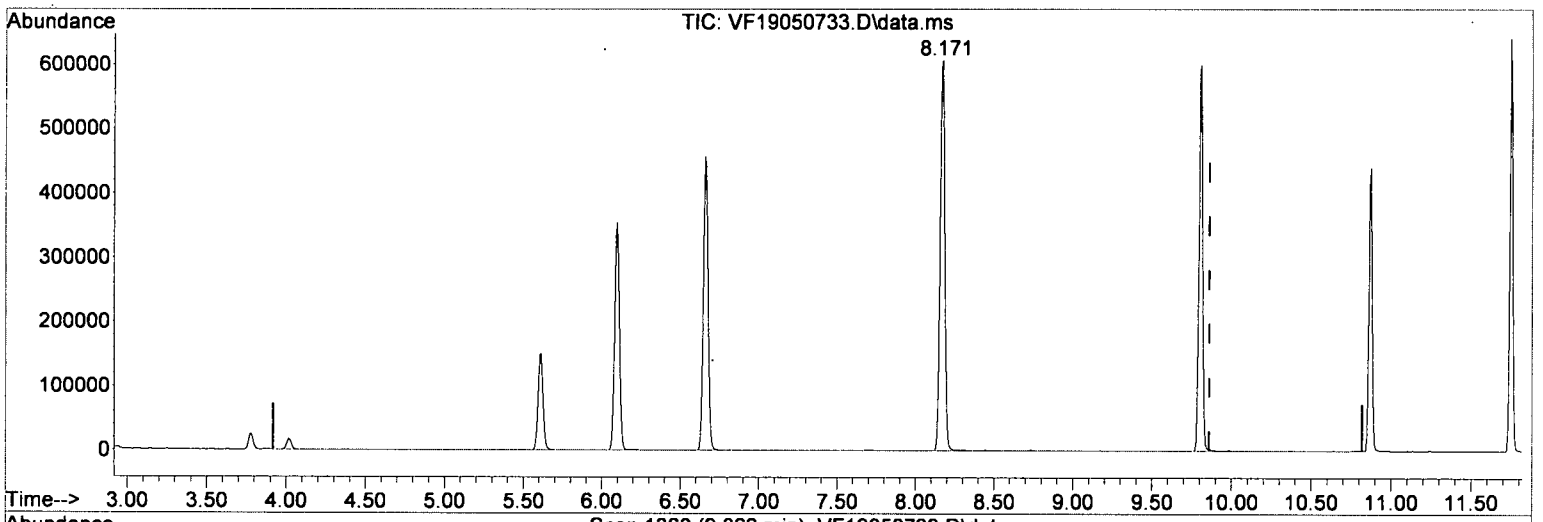
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

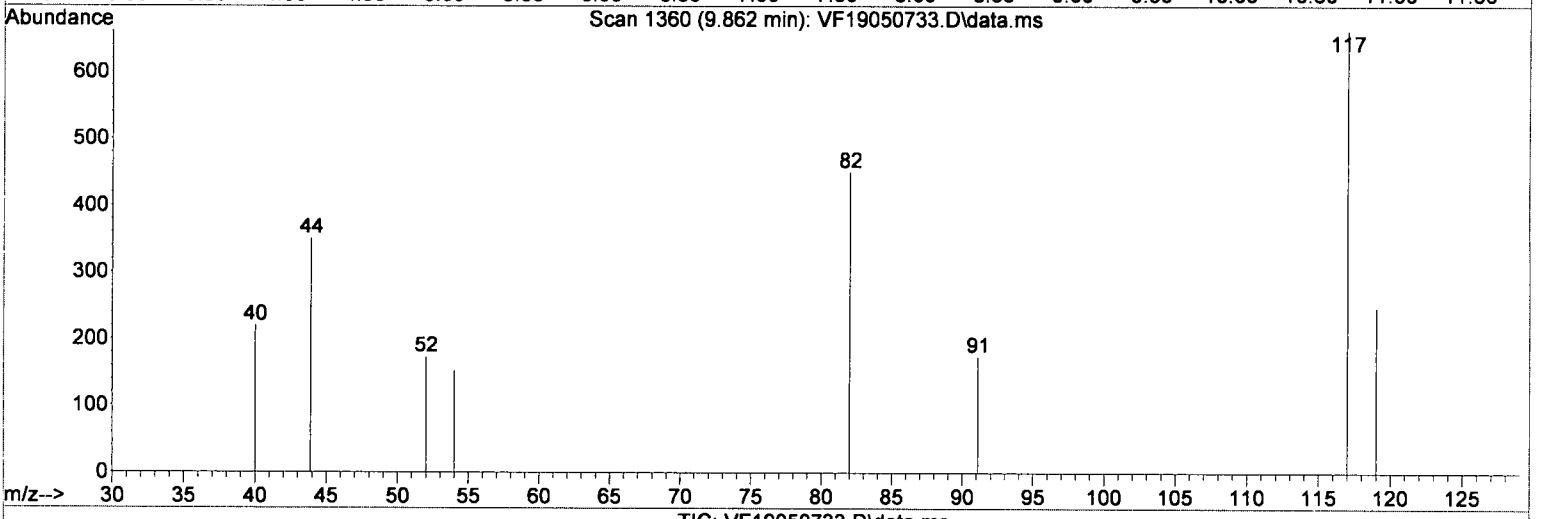
INT = 18,93

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





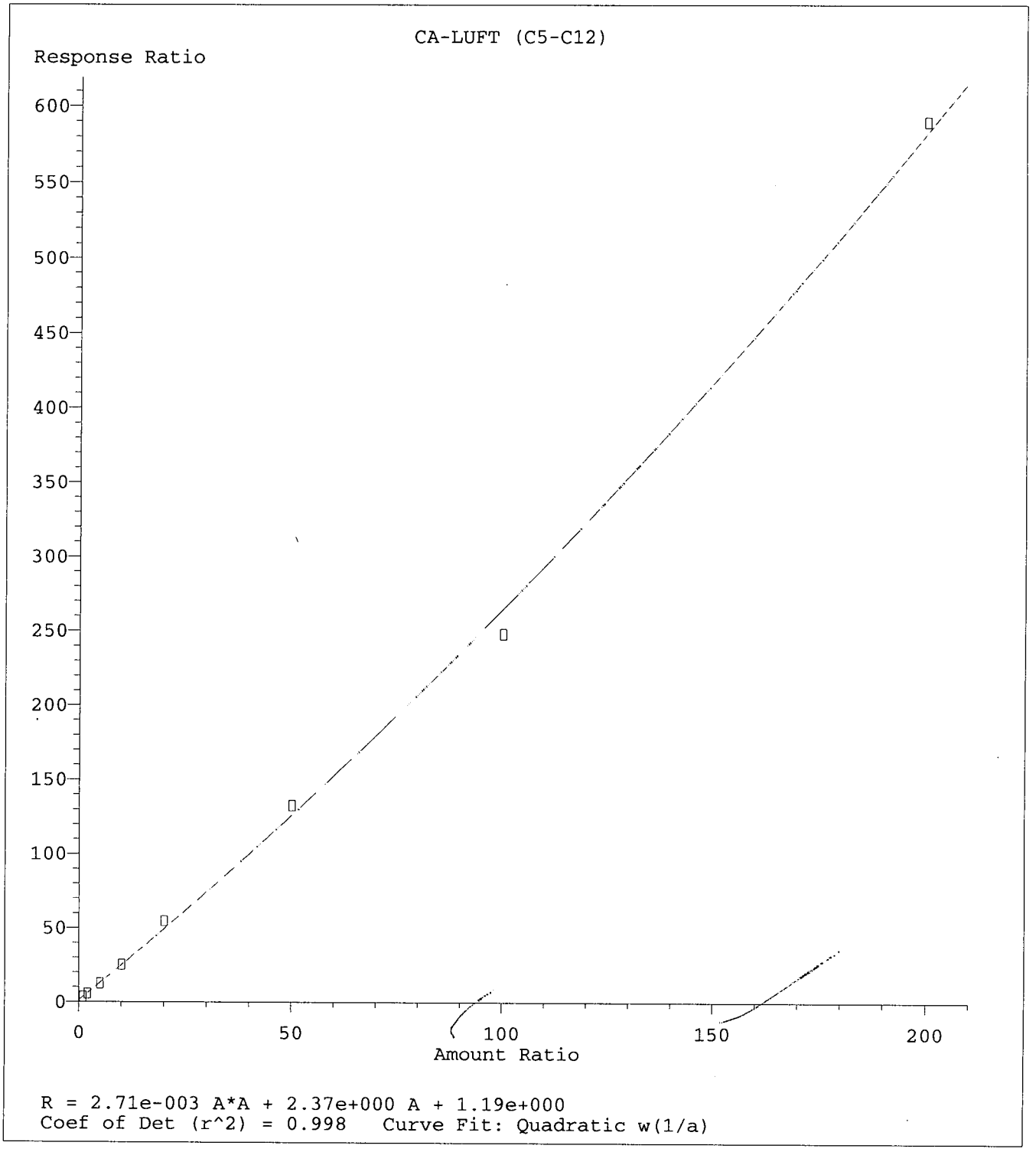
TIC: VF19050733.D\data.ms

(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



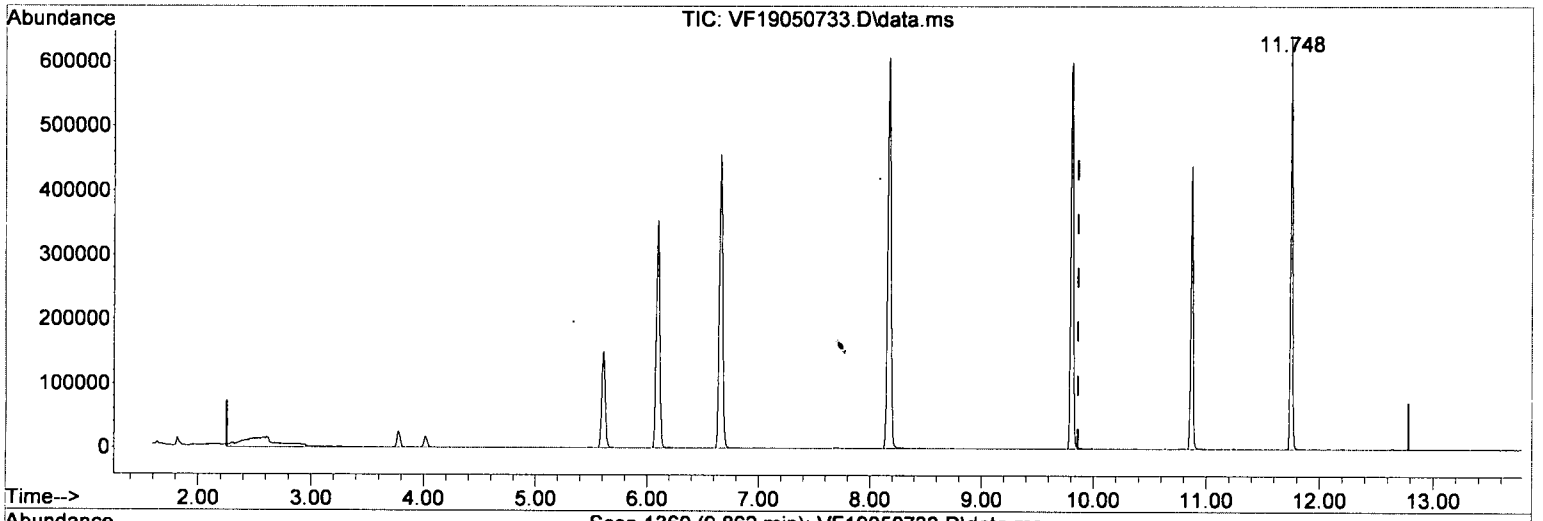
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

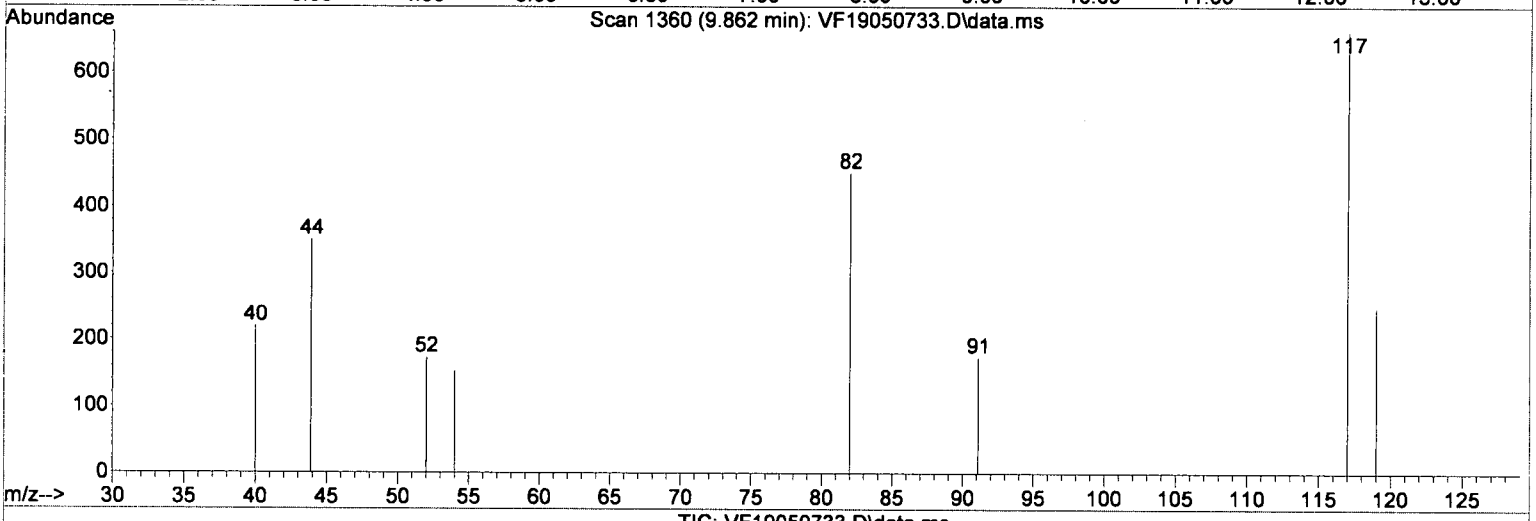
Int = 9,2

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





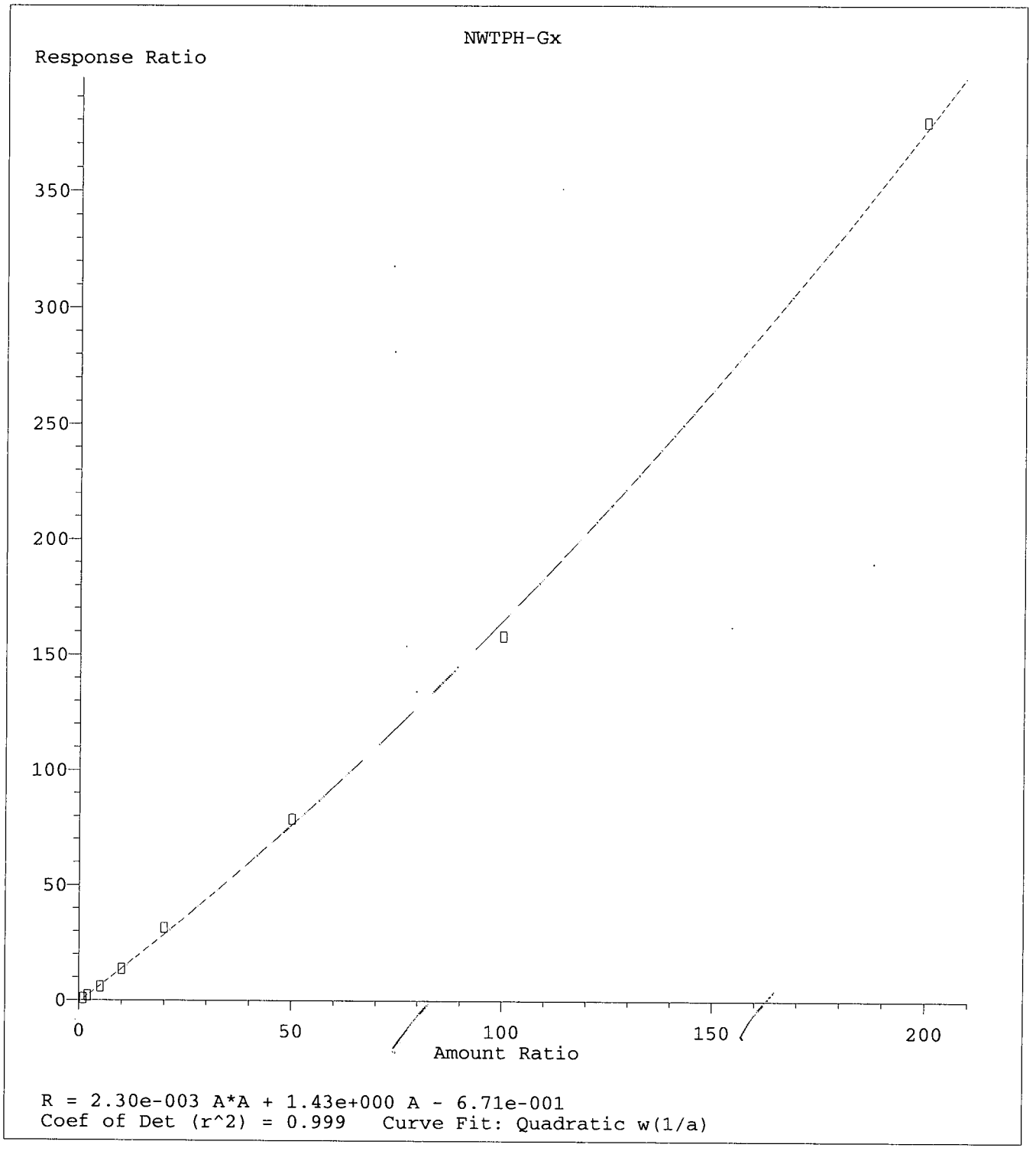
TIC: VF19050733.D\data.ms

(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



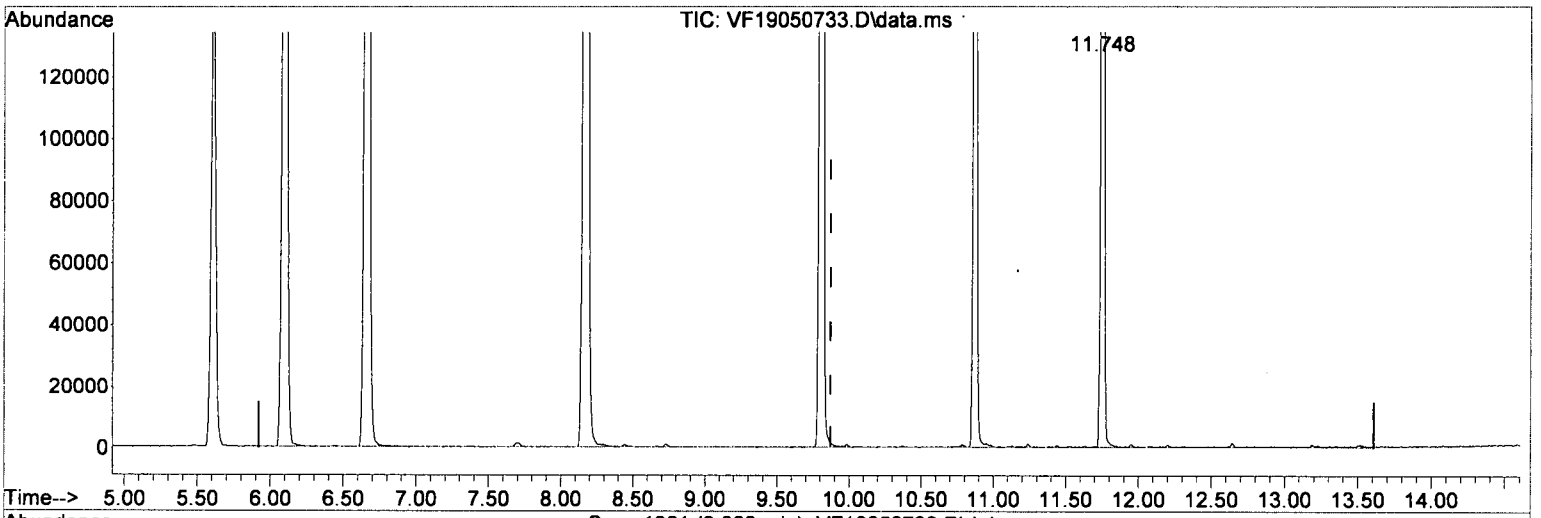
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

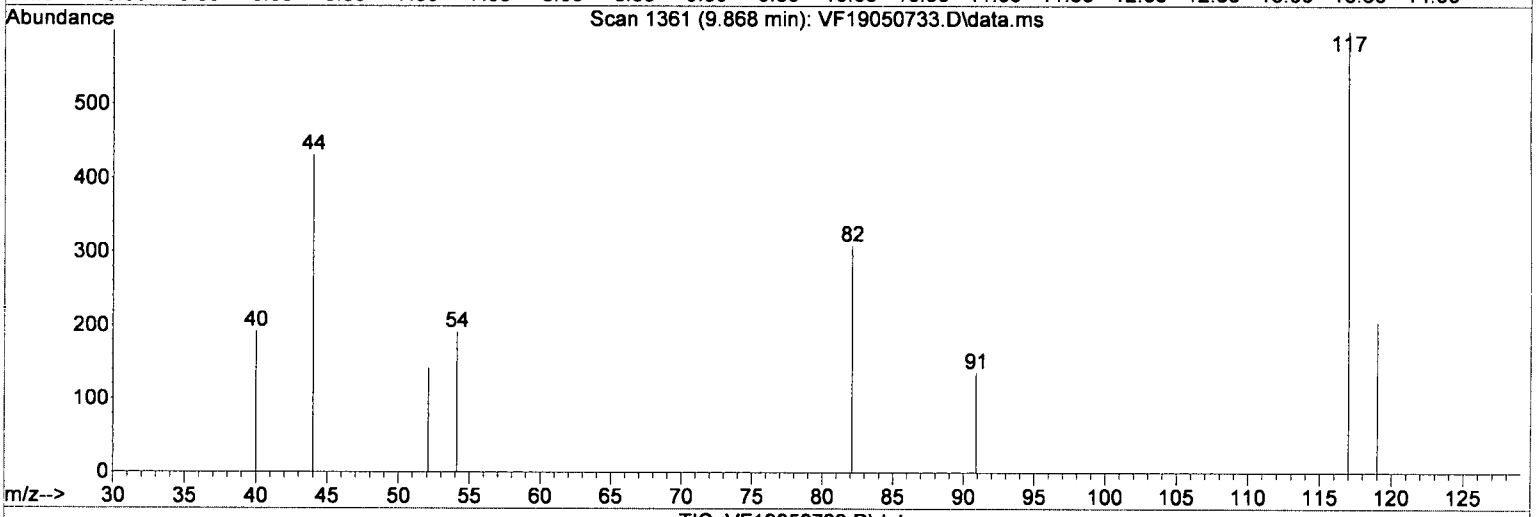
Int = 24.2

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

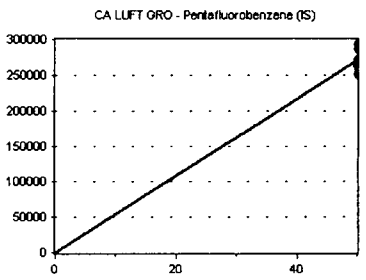
Element Calibration Review Sheet

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**

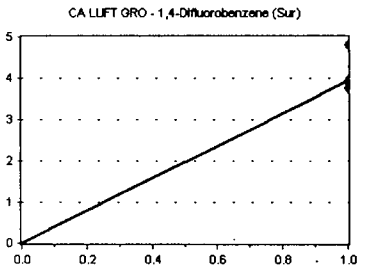


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	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**

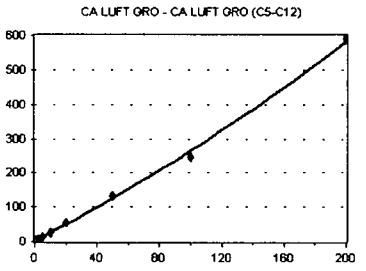


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	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**

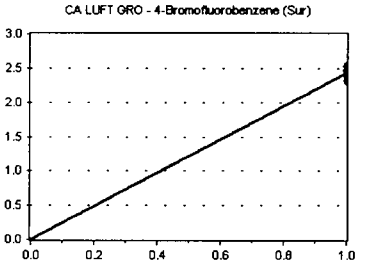


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	905552	3.596	9.86
9E07048-CALD	100	1495406	2.783	9.86
9E07048-CALE	250	3256728	2.502	9.86
9E07048-CALF	500	6691065	2.529	9.86
9E07048-CALG	1000	1.433345E+07	2.733	9.86
9E07048-CALH	2500	3.600874E+07	2.651	9.86
9E07048-CALI	5000	7.131647E+07	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**

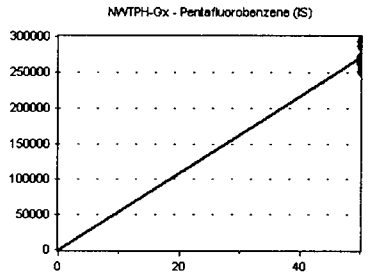
Element Calibration Review Sheet

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**

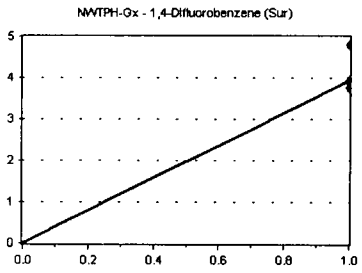


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	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**

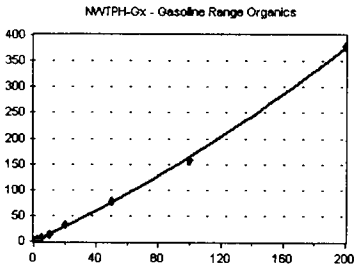


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	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**

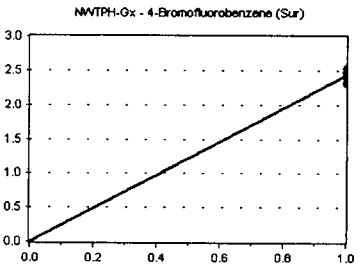


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	216743	0.861	9.87
9E07048-CALD	100	540113	1.005	9.87
9E07048-CALE	250	1533968	1.178	9.87
9E07048-CALF	500	3603975	1.362	9.87
9E07048-CALG	1000	8256018	1.574	9.87
9E07048-CALH	2500	2.140465E+07	1.576	9.87
9E07048-CALI	5000	4.546724E+07	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**

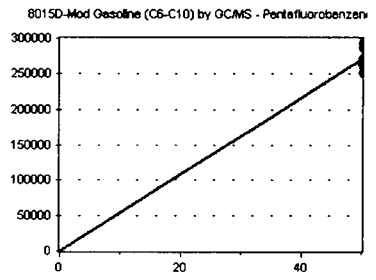
Element Calibration Review Sheet

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**

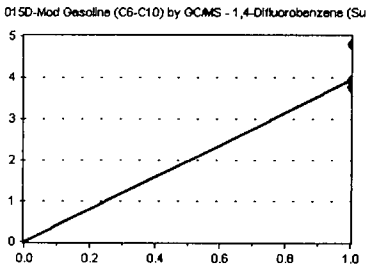


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	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**

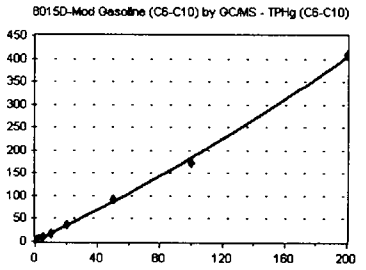


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	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**

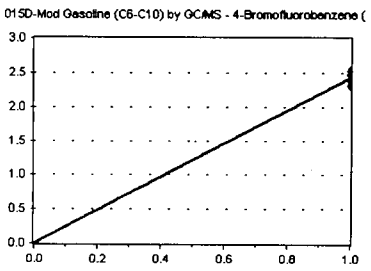


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	621653	2.469	9.86
9E07048-CALD	100	1022515	1.903	9.86
9E07048-CALE	250	2228270	1.712	9.86
9E07048-CALF	500	4686857	1.771	9.86
9E07048-CALG	1000	9868759	1.882	9.86
9E07048-CALH	2500	2.515076E+07	1.851	9.86
9E07048-CALI	5000	4.969054E+07	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-CALK		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

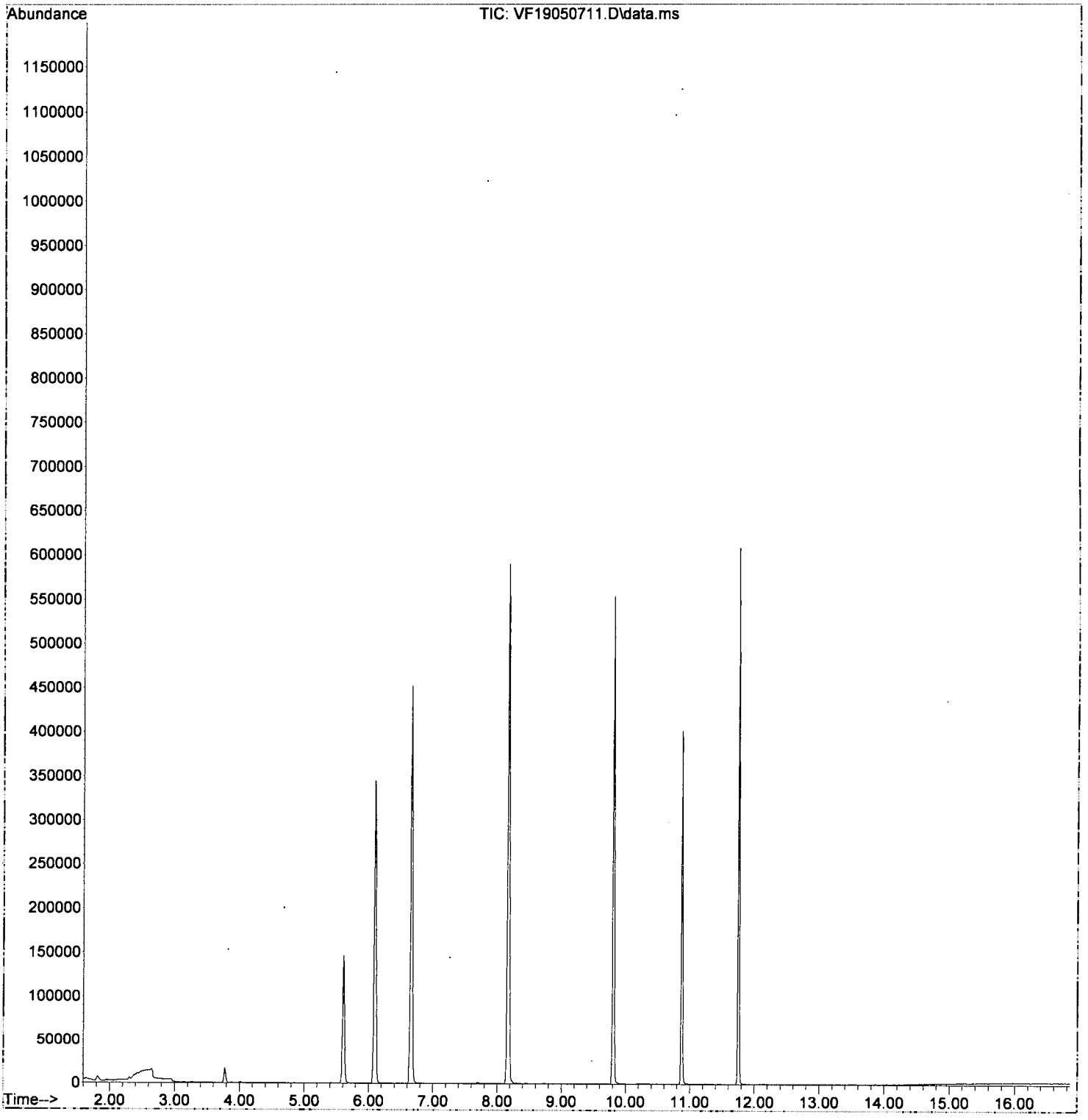
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	262943	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.802	117	288034	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	126489	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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



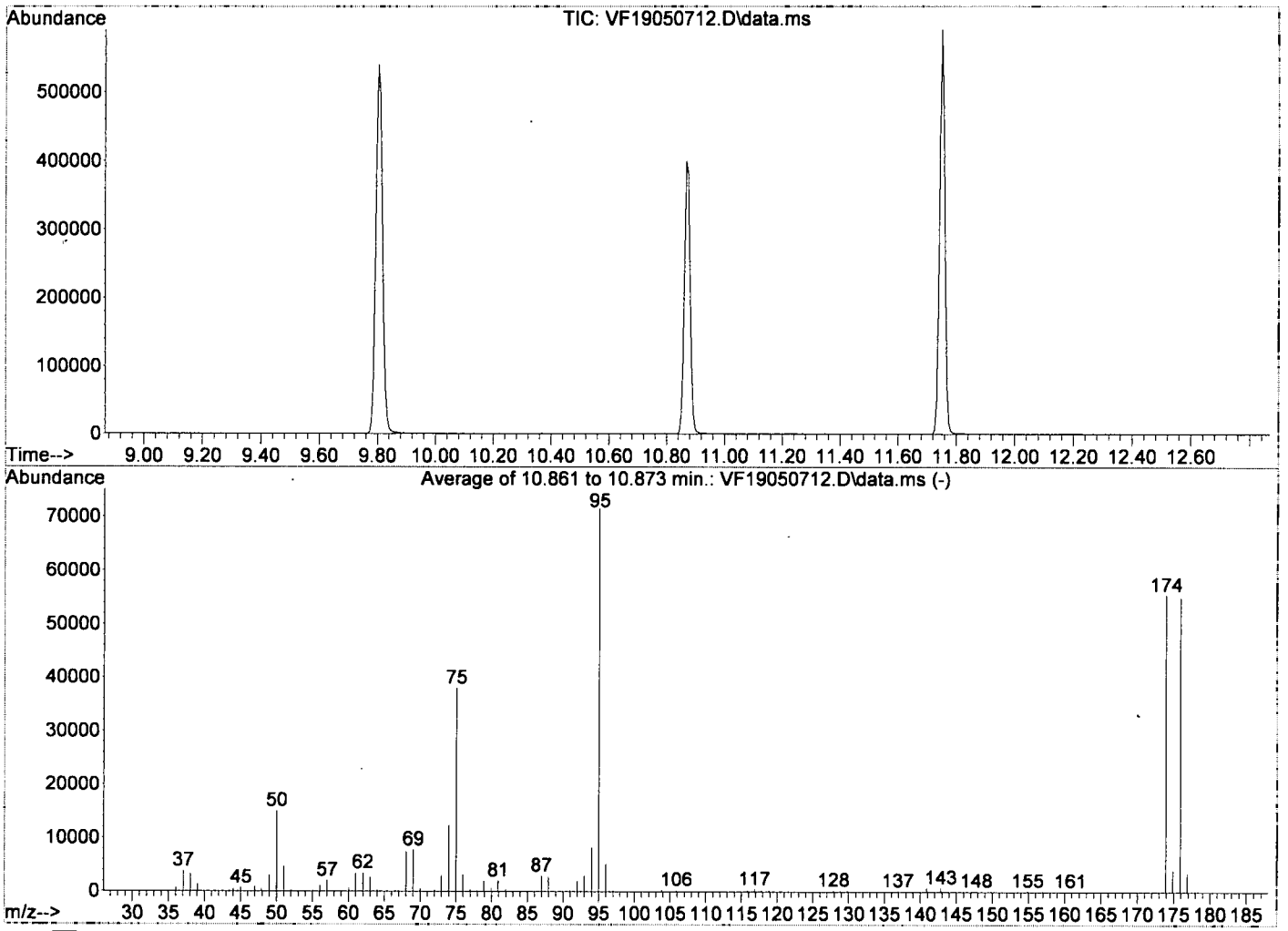
BFB

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

5/8/19

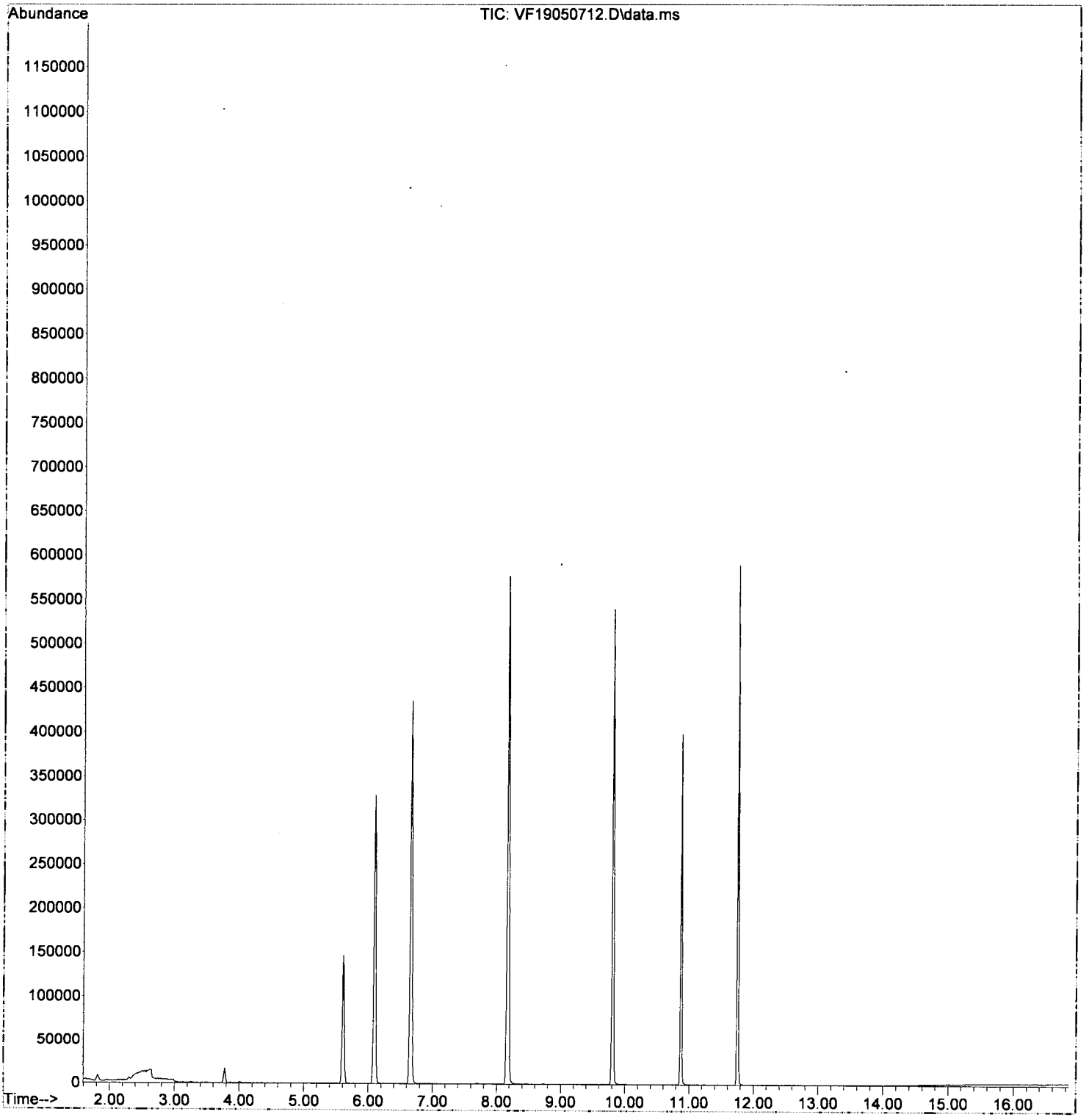
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	251113	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	284438	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	121728	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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

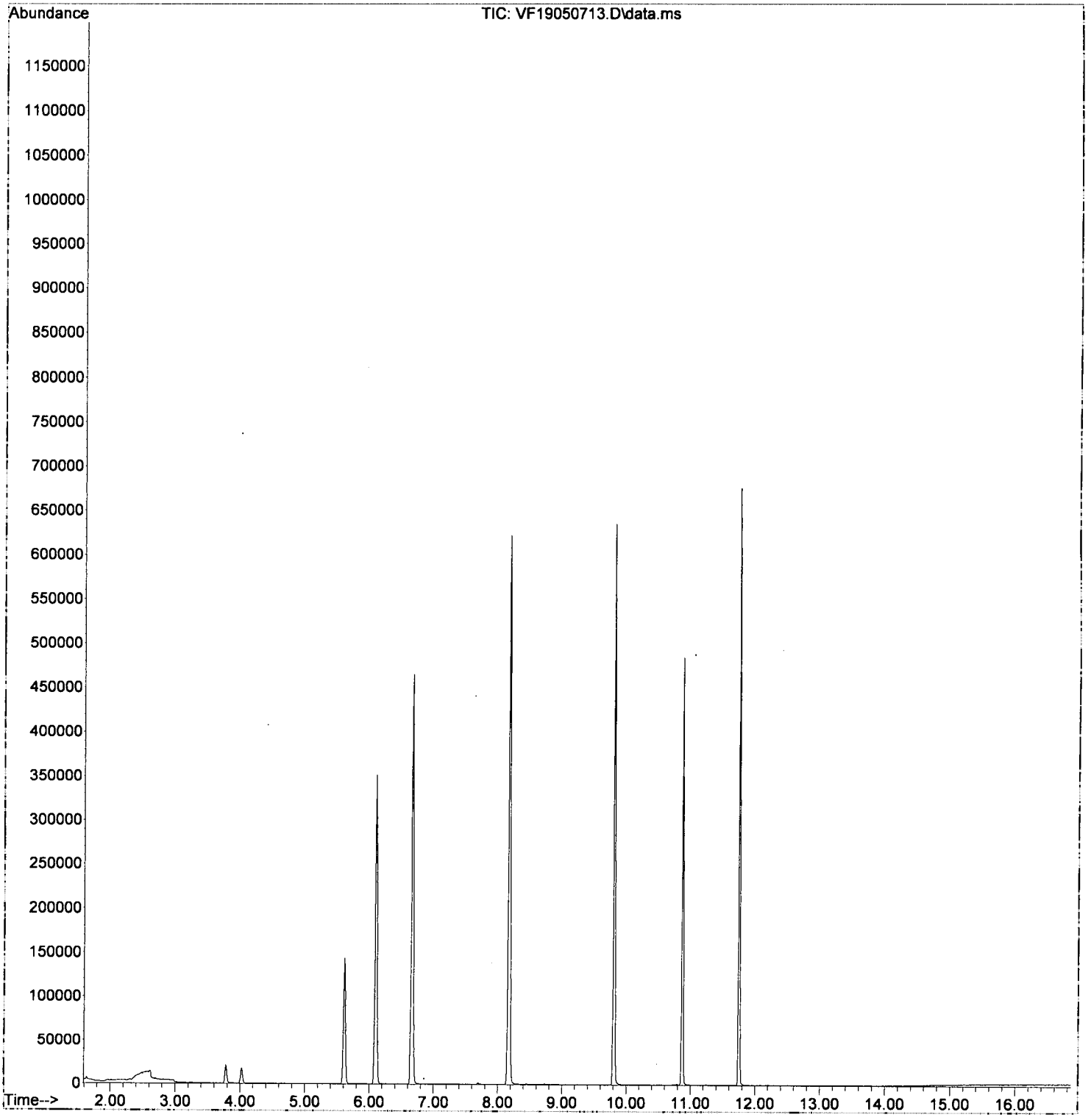
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.102	168	264636	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	322849	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.747	152	140430	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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

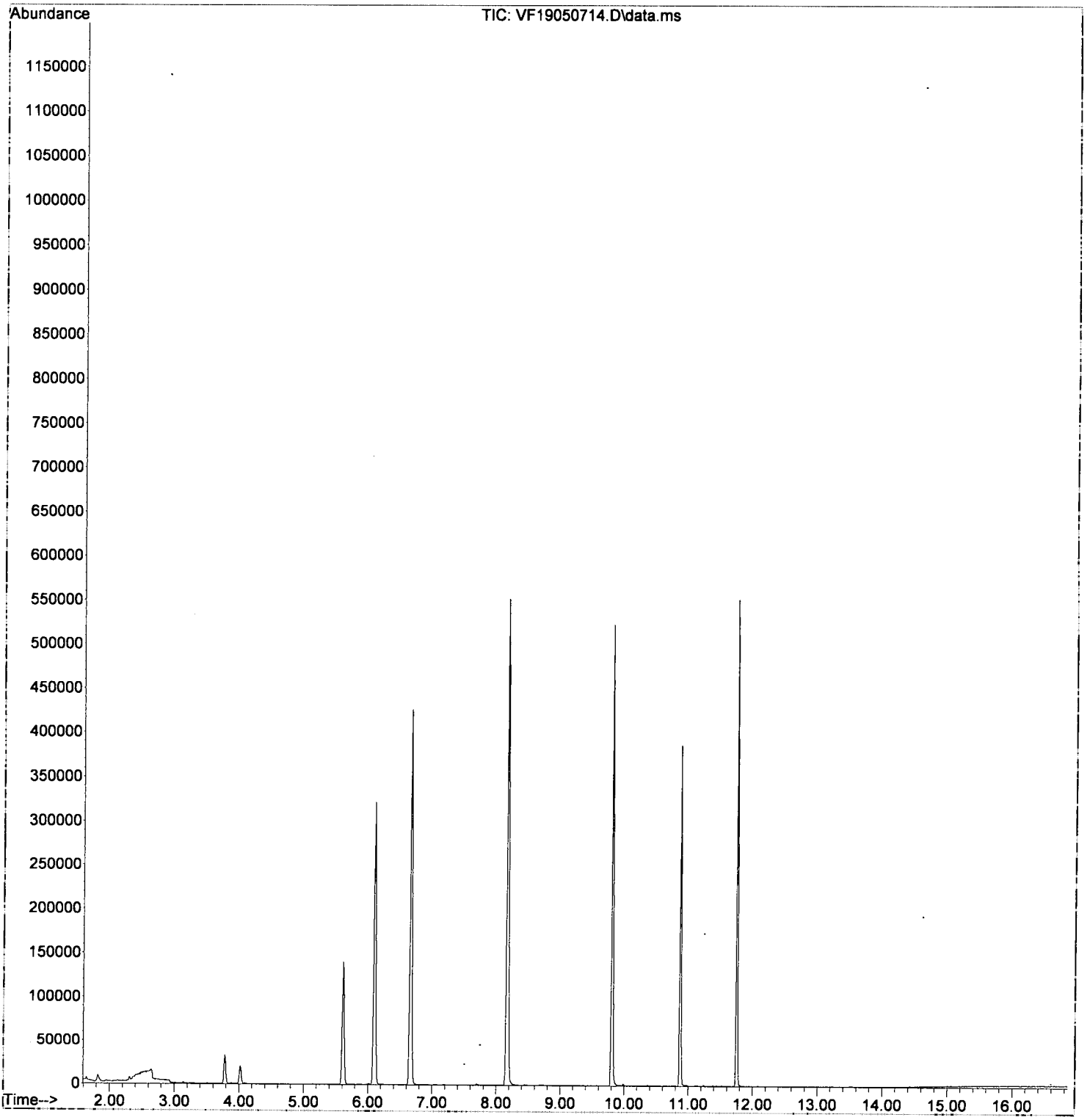
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.819	112	708	0.11	ug/L	#	1
50) Ethylbenzene	9.849	91	1175	0.11	ug/L		92
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
52) m,p-Xylenes (2)	9.989	91	1447	0.18	ug/L		93
53) o-Xylene	10.367	91	771	0.10	ug/L		82
54) Styrene	10.421	104	268	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

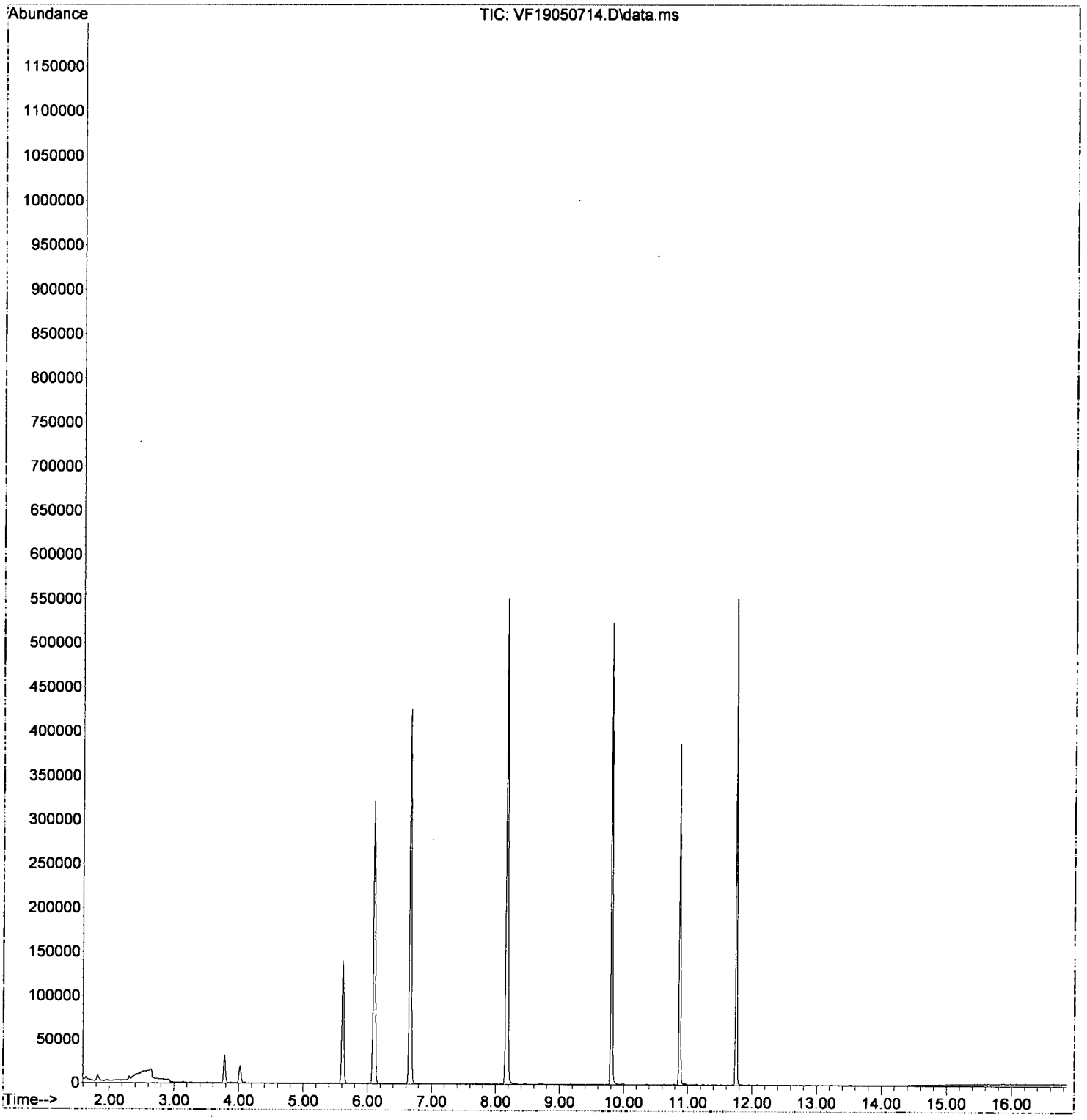
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	708	0.11	ug/L #	1
50) Ethylbenzene	9.849	91	1175	0.11	ug/L	92
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
52) m,p-Xylenes (2)	9.989	91	1447	0.18	ug/L	93
53) o-Xylene	10.367	91	771	0.10	ug/L	82
54) Styrene	0.000		0	N.D. d		
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

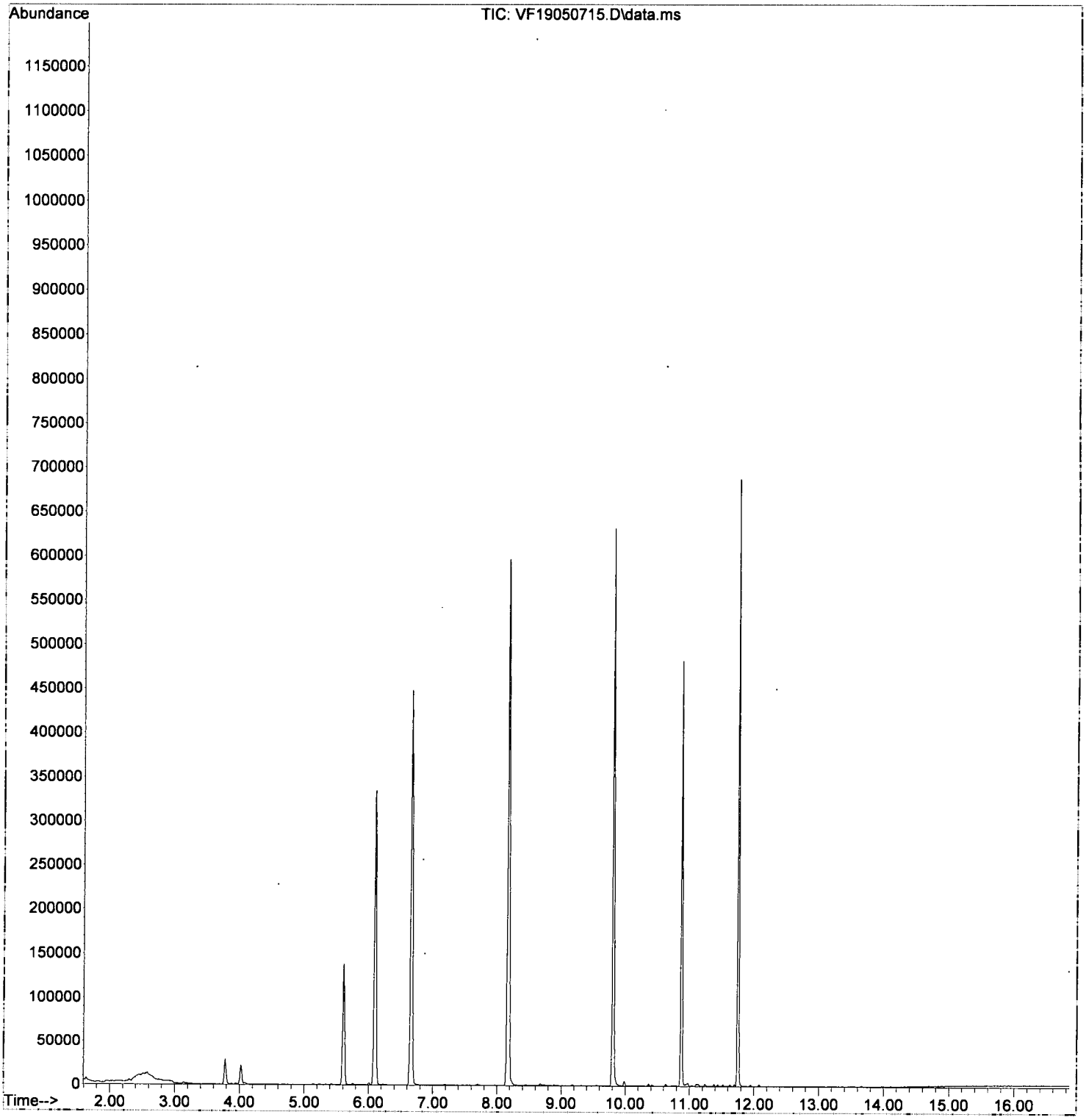
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22 ug/L #	35
50) Ethylbenzene	9.845	91	2644	0.20 ug/L	90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
52) m,p-Xylenes (2)	9.985	91	3375	0.35 ug/L	98
53) o-Xylene	10.362	91	1661	0.18 ug/L	97
54) Styrene	10.417	104	742	0.12 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

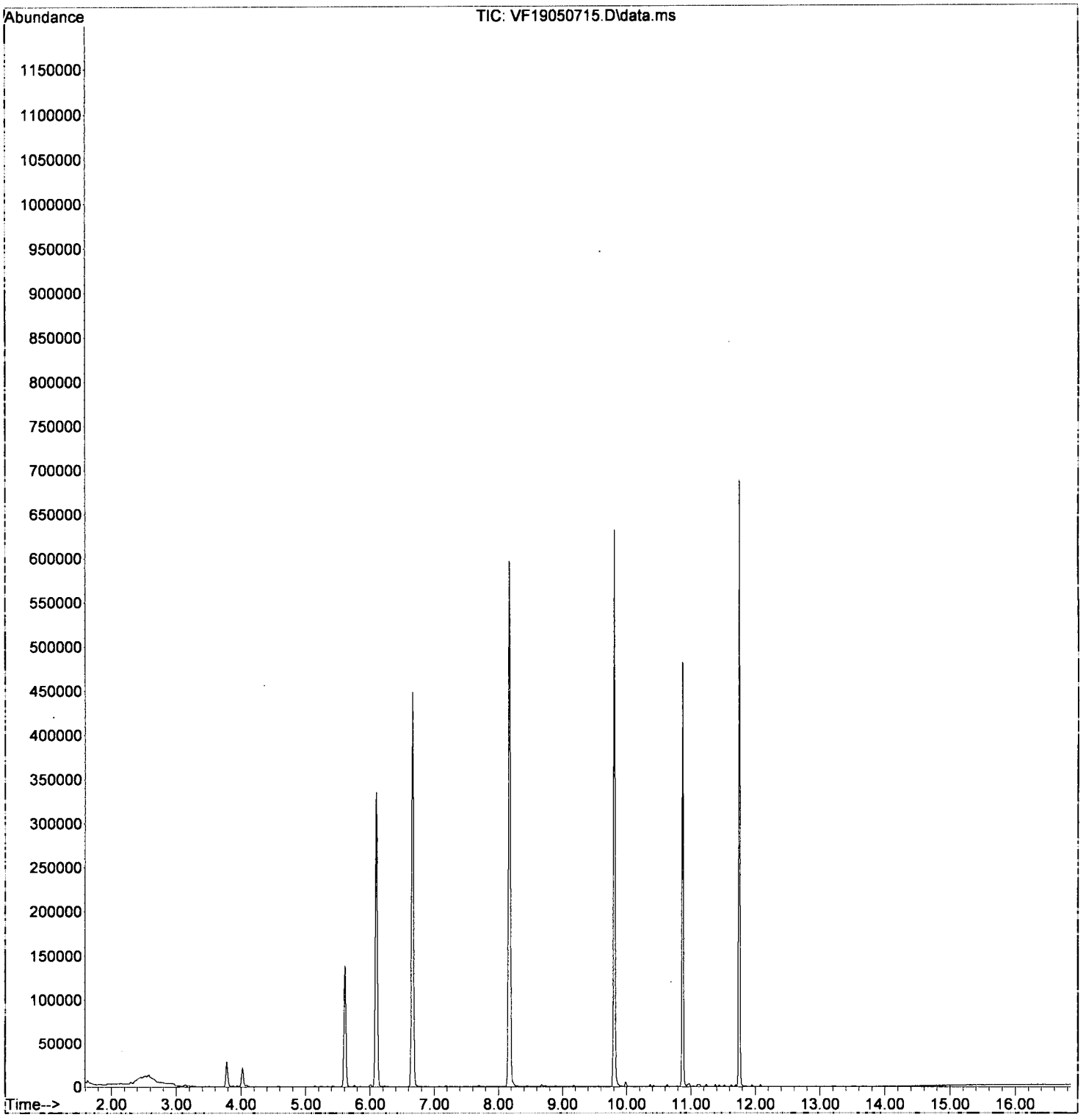
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22	ug/L	#	35
50) Ethylbenzene	9.845	91	2644	0.20	ug/L		90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
52) m,p-Xylenes (2)	9.985	91	3375	0.35	ug/L		98
53) o-Xylene	10.362	91	1661	0.18	ug/L		97
54) Styrene	10.417	104	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.	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

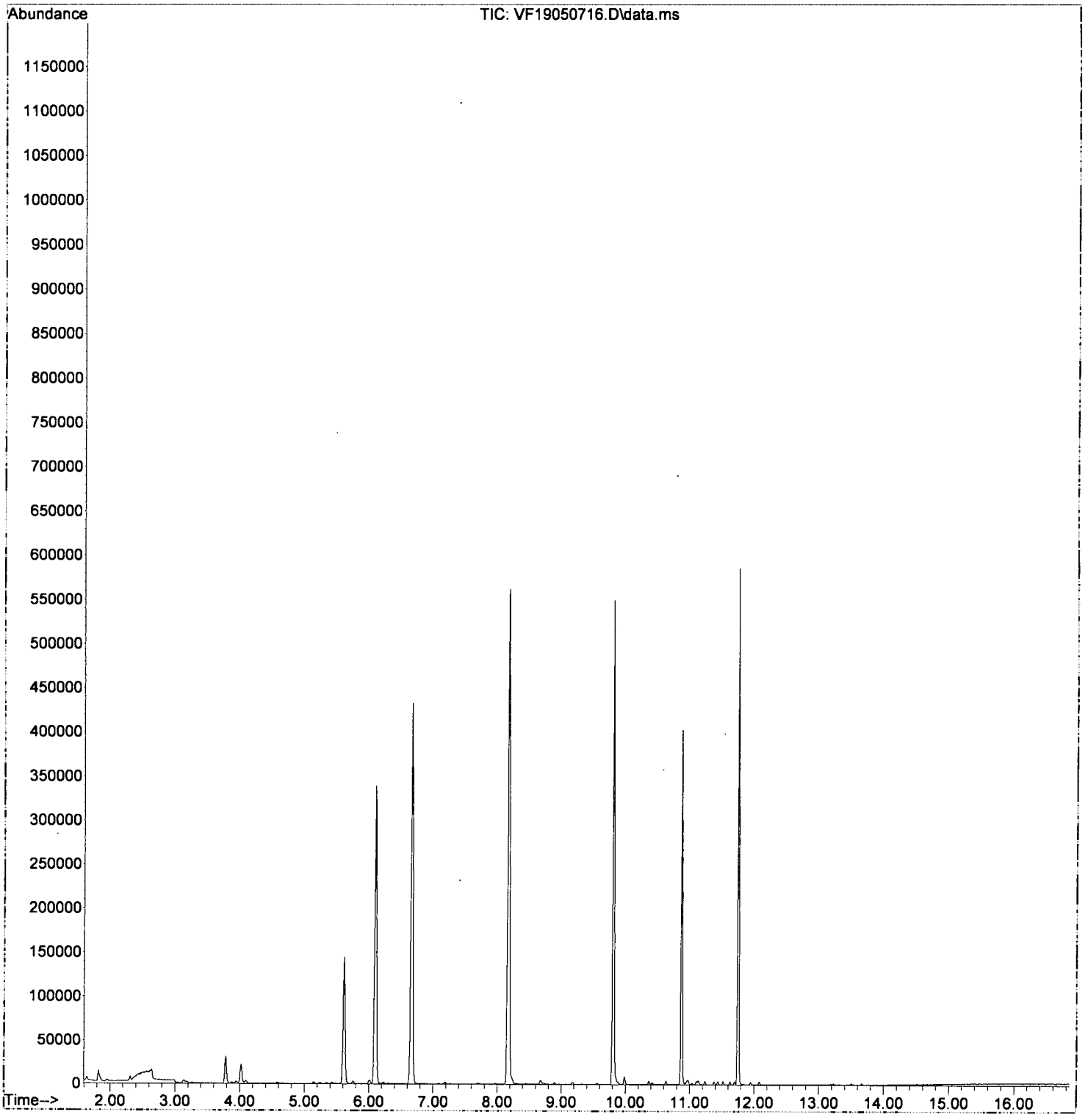
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40 ug/L #	67
50) Ethylbenzene	9.852	91	4382	0.38 ug/L	86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21 ug/L #	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63 ug/L	97
53) o-Xylene	10.363	91	2704	0.33 ug/L	96
54) Styrene	10.418	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

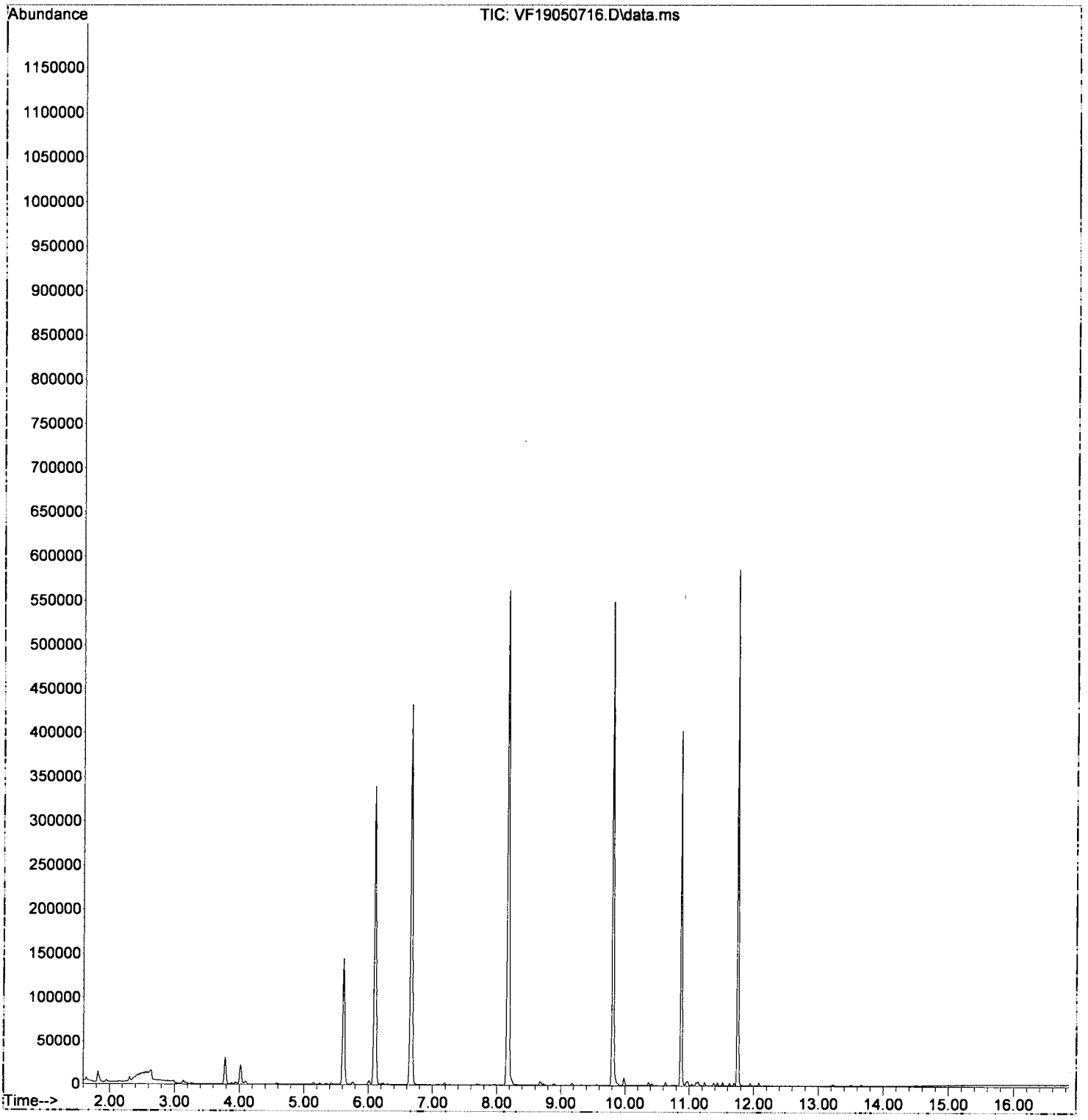
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40	ug/L	#	67
50) Ethylbenzene	9.852	91	4382	0.38	ug/L		86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21	ug/L	#	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63	ug/L		97
53) o-Xylene	10.363	91	2704	0.33	ug/L		96
54) Styrene	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

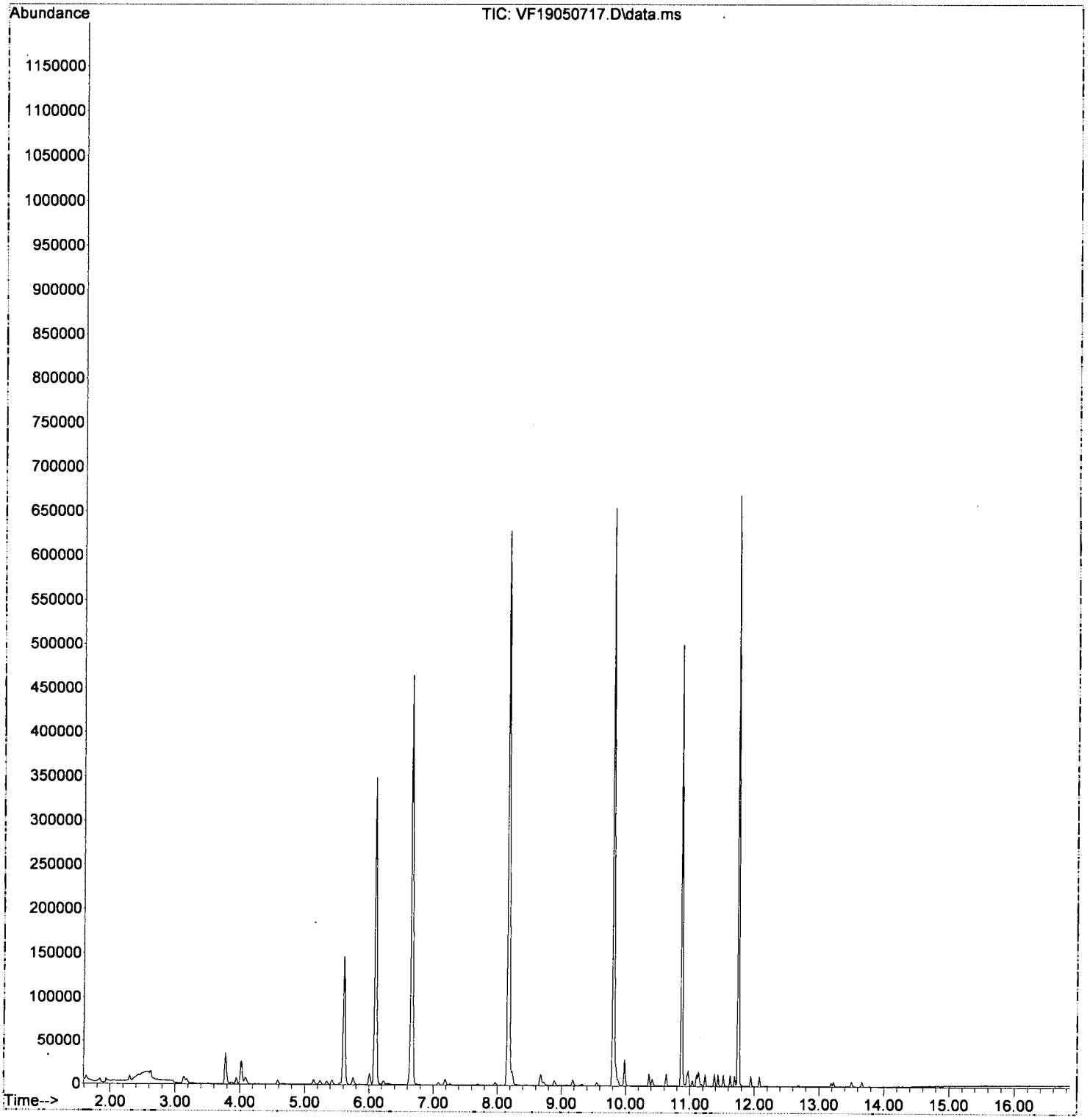
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01 ug/L	80
50) Ethylbenzene	9.849	91	12168	0.92 ug/L	95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49 ug/L	91
52) m,p-Xylenes (2)	9.983	91	16601	1.69 ug/L	91
53) o-Xylene	10.366	91	7663	0.83 ug/L	98
54) Styrene	10.415	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

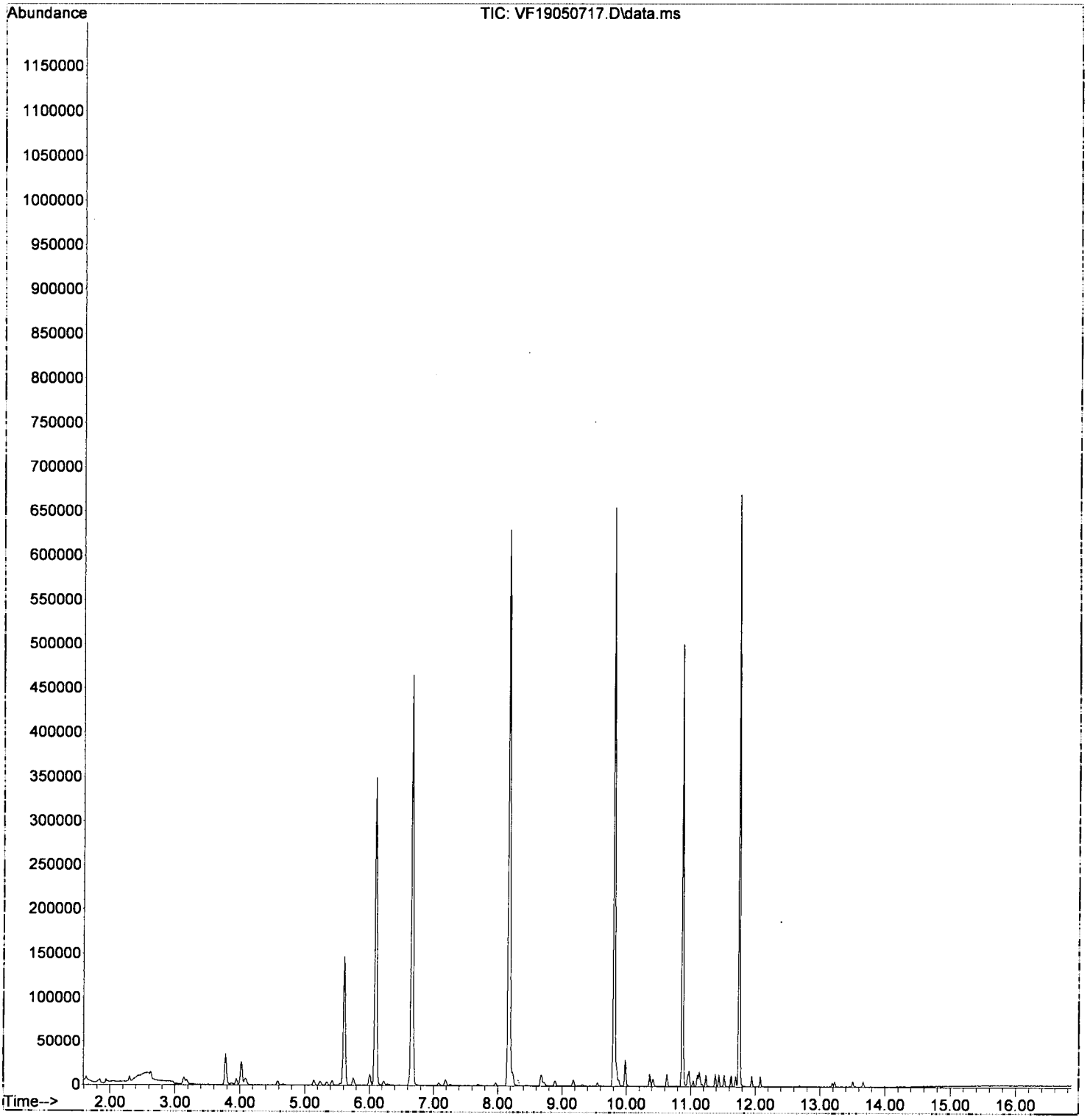
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01	ug/L		80
50) Ethylbenzene	9.849	91	12168	0.92	ug/L		95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49	ug/L		91
52) m,p-Xylenes (2)	9.983	91	16601	1.69	ug/L		91
53) o-Xylene	10.366	91	7663	0.83	ug/L		98
54) Styrene	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

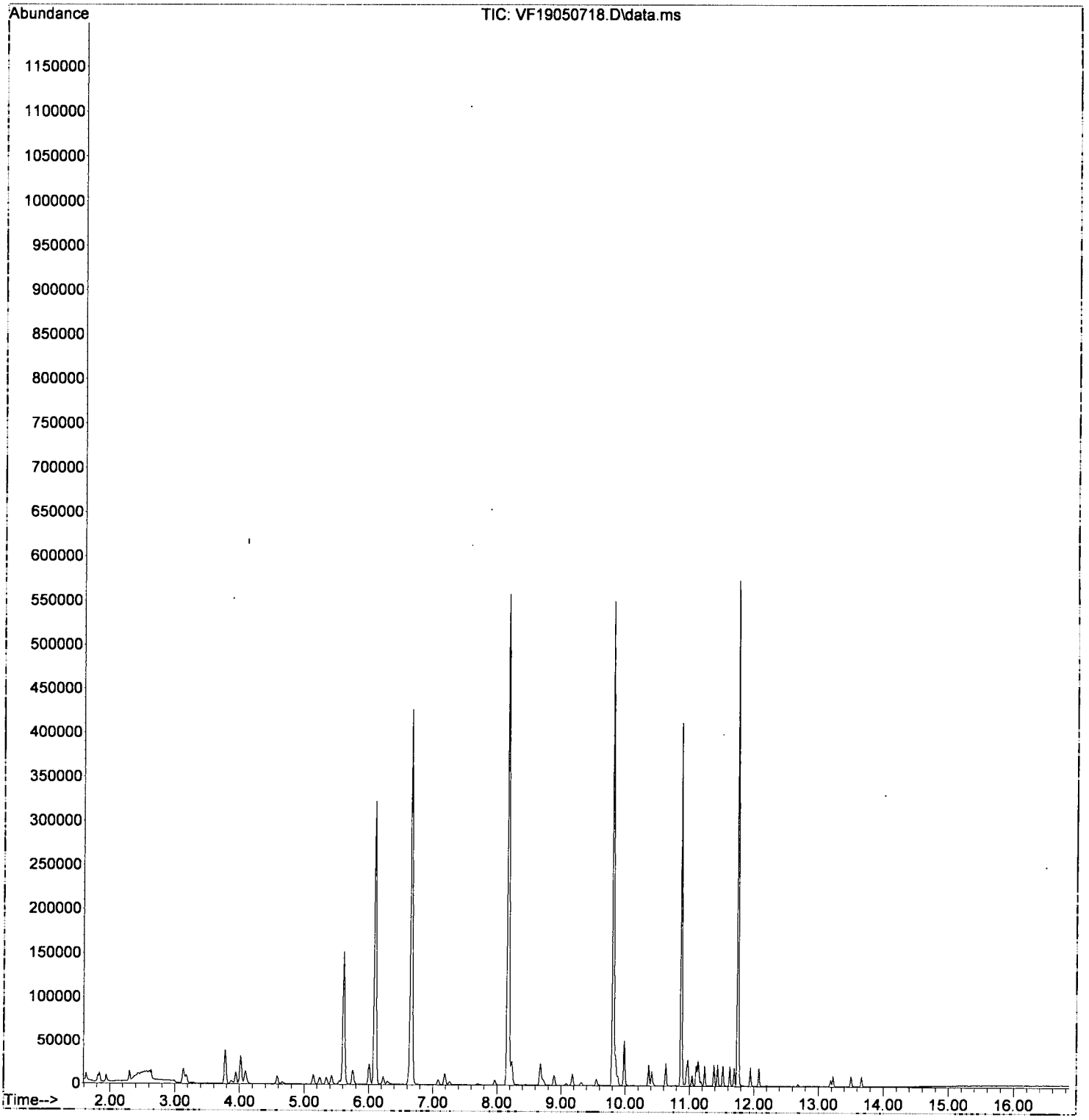
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	12836	1.99	ug/L		89
50) Ethylbenzene	9.849	91	20590	1.85	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.885	131	1701	1.26	ug/L		86
52) m,p-Xylenes (2)	9.983	91	28146	3.40	ug/L		94
53) o-Xylene	10.366	91	13306	1.71	ug/L		95
54) Styrene	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

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

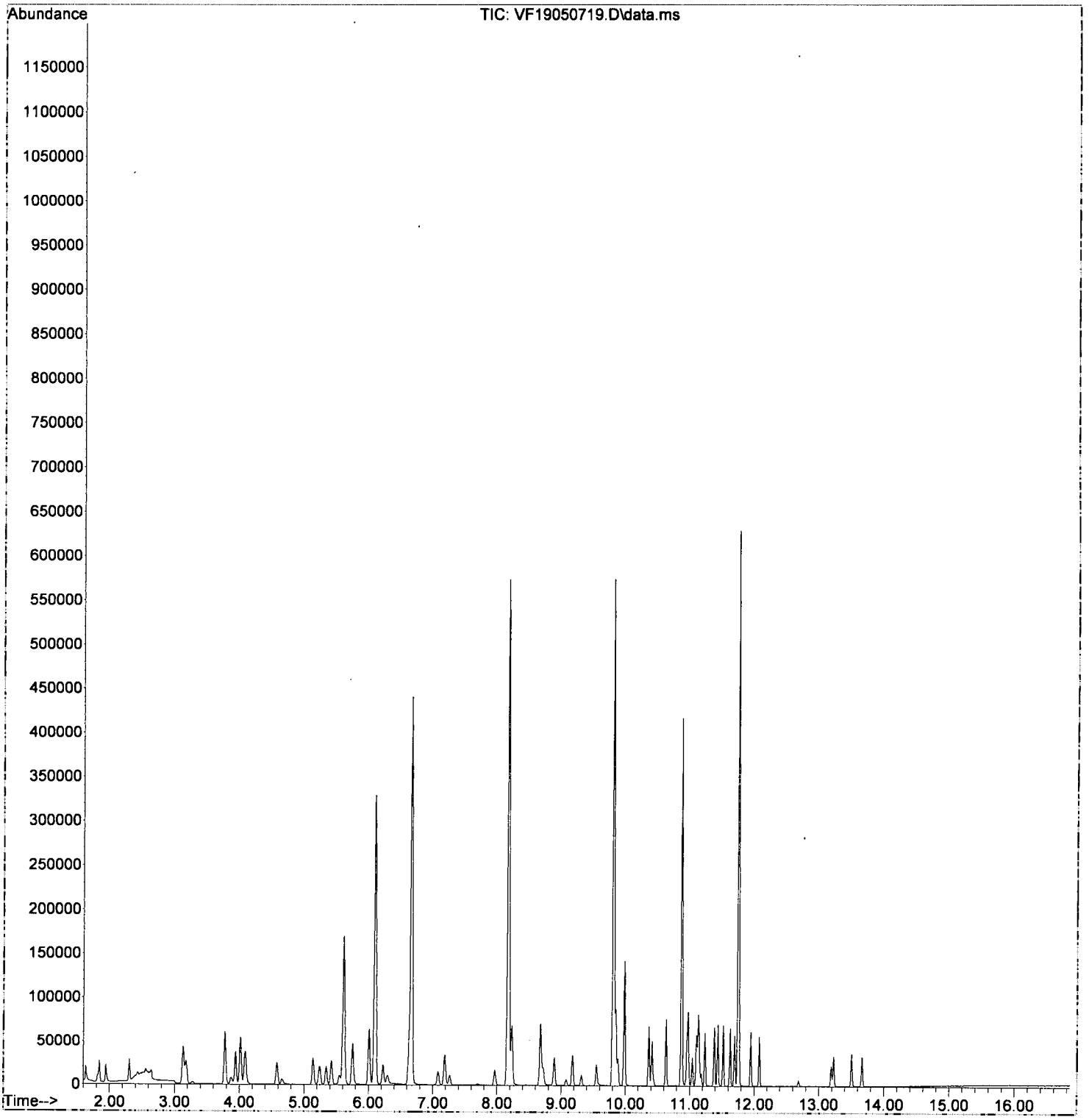
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.822	112	32582	4.91	ug/L		94
50)	Ethylbenzene	9.846	91	53767	4.68	ug/L		97
51)	1,1,1,2-Tetrachloroethane	9.882	131	4779	3.43	ug/L		94
52)	m,p-Xylenes (2)	9.980	91	76311	8.96	ug/L		96
53)	o-Xylene	10.363	91	35546	4.44	ug/L		95
54)	Styrene	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

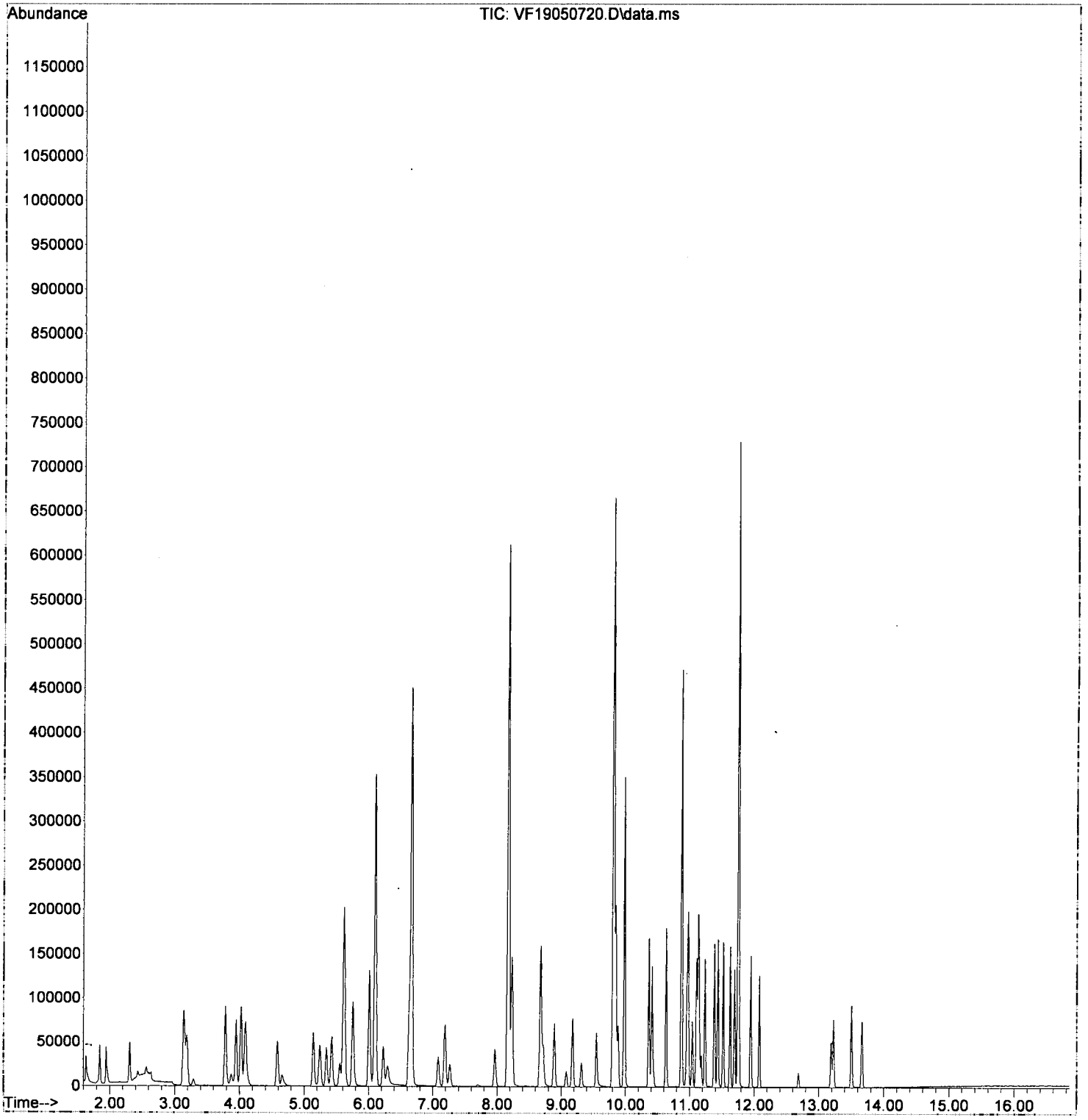
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	74844	9.90	ug/L		96
50) Ethylbenzene	9.845	91	123904	9.46	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.882	131	12247	7.72	ug/L		98
52) m,p-Xylenes (2)	9.979	91	180873	18.63	ug/L		96
53) o-Xylene	10.363	91	85079	9.33	ug/L		96
54) 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

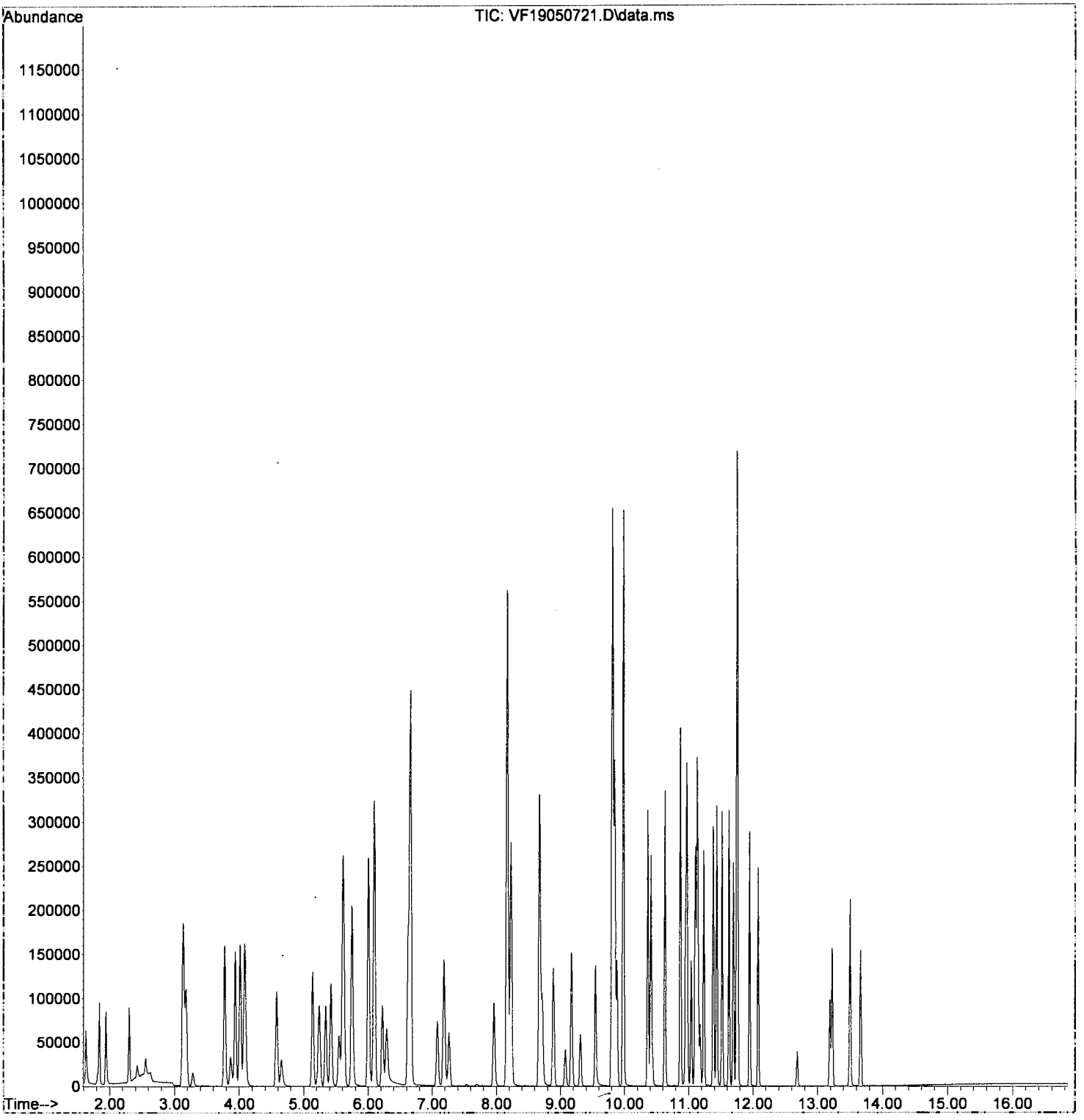
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.820	112	130501	20.00	ug/L		98
50)	Ethylbenzene	9.845	91	225958	20.00	ug/L		97
51)	1,1,1,2-Tetrachloroethane	9.881	131	27384	20.00	ug/L		97
52)	m,p-Xylenes (2)	9.979	91	334982	40.00	ug/L		94
53)	o-Xylene	10.362	91	157388	20.00	ug/L		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

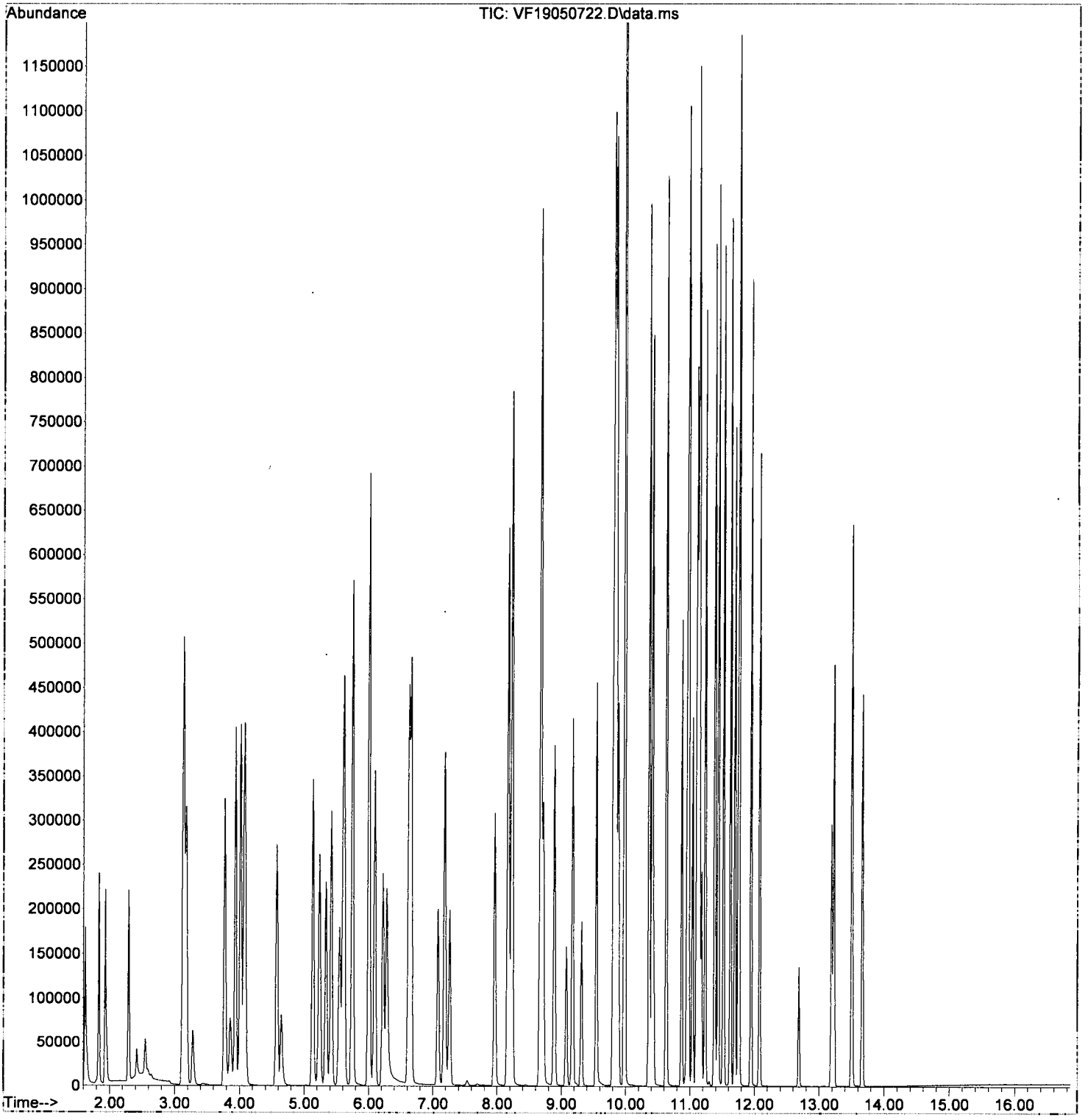
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	392199	50.04	ug/L		98
50) Ethylbenzene	9.846	91	684347	50.42	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.882	131	99762	60.65	ug/L		99
52) m,p-Xylenes (2)	9.979	91	1024139	101.80	ug/L		97
53) o-Xylene	10.363	91	494845	52.35	ug/L		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

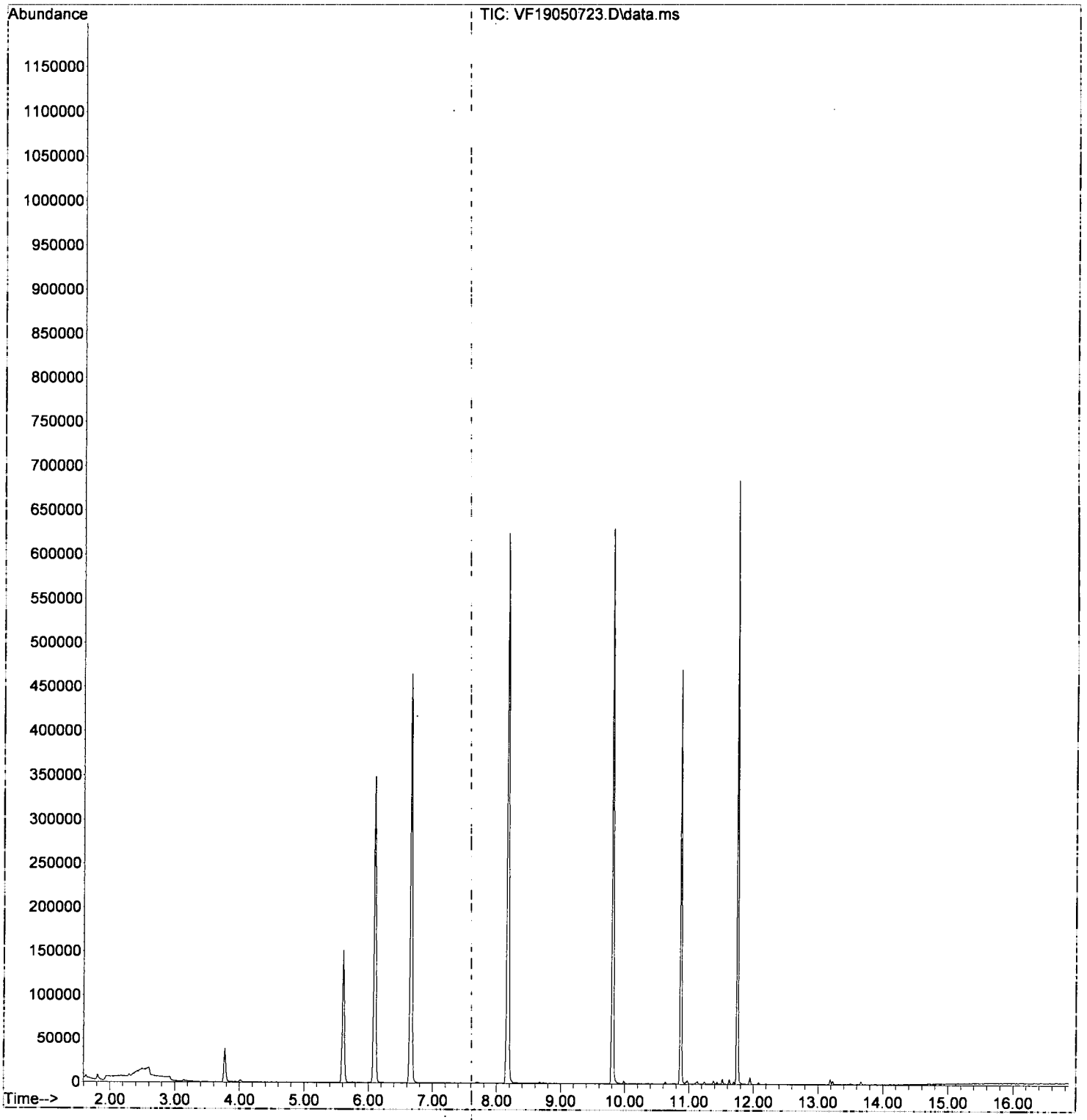
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.096	168	267959	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	327429	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	140340	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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

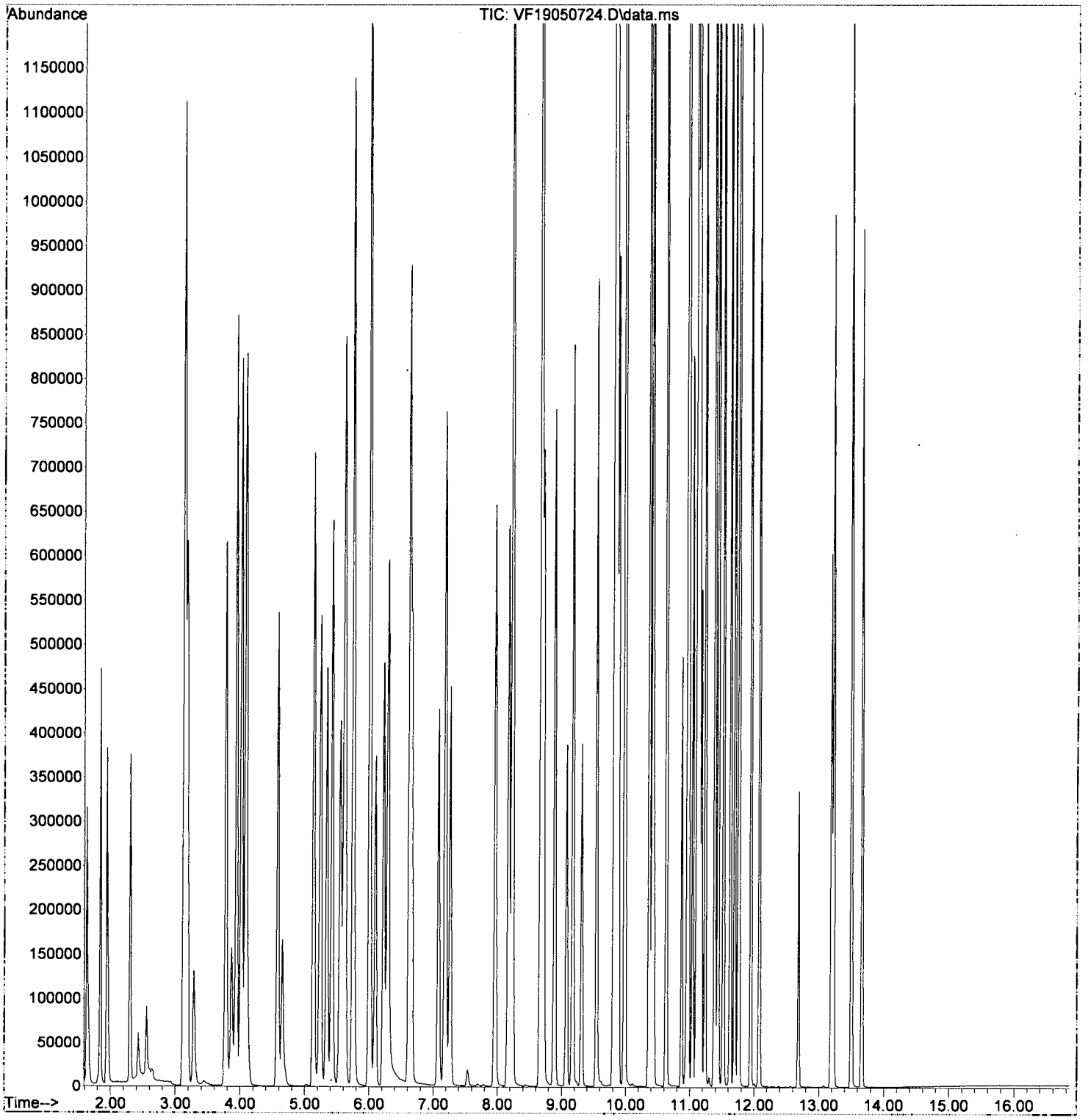
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	775570	97.68	ug/L	98
50) Ethylbenzene	9.843	91	1355629	98.61	ug/L	97
51) 1,1,1,2-Tetrachloroethane	9.880	131	228768	137.31	ug/L	98
52) m,p-Xylenes (2)	9.977	91	2053605	201.53	ug/L	97
53) o-Xylene	10.360	91	977297	102.06	ug/L	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

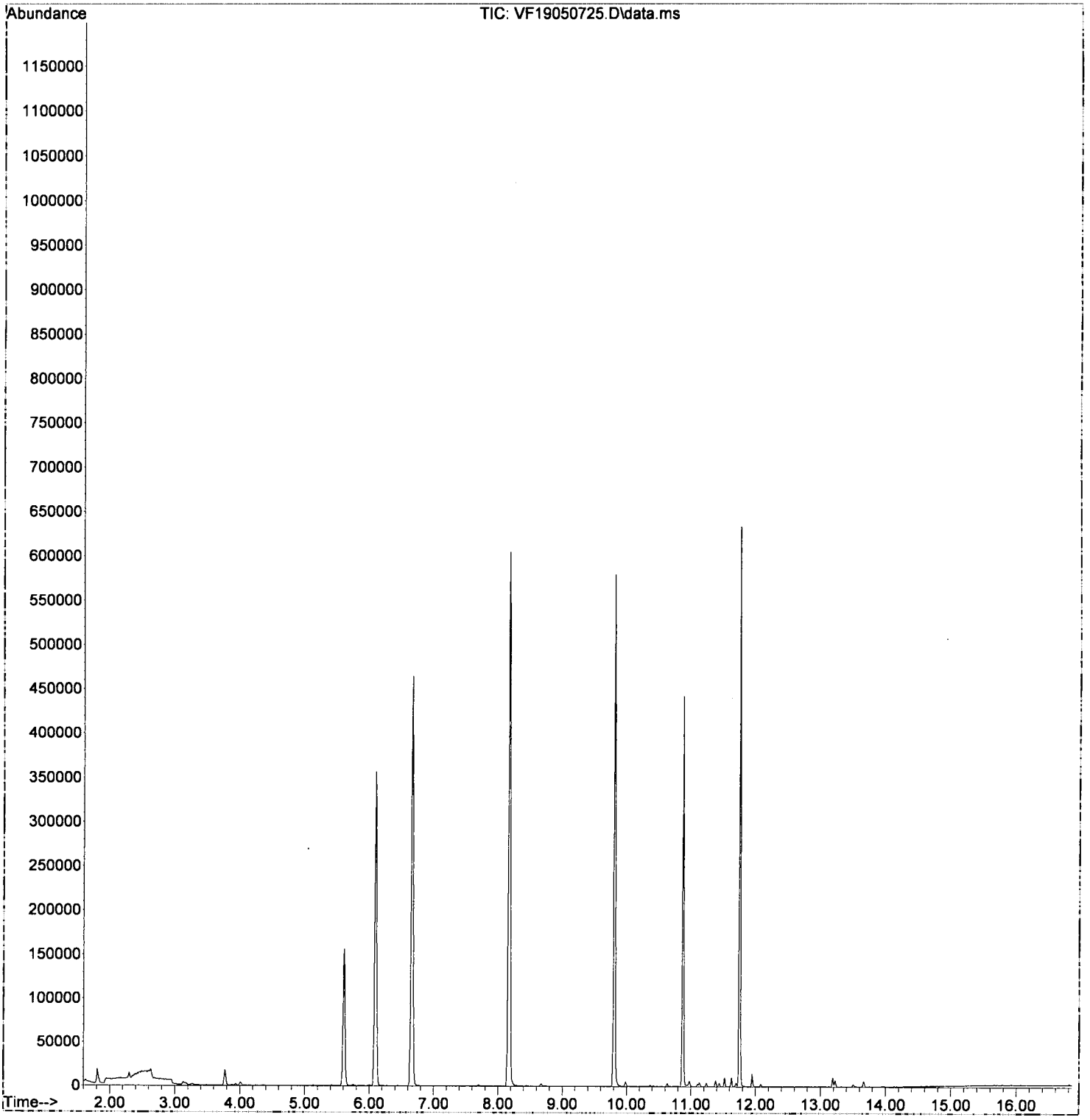
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = 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

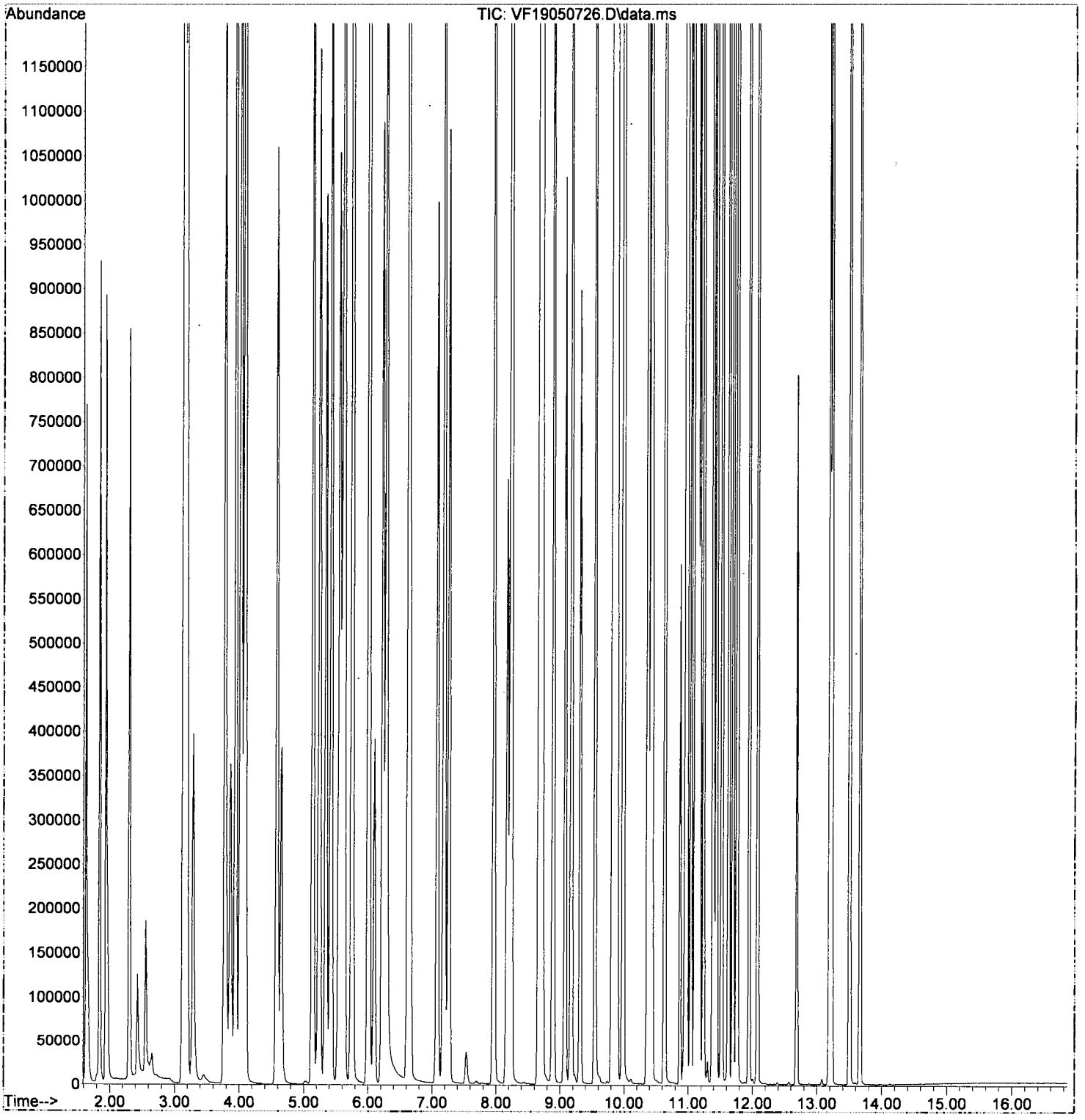
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.818	112	1783488	196.20	ug/L		96
50)	Ethylbenzene	9.842	91	3128616	198.78	ug/L		98
51)	1,1,1,2-Tetrachloroethane	9.879	131	559200	293.16	ug/L		99
52)	m,p-Xylenes (2)	9.982	91	4916984	421.45	ug/L		100
53)	o-Xylene	10.359	91	2329915	212.52	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

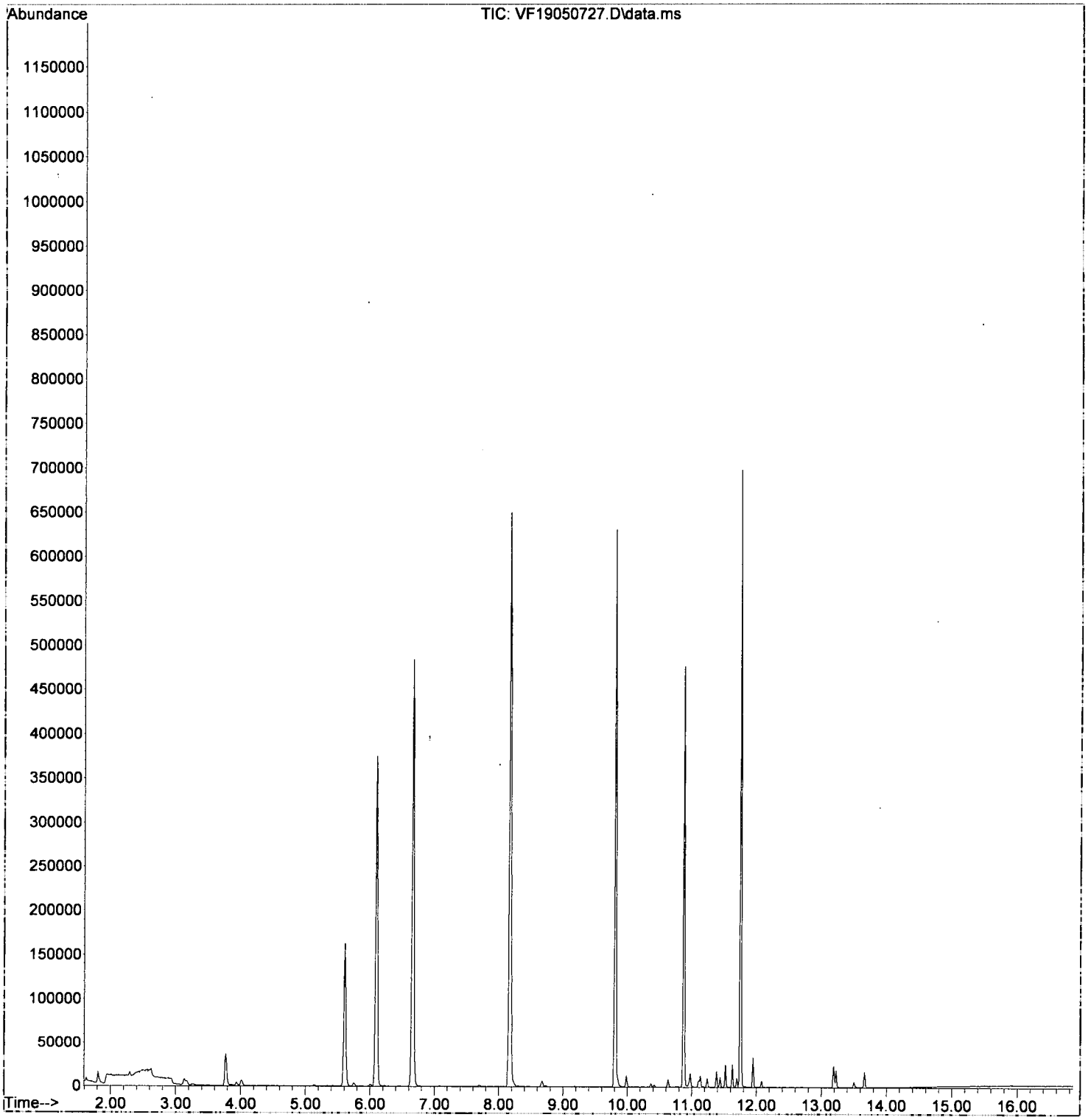
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1,2,4-Trimethylbenzene	11.437	105	5397	0.73	ug/L	96
69) sec-Butylbenzene	11.517	105	14769	1.68	ug/L	96
70) 4-Isopropyltoluene	11.626	119	11627	1.59	ug/L	95
71) 1,3-Dichlorobenzene	11.693	146	3751	0.86	ug/L	93
72) 1,4-Dichlorobenzene	11.760	146	4398	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

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

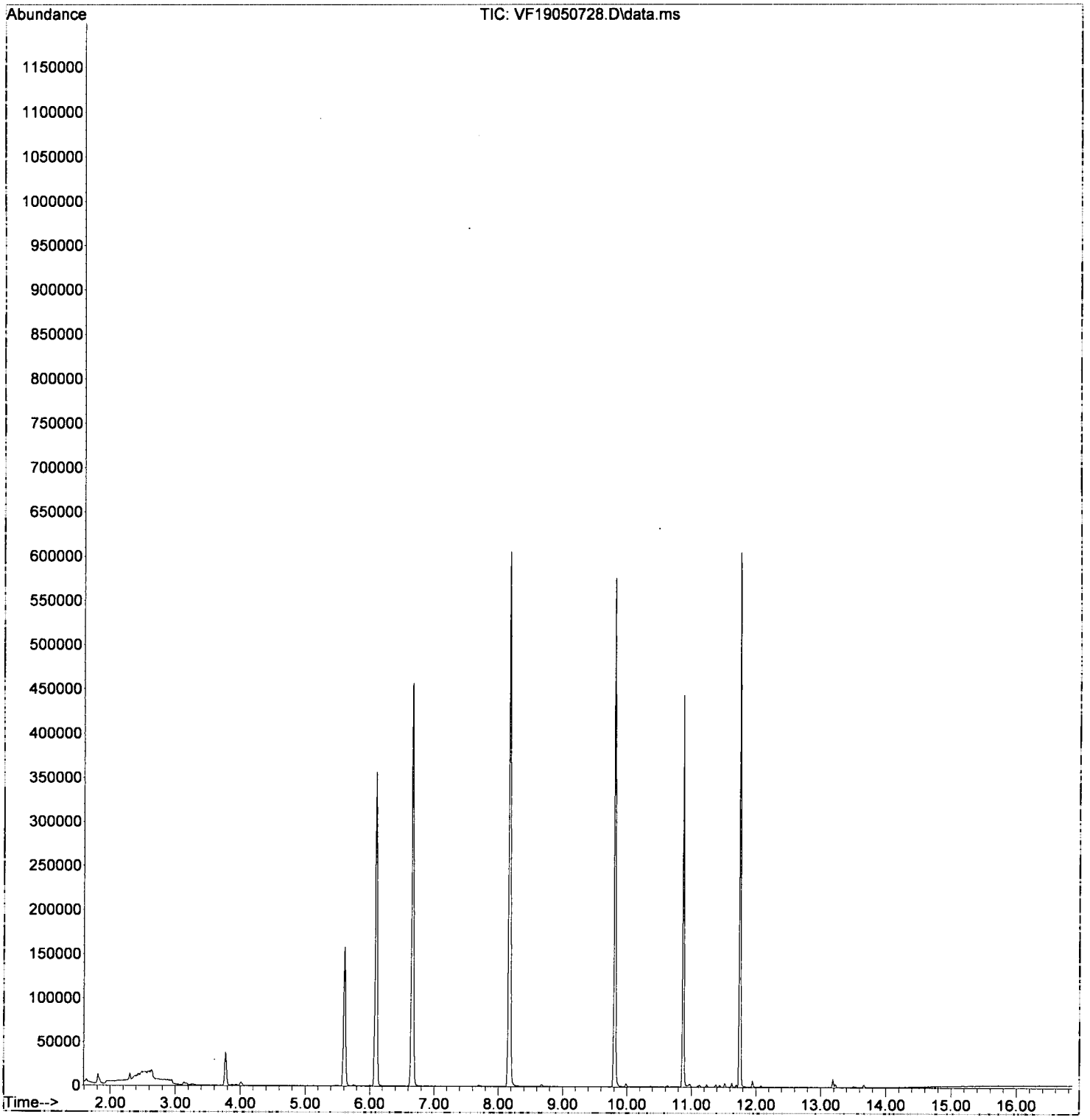
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	267878	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	295788	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	131412	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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

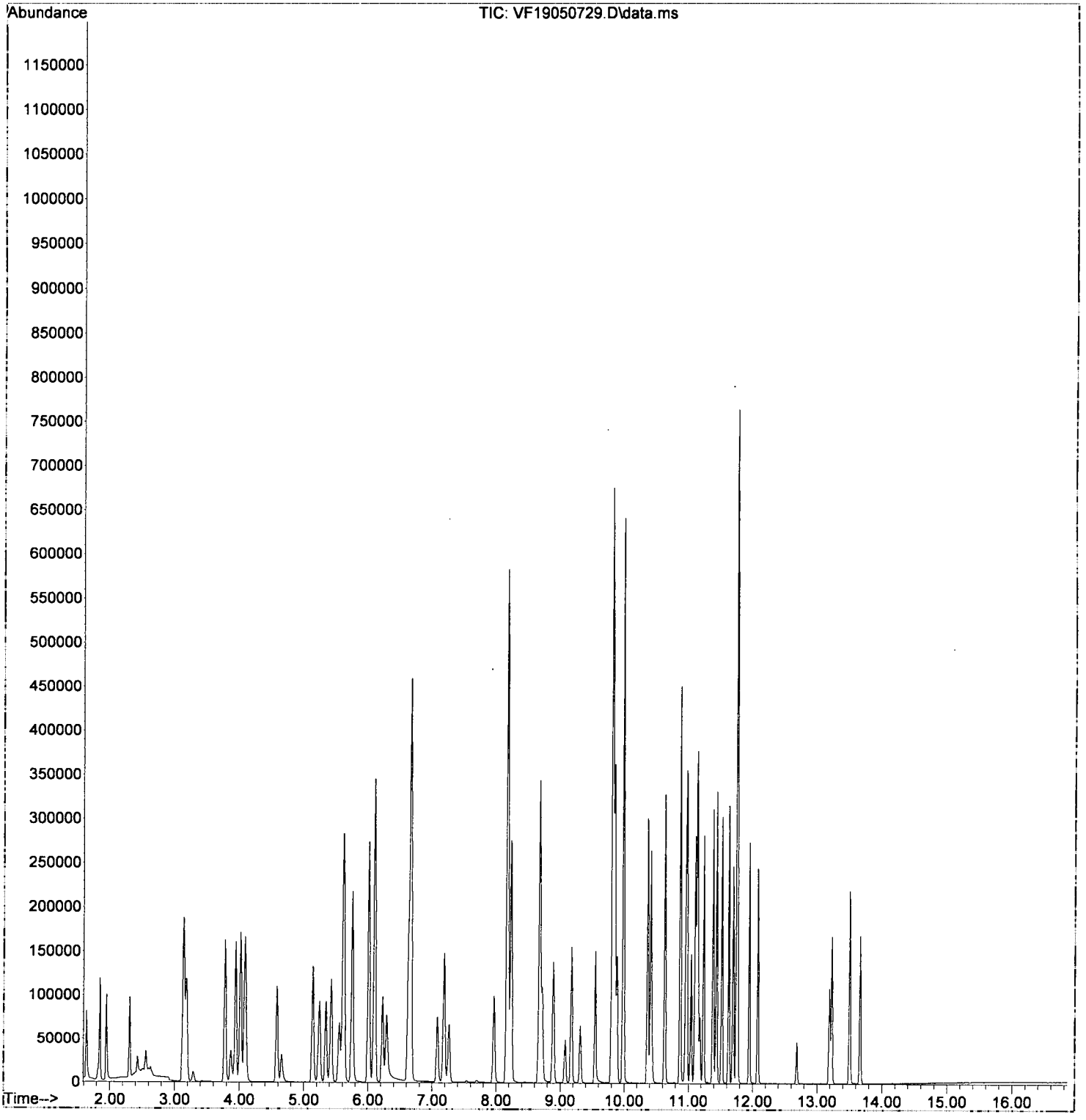
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	129383	18.63	ug/L		95
50) Ethylbenzene	9.849	91	229244	19.76	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.879	131	31999	20.27	ug/L		99
52) m,p-Xylenes (2)	9.983	91	335654	41.31	ug/L		97
53) o-Xylene	10.360	91	160147	20.48	ug/L		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

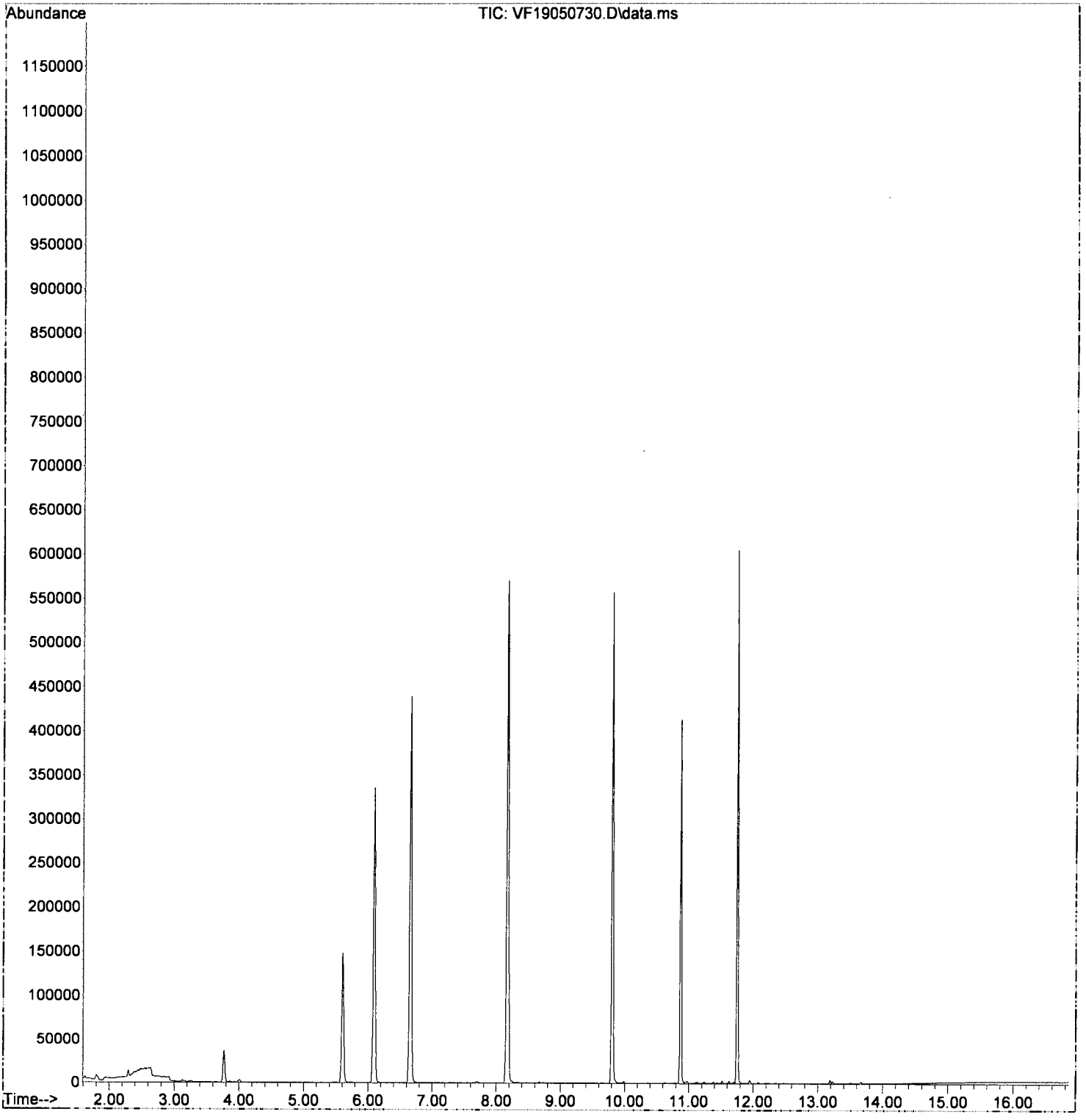
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	252291	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	281229	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	123851	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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



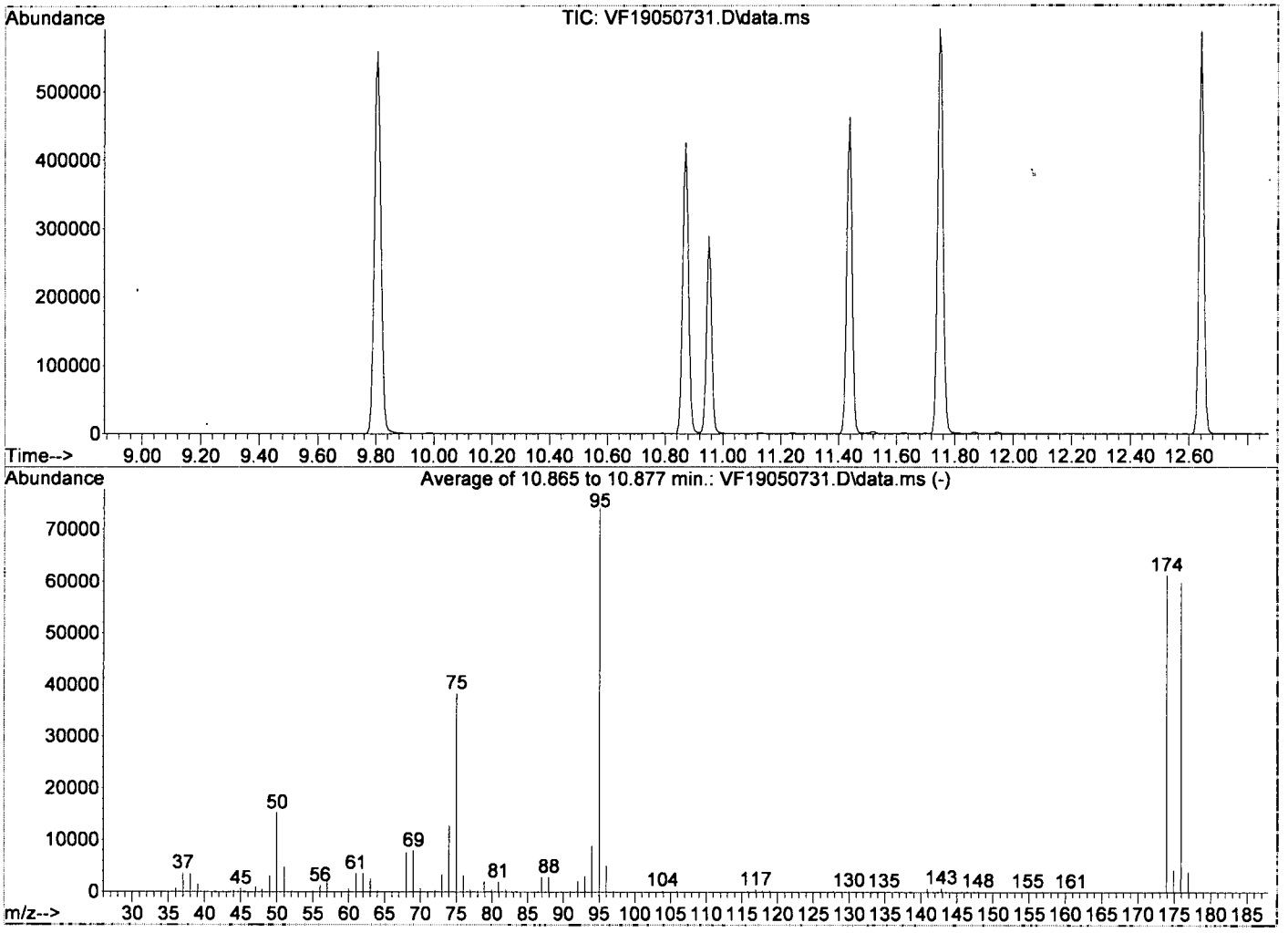
BFB

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

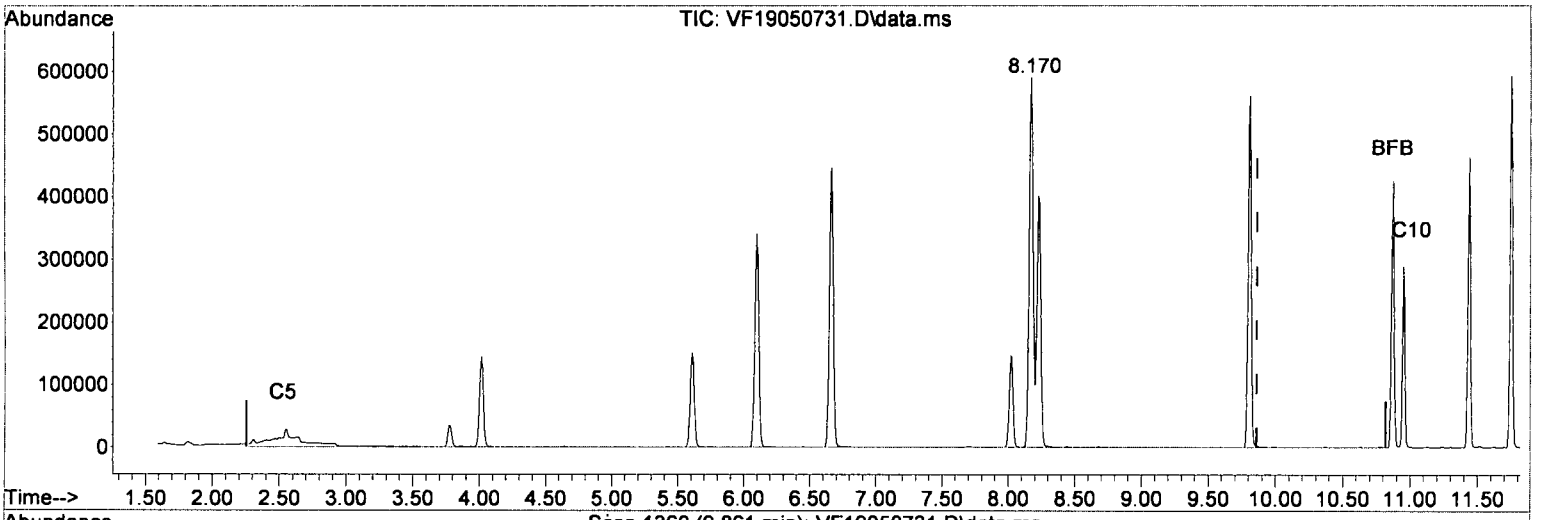
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	256053	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	927362	45.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	573331	46.12	ug/L	0.00
4) Chlorobenzene-d5 (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	

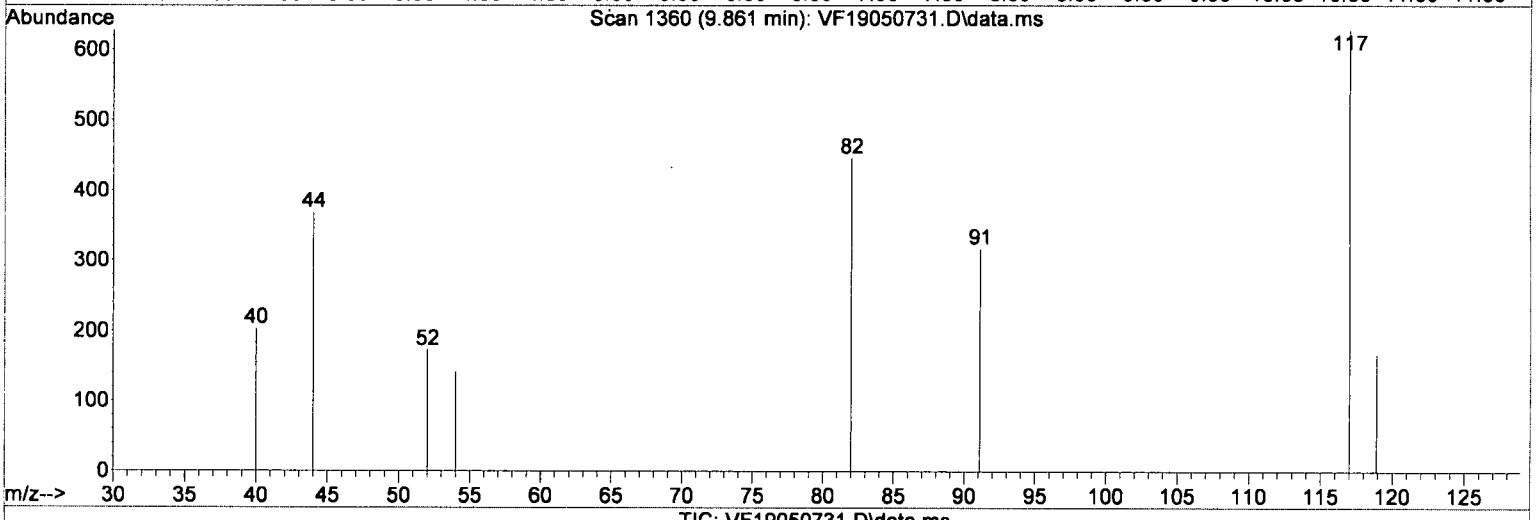
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

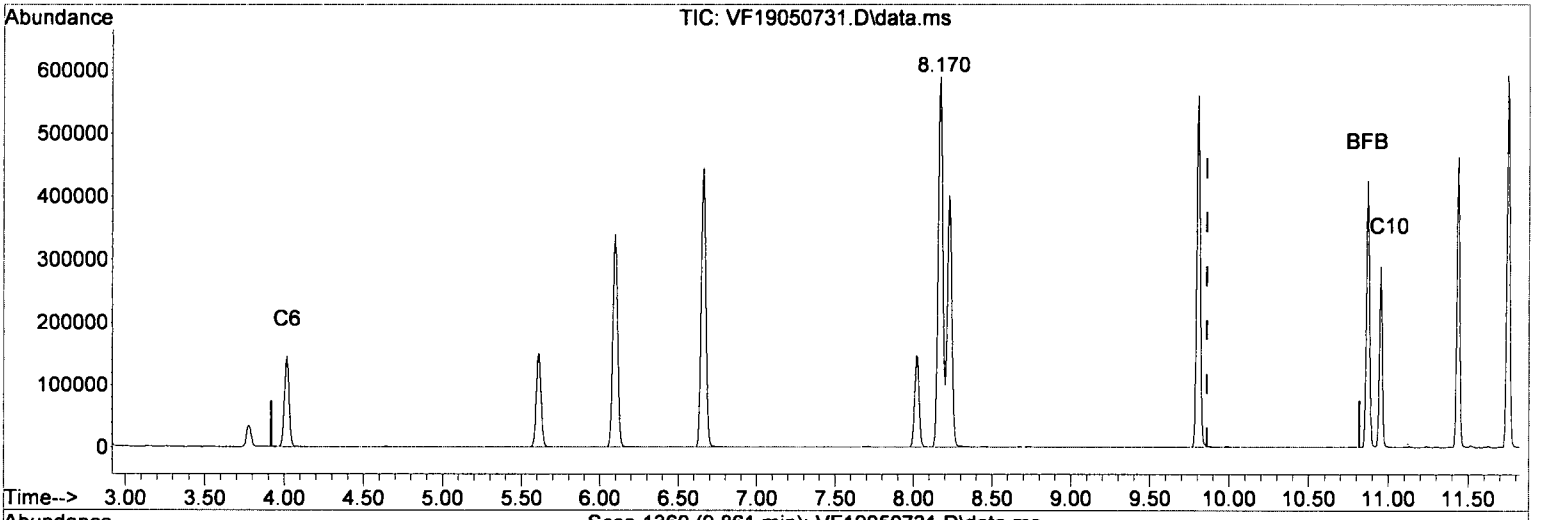
response 1843880

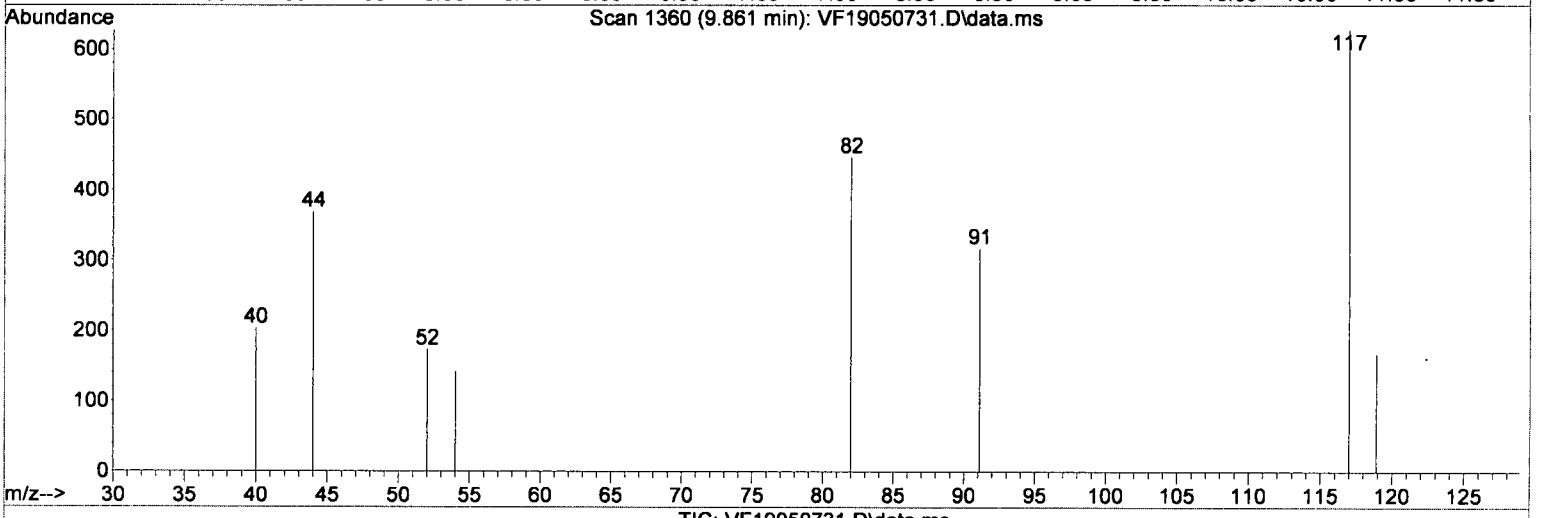
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.43#
0.00	0.00	1.05#
0.00	0.00	0.00

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

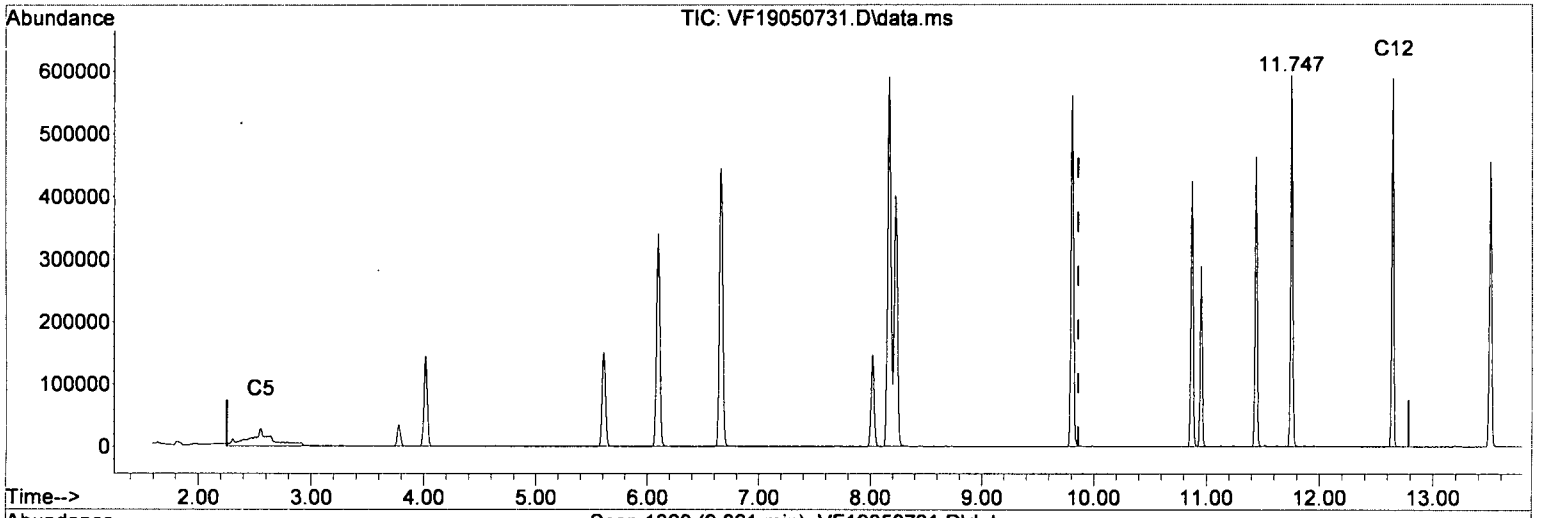
response 1719873

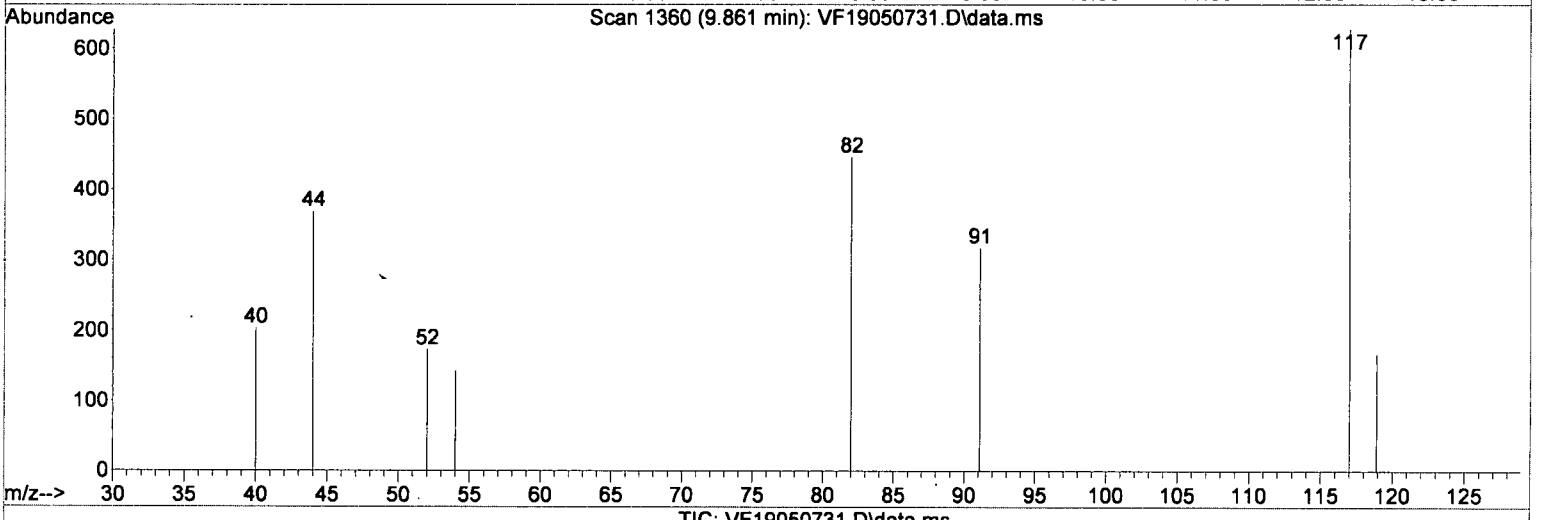
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.54#
0.00	0.00	1.13#
0.00	0.00	0.00

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

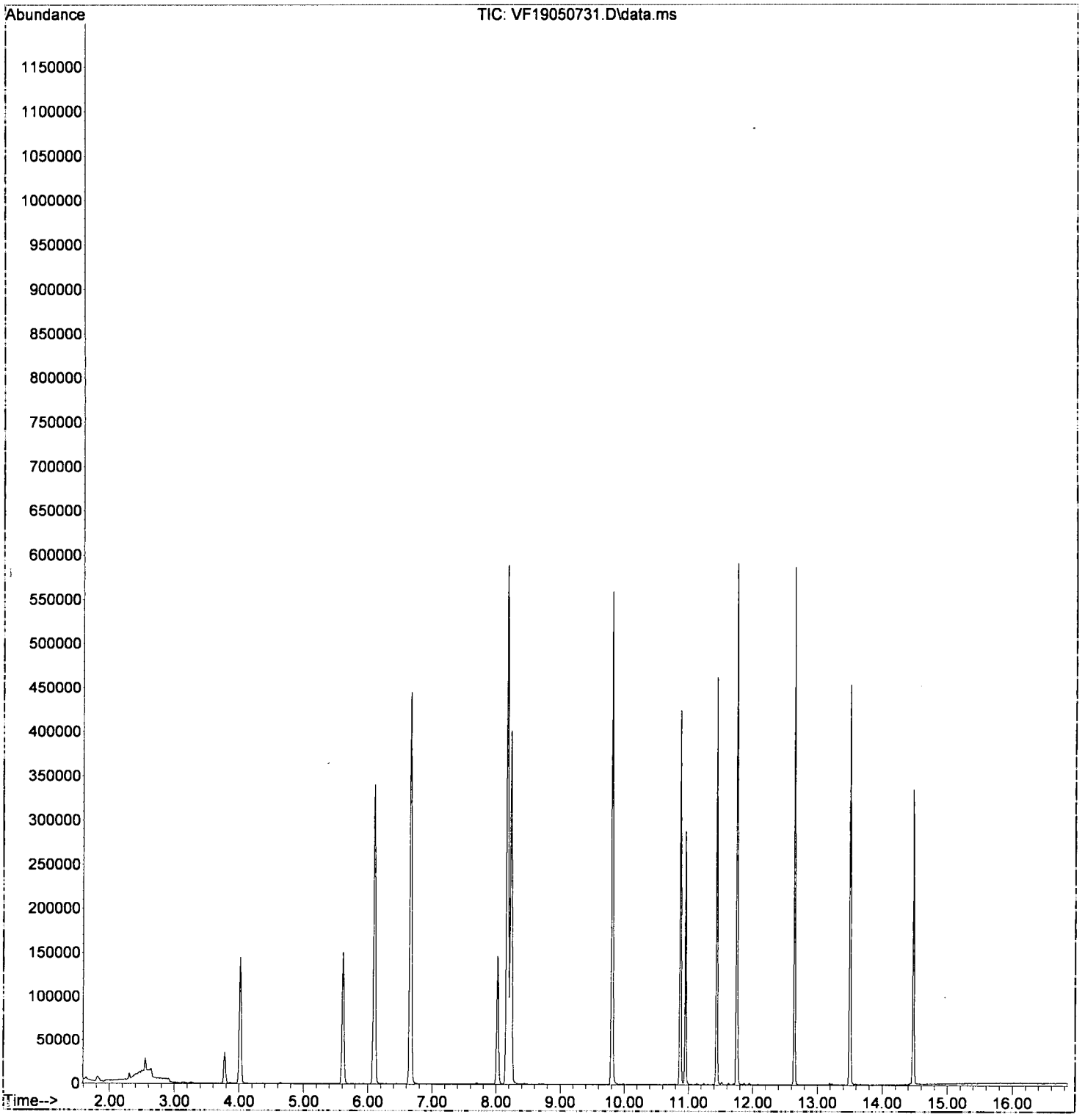
response 3432981

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

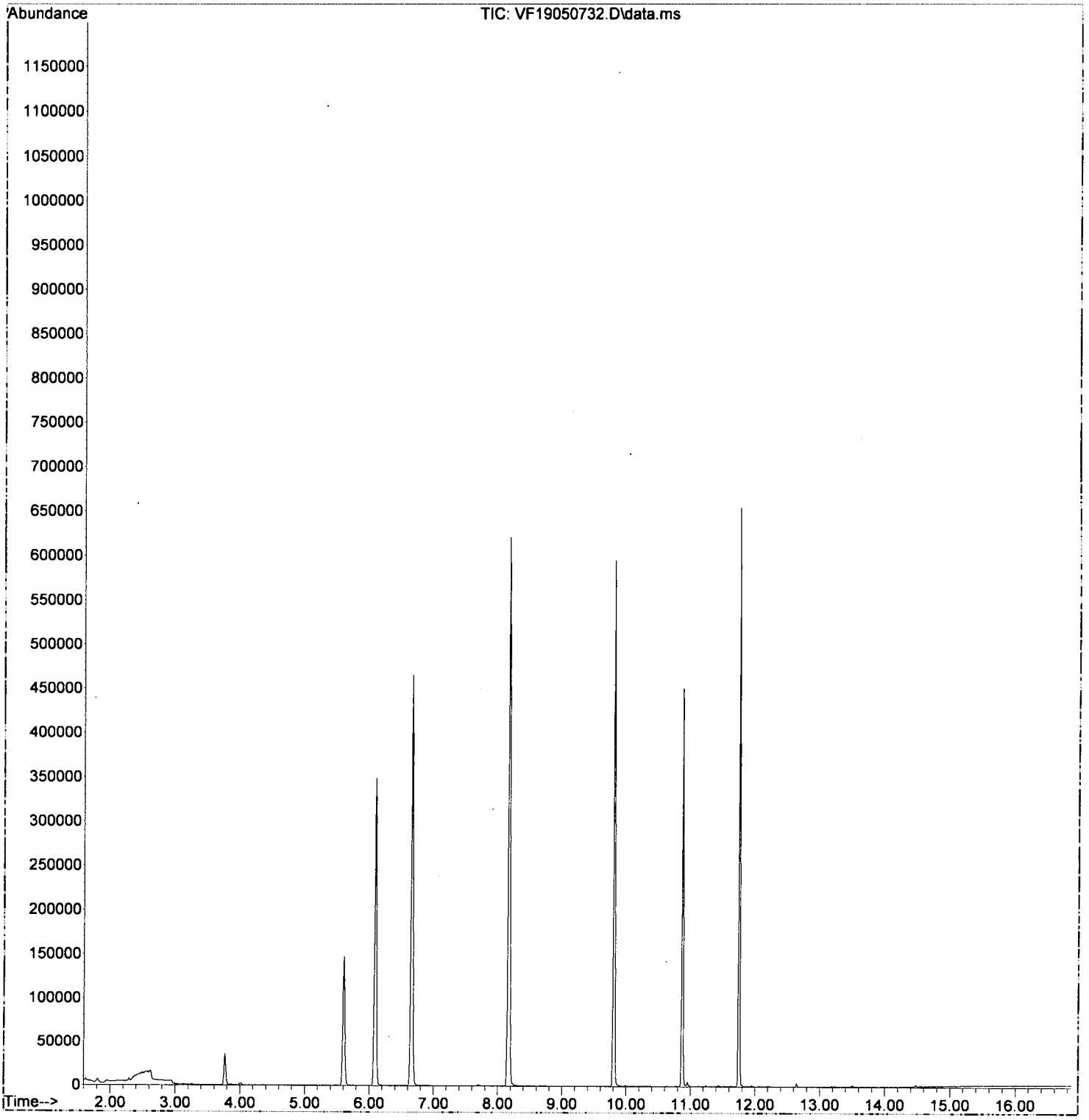
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	264063	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	949029	45.58	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	629967	49.14	ug/L	0.00
4) Chlorobenzene-d5 (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

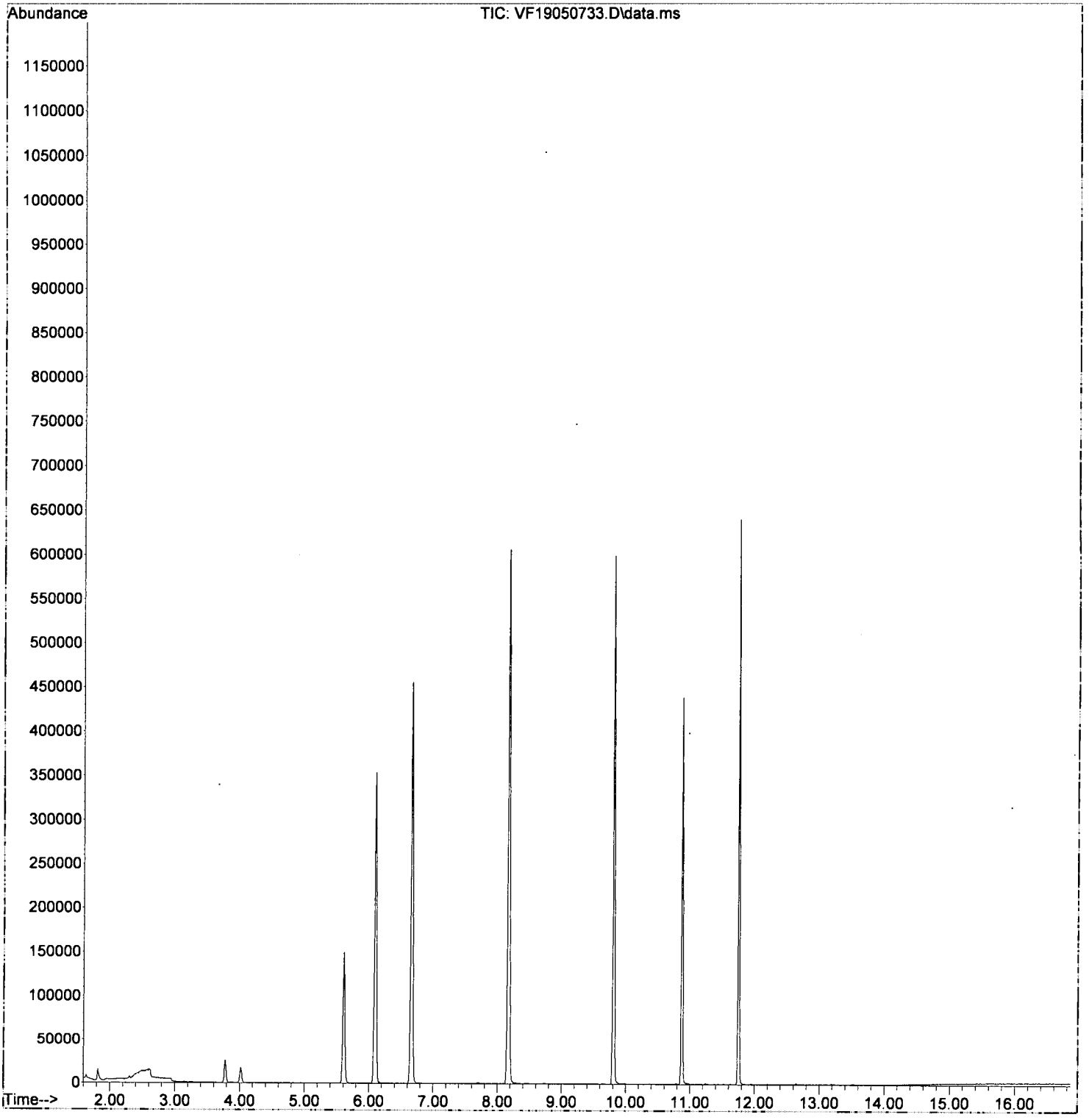
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264736	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	955227	45.76	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	619863	48.23	ug/L	0.00
4) Chlorobenzene-d5 (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

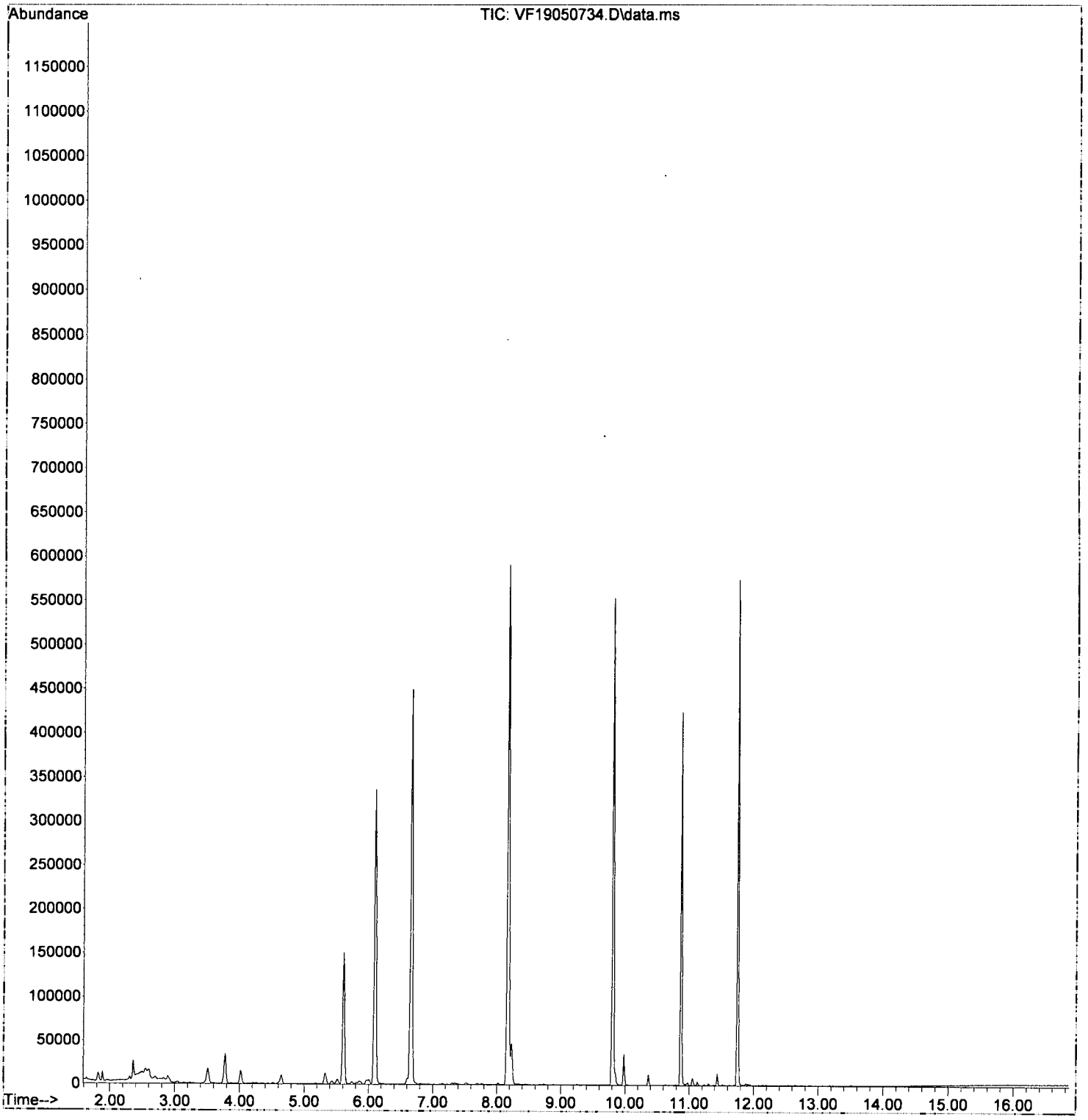
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	251815	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	944857	49.85	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	583068	47.82	ug/L	0.00
4) Chlorobenzene-d5 (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

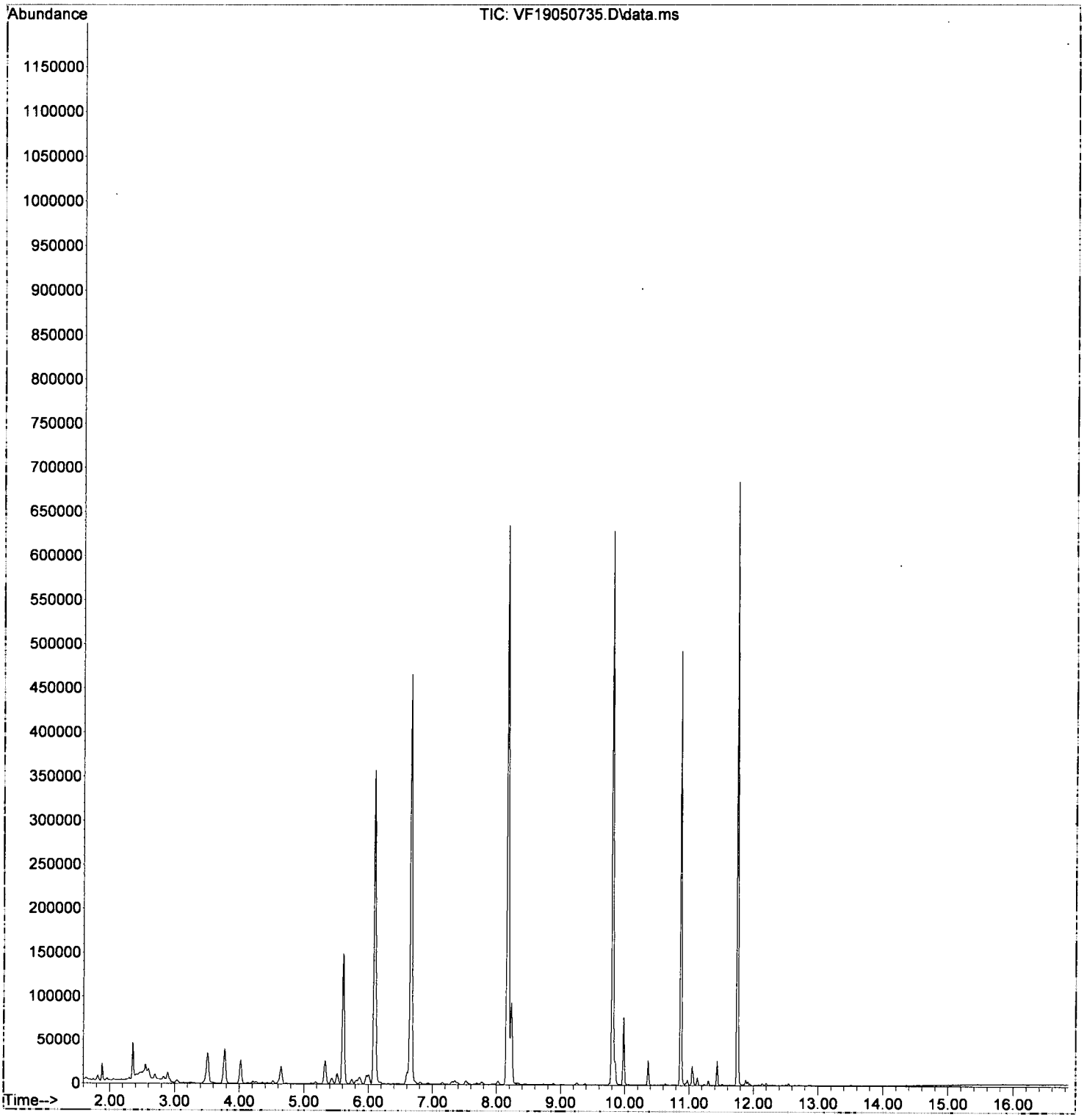
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	268659	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1016126	50.25	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	665016	51.12	ug/L	0.00
4) Chlorobenzene-d5 (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

5/8/19

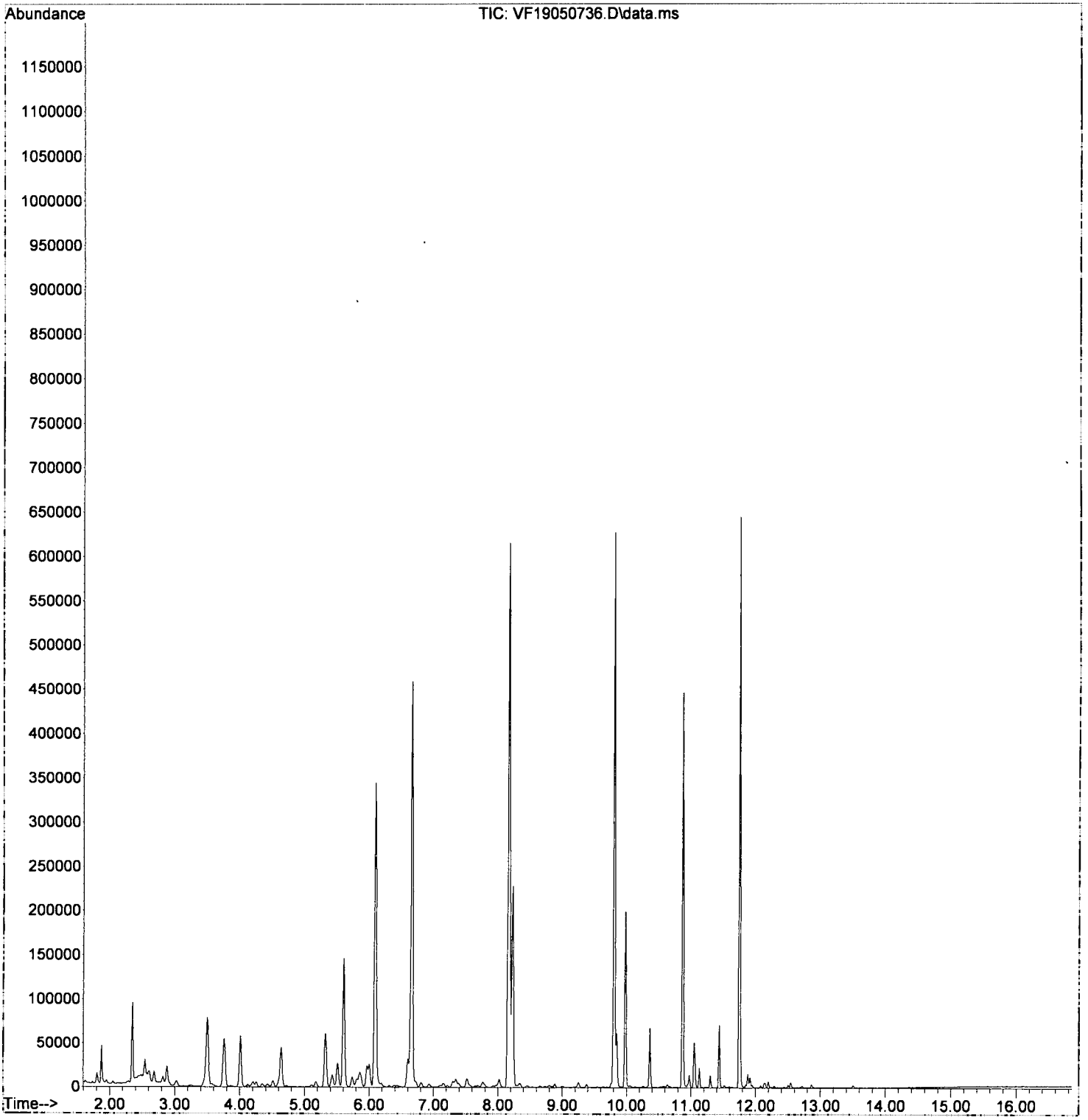
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.092	168	260344	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	976363	49.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	627727	49.80	ug/L	0.00
4) Chlorobenzene-d5 (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

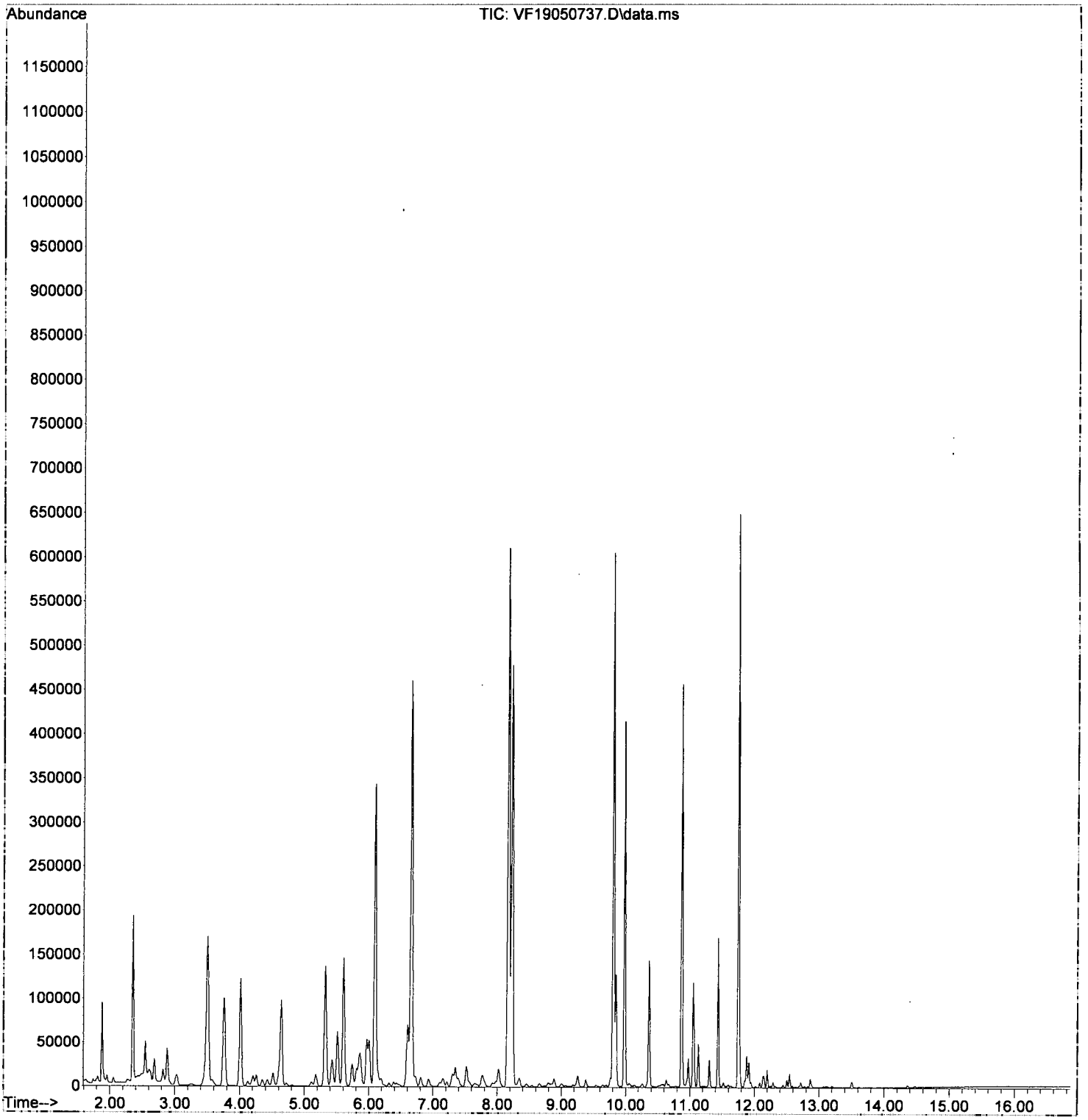
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264609	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	998574	50.14	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640403	49.98	ug/L	0.00
4) Chlorobenzene-d5 (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

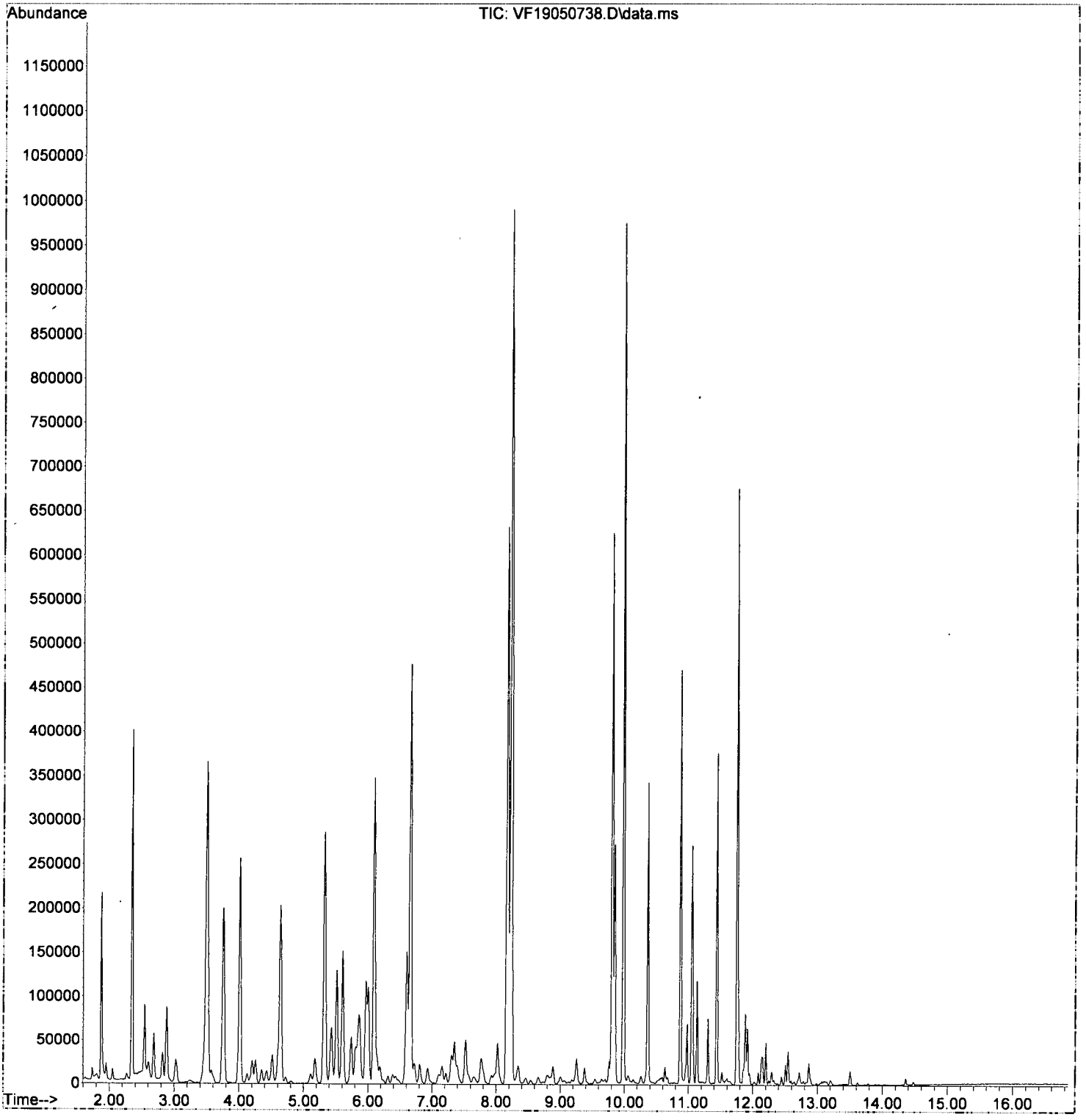
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	262223	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	994511	50.39	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	665155	52.39	ug/L	0.00
4) Chlorobenzene-d5 (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

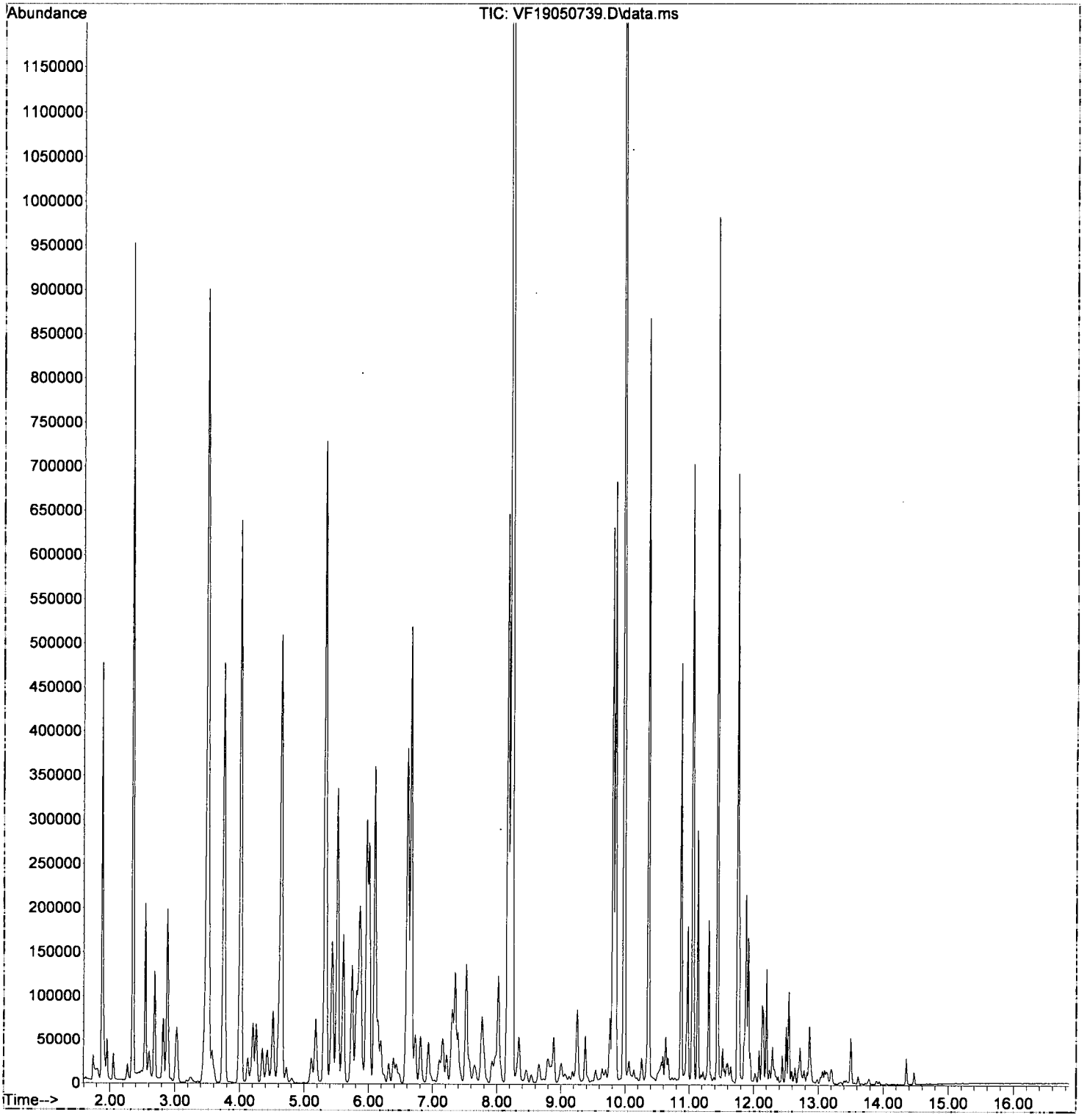
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	271709	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	1064809	52.07	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	671226	51.02	ug/L	0.00
4) Chlorobenzene-d5 (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

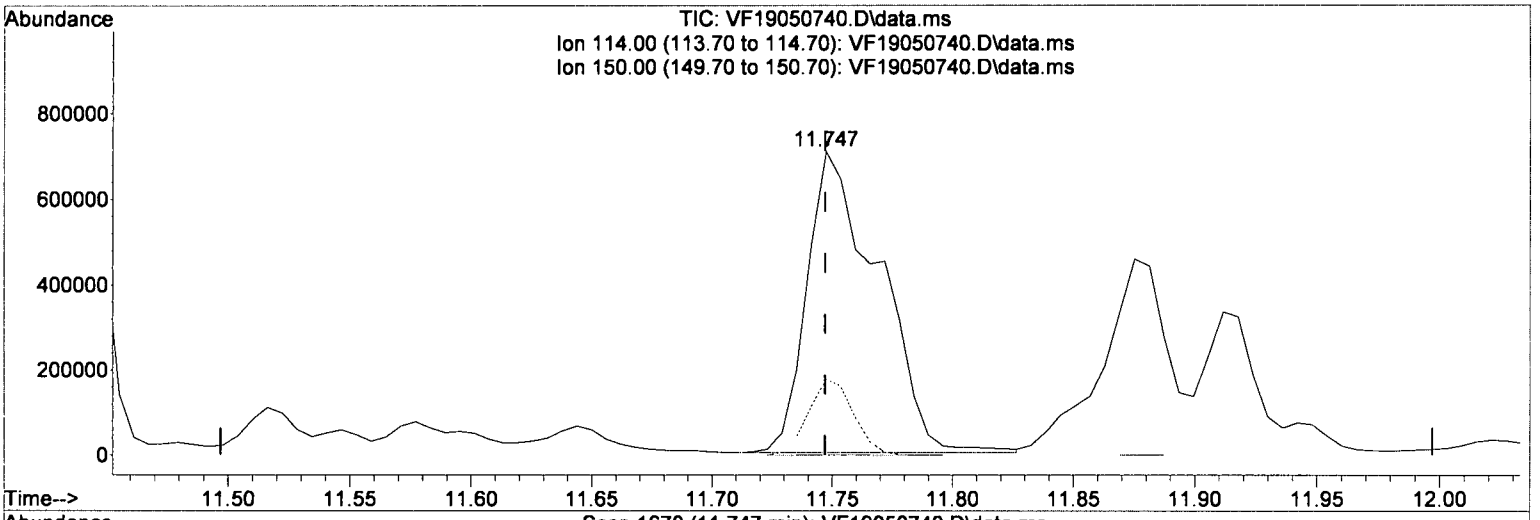
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	287647	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1135195	52.43	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	689679	49.52	ug/L	0.00
4) Chlorobenzene-d5 (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	

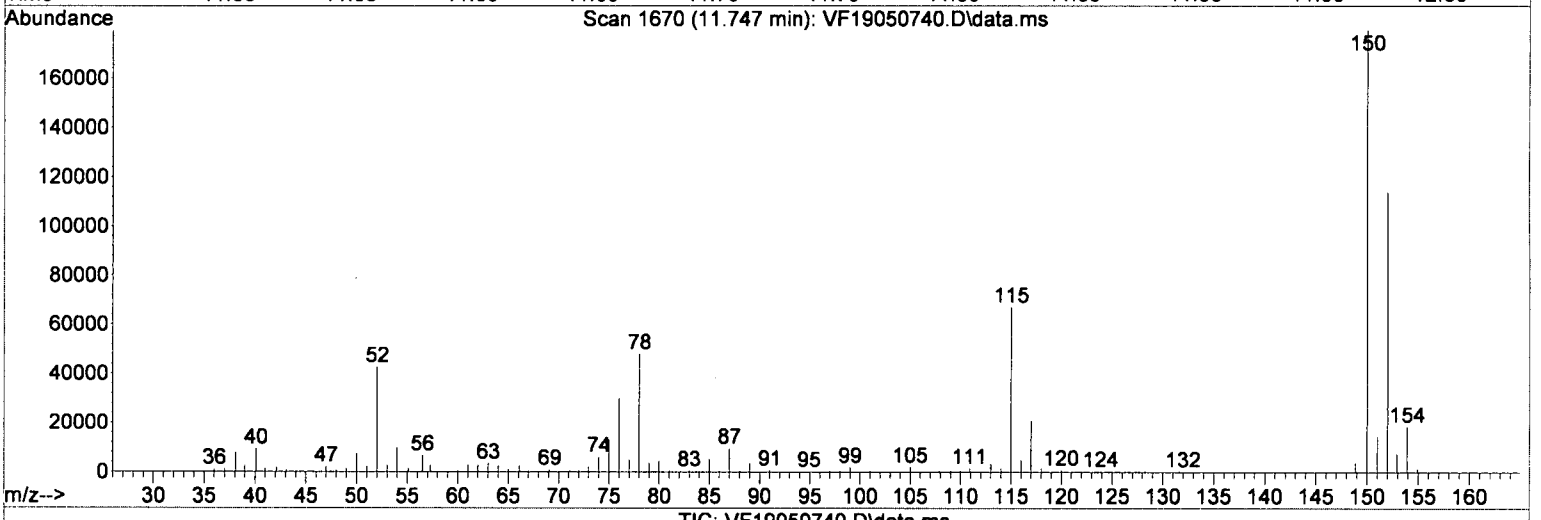
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

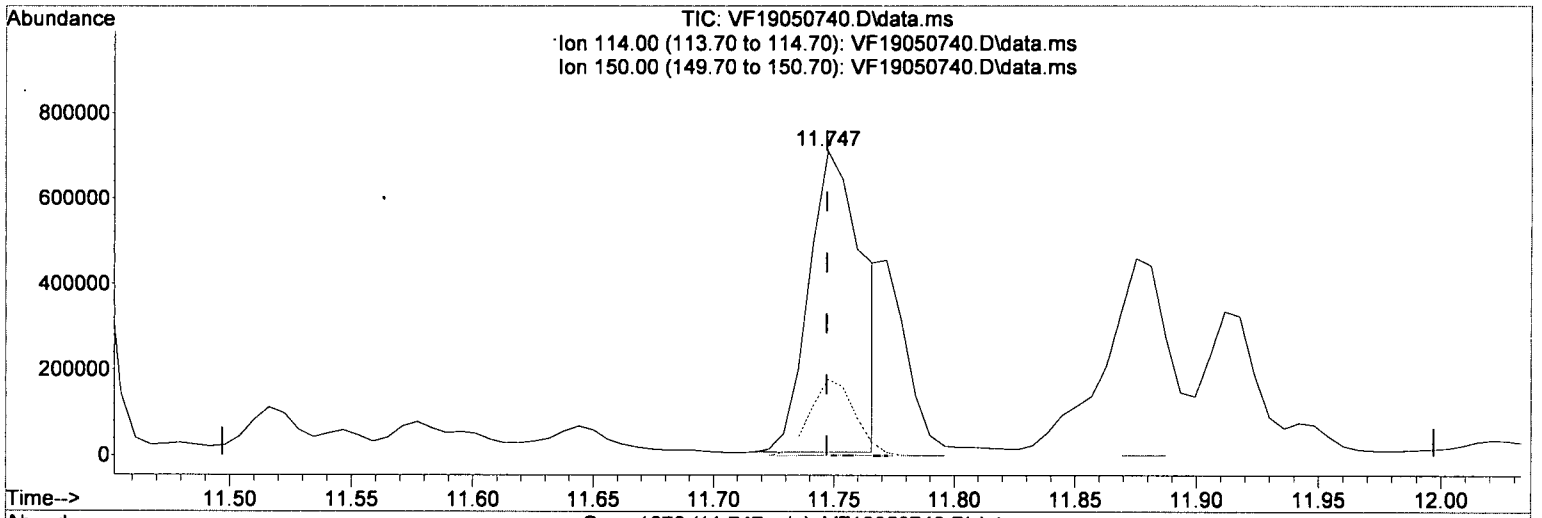
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	16.09
0.00	0.00	0.00

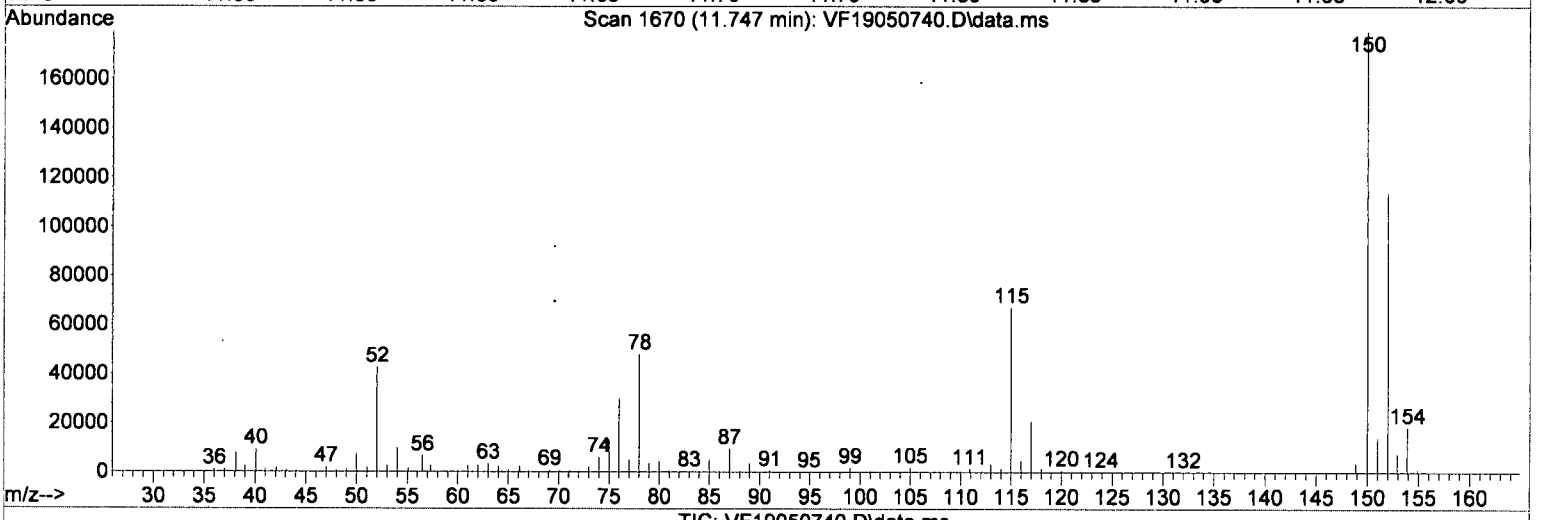
MT

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

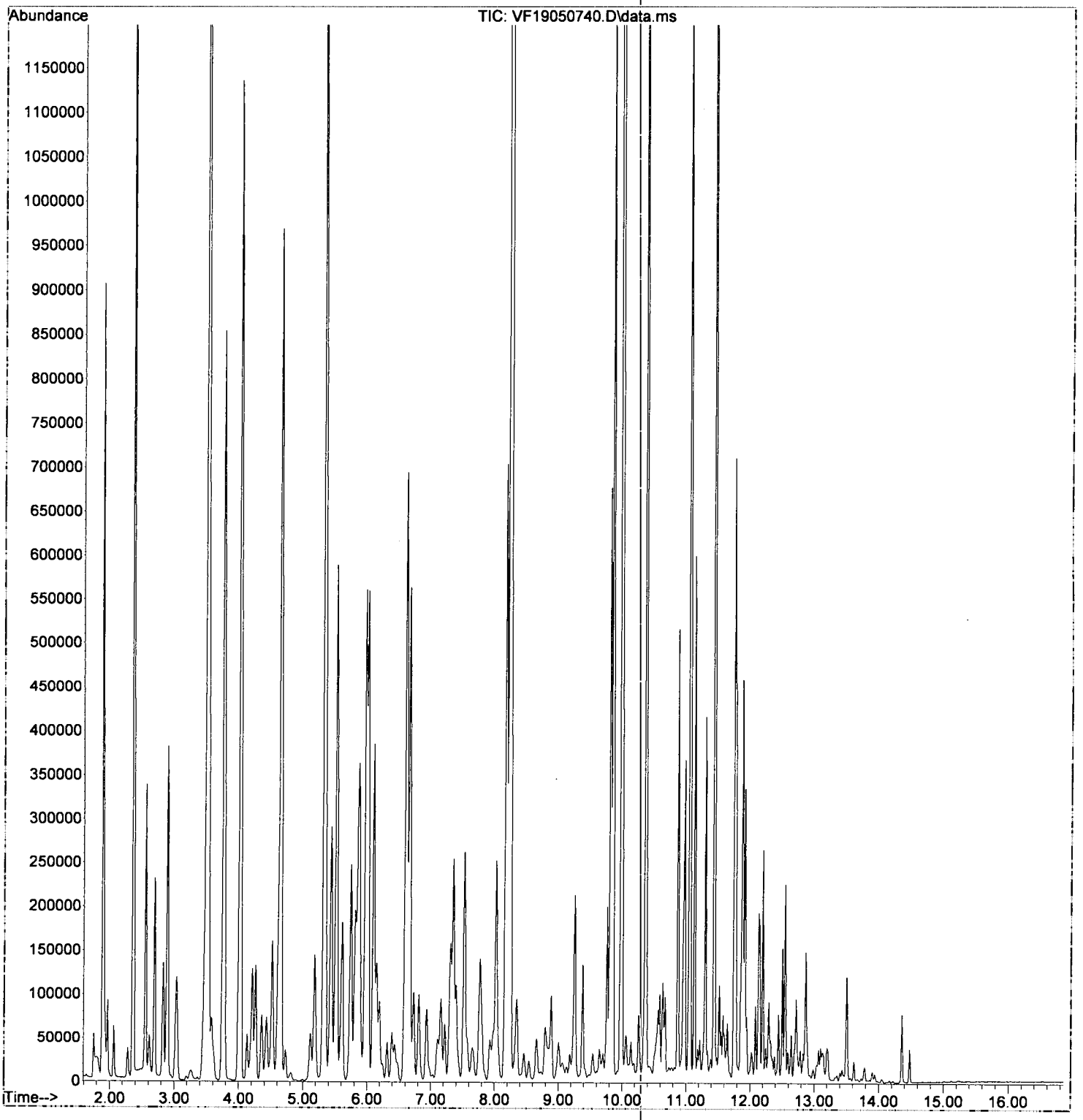
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.64
150.00	24.00	0.47
0.00	0.00	0.00

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	

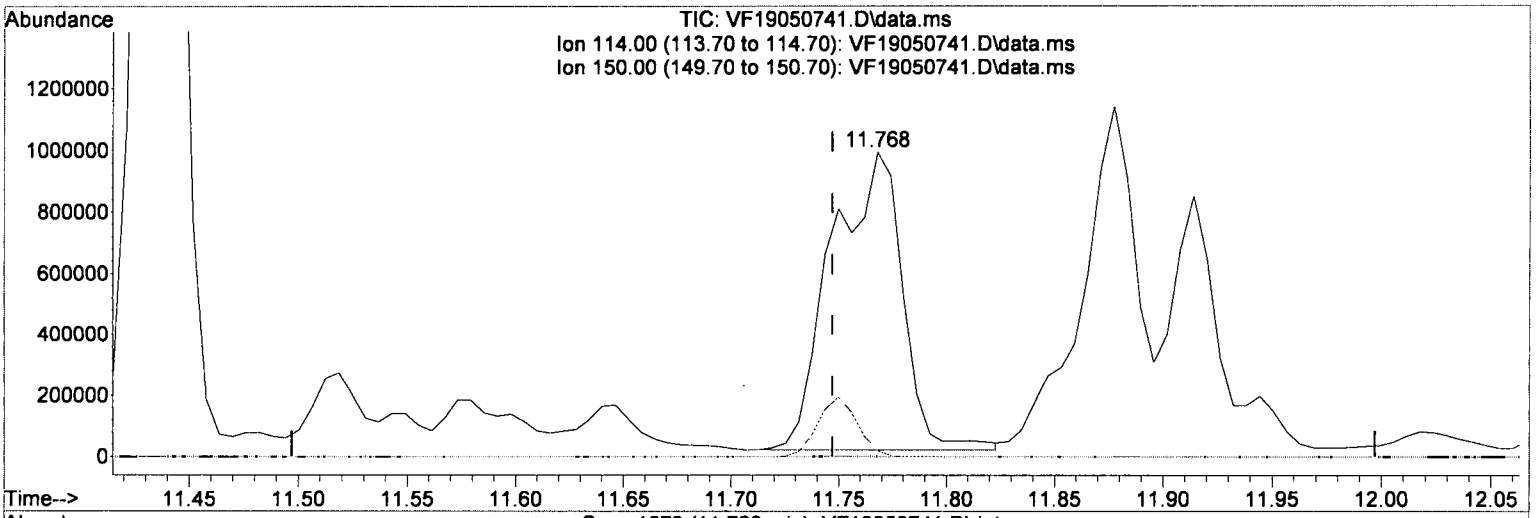
NF

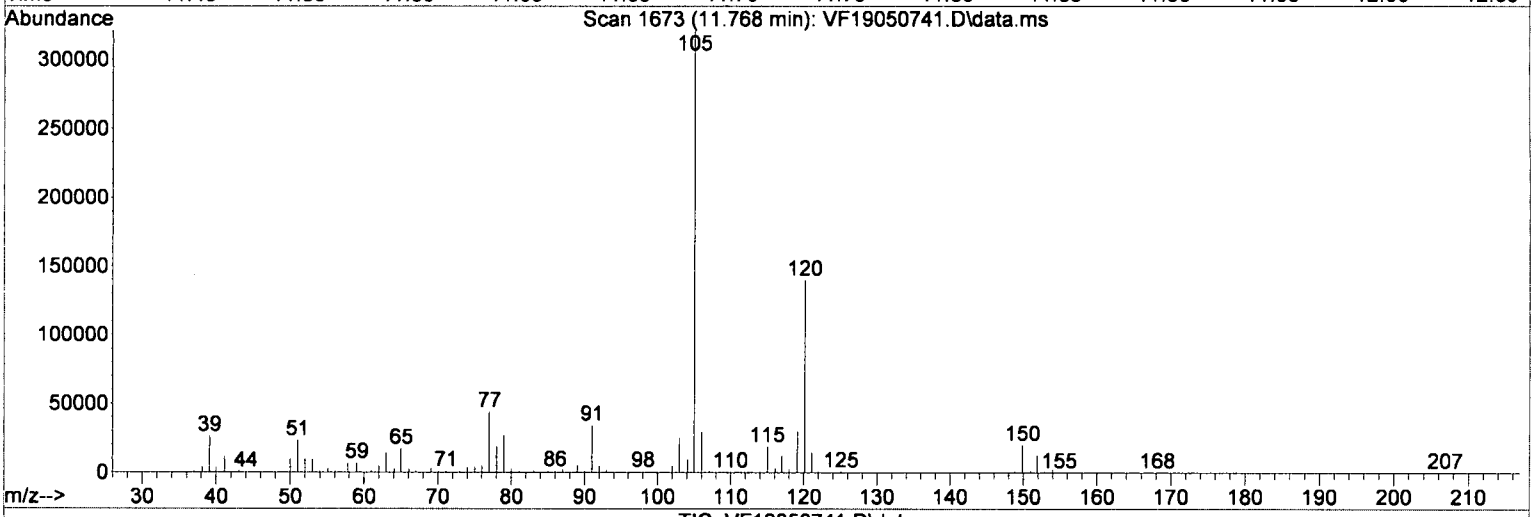
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

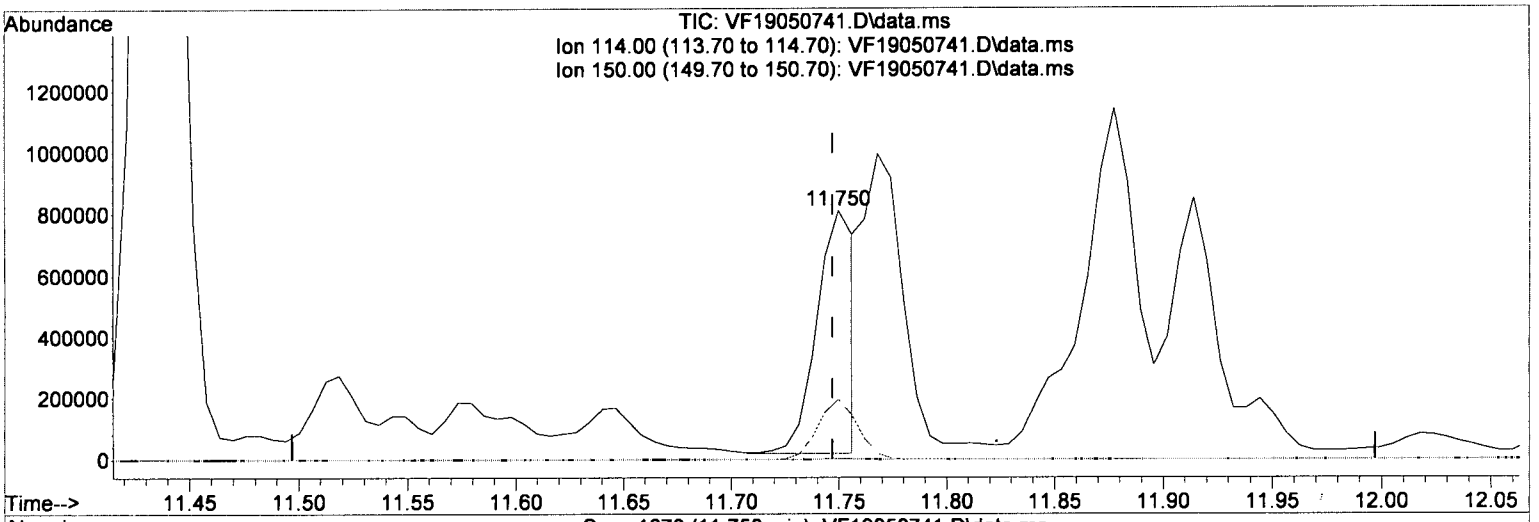
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	11.23
0.00	0.00	0.00

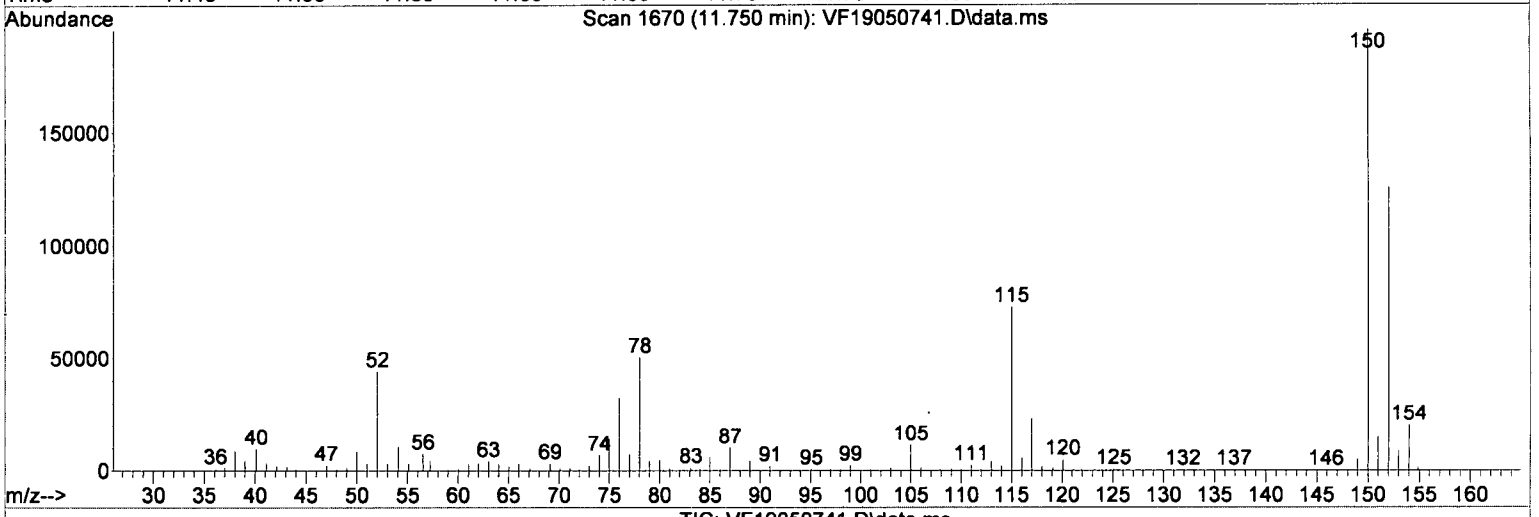
MI

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

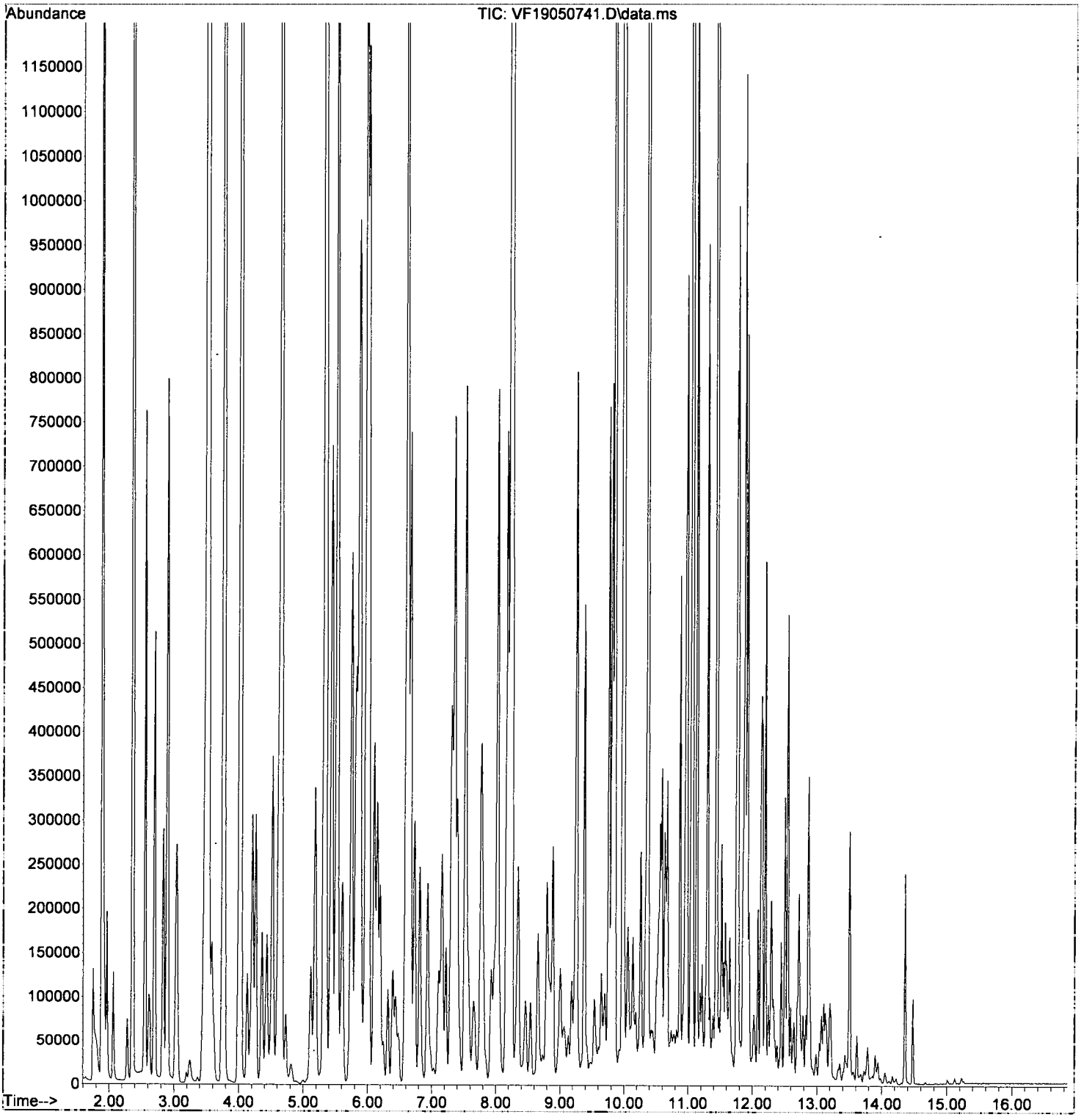
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	26.25
0.00	0.00	0.00

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

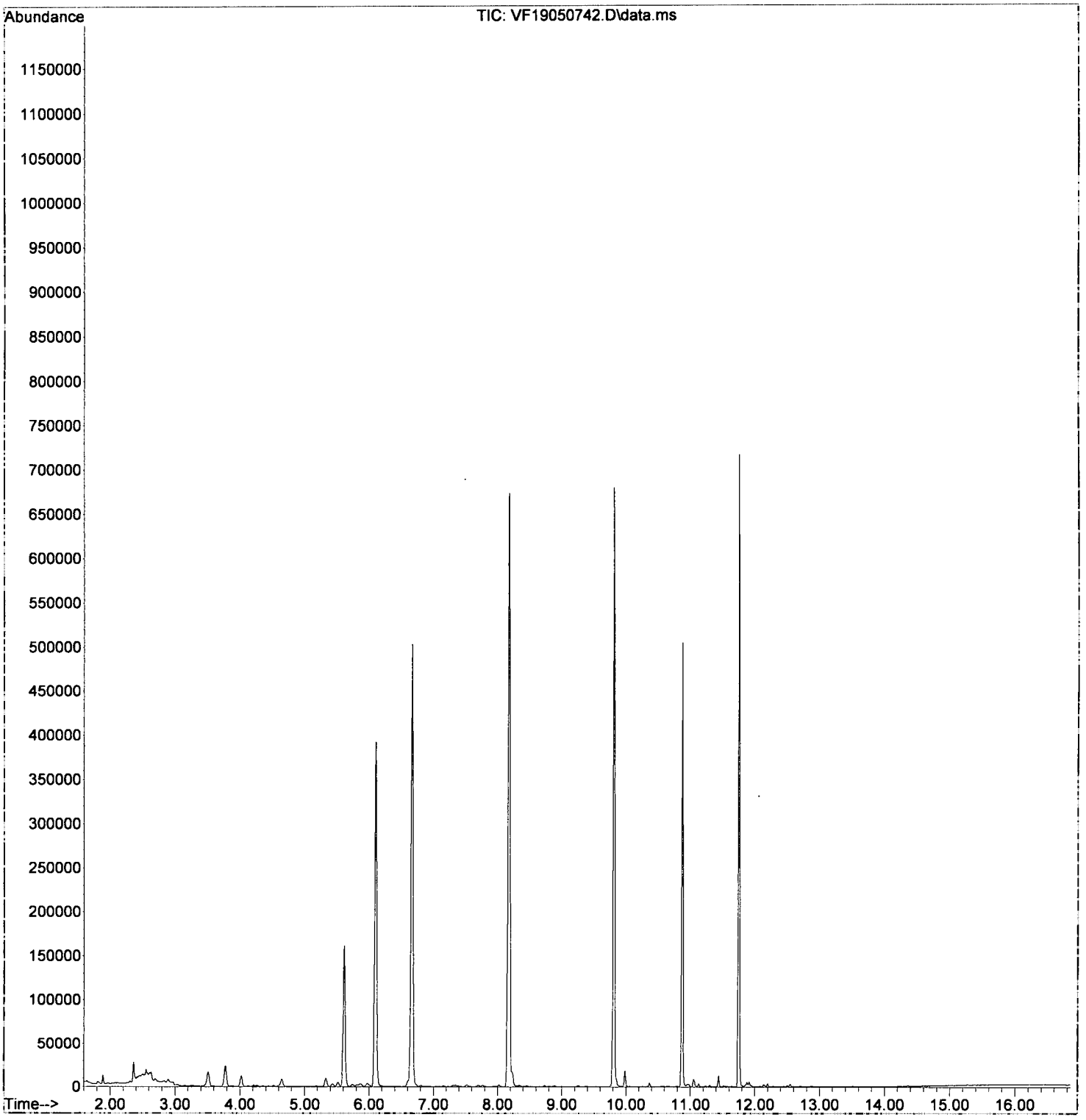
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	300299	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	1091415	46.10	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	718071	49.25	ug/L	0.00
4) Chlorobenzene-d5 (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

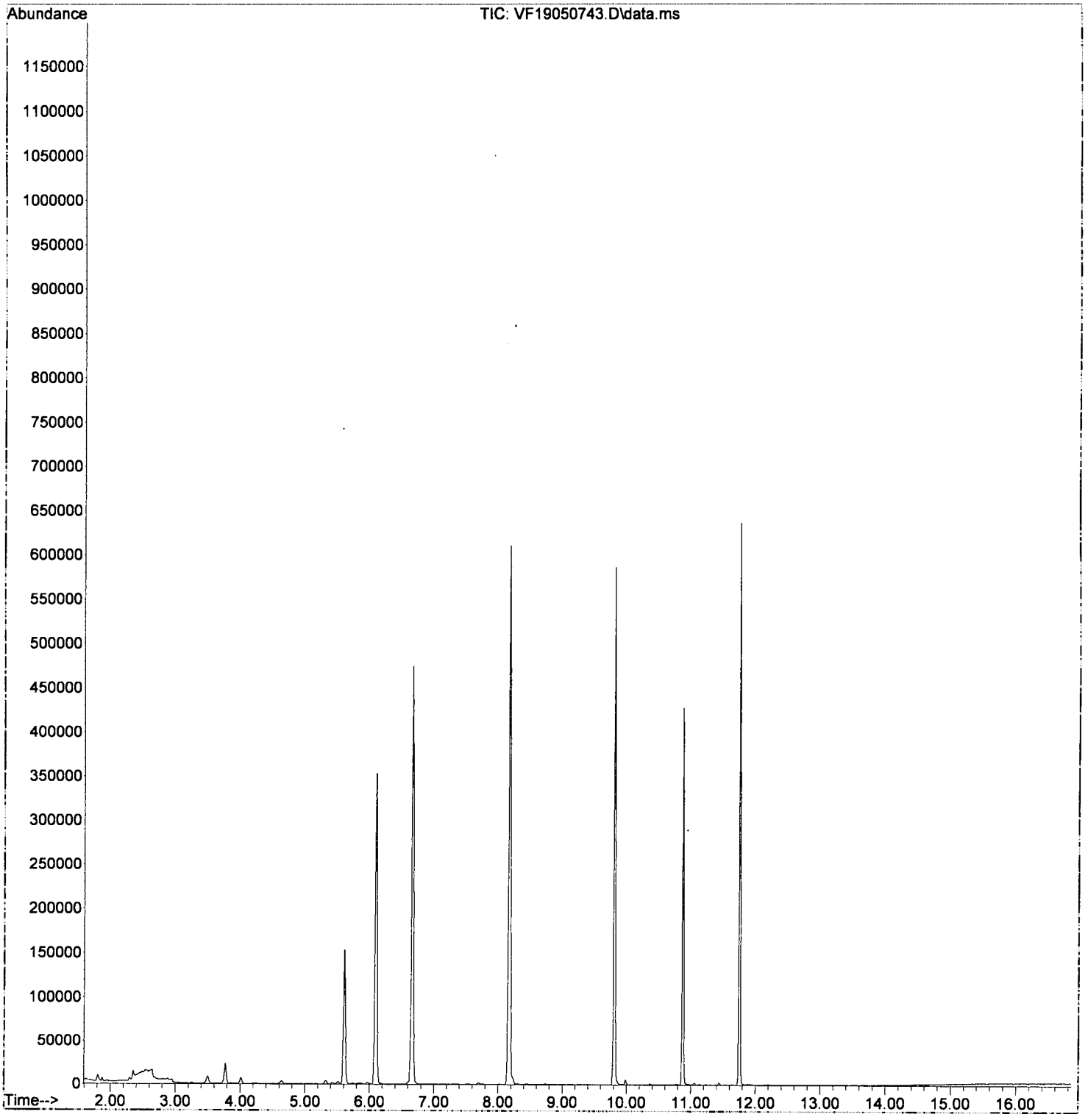
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	273596	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	987251	45.77	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	608879	45.84	ug/L	0.00
4) Chlorobenzene-d5 (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

5/8/19

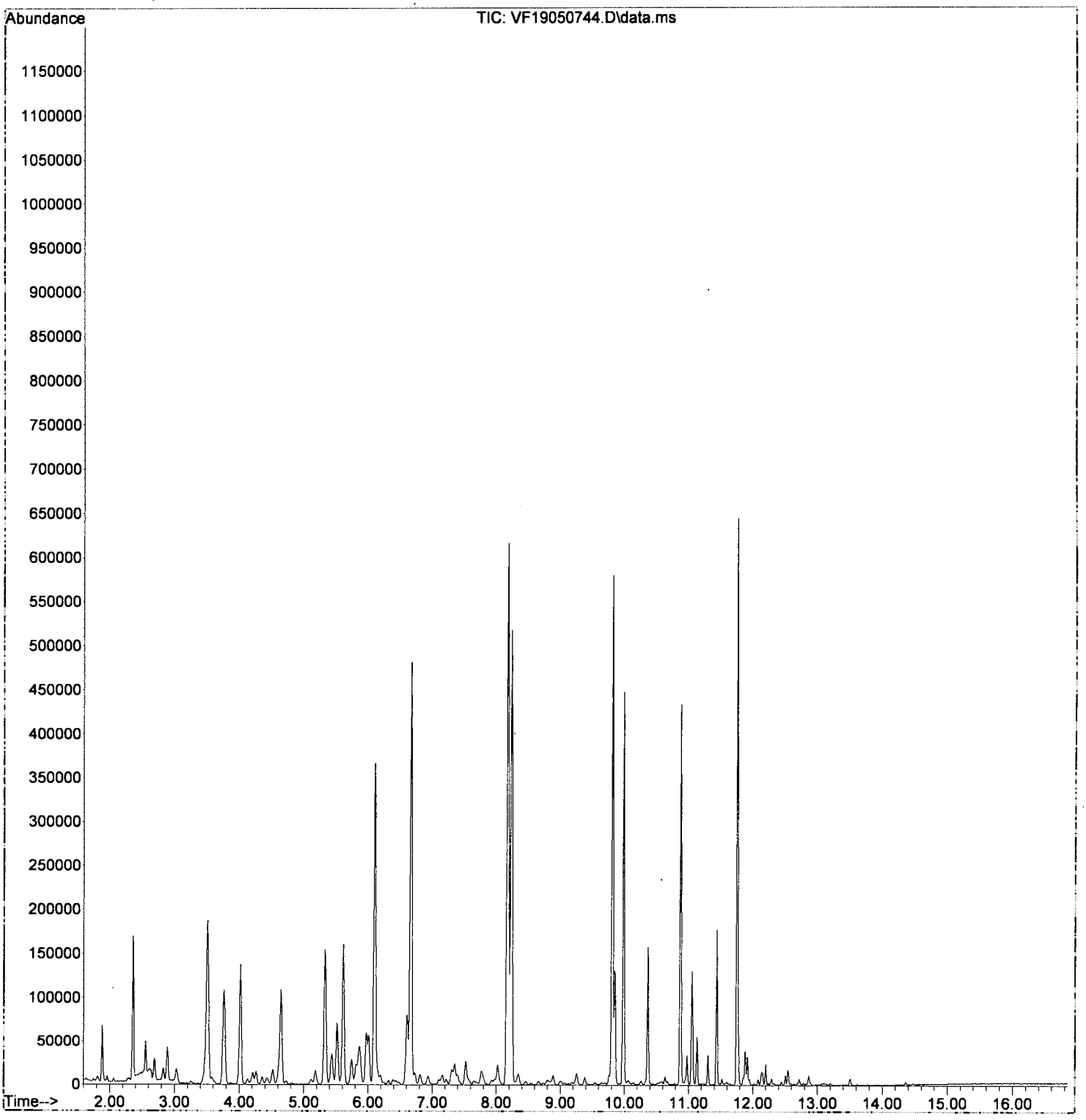
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	273841	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.663	TIC	1008883	46.73	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.873	TIC	617926	46.48	ug/L	0.00
4) Chlorobenzene-d5 (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

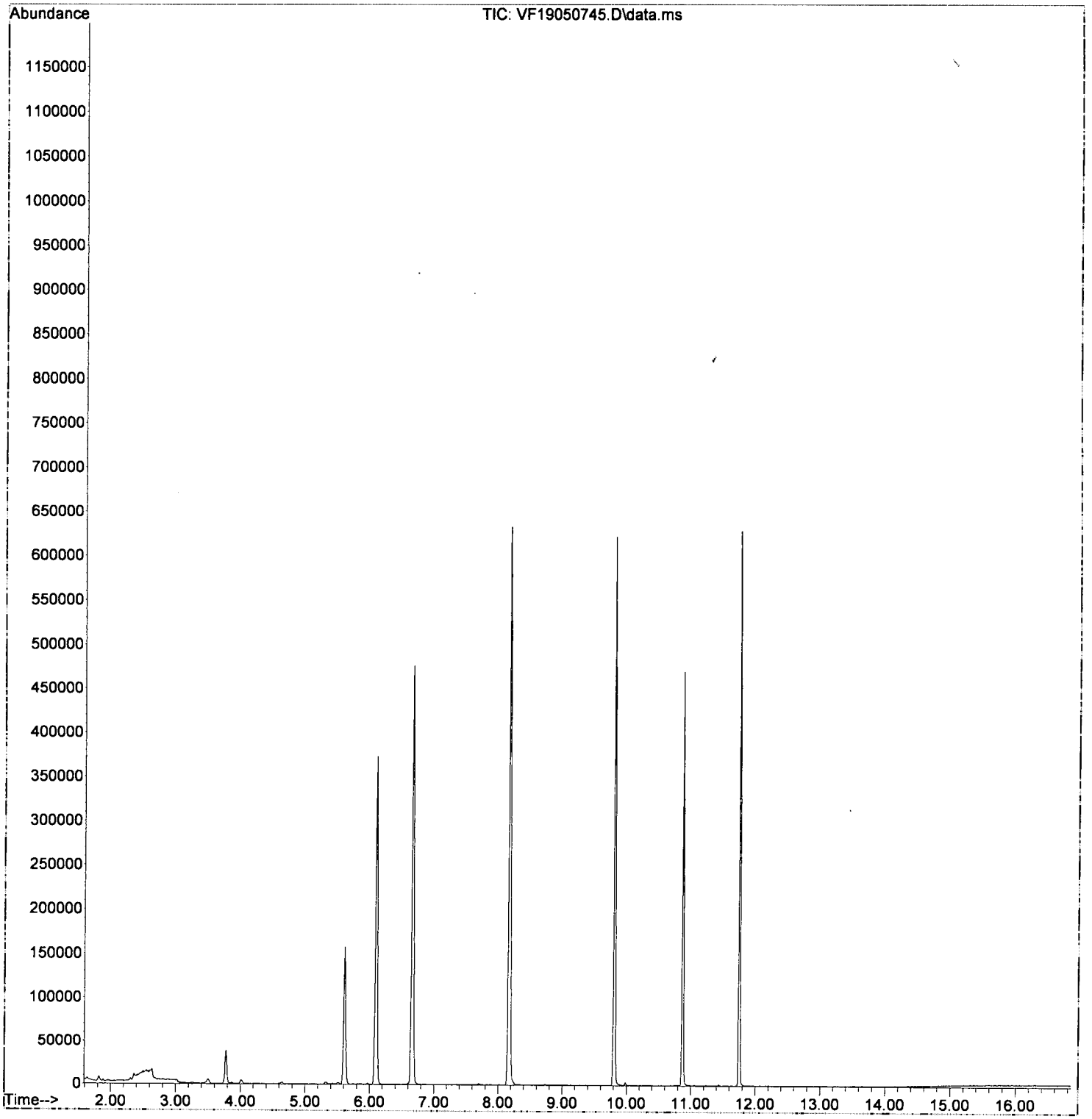
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	277007	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	1000763	45.82	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640294	47.61	ug/L	0.00
4) Chlorobenzene-d5 (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 (A9E0582-01RE1)

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: 5/22/19 Date

Reviewed By: 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**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
MS 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: MS @ 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**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	38.59	33.48	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	38.83	33.50	5 10 15 Other	

BTEXN

Due: TAT:

A9E0575-02 | **14-8.2** | Sampled: **05/16/19 10:00**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	39.77	33.55	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	38.80	33.57	5 10 15 Other	

Due: TAT:

A9E0575-03 | **15-8.7** | Sampled: **05/16/19 10:10**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	39.38	33.47	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	39.73	33.43	5 10 15 Other	

Due: TAT:

A9E0575-04 | **16-8.8** | Sampled: **05/16/19 10:20**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	39.01	33.58	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	40.10	34.09	5 10 15 Other	

Due: TAT:

A9E0575-05 | **17-8.9** | Sampled: **05/16/19 10:30**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	42.30	34.11	5 10 15 Other	
C Soil	40 mL VOA - 5035 (MeOH)	39.8019	33.59	5 10 15 Other	

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 RBDM		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

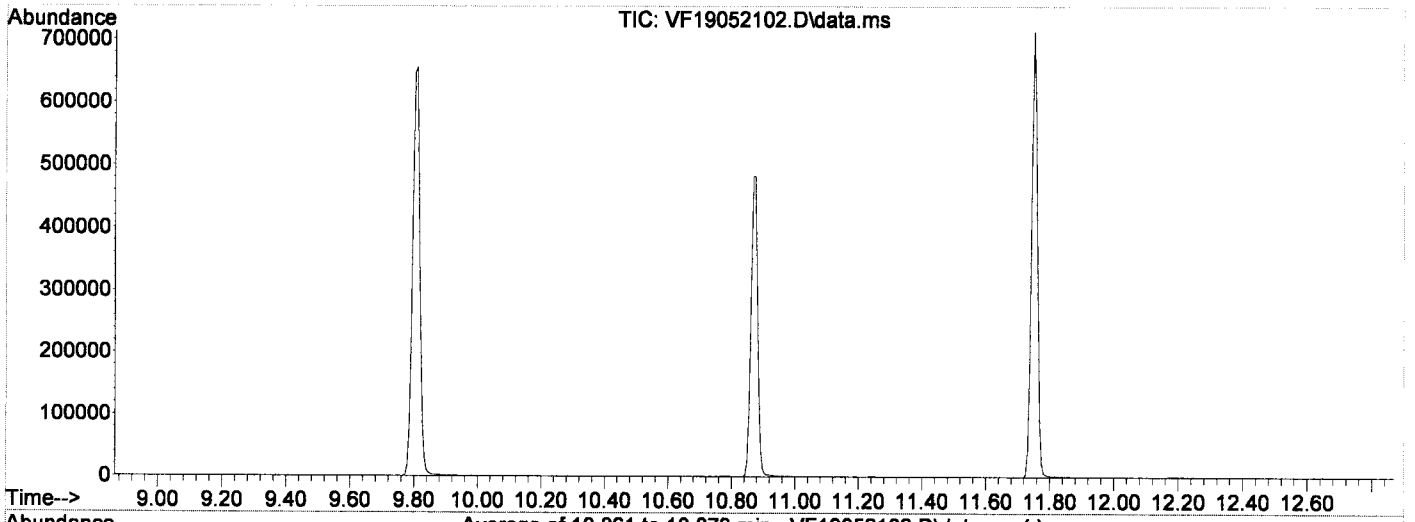
BFB

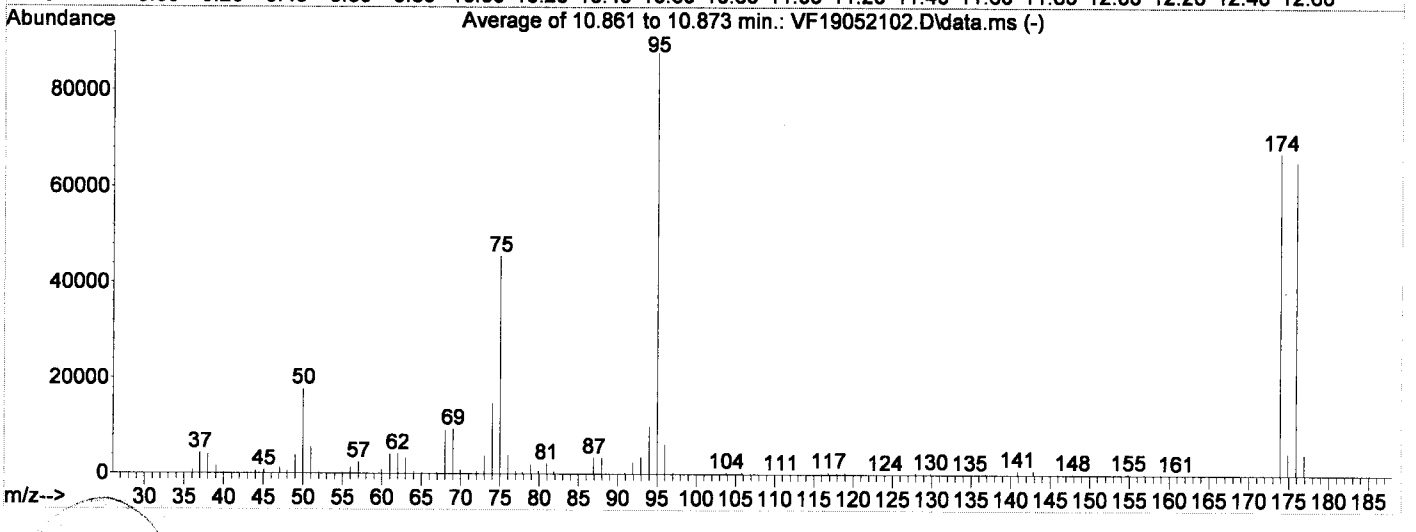
Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052102.D
Acq On : 21 May 2019 11:22 am
Operator : TB
Sample : 9E21036-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

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

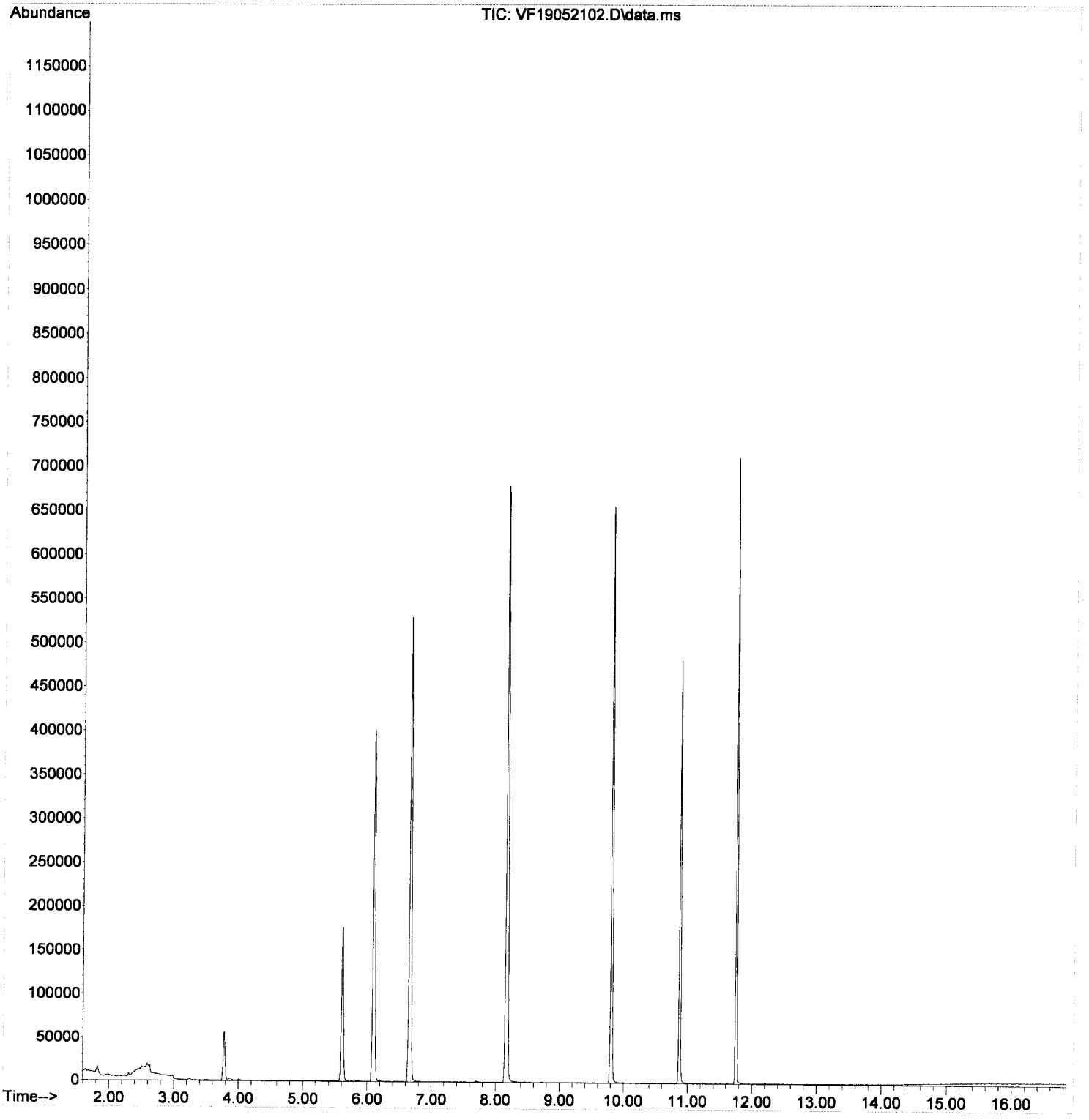
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.098	168	305021	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.809	117	349527	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	148454	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (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

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

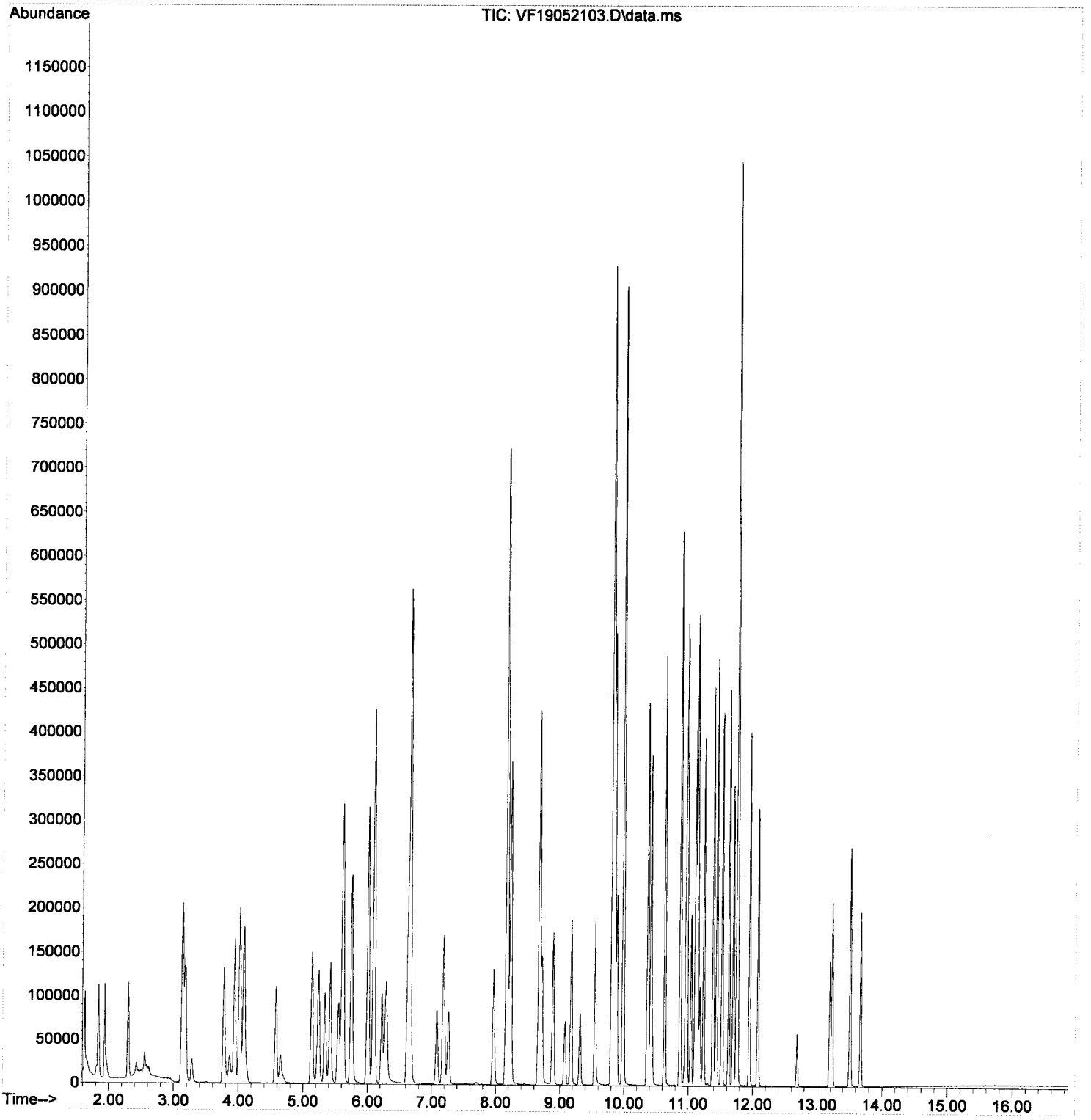
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	186934	19.15	ug/L		94
50) Ethylbenzene	9.842	91	323004	19.81	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.879	131	52085	23.27	ug/L		97
52) m,p-Xylenes (2)	9.982	91	483768	42.36	ug/L		98
53) o-Xylene	10.366	91	235140	21.39	ug/L		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

5/26/19

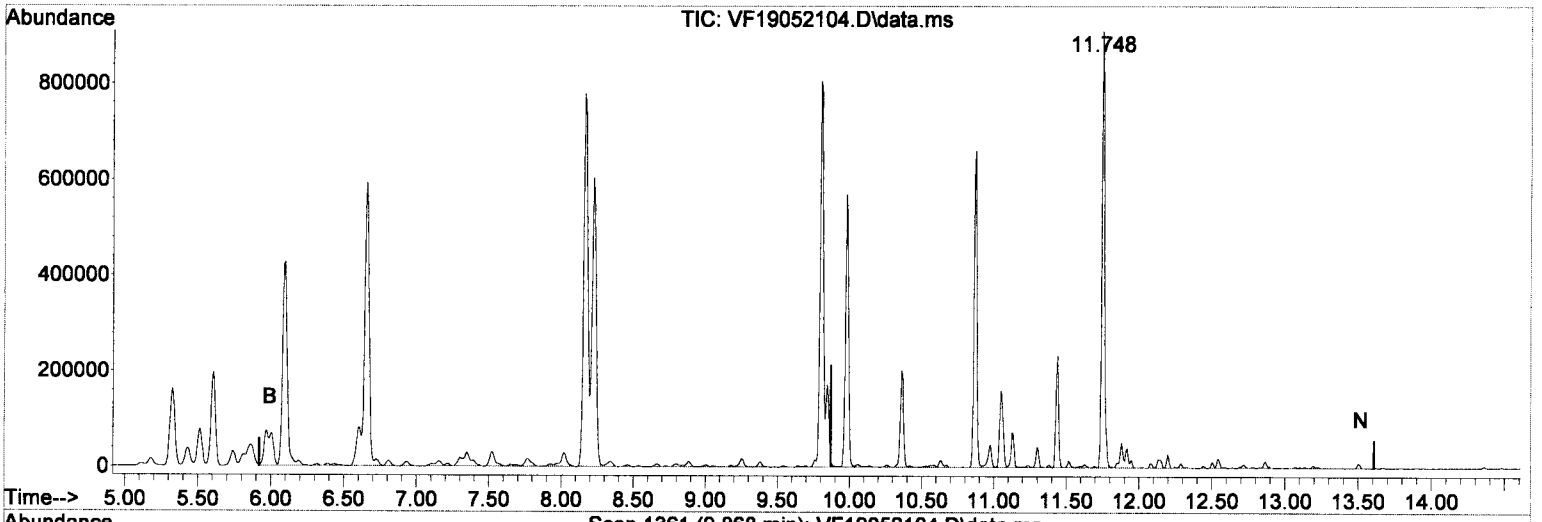
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	324051	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	1246532	48.79	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	906254	57.60	ug/L	0.00
4) Chlorobenzene-d5 (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	-

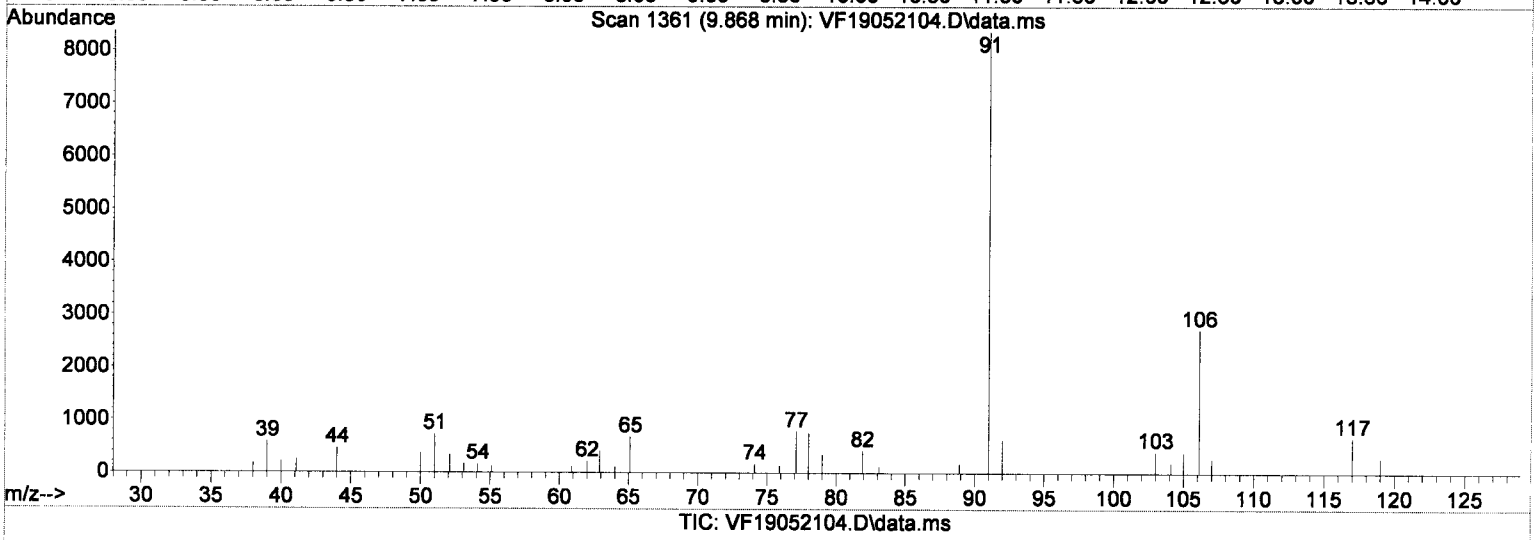
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

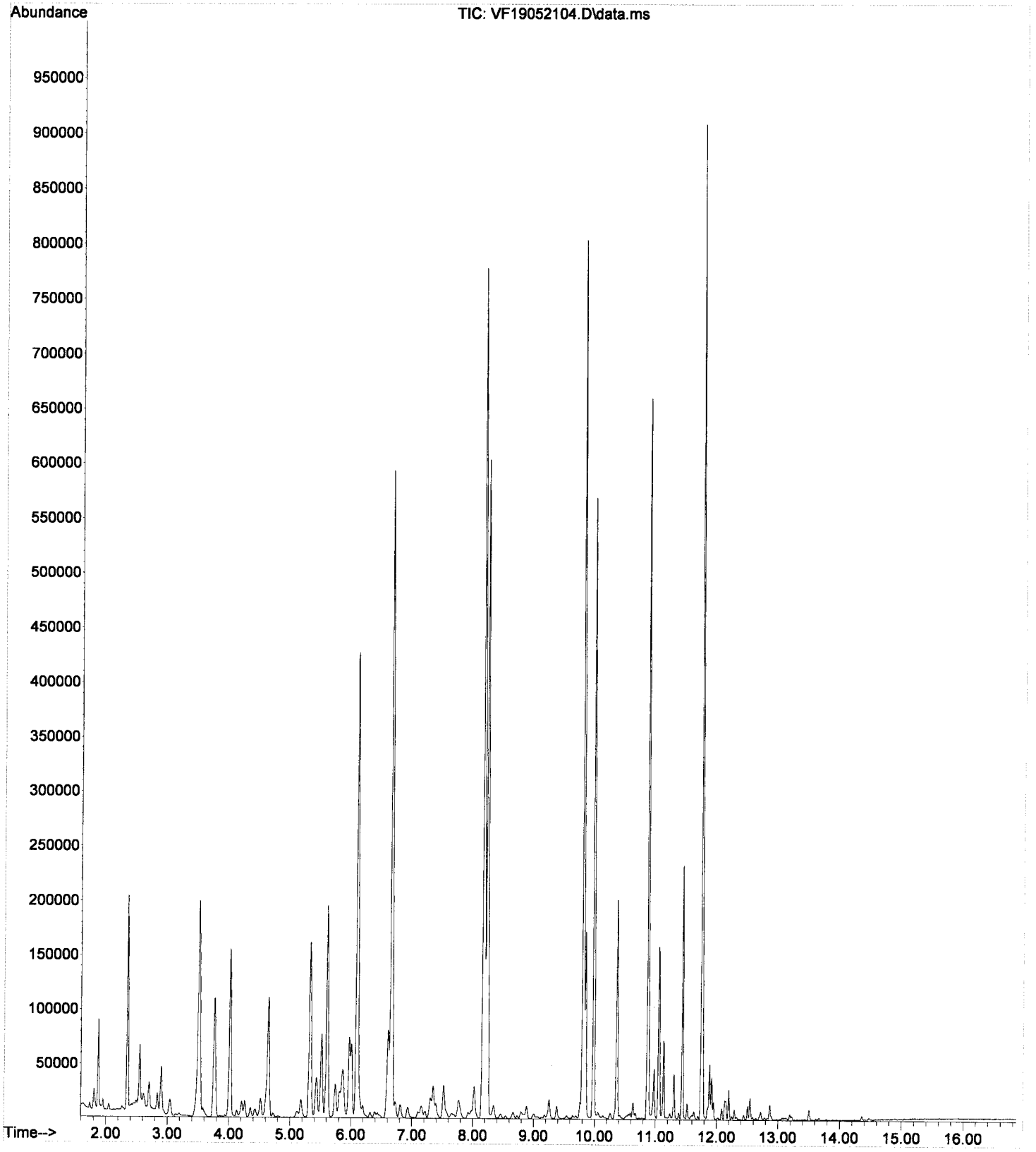
(8) NWTPH-Gx (H)

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

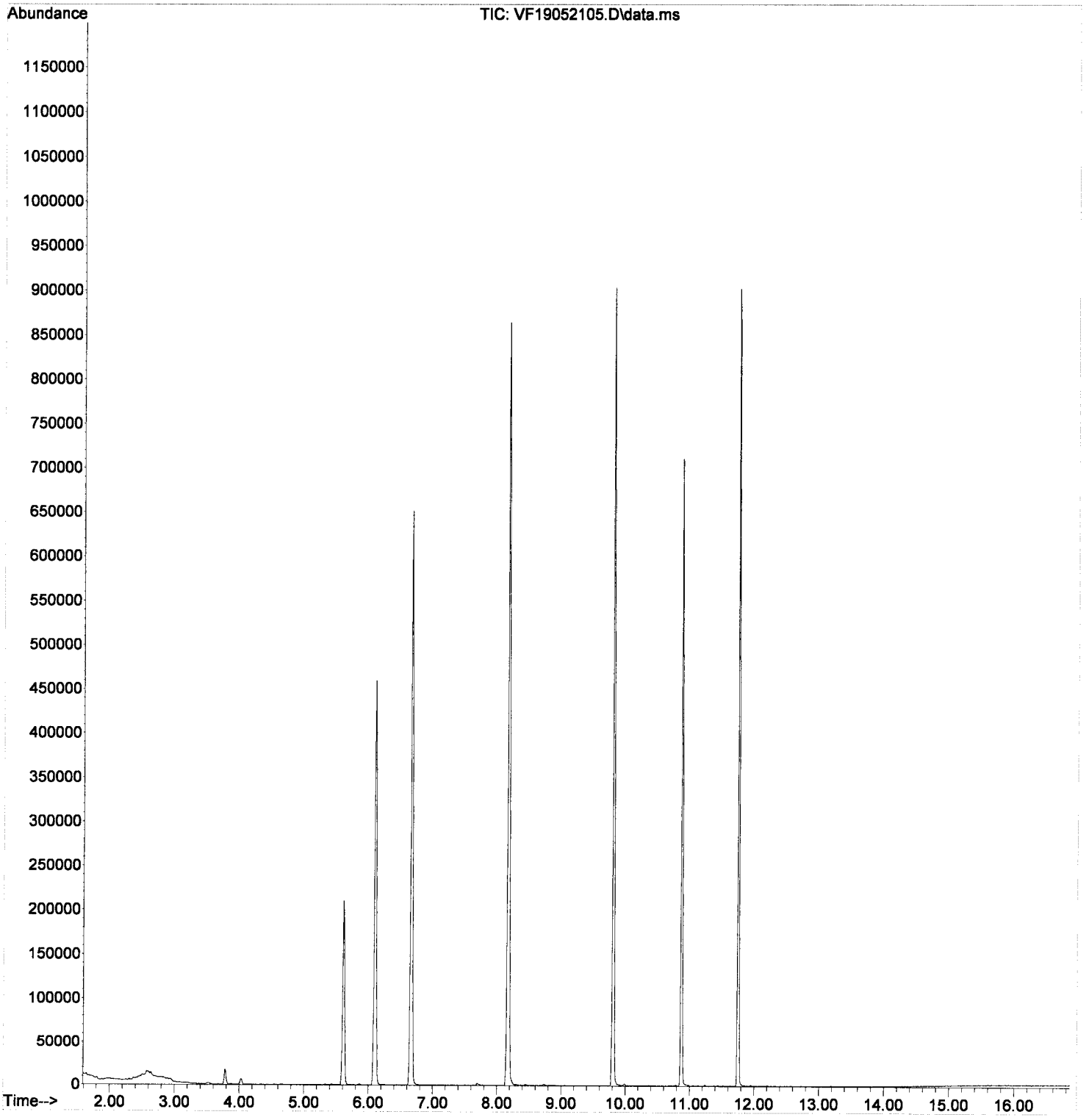
CMDL

(#) = 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

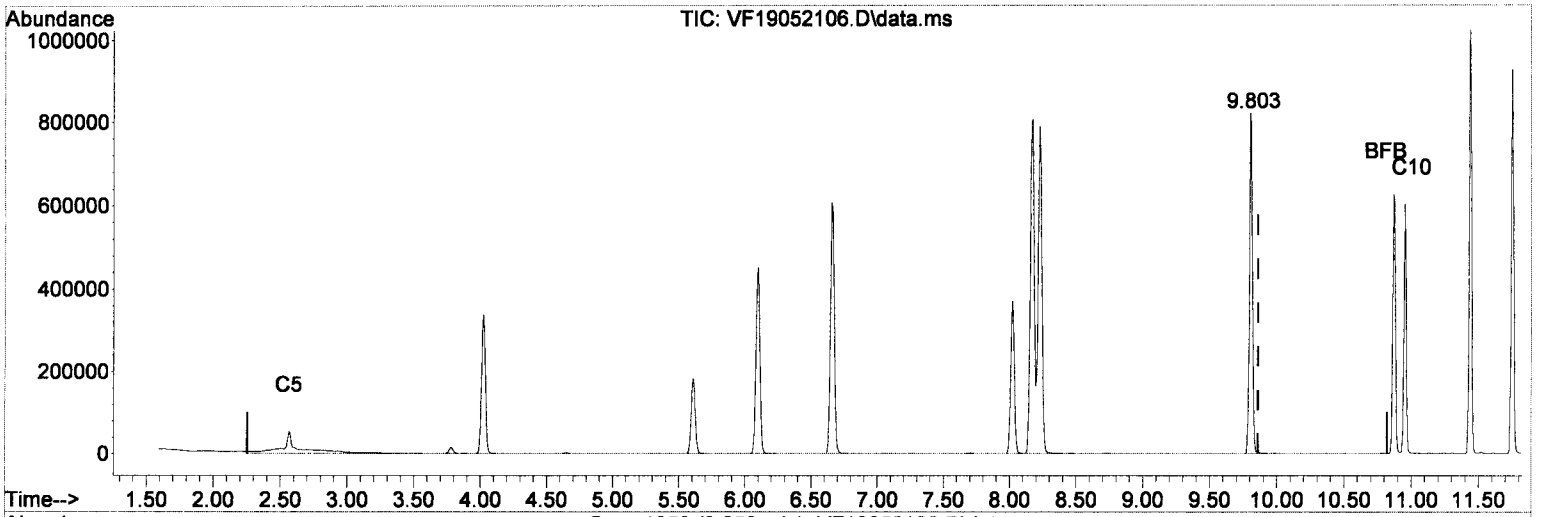
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	335724	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1248297	47.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	877704	53.85	ug/L	0.00
4) Chlorobenzene-d5 (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	

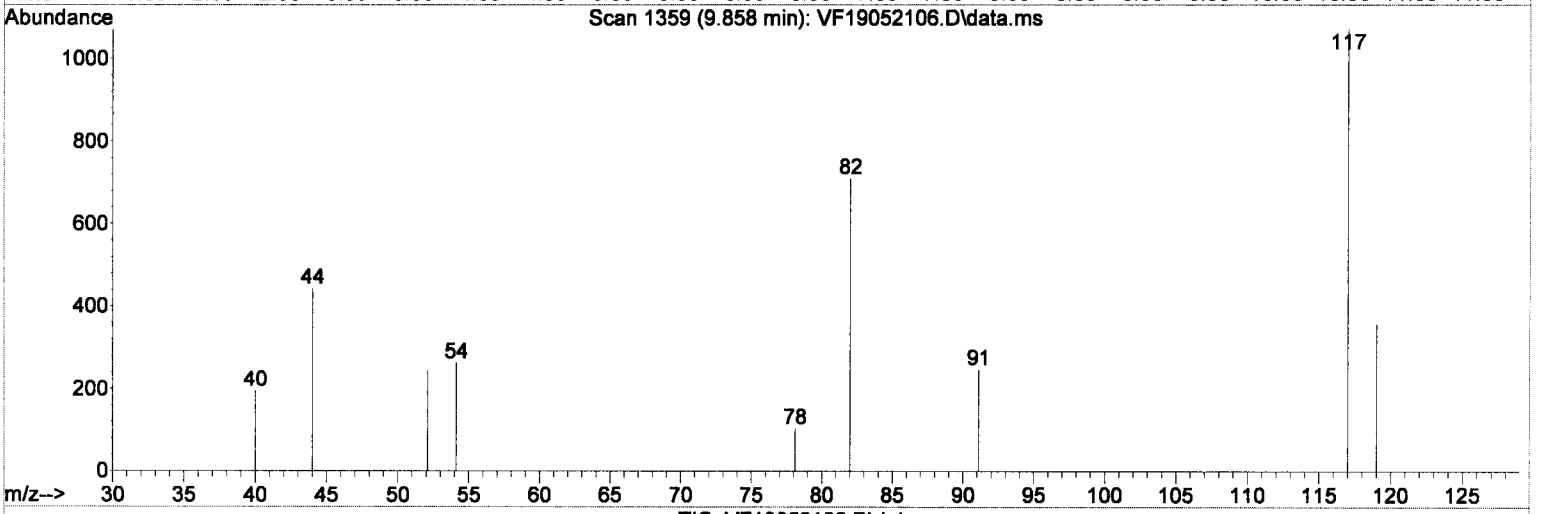
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

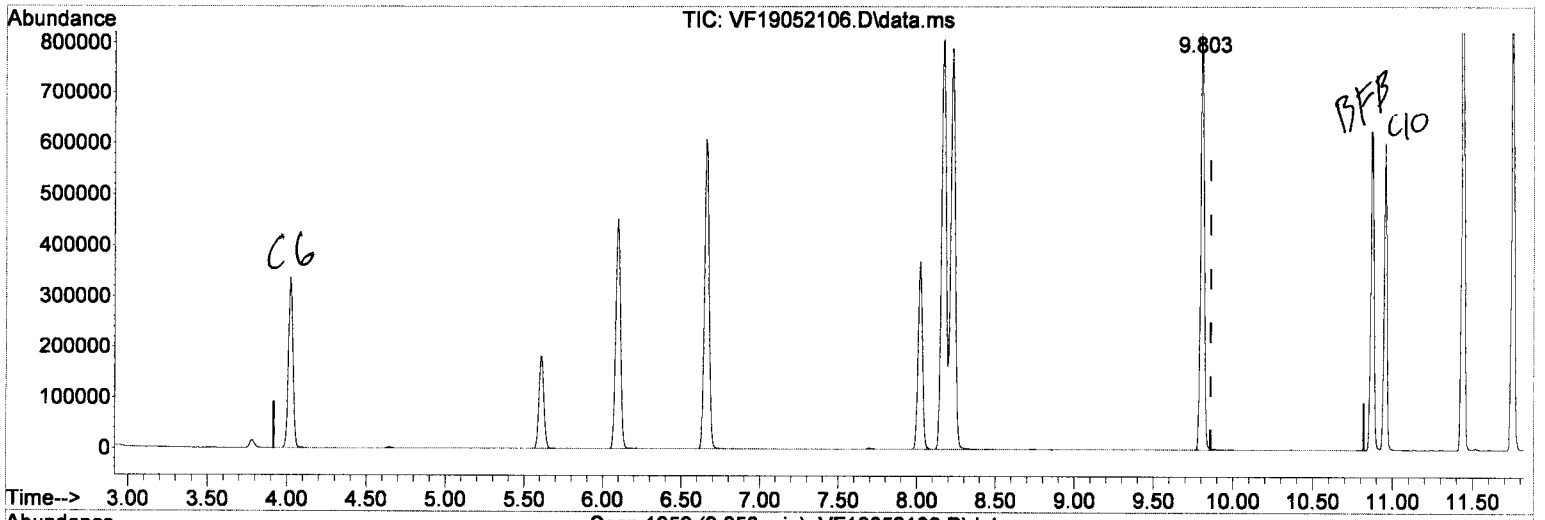
response 3503320

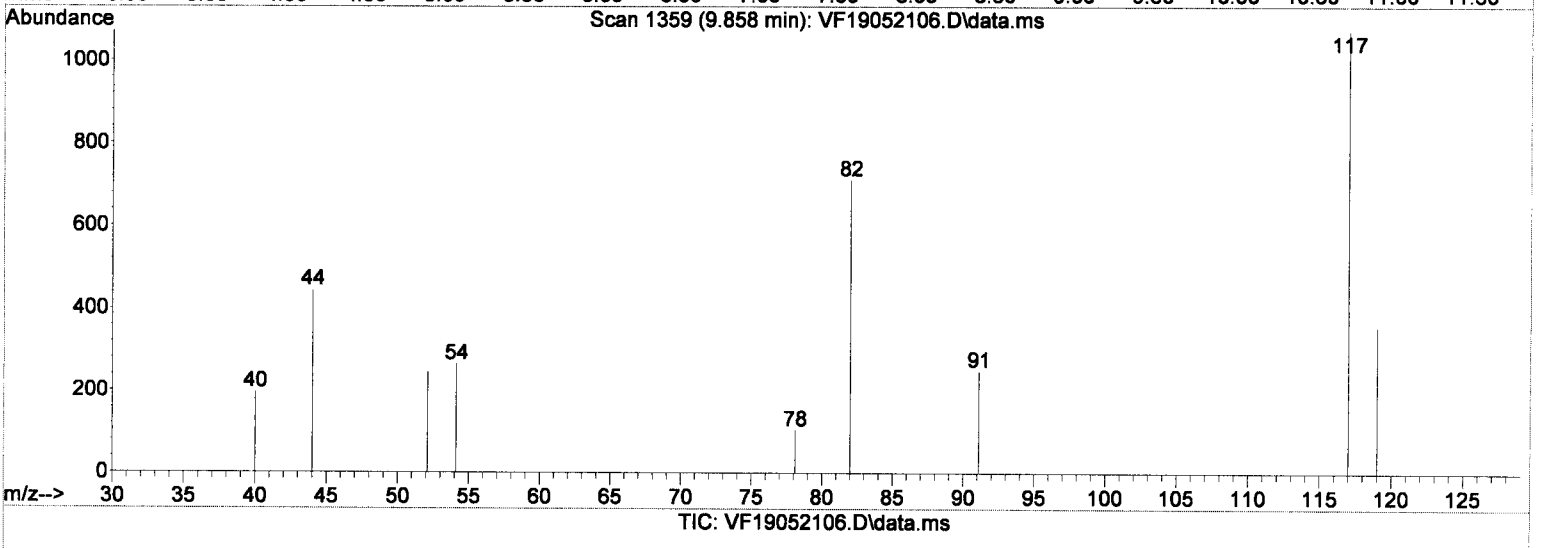
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.27#
0.00	0.00	0.94#
0.00	0.00	0.00

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

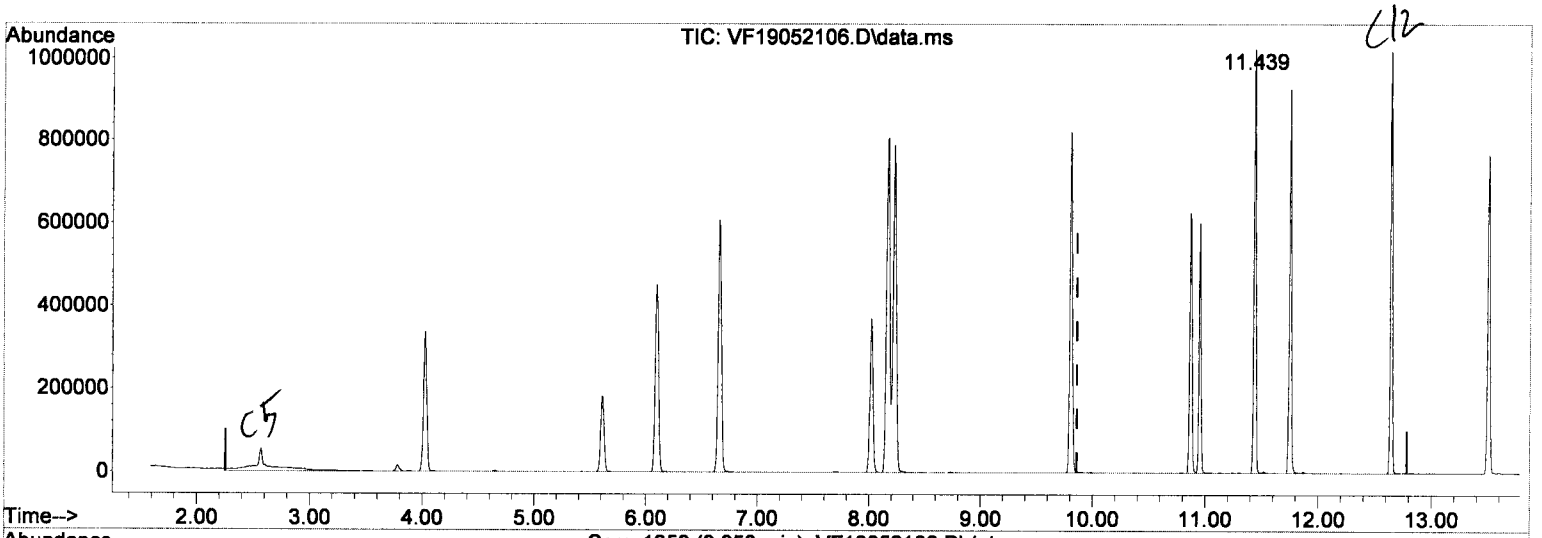
response 3380013

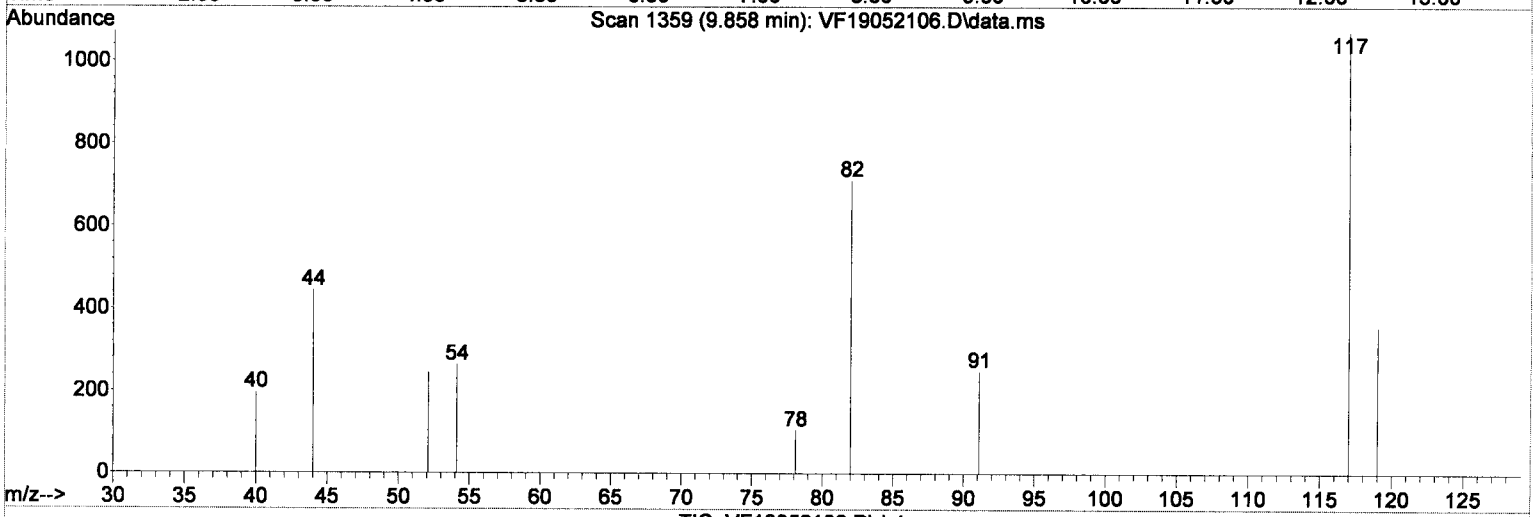
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.31#
0.00	0.00	0.97#
0.00	0.00	0.00

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

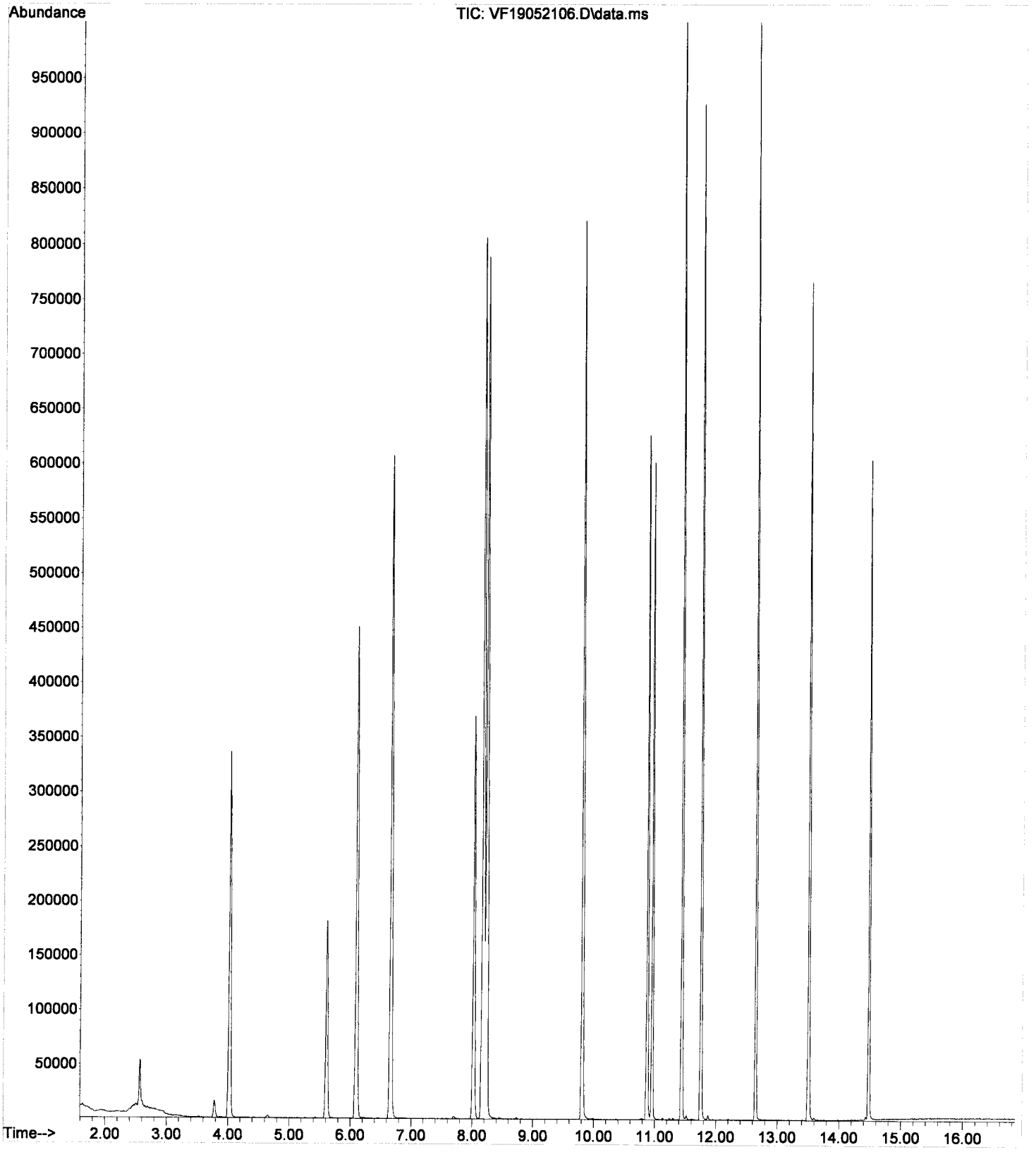
(7) CA-LUFT (C5-C12) (H)

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 : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:43:42 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

5/22/19

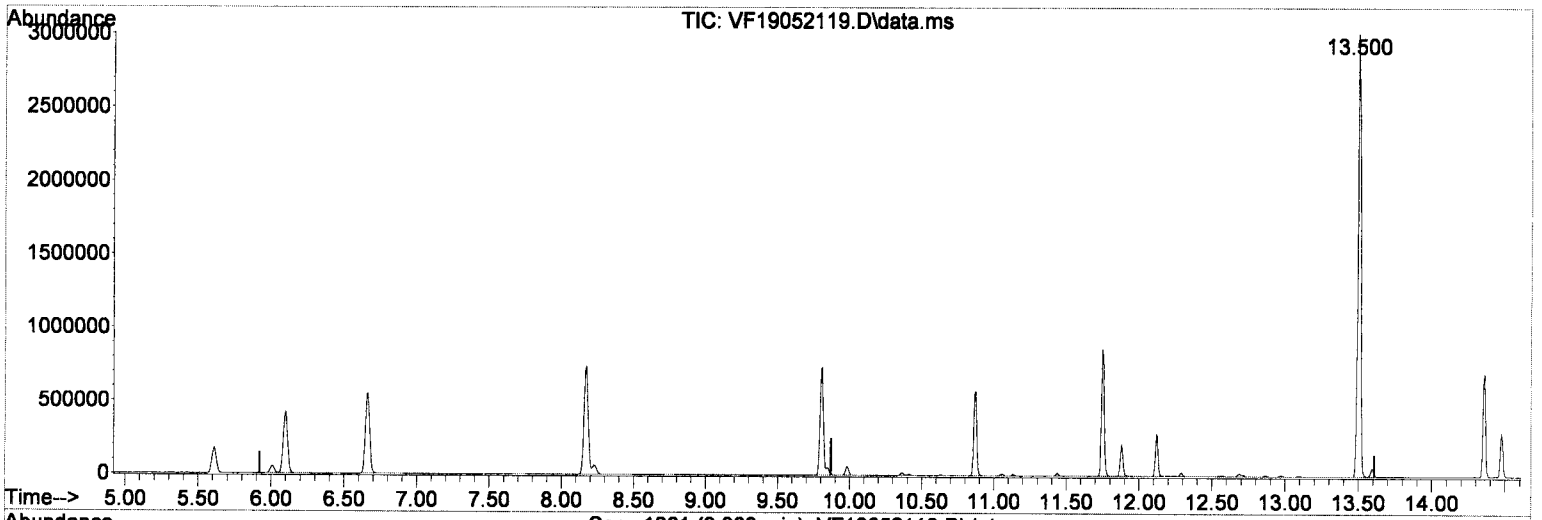
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	309875	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1146084	46.91	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	816633	54.28	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.807	TIC	1268713	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.171	TIC	1494439	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	1133994	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	832932m	32.51	ug/L	
6) TPHg (C6-C10)	9.860	TIC	758650m	51.01	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	1663767m	88.21	ug/L	
8) NWTPH-Gx	9.870	TIC	5393681m	621.56	ug/L	

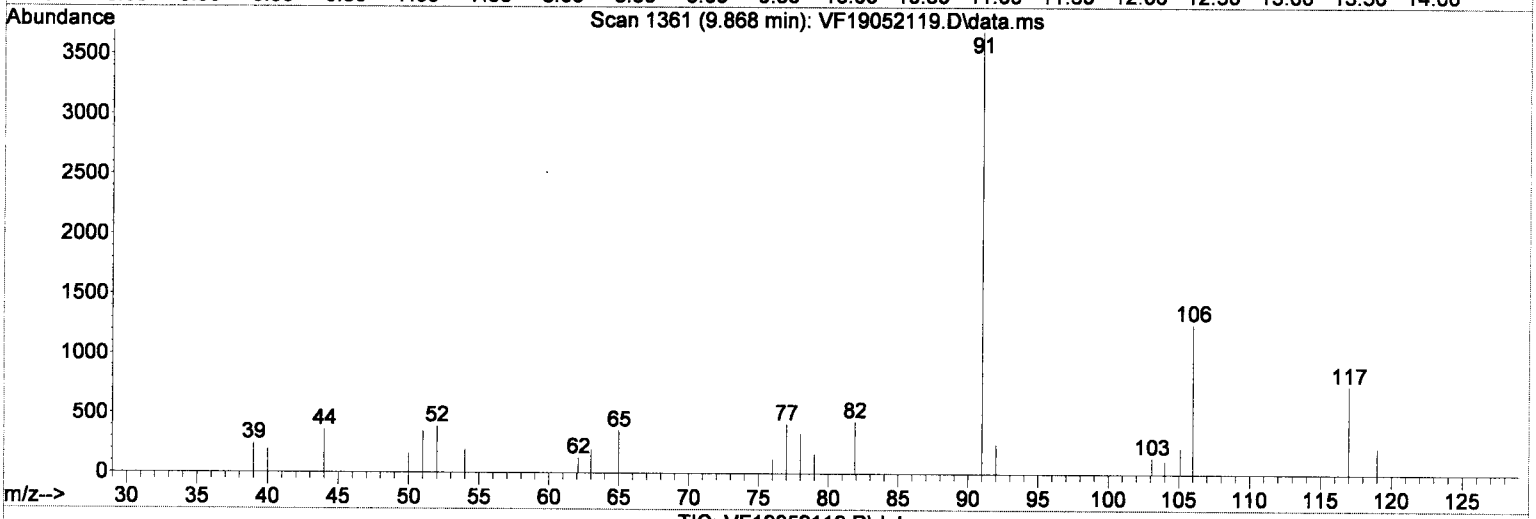
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:43:42 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: VF19052119.D\data.ms

(8) NWTPH-Gx (H)

9.870min (0.000) 621.56 ug/L m

response 5393681

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	3.26#
0.00	0.00	2.42#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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

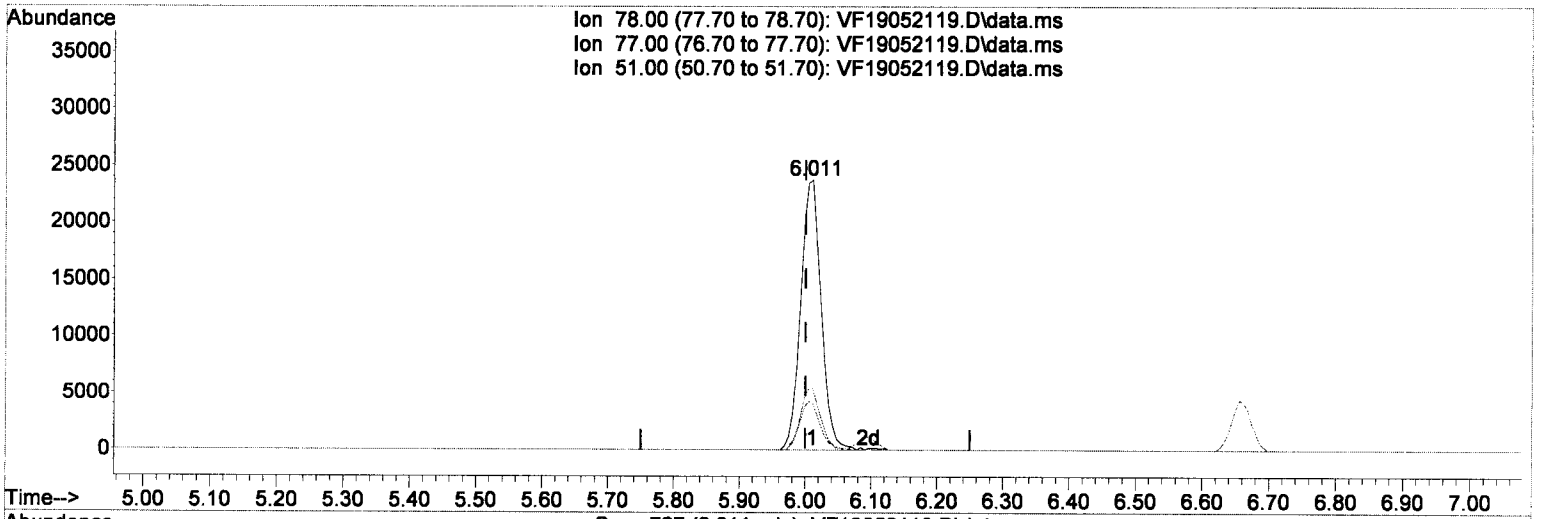
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.096	168	309875	50.00 ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	389592	50.00 ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	173876	50.00 ug/L		0.00
System Monitoring Compounds						
26) Dibromofluoromethane (S)	5.609	111	117255	47.16 ug/L		0.00
32) 1,4-Difluorobenzene (S)	6.662	114	490019	51.18 ug/L		0.00
39) Toluene-d8 (S)	8.171	98	556111	48.28 ug/L		0.00
58) 4-Bromofluorobenzene (S)	10.872	174	136503	50.99 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.844	50	400	0.09 ug/L	#	48 <MDL
5) Bromomethane	2.306	96	822	0.32 ug/L		89
9) Carbon Disulfide	3.146	76	303	0.26 ug/L		77
12) Methylene Chloride	3.778	84	4102	Below Cal		93
13) Acetone	3.876	43	1496	0.94 ug/L		95
15) n-Hexane	4.028	86	545	0.61 ug/L	#	84
28) 2-Butanone (MEK)	5.761	43	299	0.13 ug/L		54
29) Benzene	6.011	78	51331	3.43 ug/L		98
40) Toluene	8.225	91	56205	3.41 ug/L		95
50) Ethylbenzene	9.843	91	~~33690~~	~~2.15 ug/L~~		~~96~~ MI
52) m,p-Xylenes (2)	9.983	91	35119	3.20 ug/L		92
53) o-Xylene	10.367	91	10993	1.04 ug/L		98
54) Styrene	10.415	104	4911	0.81 ug/L		97
56) Isopropylbenzene	10.634	105	3303	0.28 ug/L		94 <MDL
60) n-Propylbenzene	10.981	91	1475	0.11 ug/L		99
63) 1,3,5-Trimethylbenzene	11.133	105	5952	0.66 ug/L		98
67) tert-Butylbenzene	11.437	91	1112	0.22 ug/L	#	47 <MDL
68) 1,2,4-Trimethylbenzene	11.437	105	9739	1.08 ug/L		95
69) sec-Butylbenzene	11.516	105	1306	0.12 ug/L		84 <MDL
73) n-Butylbenzene	11.948	91	929	0.12 ug/L		92
77) 1,2,4-Trichlorobenzene	13.226	180	234	0.09 ug/L		82
78) Naphthalene	13.500	128	2034974	192.45 ug/L		99
79) 1,2,3-Trichlorobenzene	13.670	180	312	0.11 ug/L	#	63 <MDL

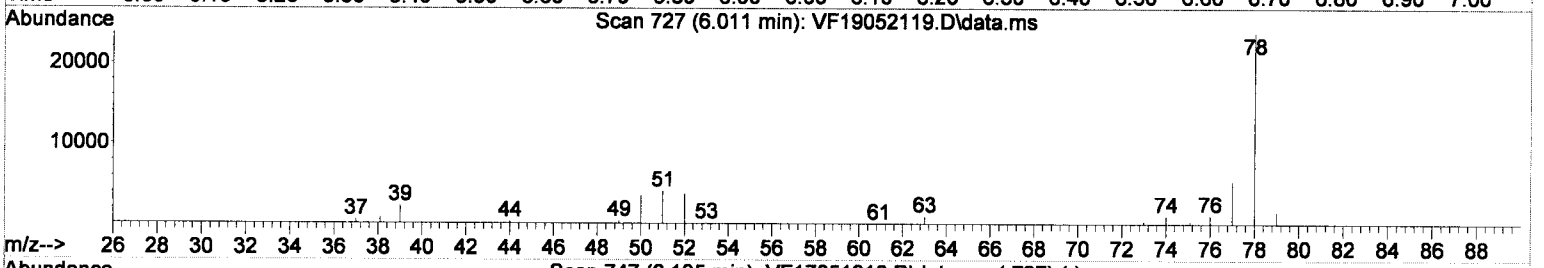
(#) = qualifier out of range (m) = manual integration (+) = signals summed

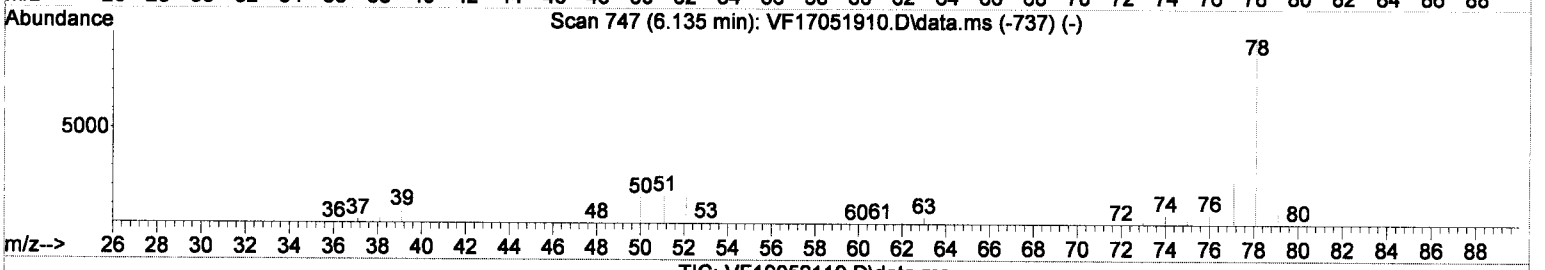
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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







TIC: VF19052119.D\data.ms

(29) Benzene

6.011min (+0.011) 3.43 ug/L

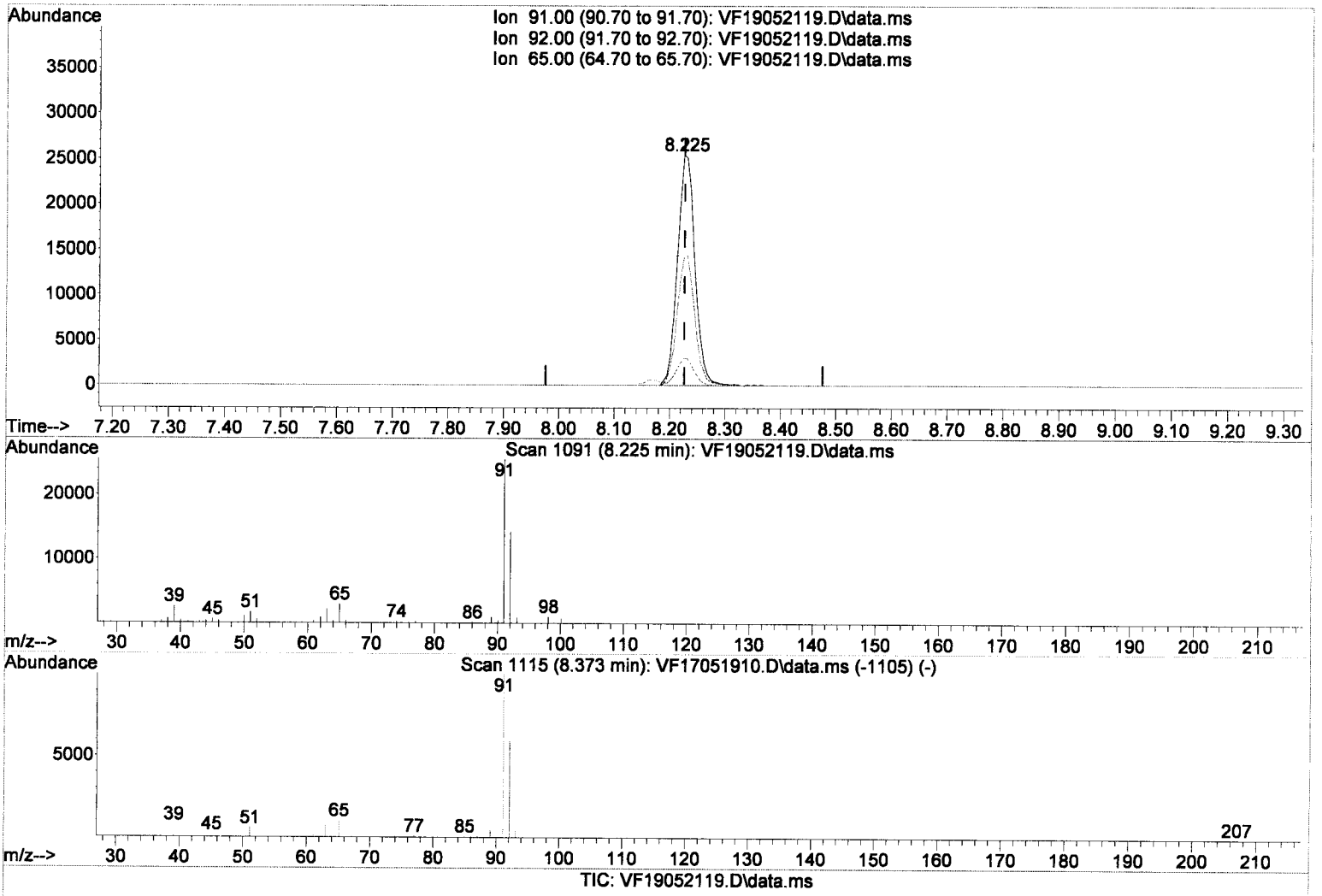
response 51331

Ion	Exp%	Act%
78.00	100	100
77.00	23.20	22.83
51.00	15.50	17.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(40) Toluene (C)

8.225min (-0.001) 3.41 ug/L

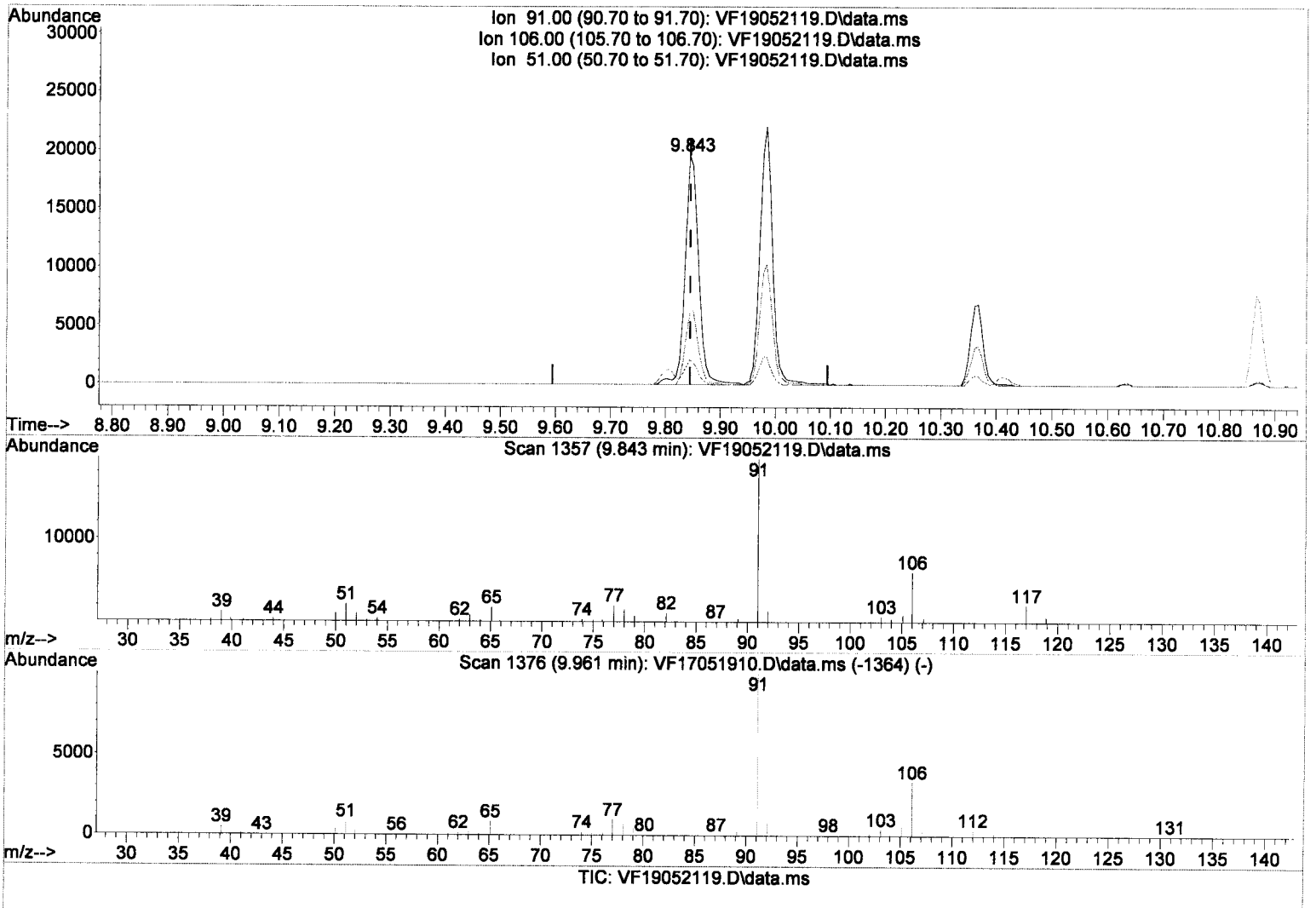
response 56205

Ion	Exp%	Act%
91.00	100	100
92.00	60.20	55.81
65.00	11.90	11.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(50) Ethylbenzene (C)

9.843min (-0.001) 2.15 ug/L

response 33690

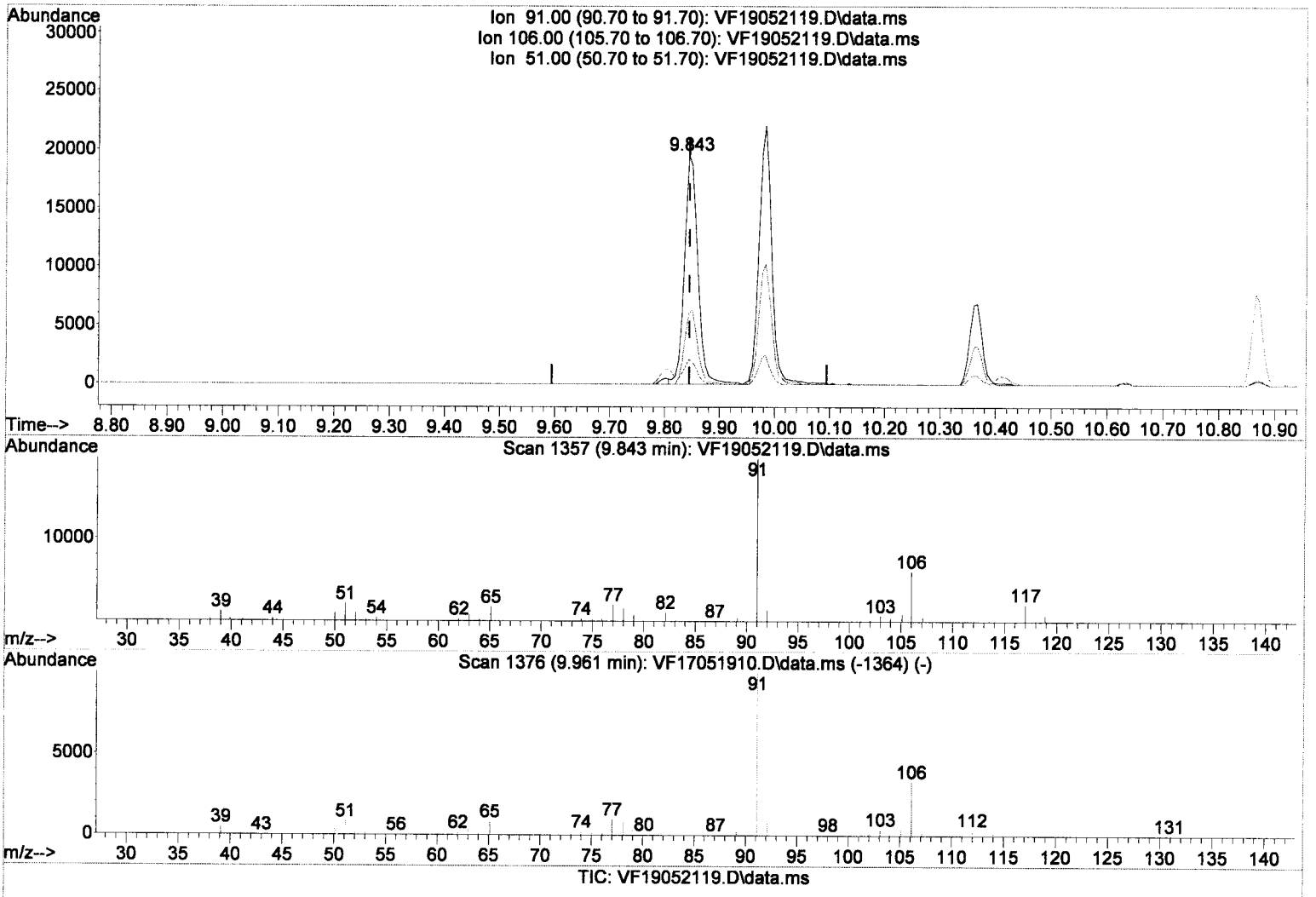
Ion	Exp%	Act%
91.00	100	100
106.00	33.20	30.97
51.00	9.50	10.92
0.00	0.00	0.00

MI

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(50) Ethylbenzene (C)

9.843min (-0.001) 2.11 ug/L m

response 33084

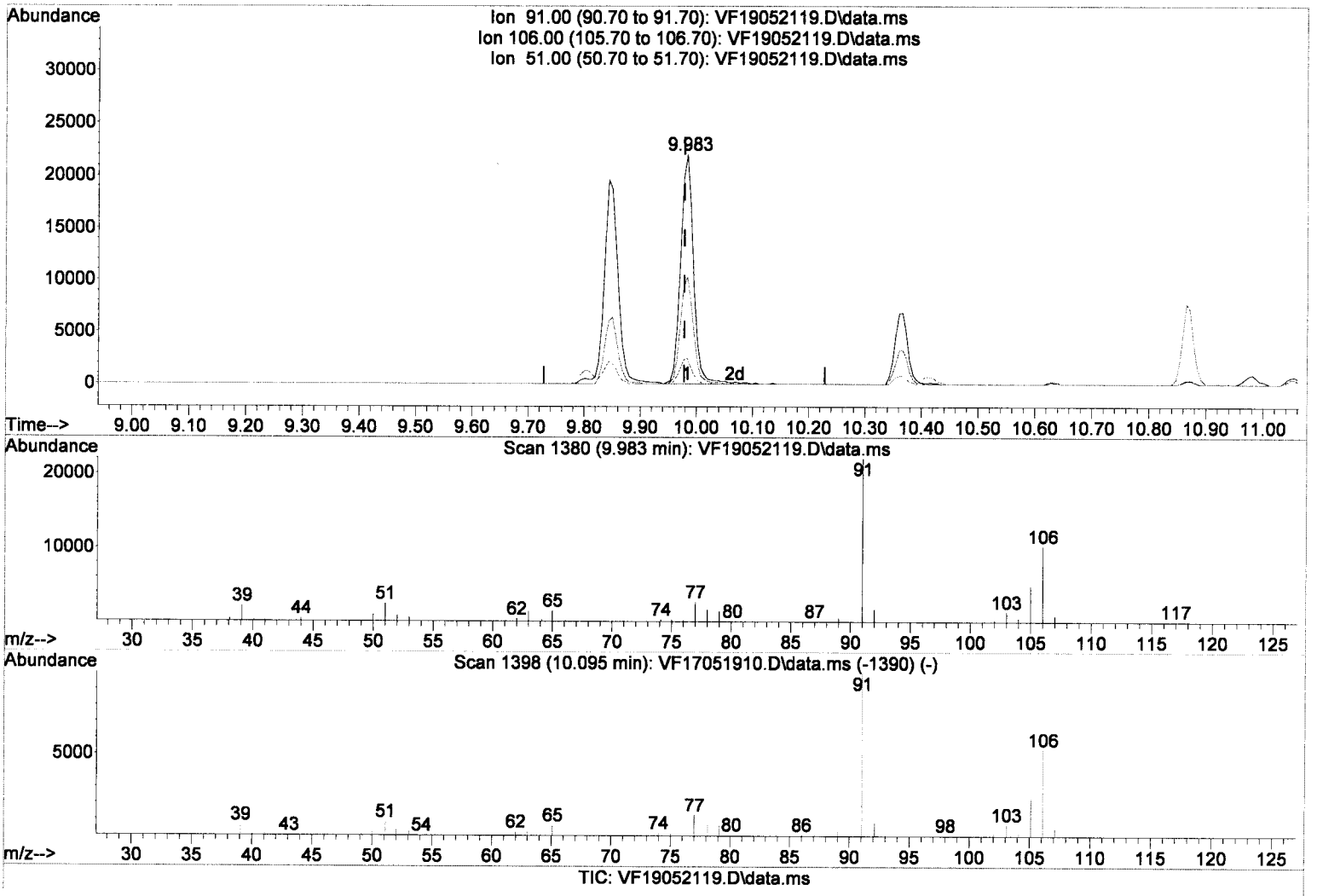
Ion	Exp%	Act%
91.00	100	100
106.00	33.20	30.97
51.00	9.50	10.92
0.00	0.00	0.00

5/22/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(52) m,p-Xylenes (2)

9.983min (+0.005) 3.20 ug/L

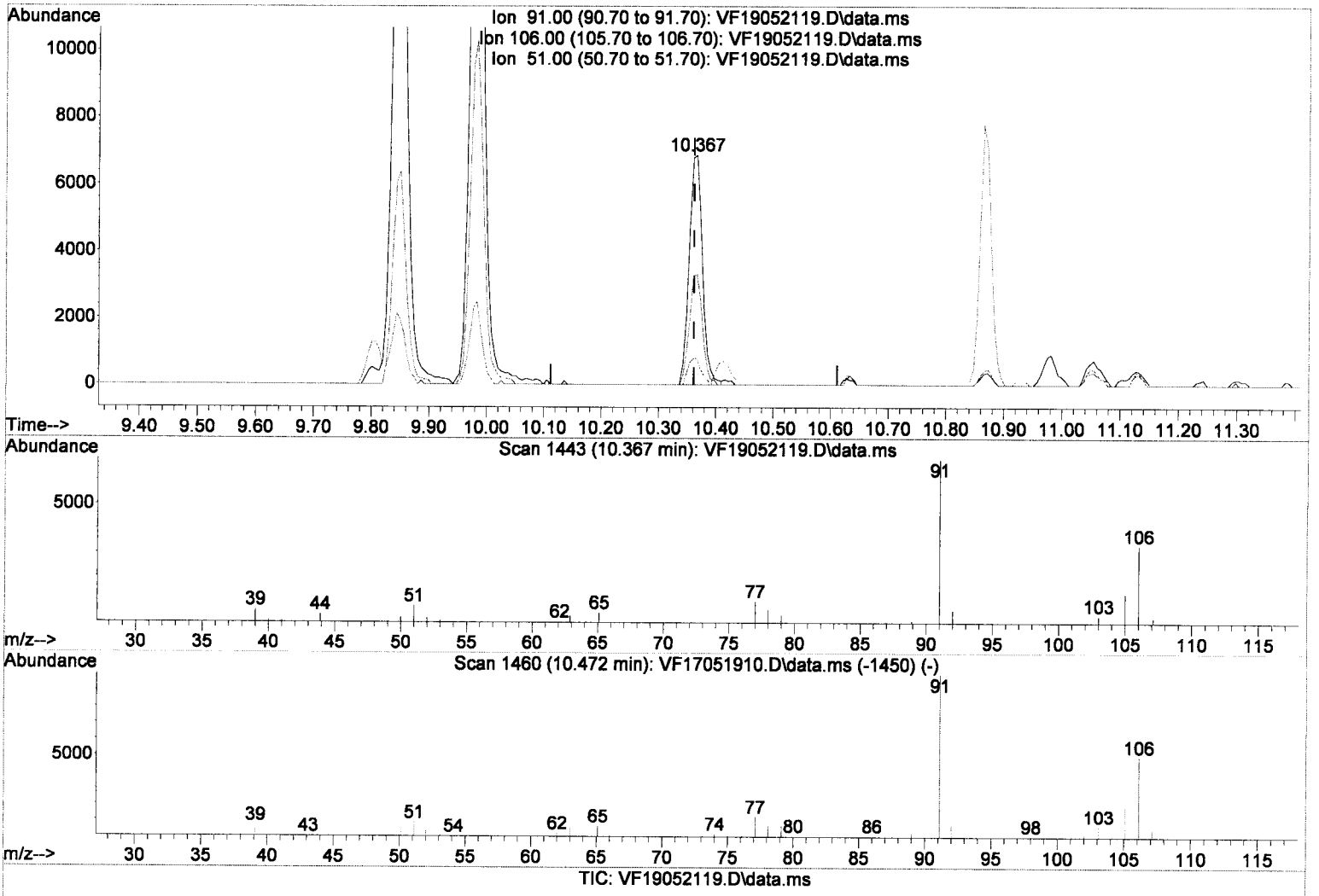
response 35119

Ion	Exp%	Act%
91.00	100	100
106.00	52.70	46.61
51.00	10.10	11.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(53) o-Xylene

10.367min (+0.005) 1.04 ug/L

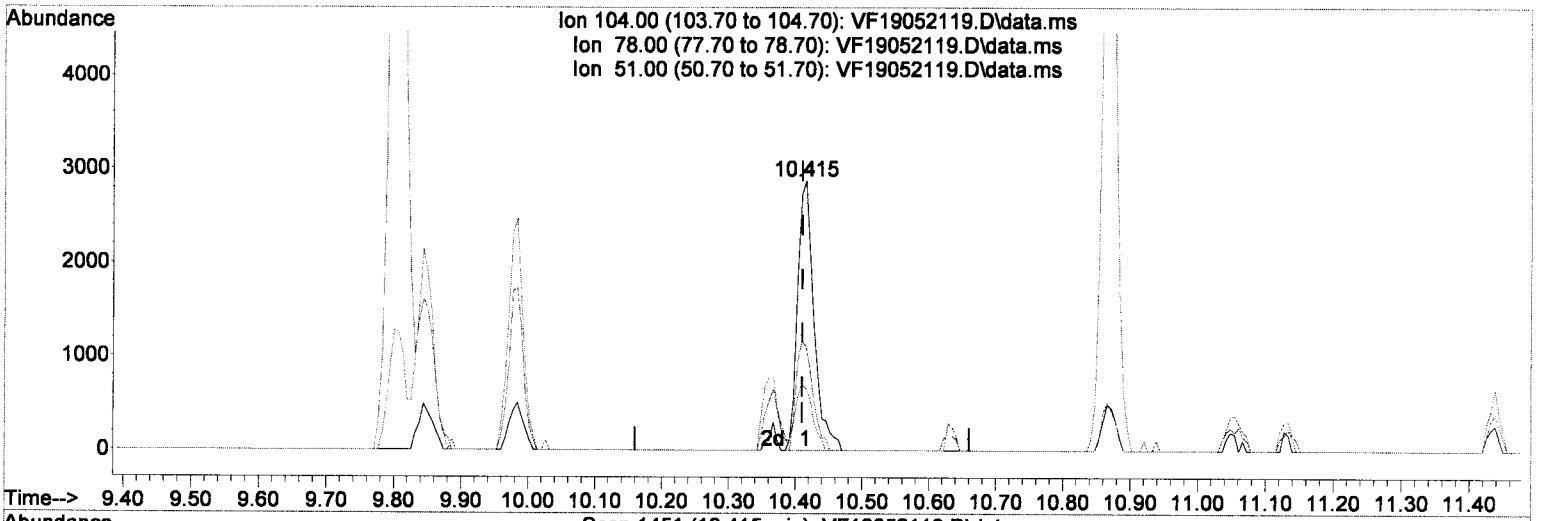
response 10993

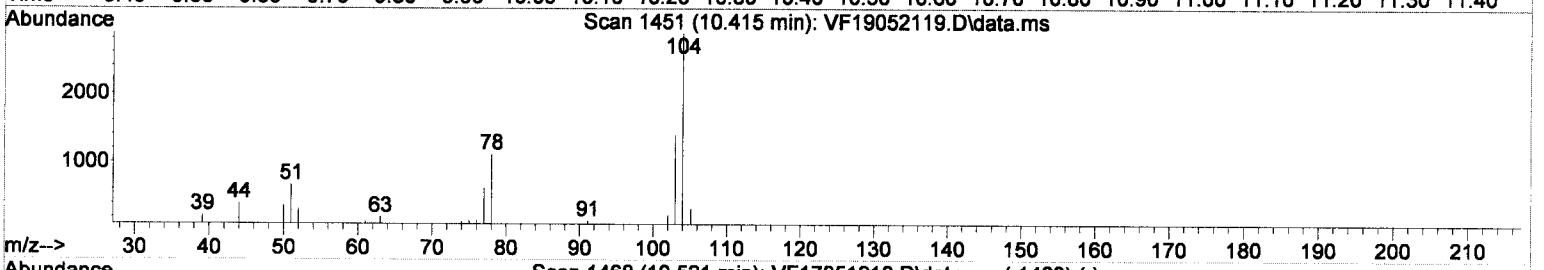
Ion	Exp%	Act%
91.00	100	100
106.00	49.40	48.22
51.00	10.00	11.45
0.00	0.00	0.00

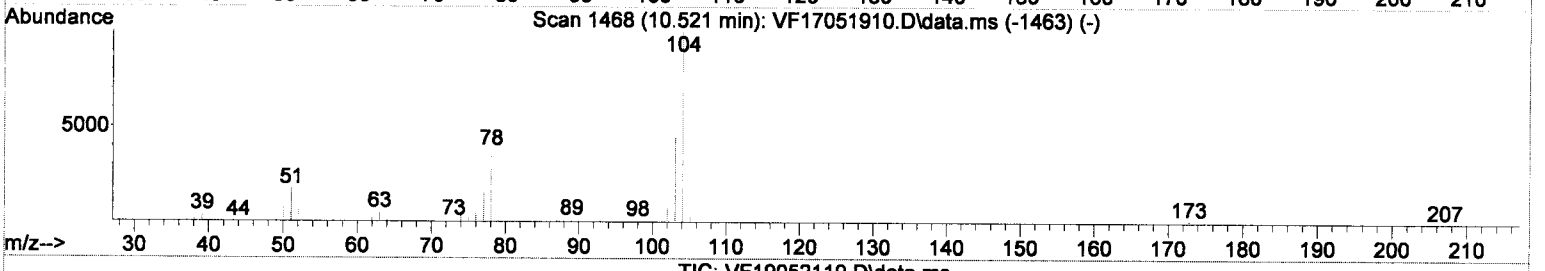
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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







TIC: VF19052119.D\data.ms

(54) Styrene

10.415min (+0.005) 0.81 ug/L

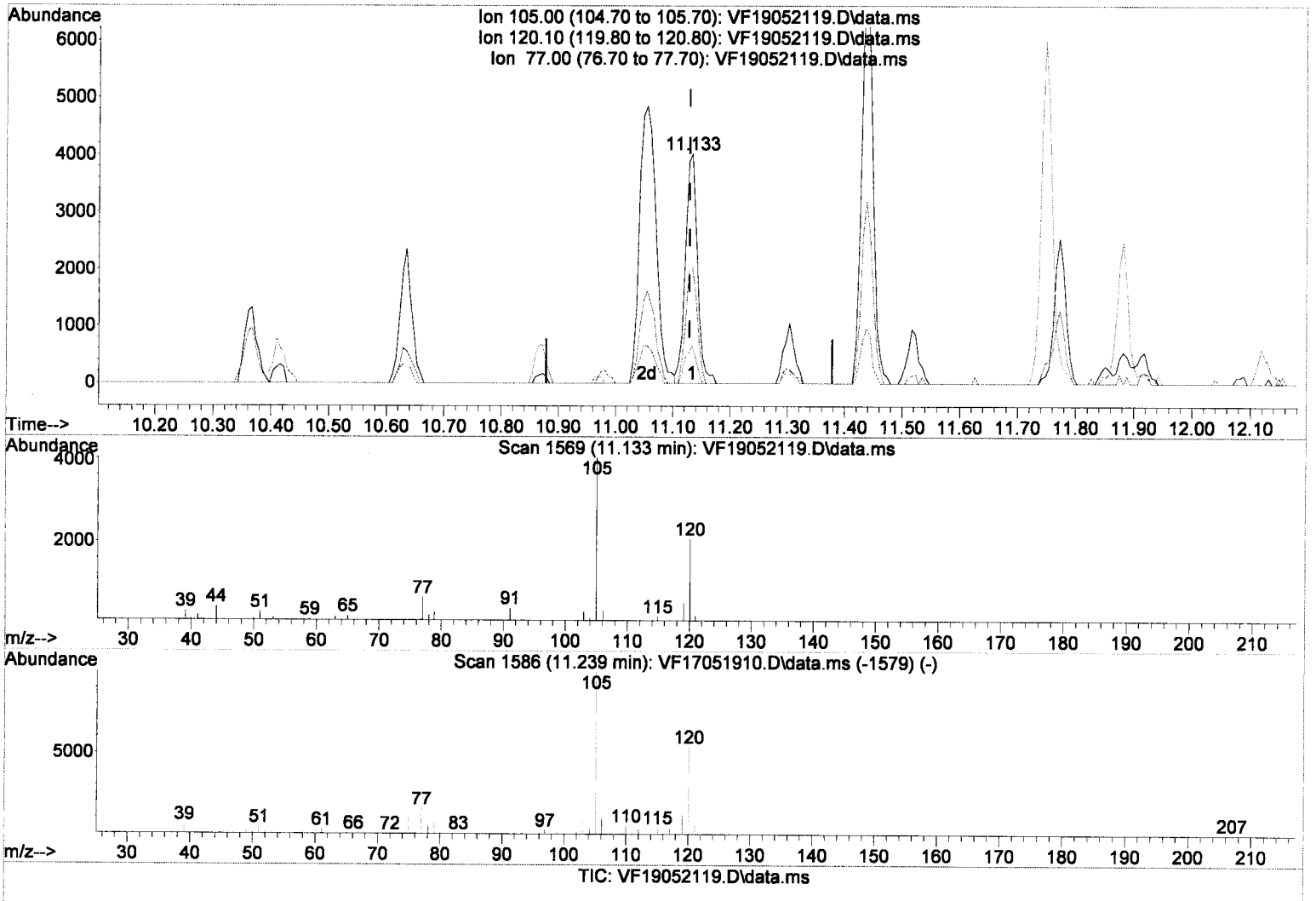
response 4911

Ion	Exp%	Act%
104.00	100	100
78.00	40.60	38.67
51.00	21.90	23.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



(63) 1,3,5-Trimethylbenzene

11.133min (+0.005) 0.66 ug/L

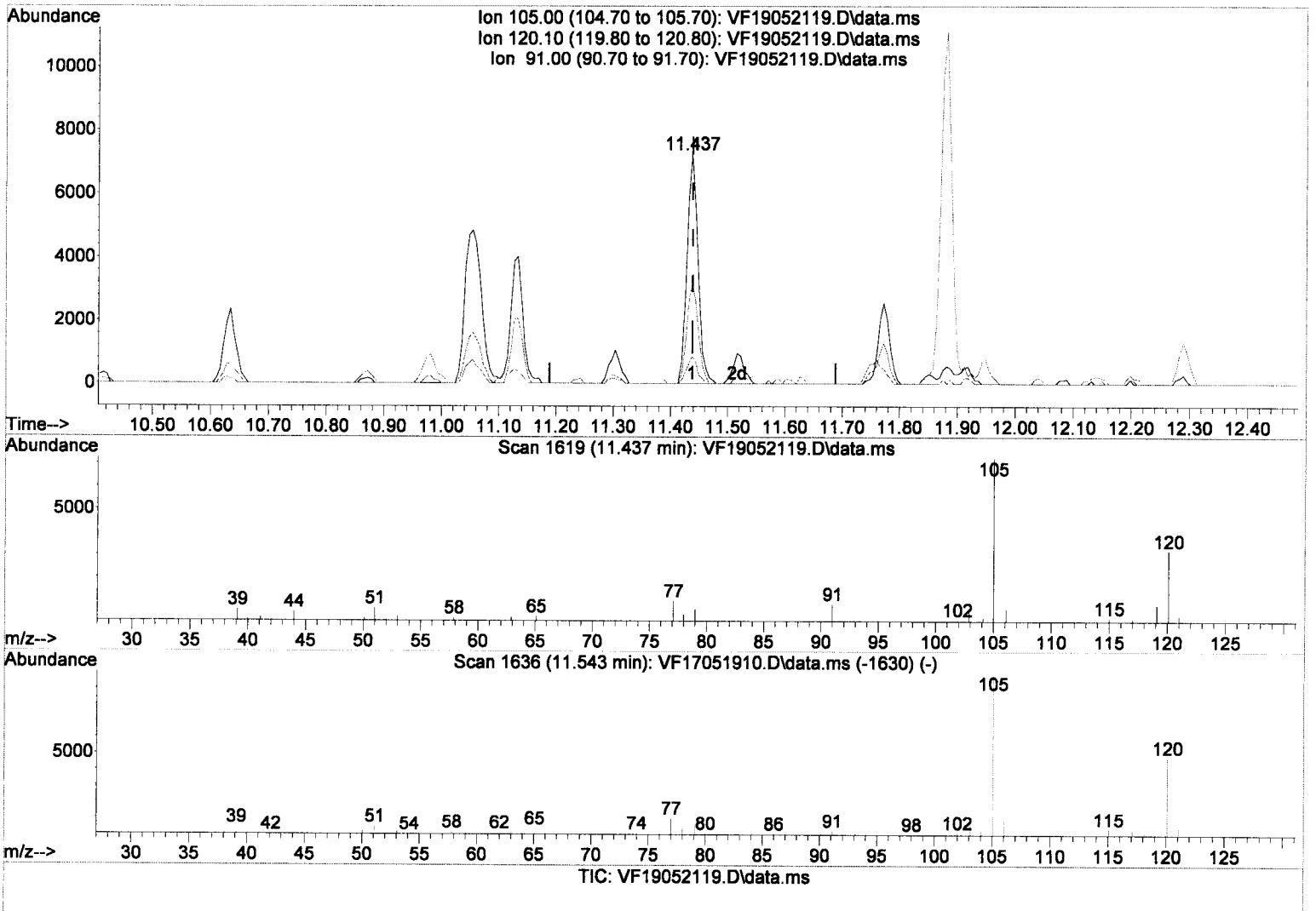
response 5952

Ion	Exp%	Act%
105.00	100	100
120.10	52.70	51.34
77.00	15.40	16.35
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(68) 1,2,4-Trimethylbenzene

11.437min (-0.001) 1.08 ug/L

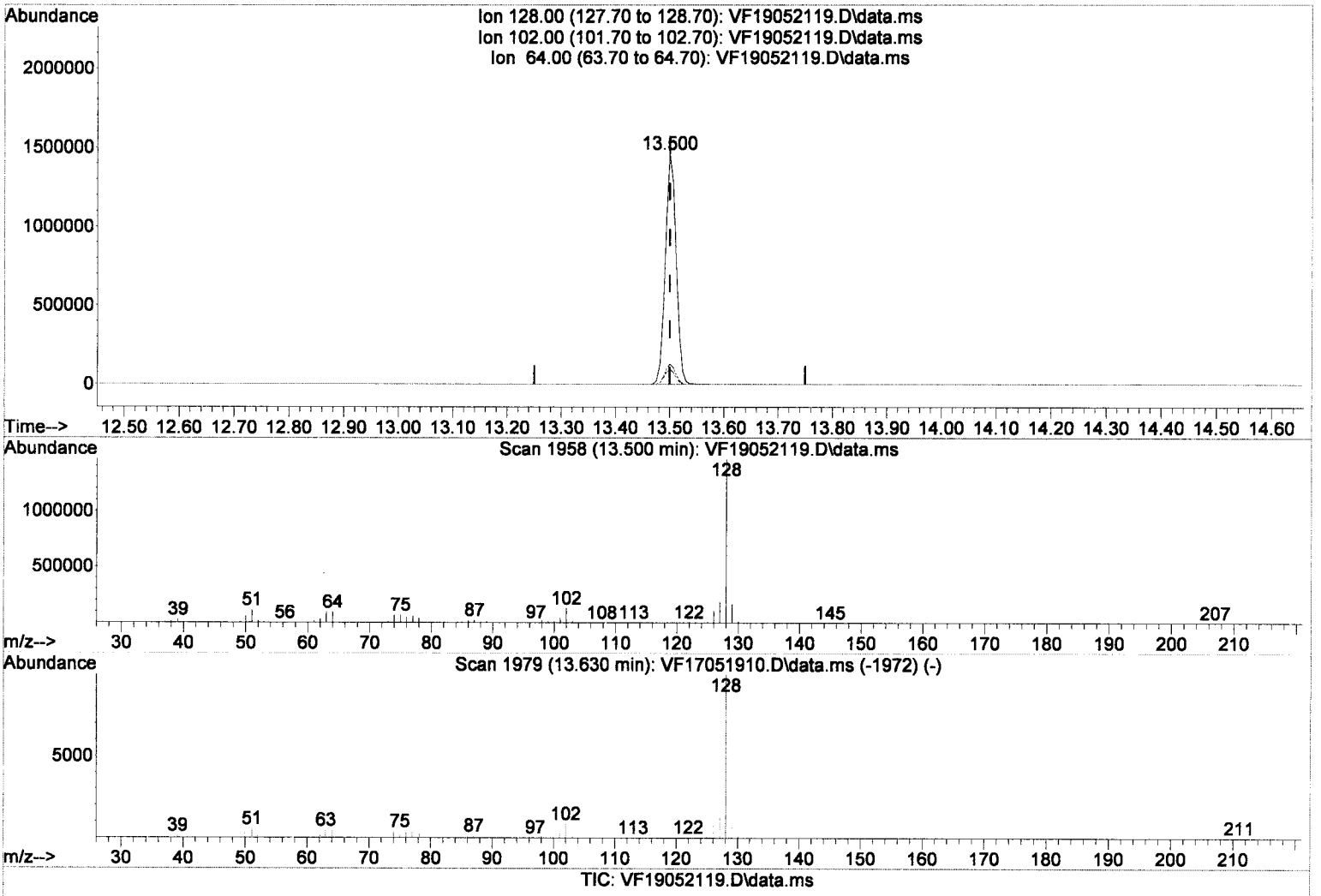
response 9739

Ion	Exp%	Act%
105.00	100	100
120.10	48.00	44.03
91.00	10.60	11.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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



TIC: VF19052119.D\data.ms

(78) Naphthalene

13.500min (-0.000) 192.45 ug/L

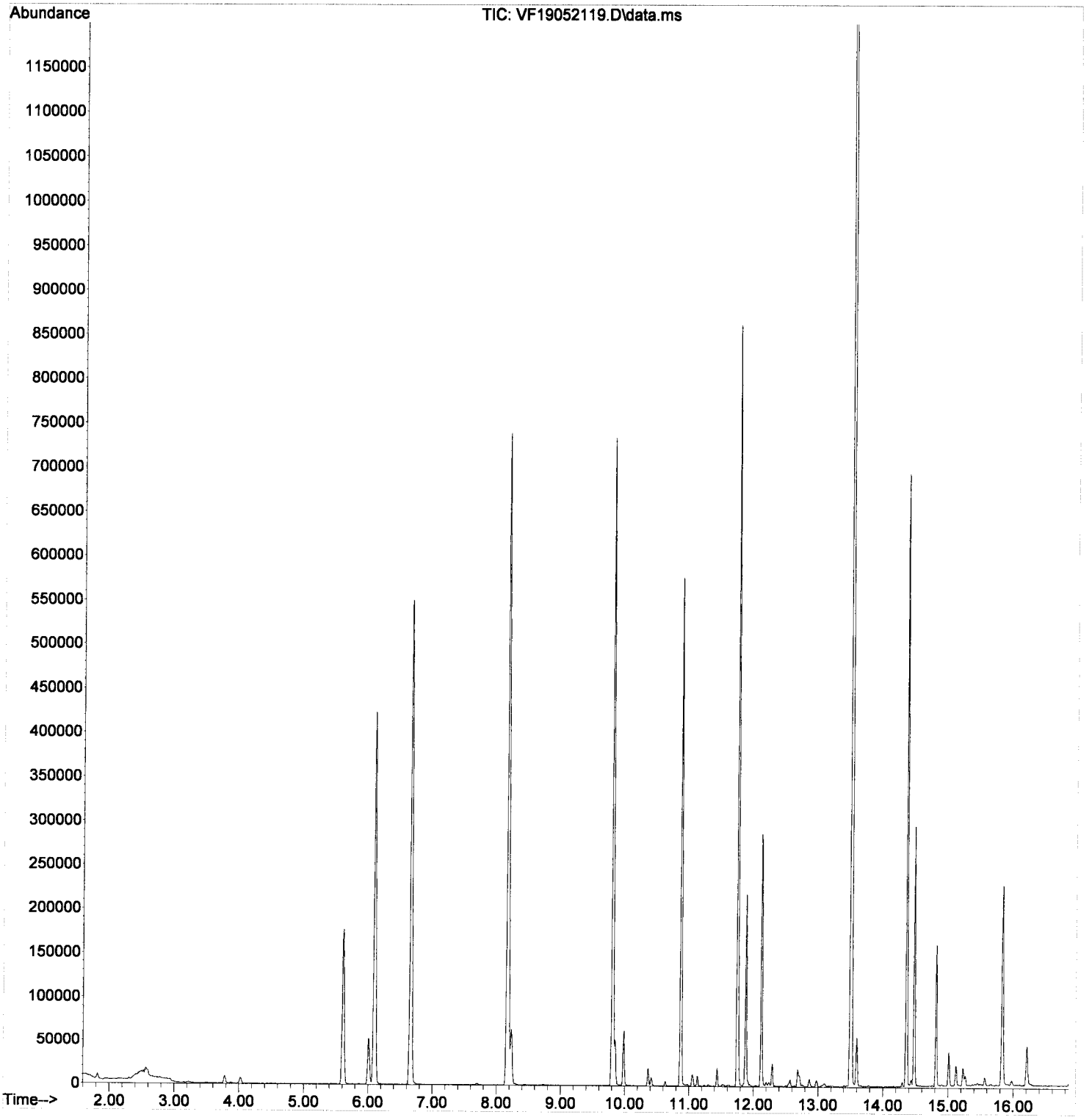
response 2034974

Ion	Exp%	Act%
128.00	100	100
102.00	8.50	8.82
64.00	6.40	6.49
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-05\9E21036\
Data File : VF19052119.D
Acq On : 21 May 2019 7:07 pm
Operator : TB
Sample : A9E0582-01RE1@20000
Misc : 20000X ~5g/5mLx2.5uL/50mL GX/8260
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

Quant Time: May 22 09:22:50 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
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, $BrCl_2CH$, 1112tetrachloroethane, & 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

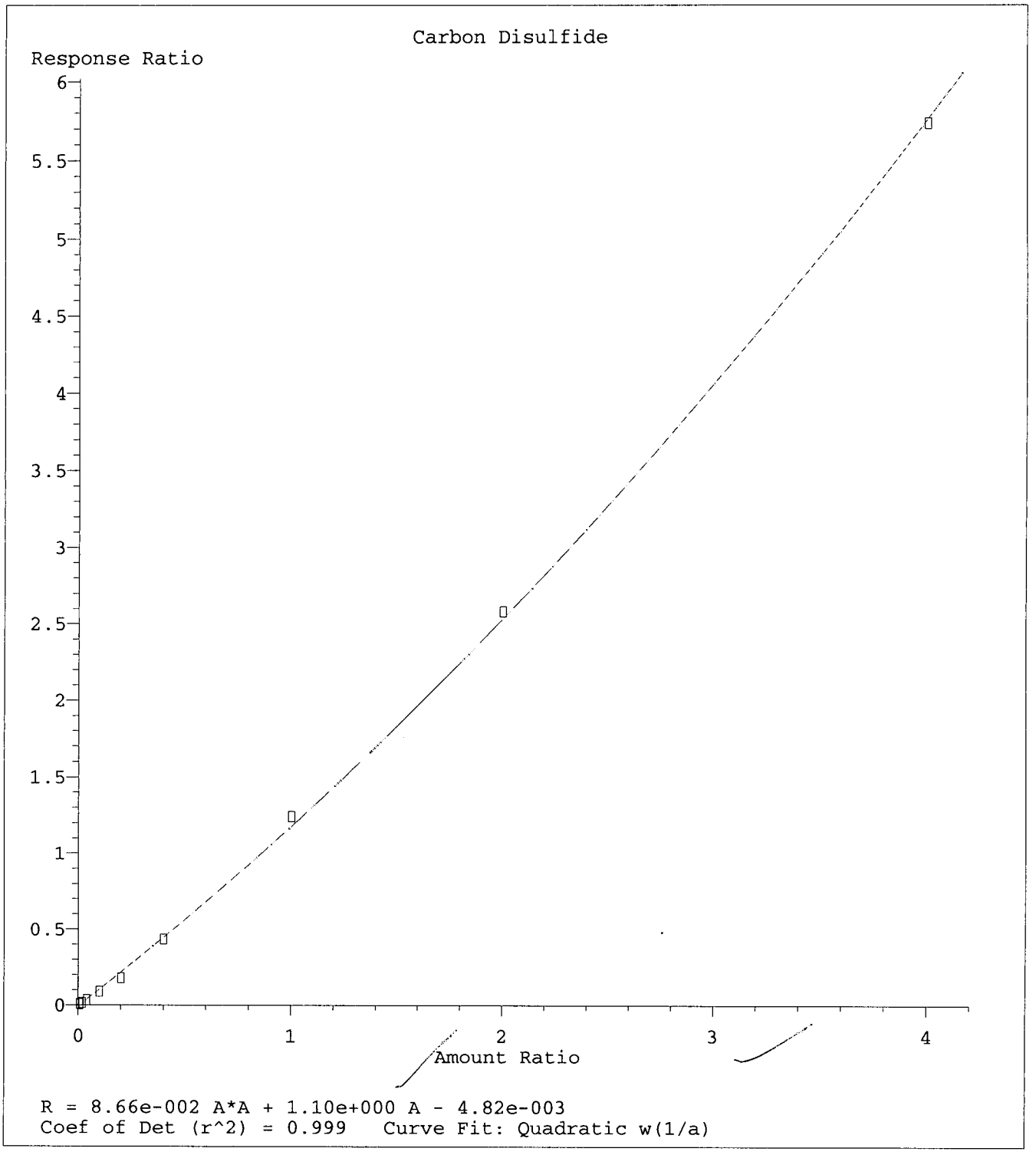
Total Cpnds : 79

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



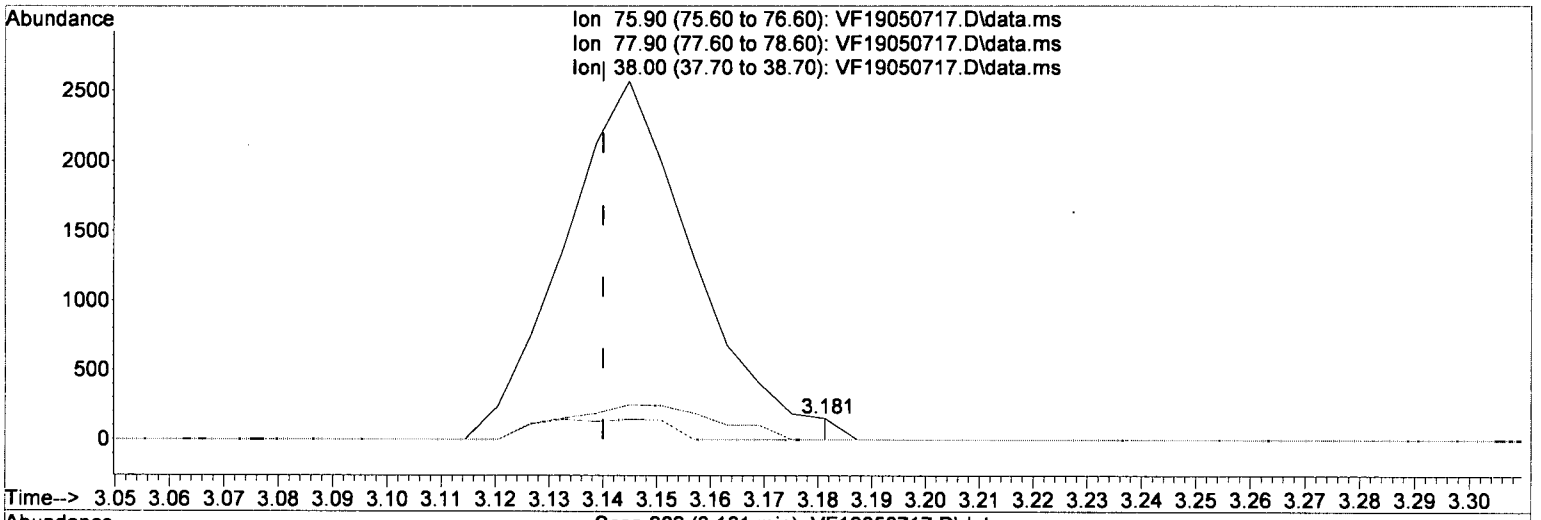
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

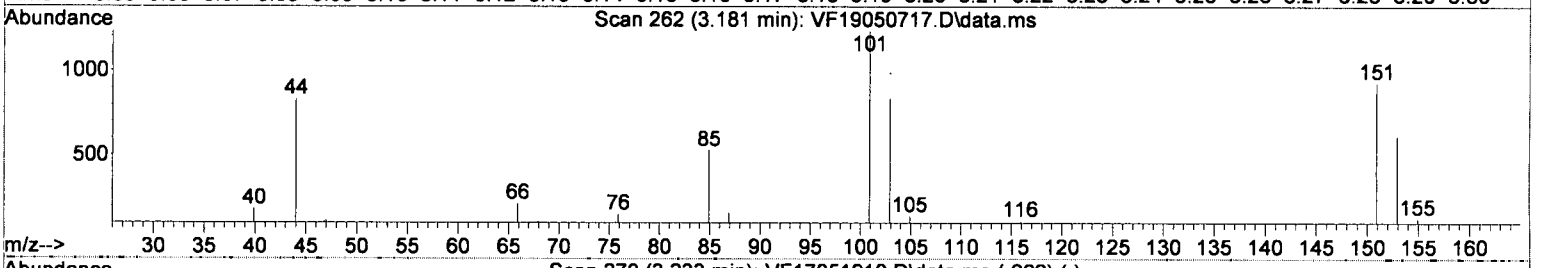
Int = 0.22

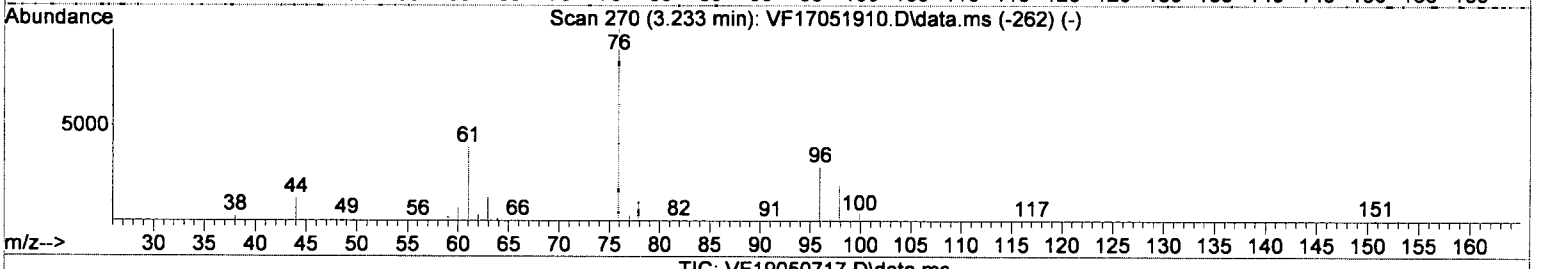
Quantitation Report (Qedit)

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







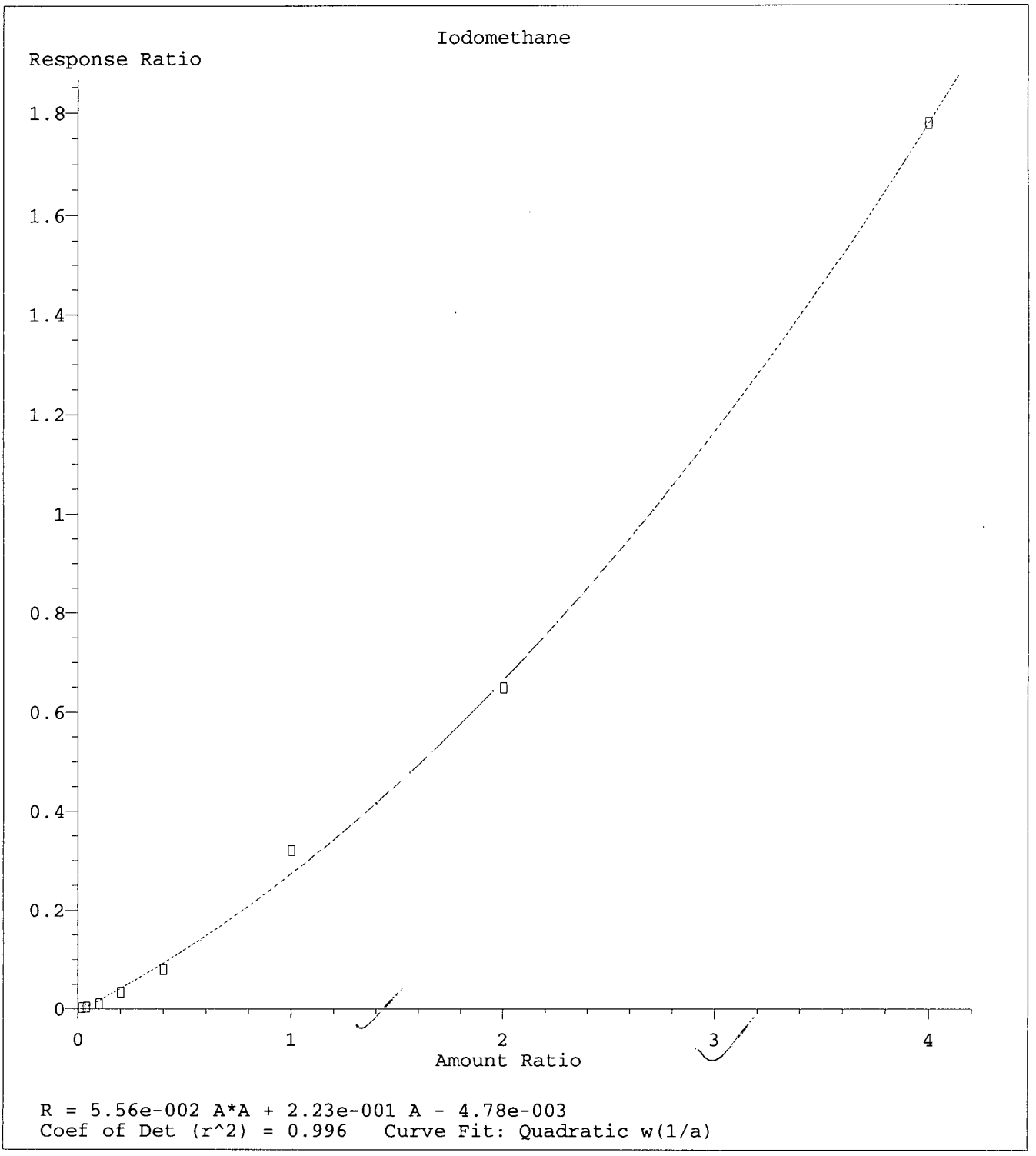
TIC: VF19050717.D\data.ms

(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)

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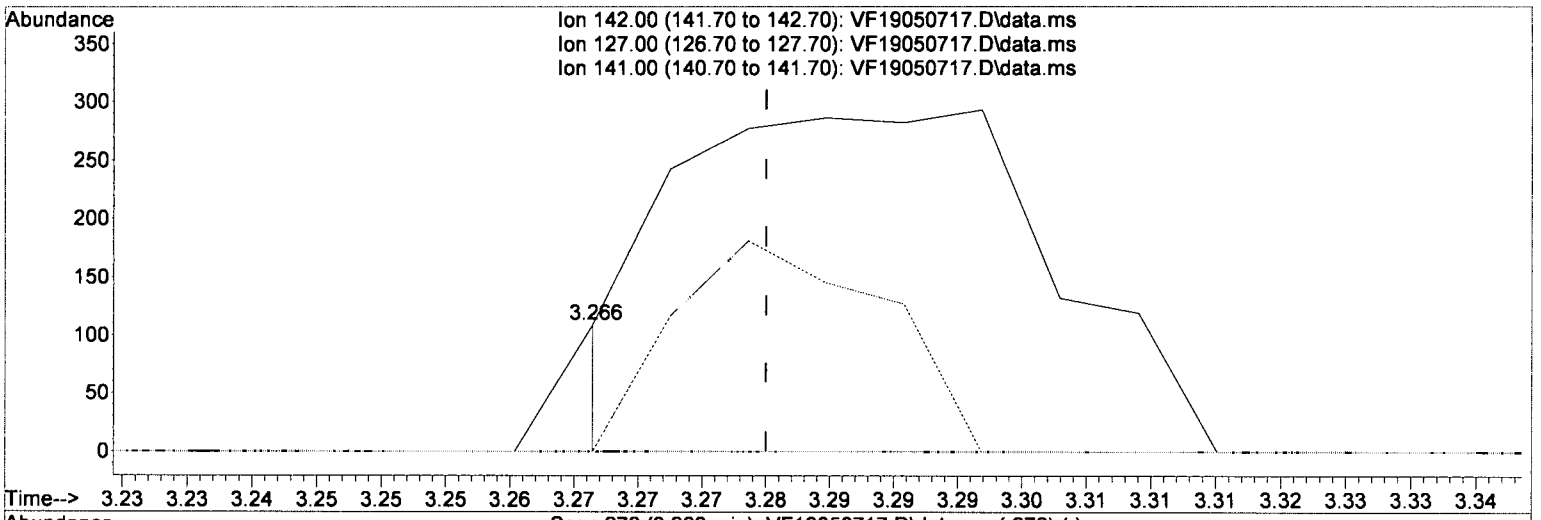
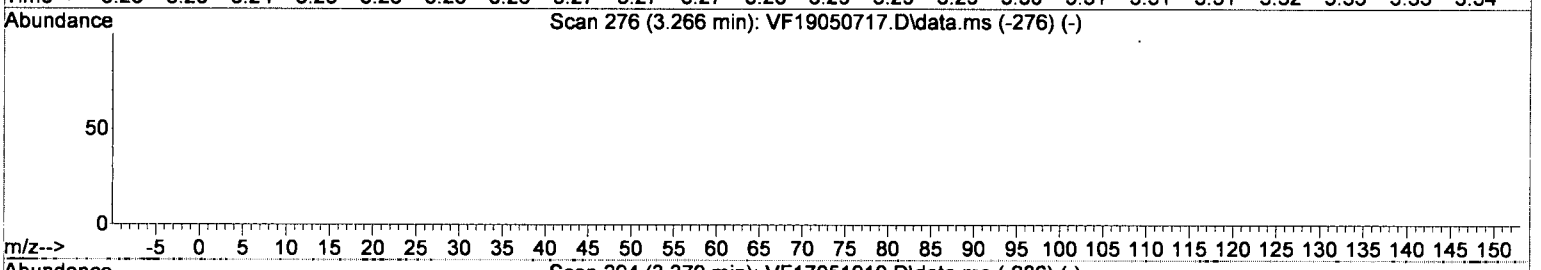
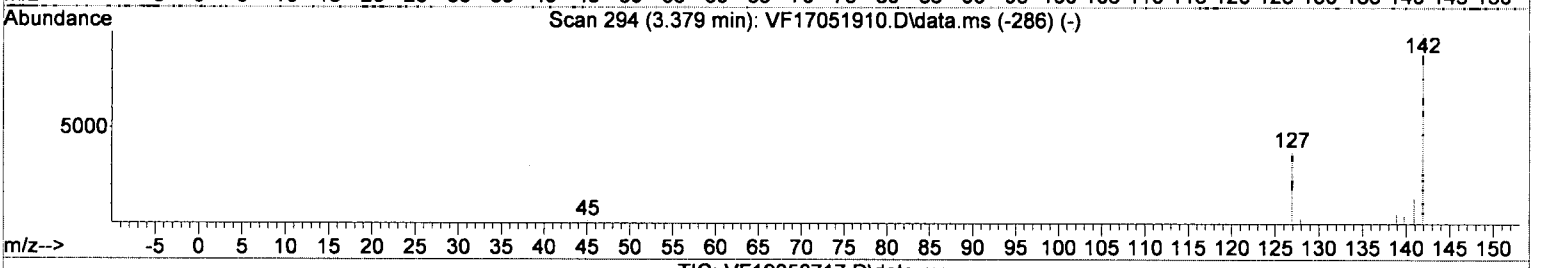
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

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







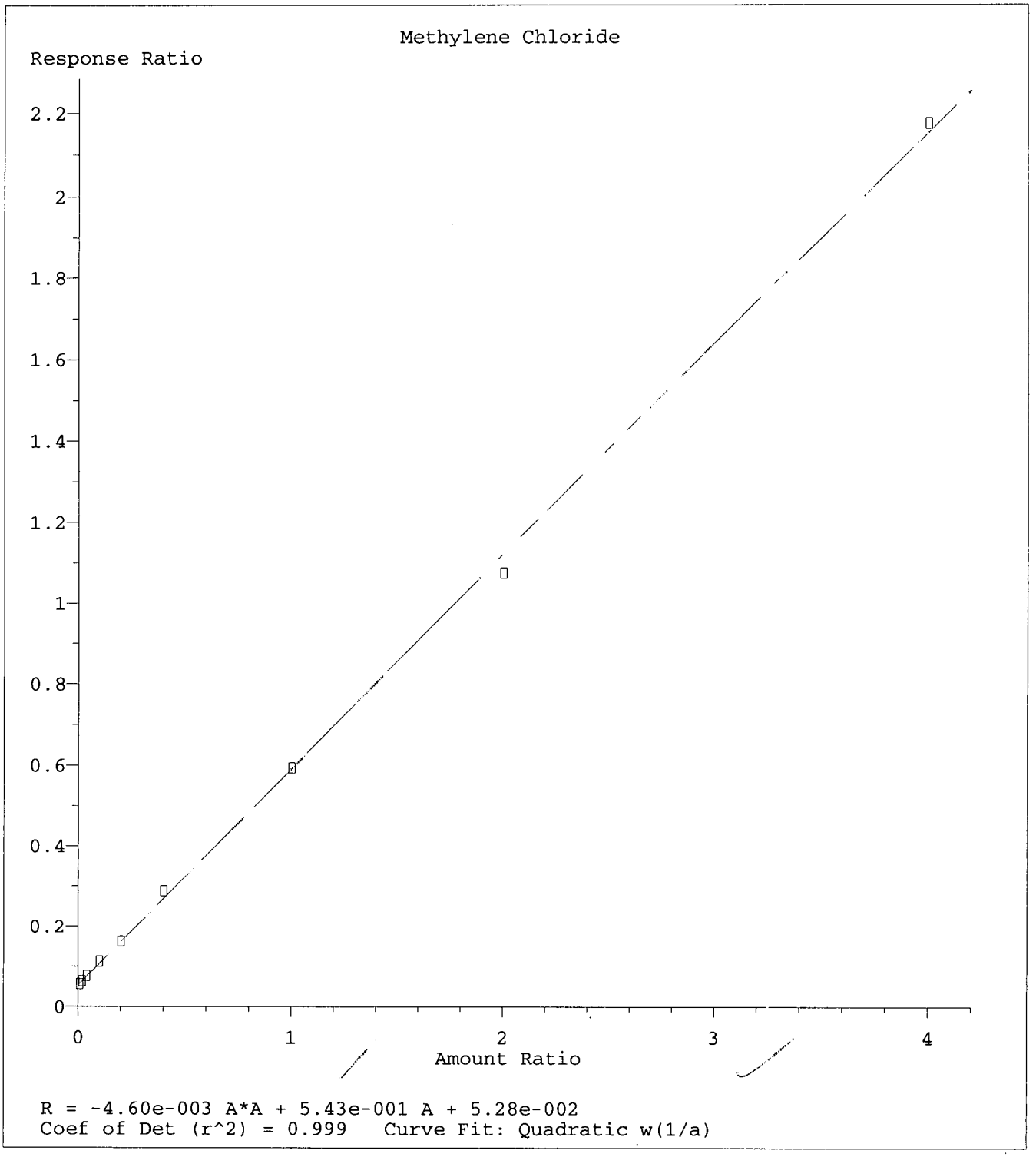
TIC: VF19050717.D\data.ms

(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



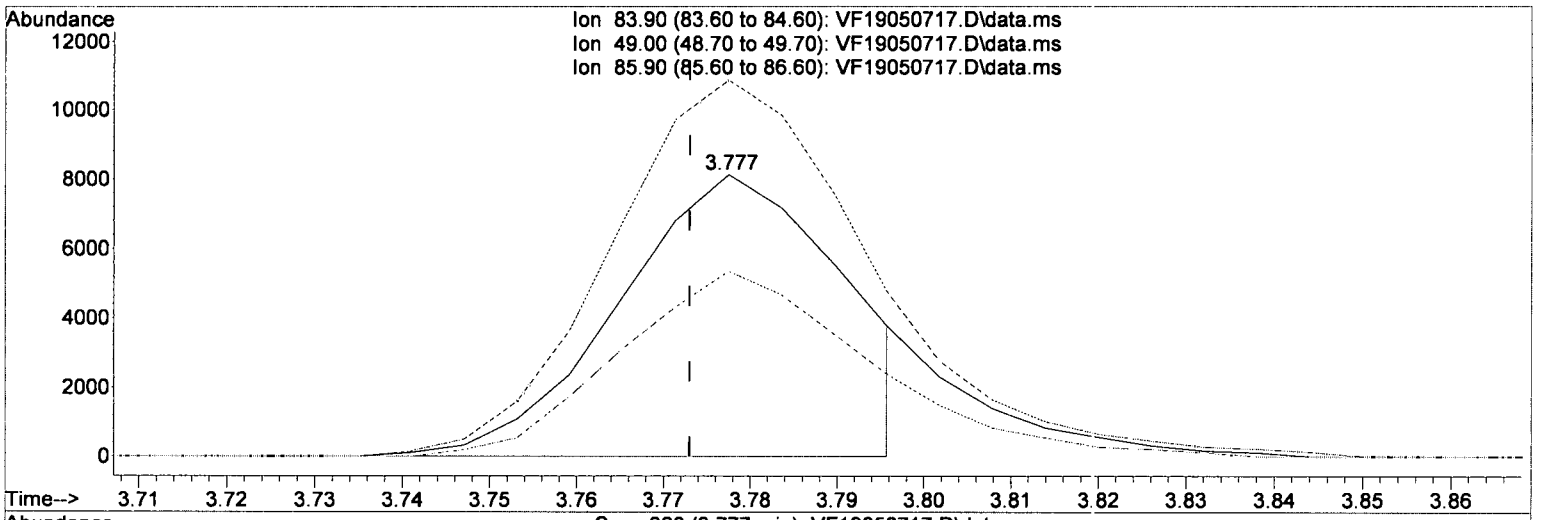
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

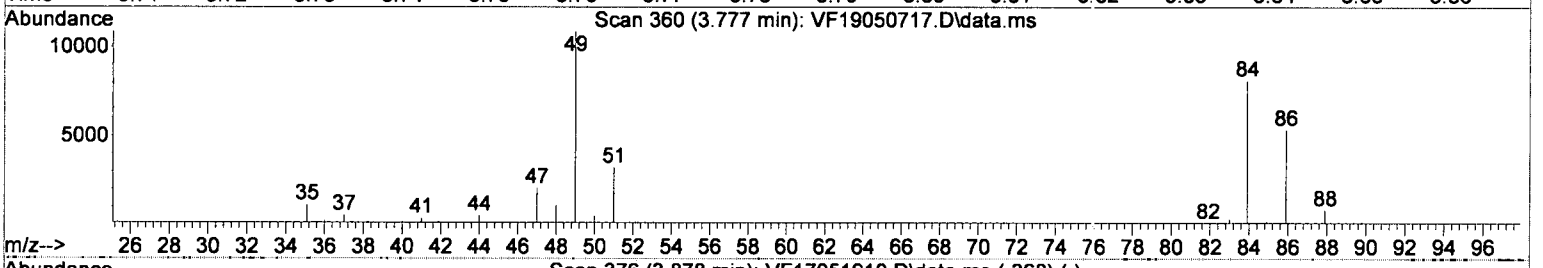
Int =(-)

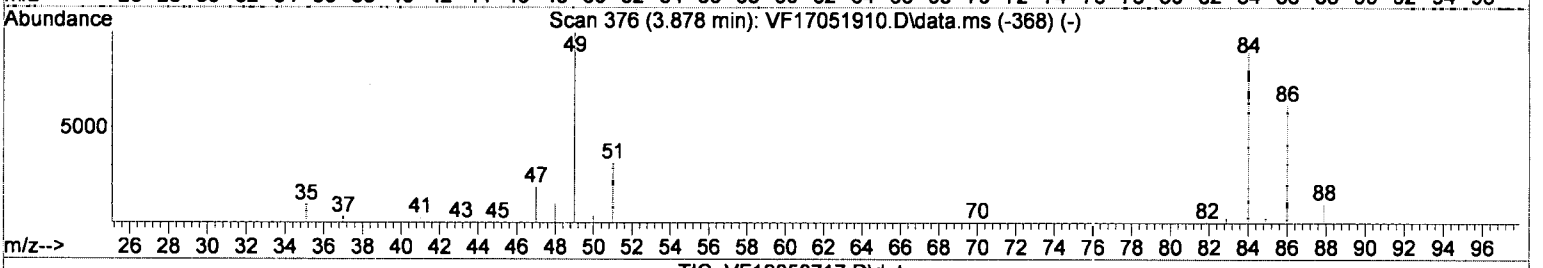
Quantitation Report (Qedit)

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







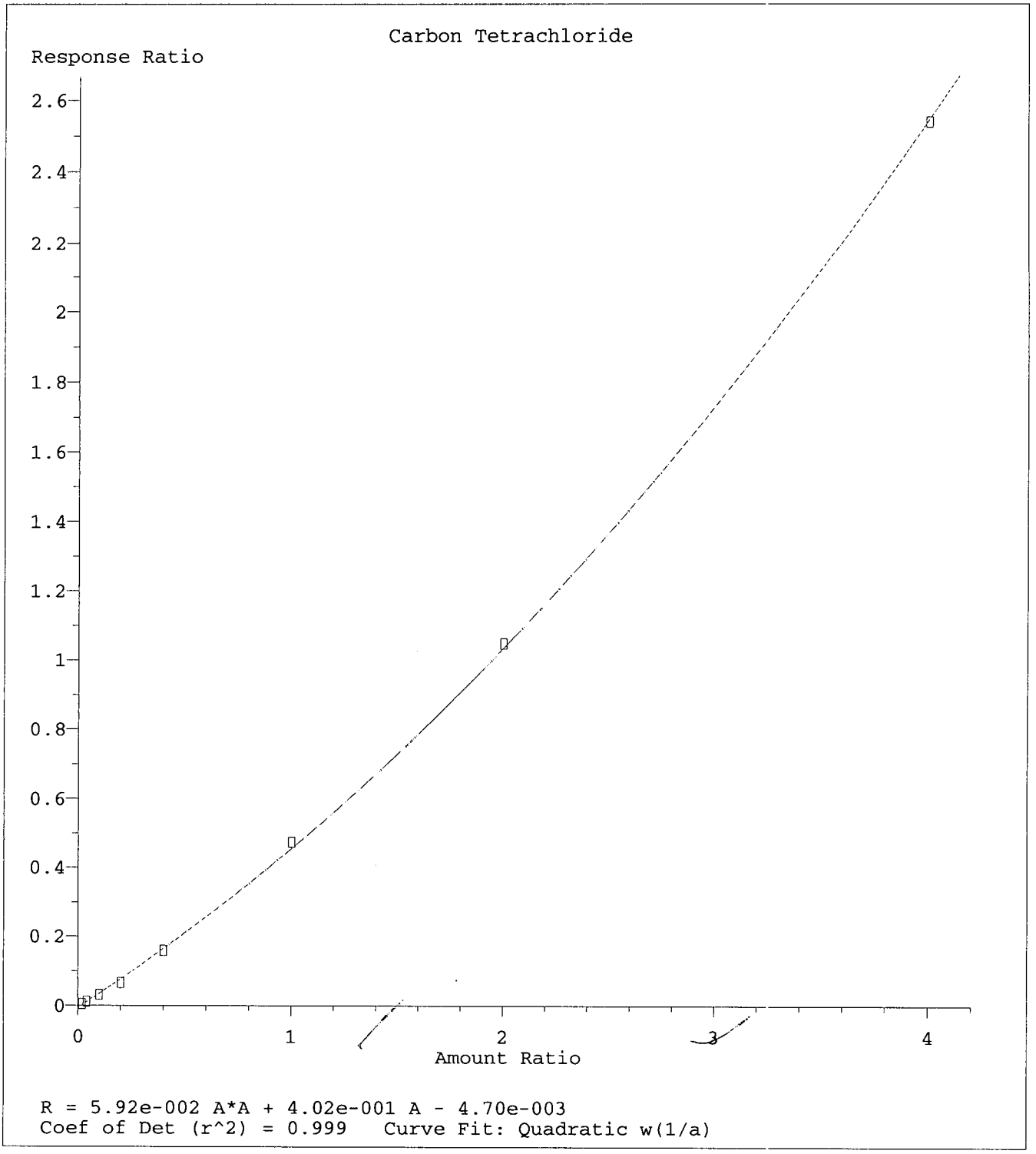
TIC: VF19050717.D\data.ms

(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

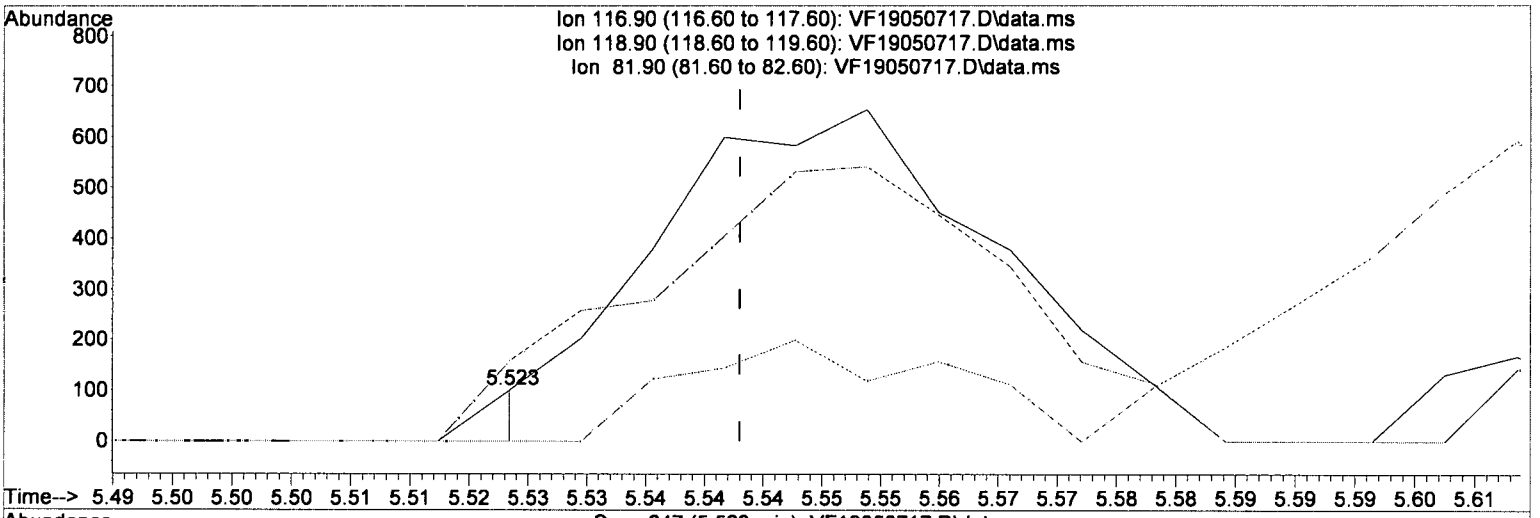
IuT = 0.60

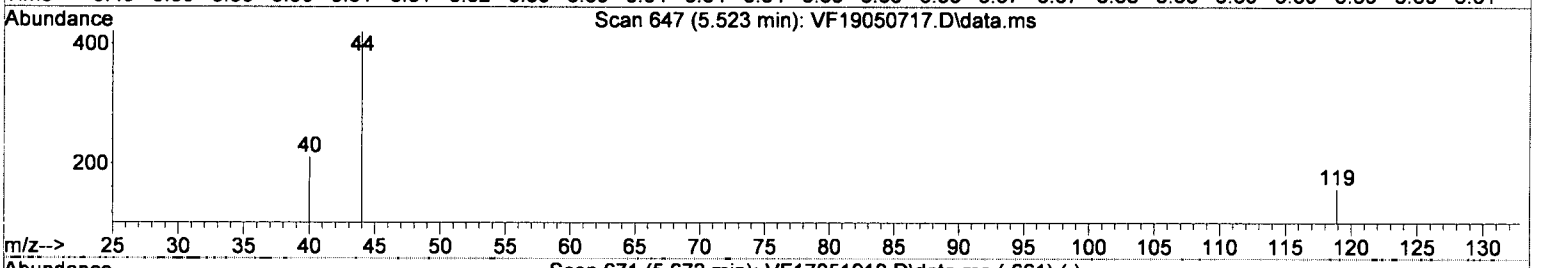
↑ MDL MRL

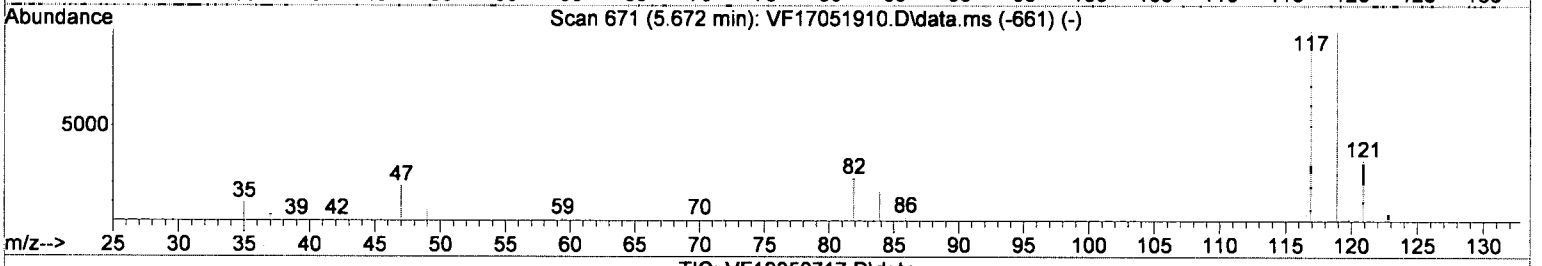
Quantitation Report (Qedit)

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







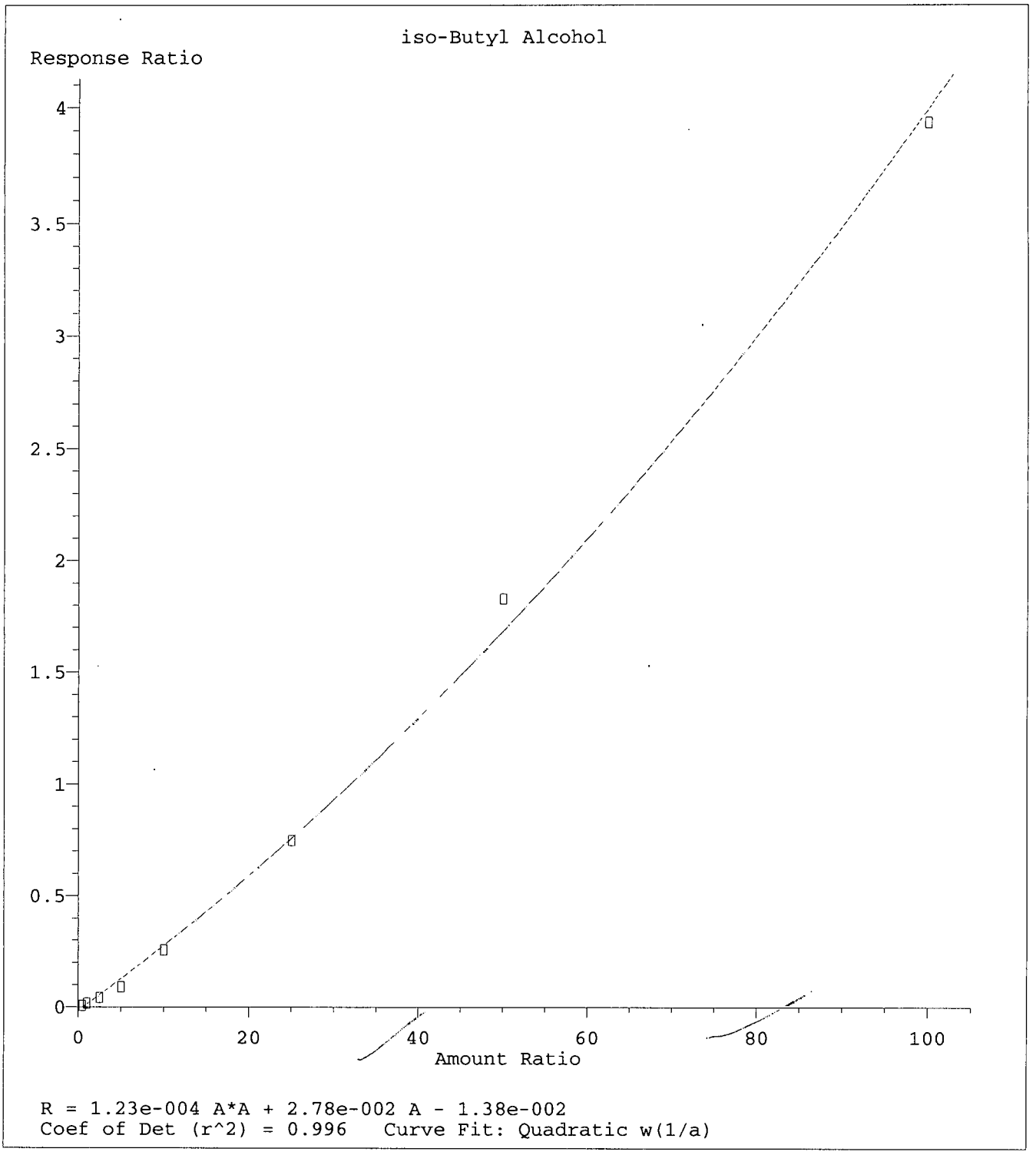
TIC: VF19050717.D\data.ms

(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



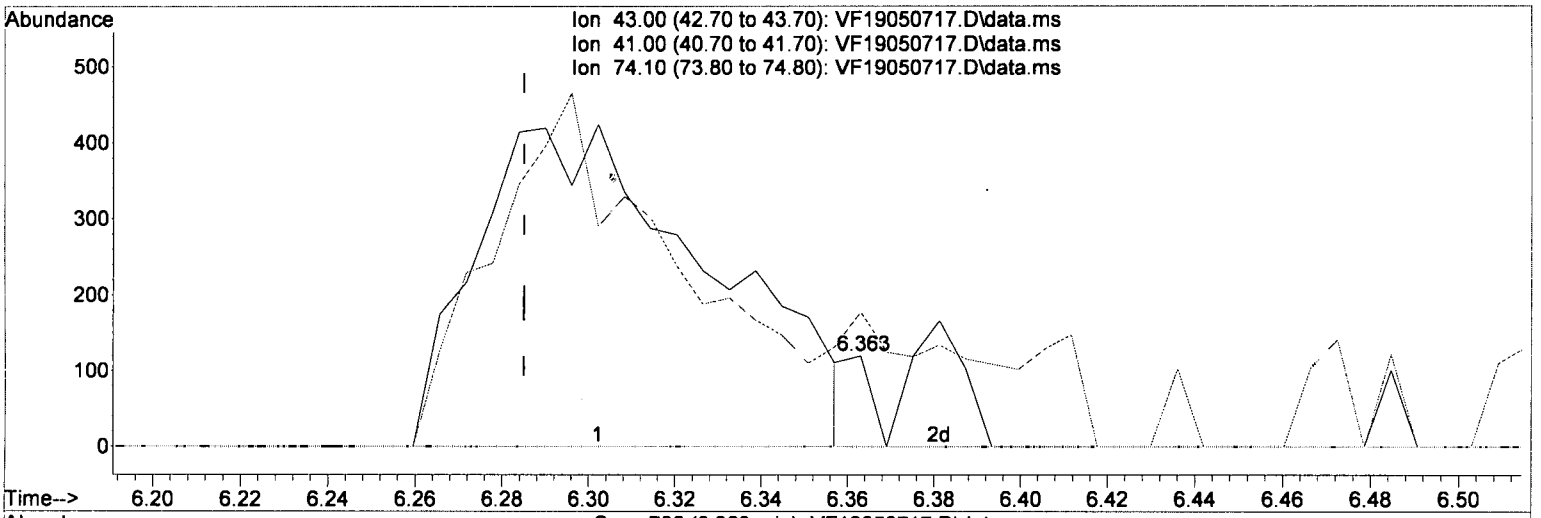
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

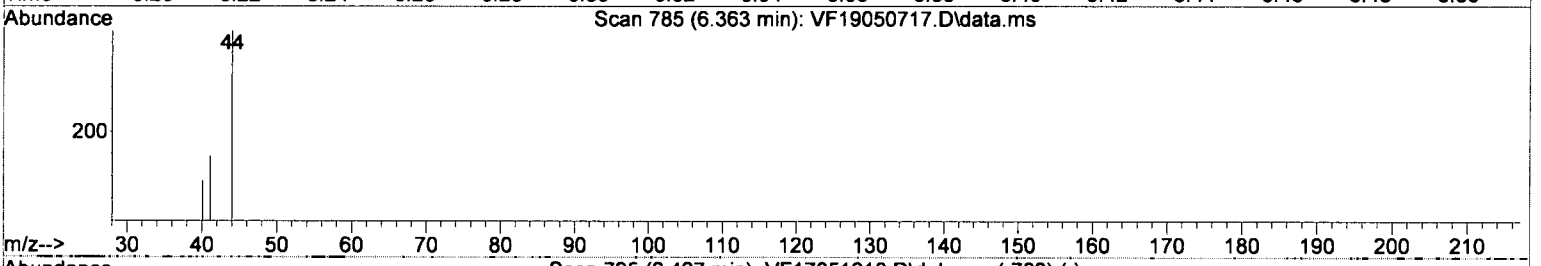
$\bar{x}_{WT} = 24.97$

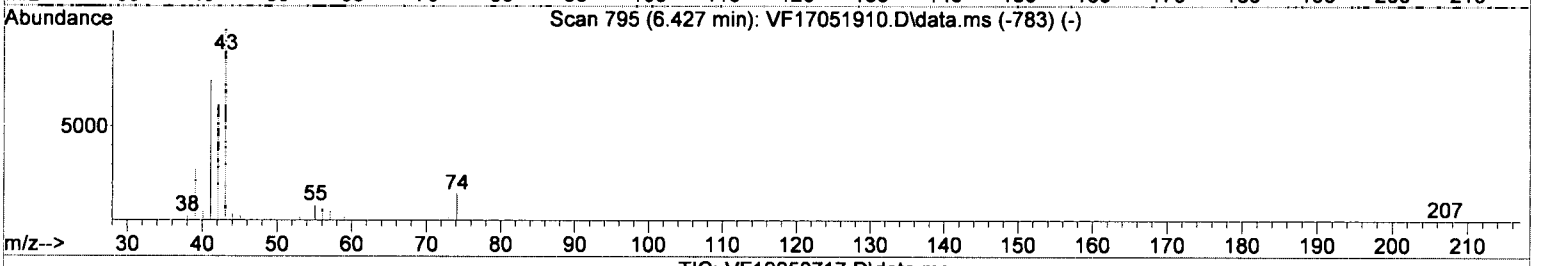
Quantitation Report (Qedit)

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







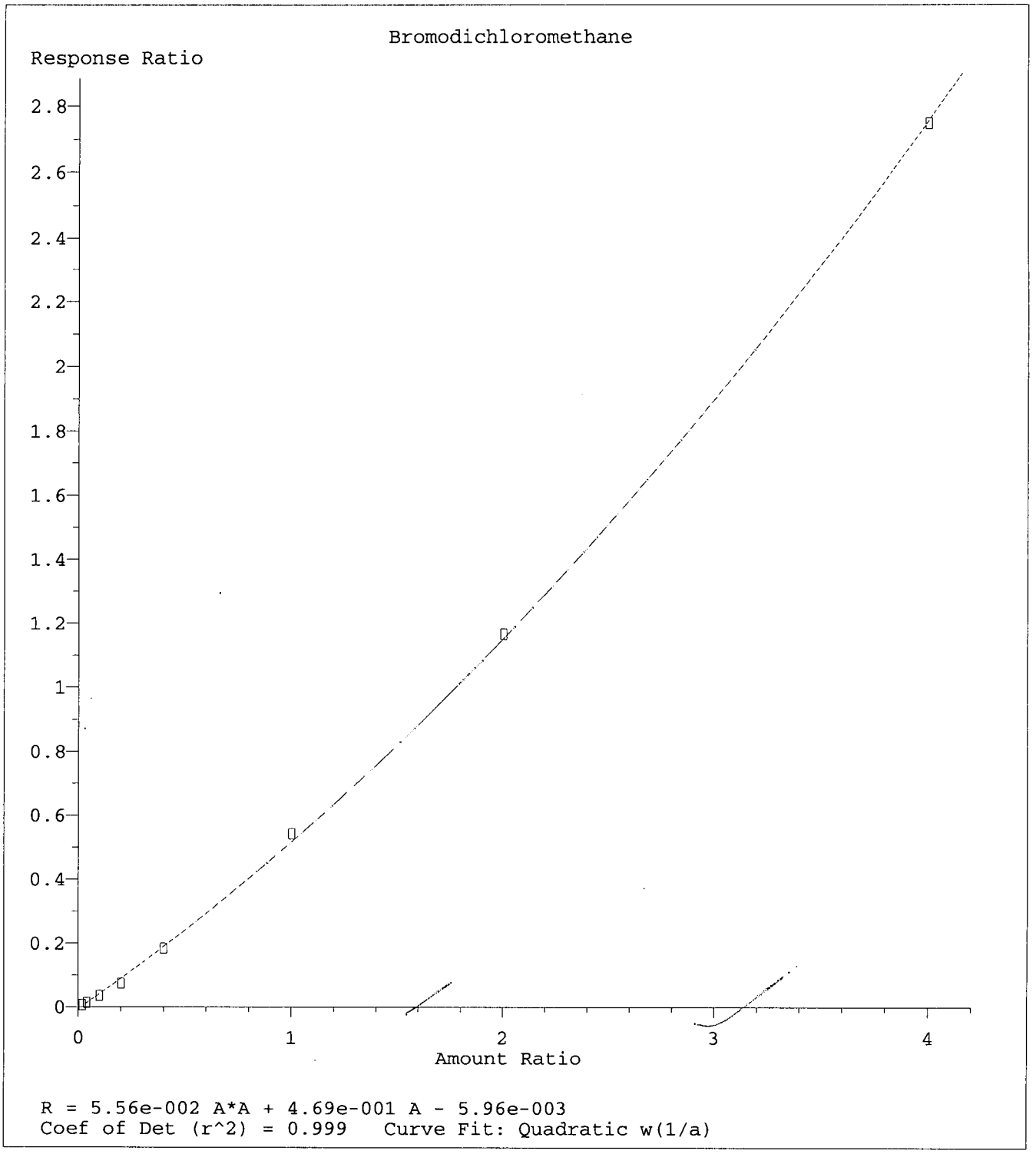
TIC: VF19050717.D\data.ms

(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

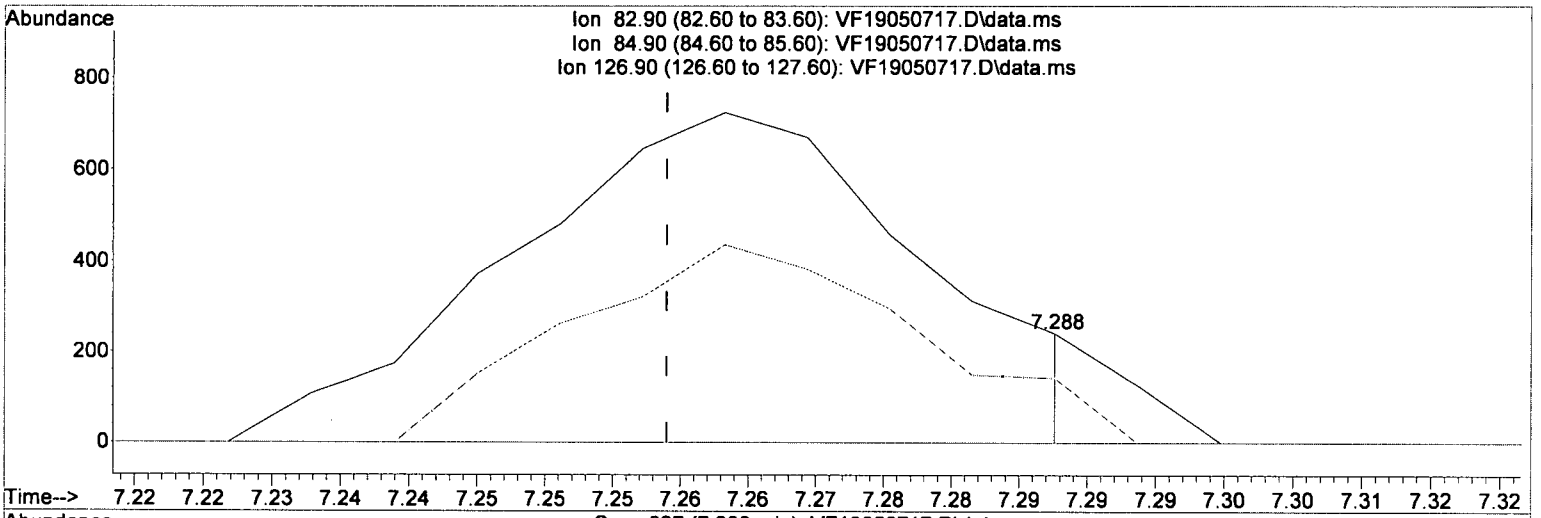
Int = 0.65

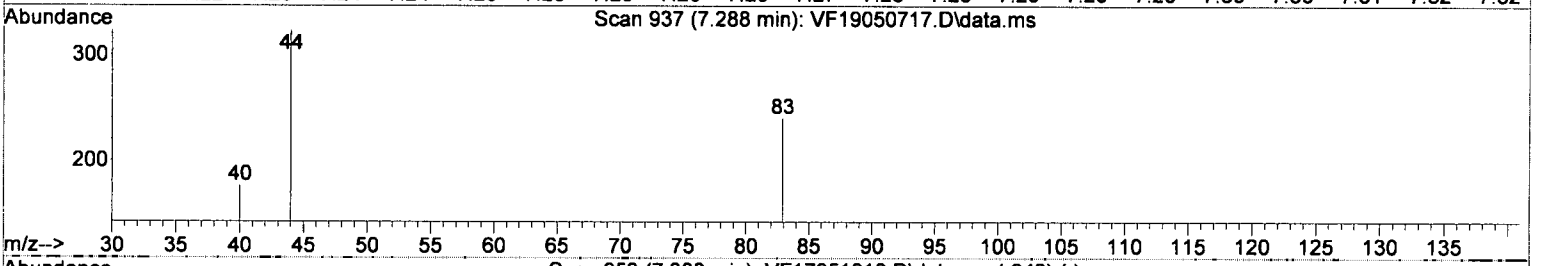
9 MDL MRL

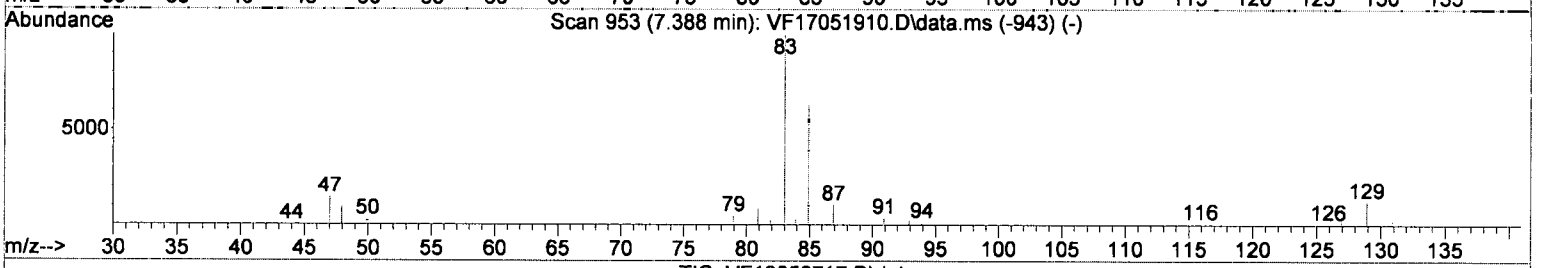
Quantitation Report (Qedit)

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







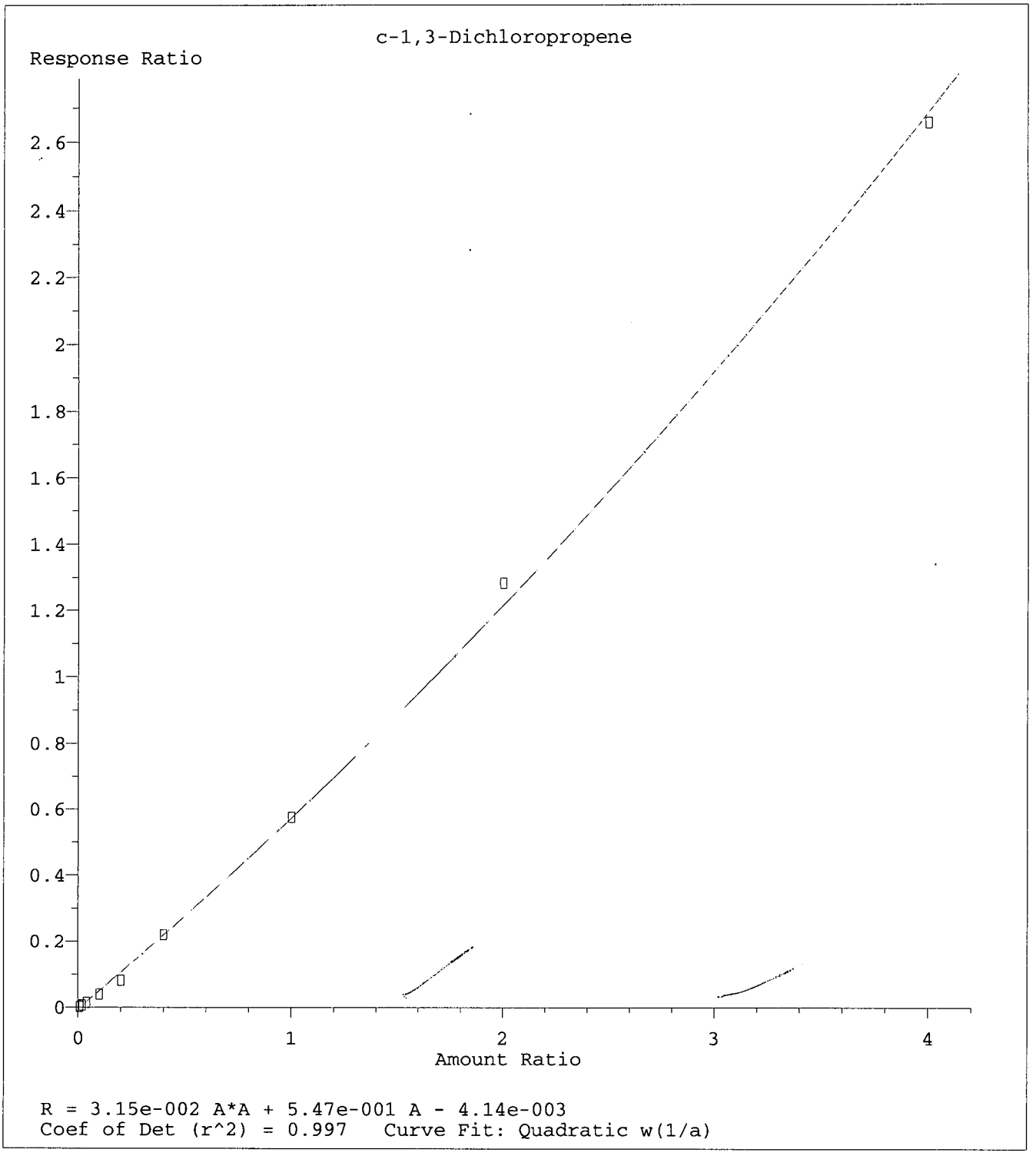
TIC: VF19050717.D\data.ms

(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



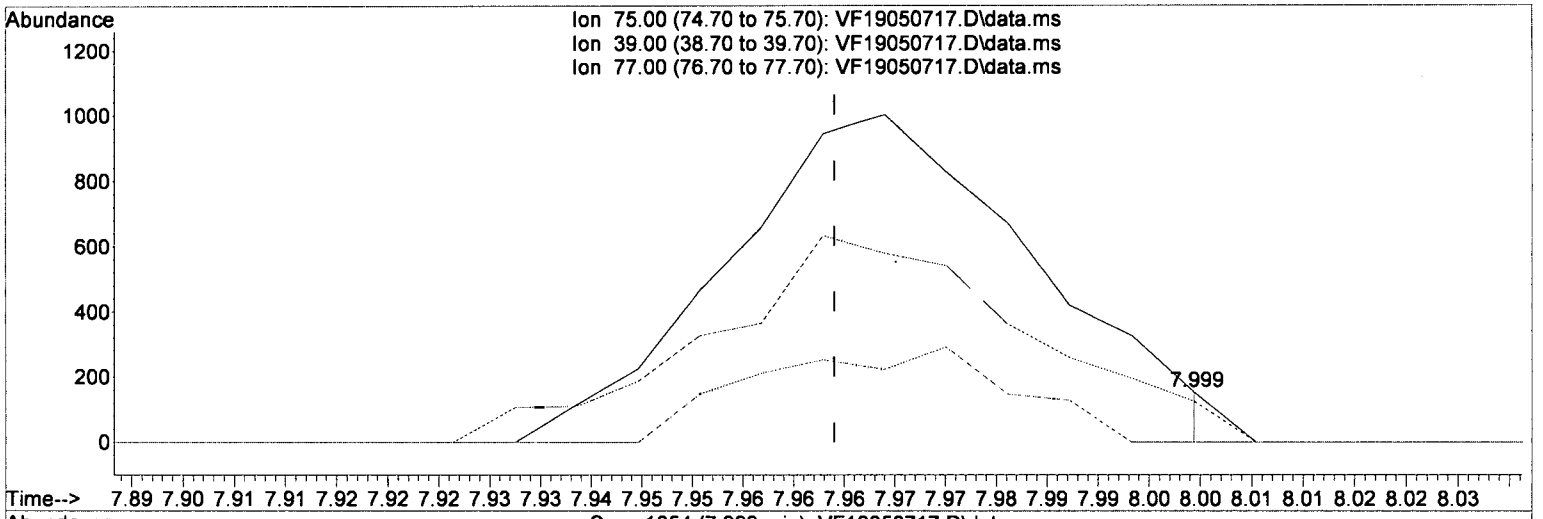
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

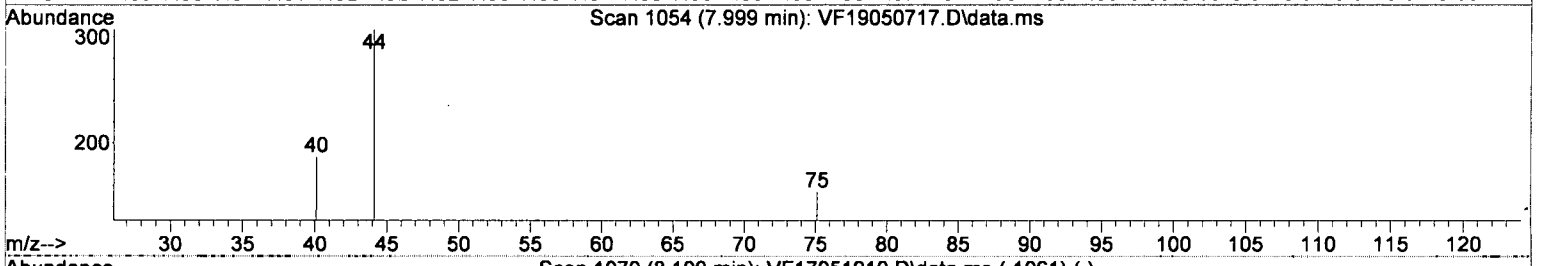
Int = 0.38

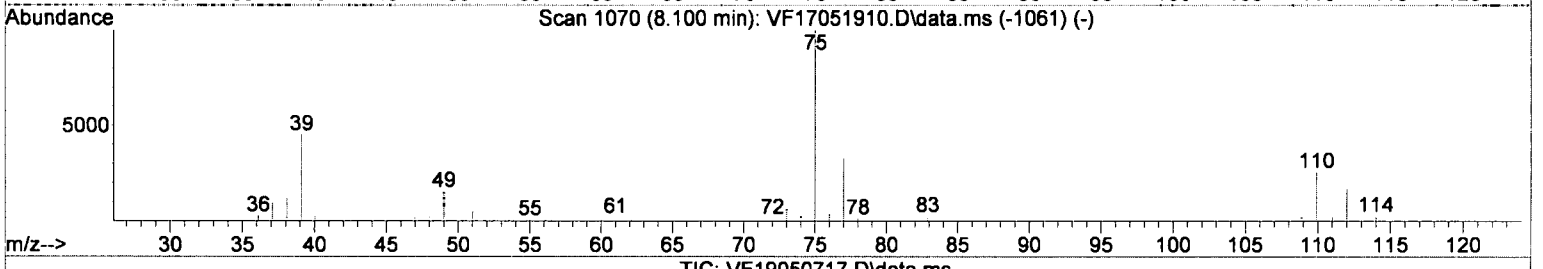
Quantitation Report (Qedit)

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







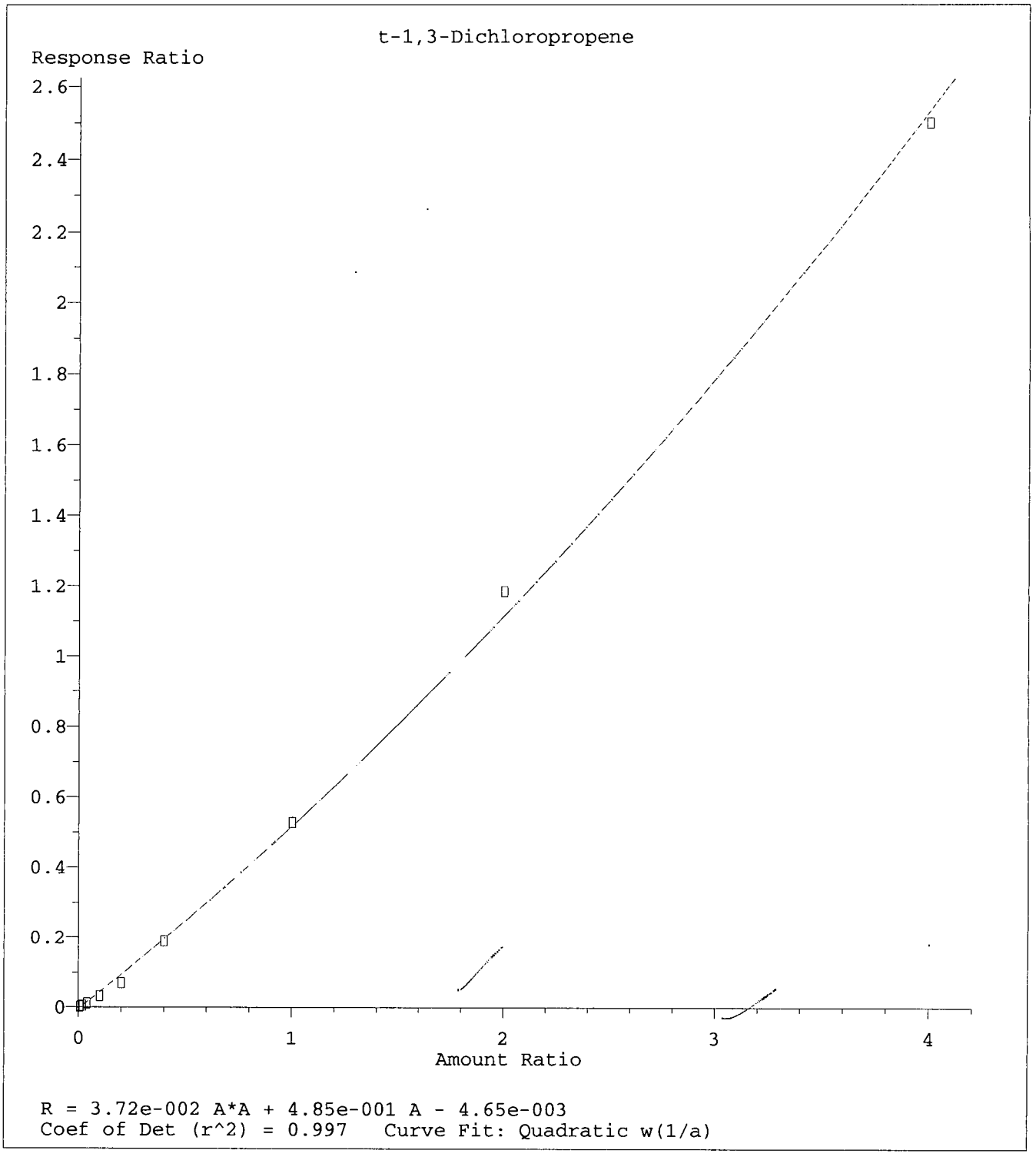
TIC: VF19050717.D\data.ms

(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



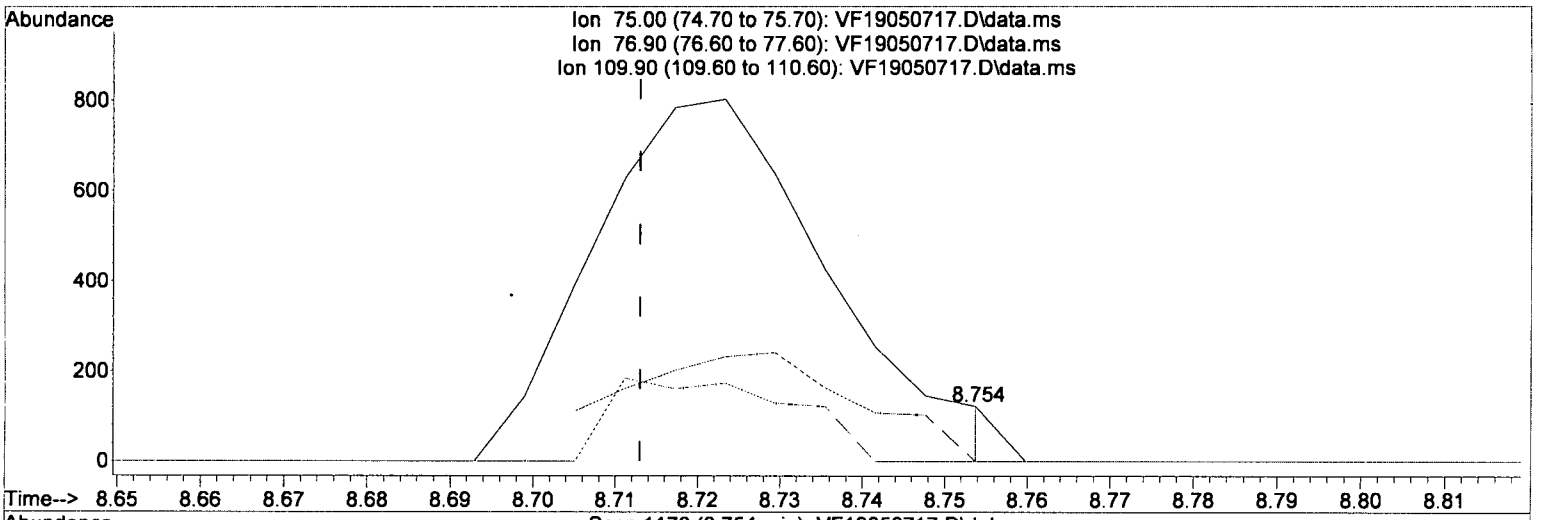
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

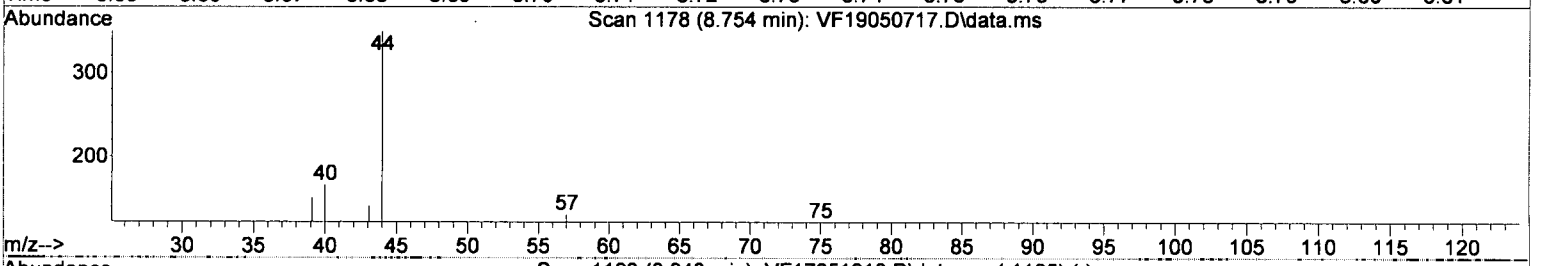
Int= 0.48

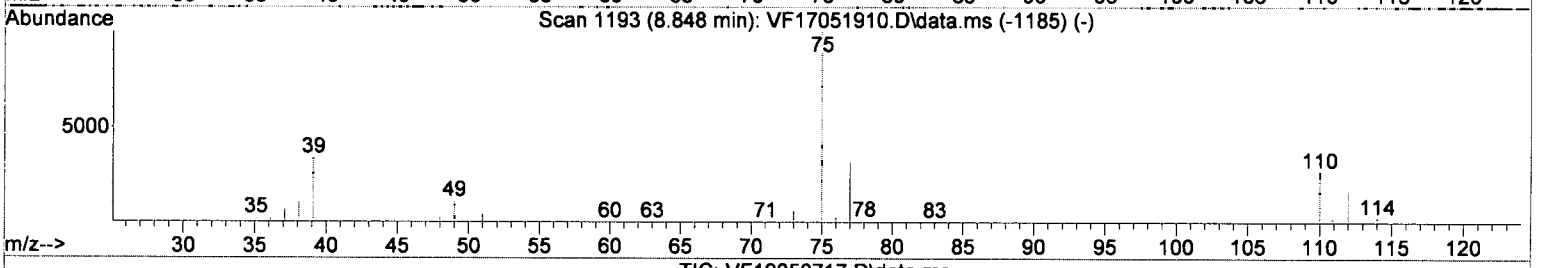
Quantitation Report (Qedit)

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







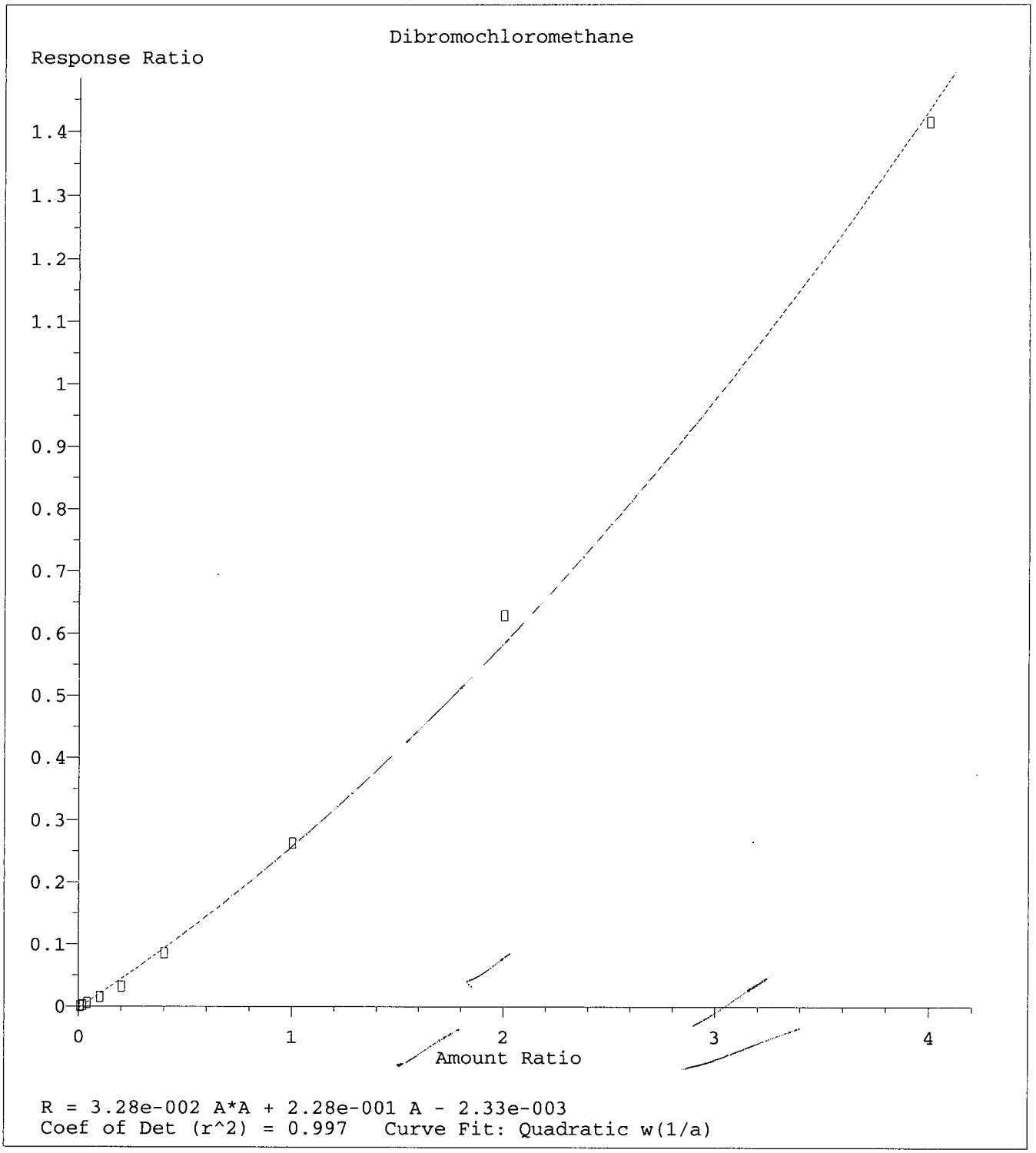
TIC: VF19050717.D\data.ms

(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



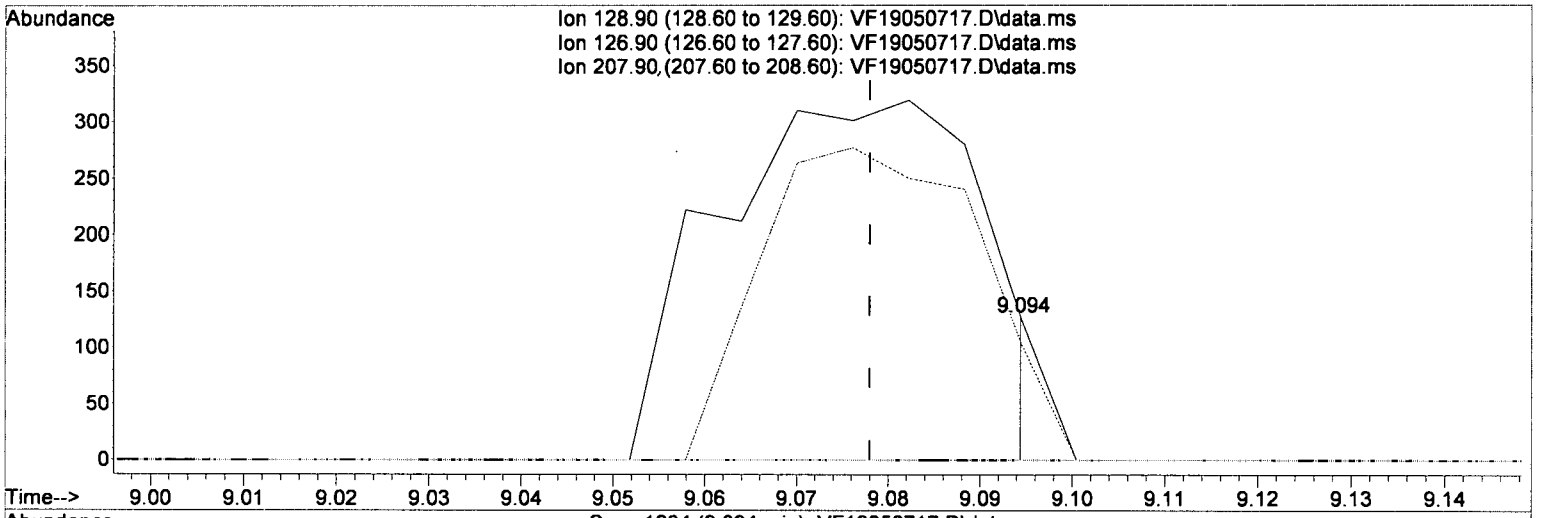
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

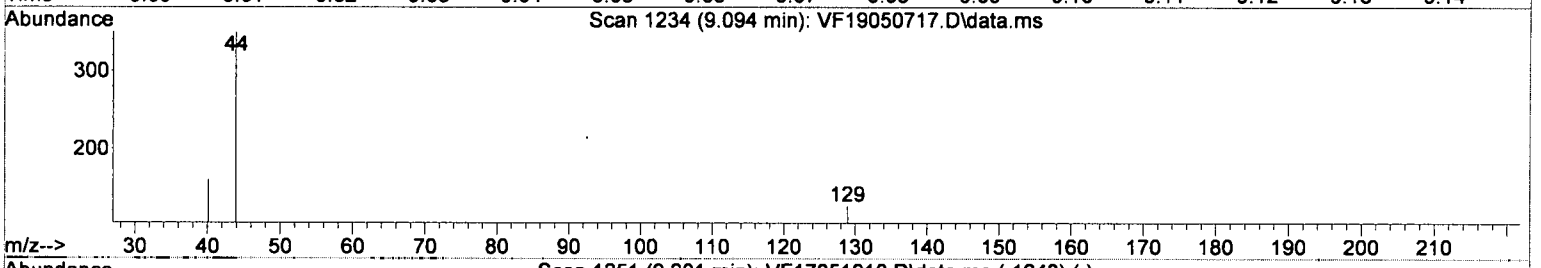
Int= 0.51

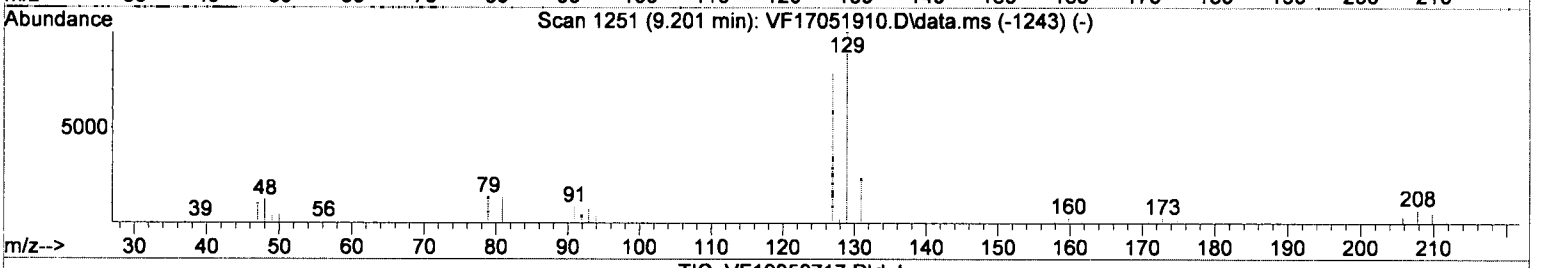
Quantitation Report (Qedit)

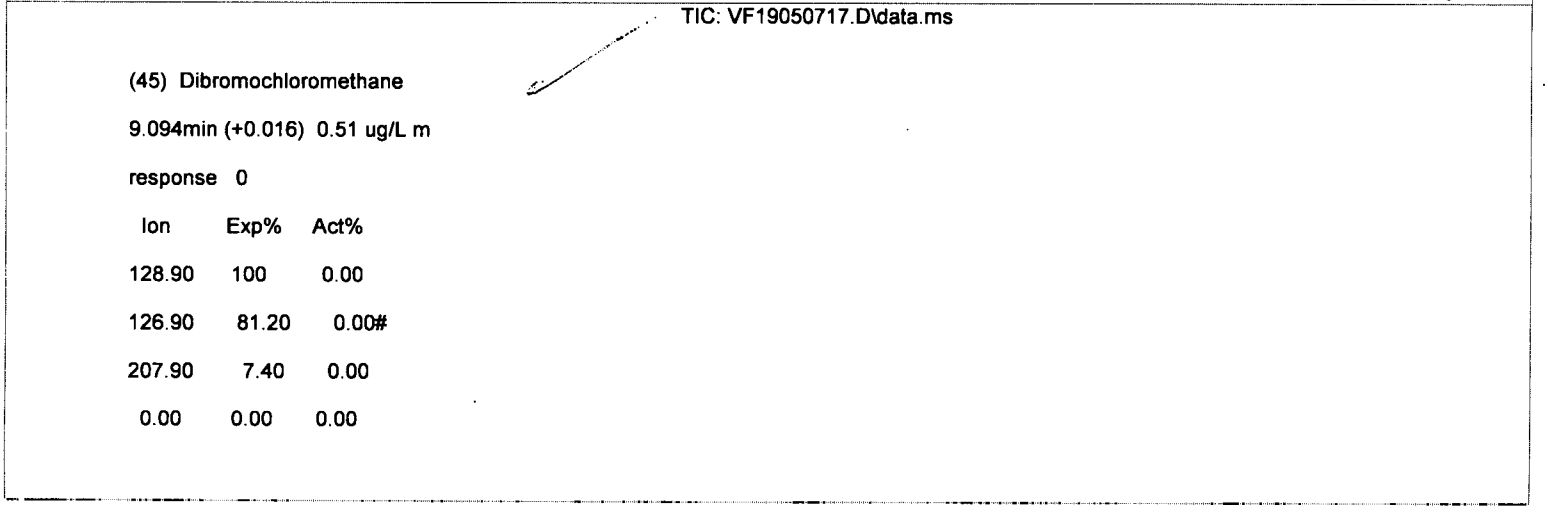
Data Path : C:\msdchem\1\DATA\2019-05\9E07048\REQUANT\
Data File : VF19050717.D
Acq On : 7 May 2019 9:36 pm
Operator : TB
Sample : 9E07048-CAL4
Misc : 1X 1ppb VOC MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1601RUN.M

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







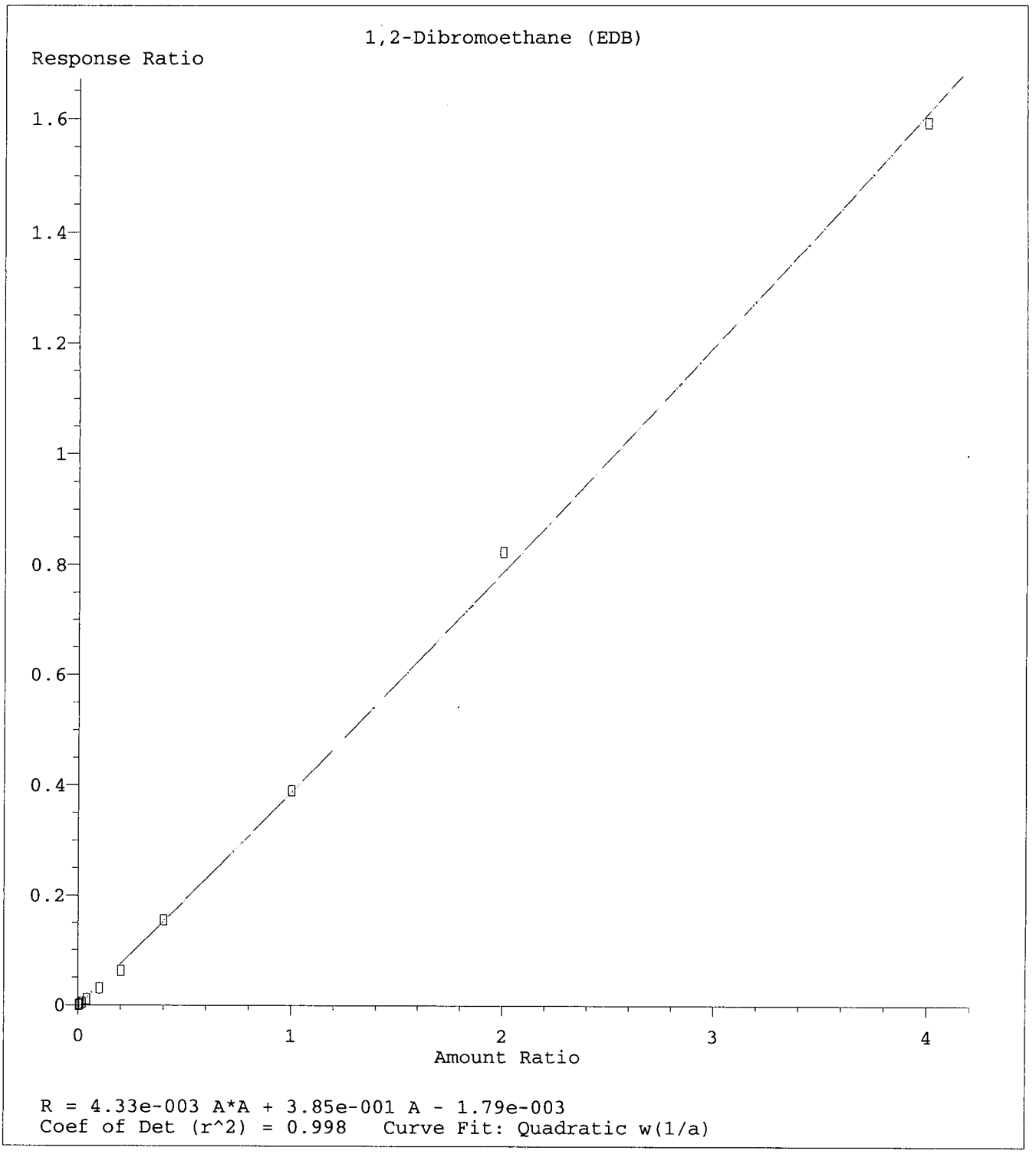


(45) Dibromochloromethane

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



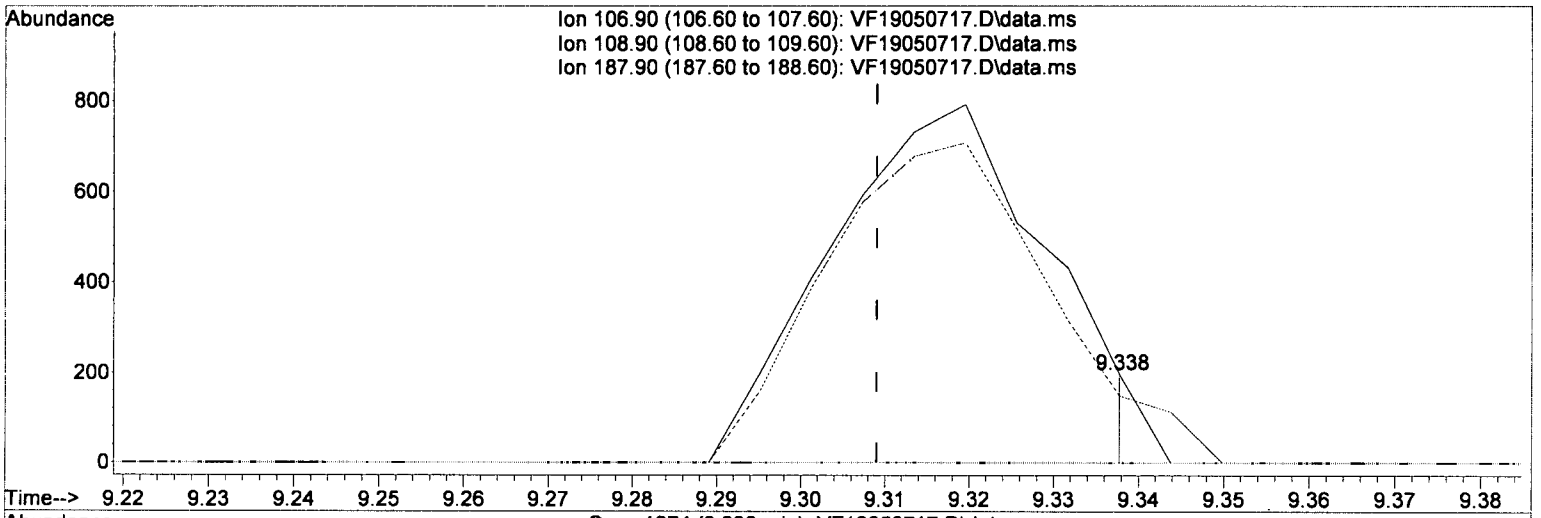
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

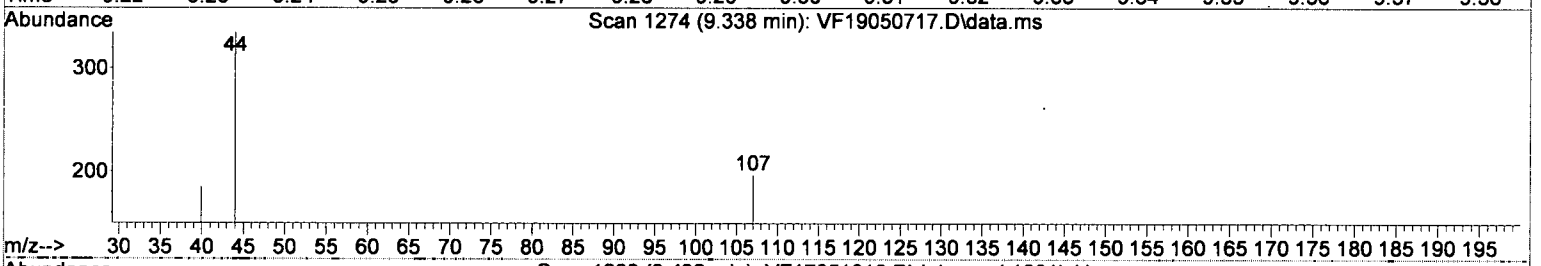
Int= 0.23

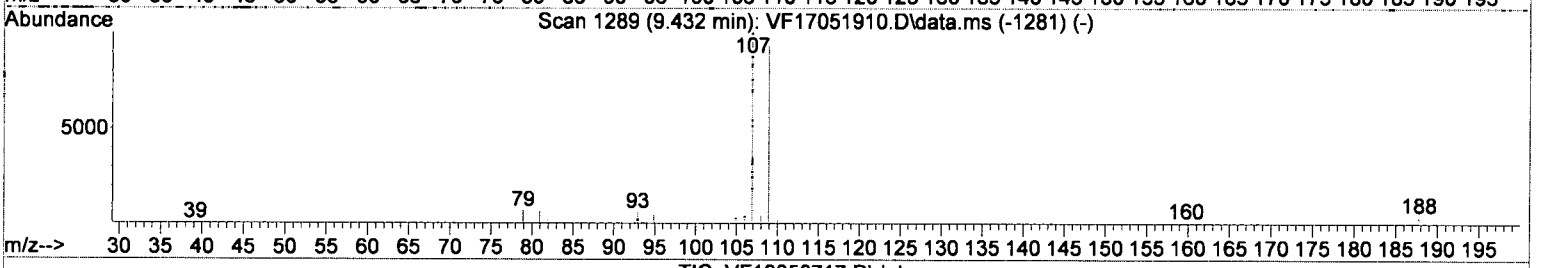
Quantitation Report (Qedit)

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







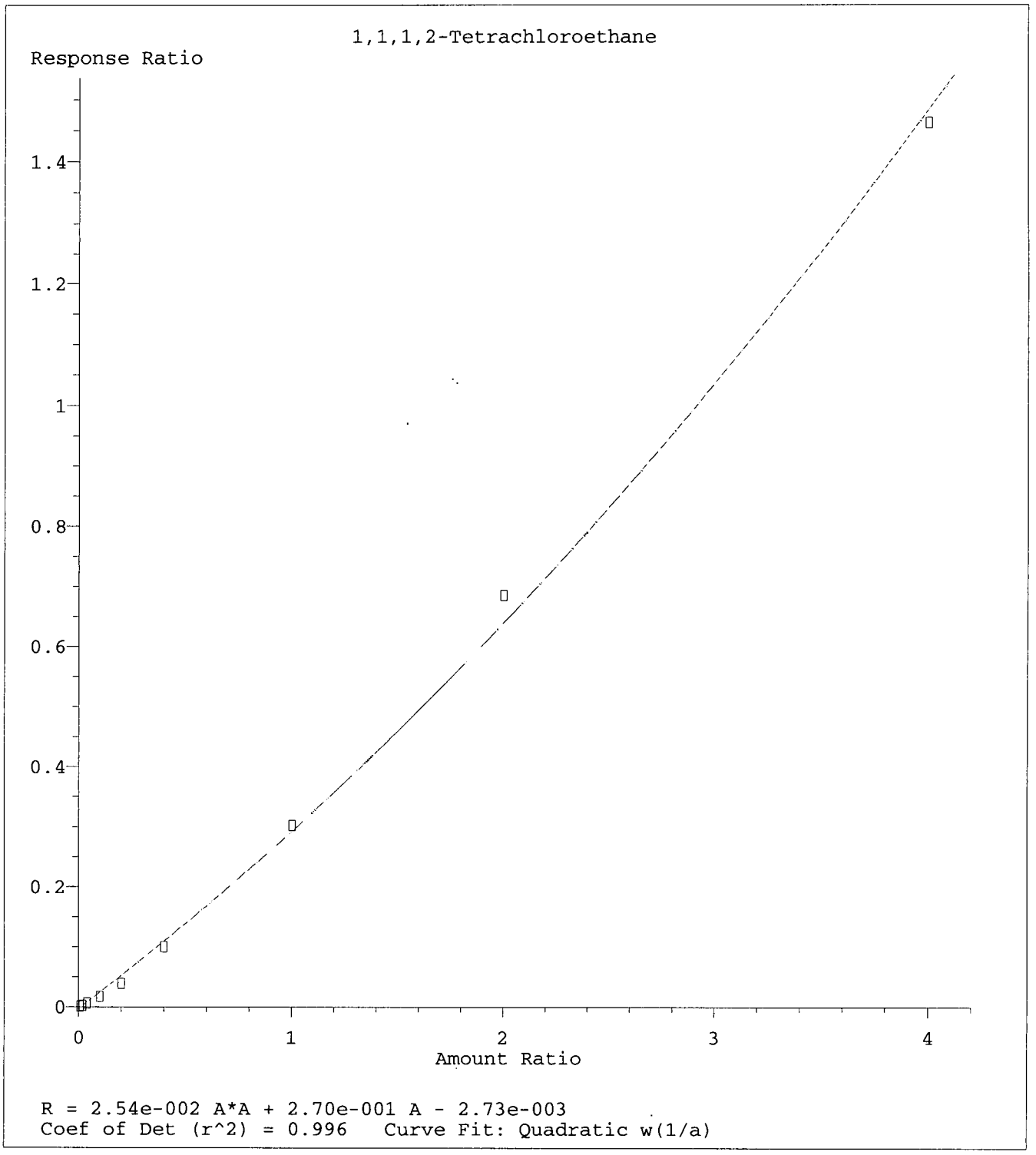
TIC: VF19050717.D\data.ms

(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



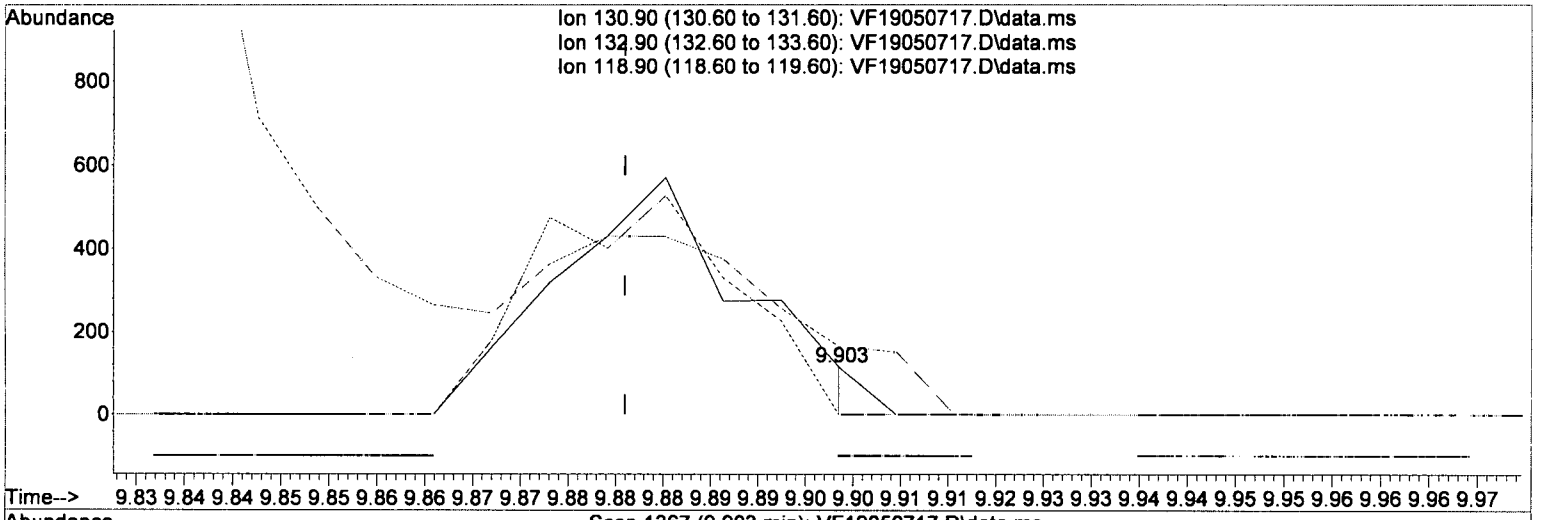
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

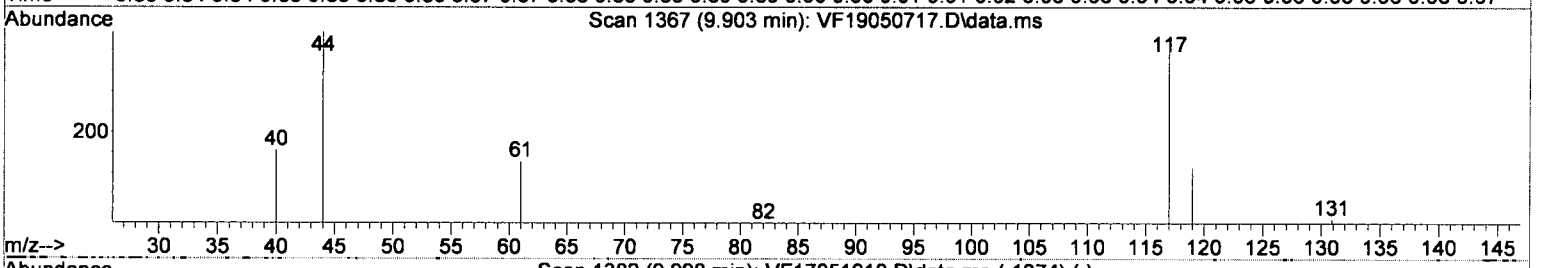
Int = 0.5 ppm MRL

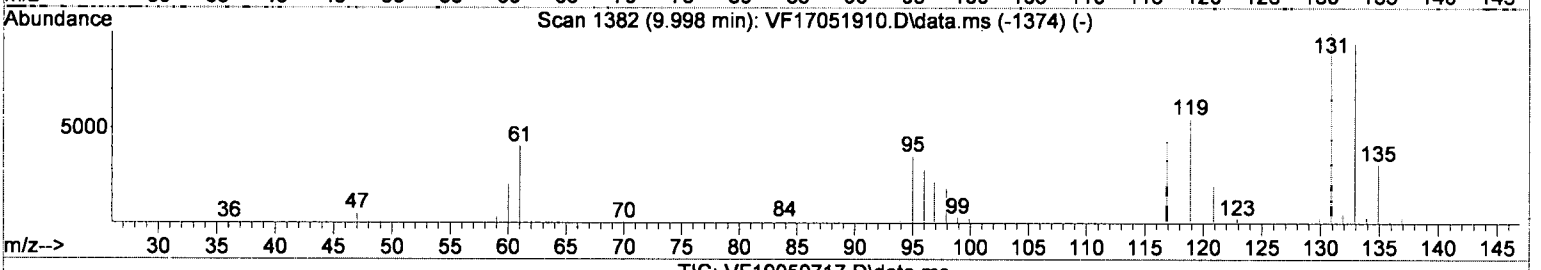
Quantitation Report (Qedit)

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







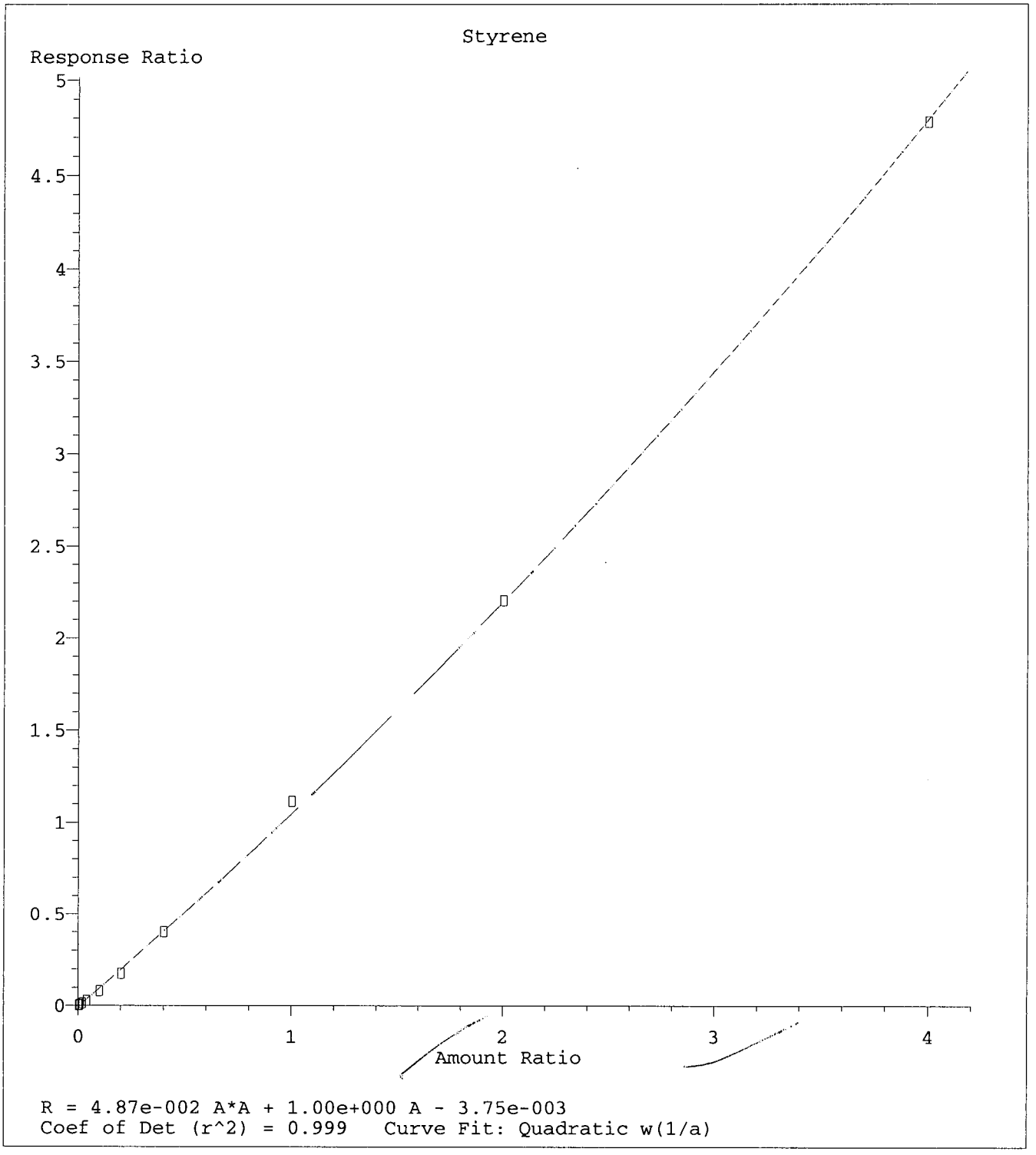
TIC: VF19050717.D\data.ms

(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



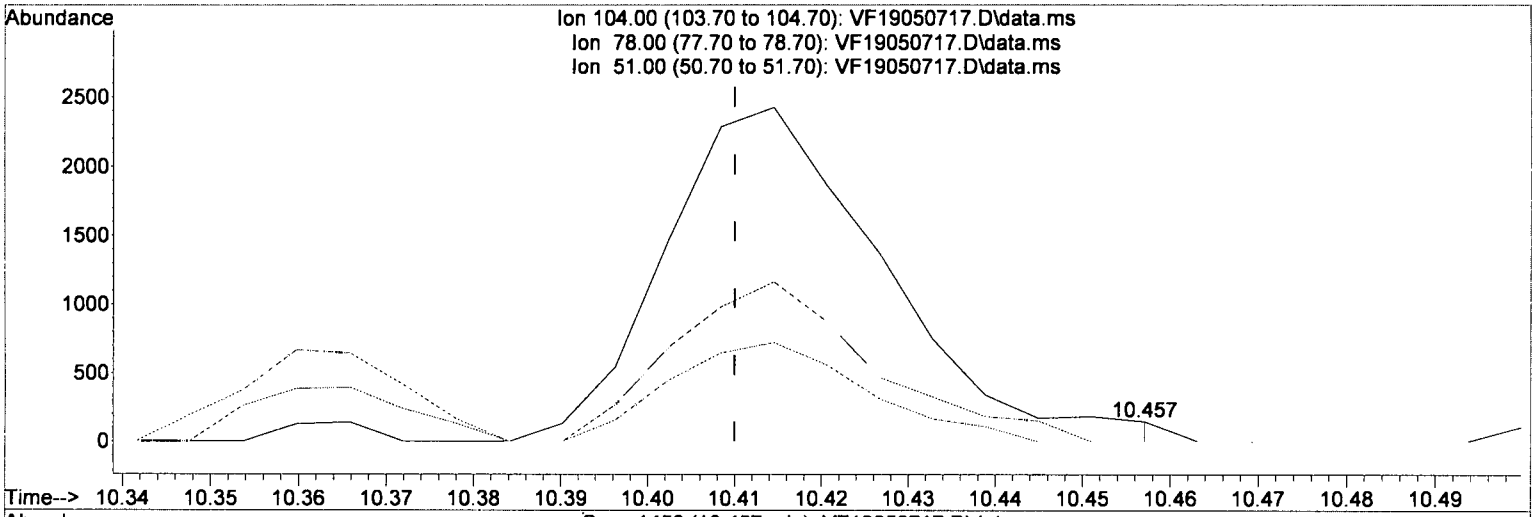
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

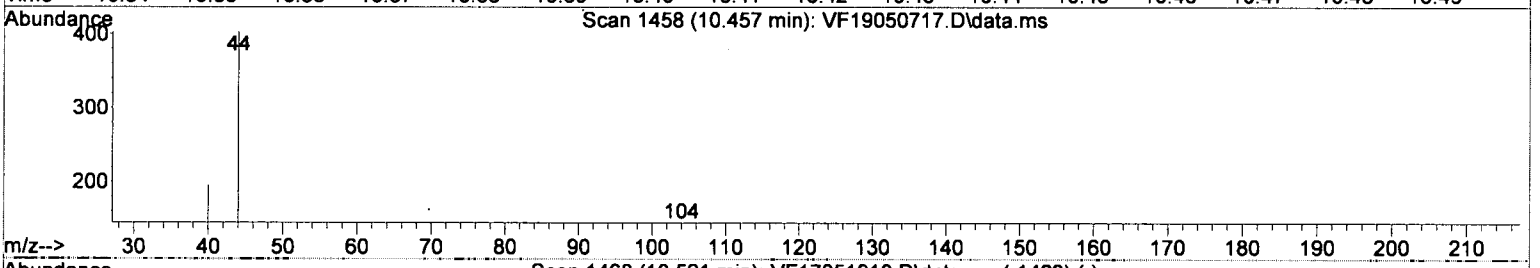
Int = 0.19

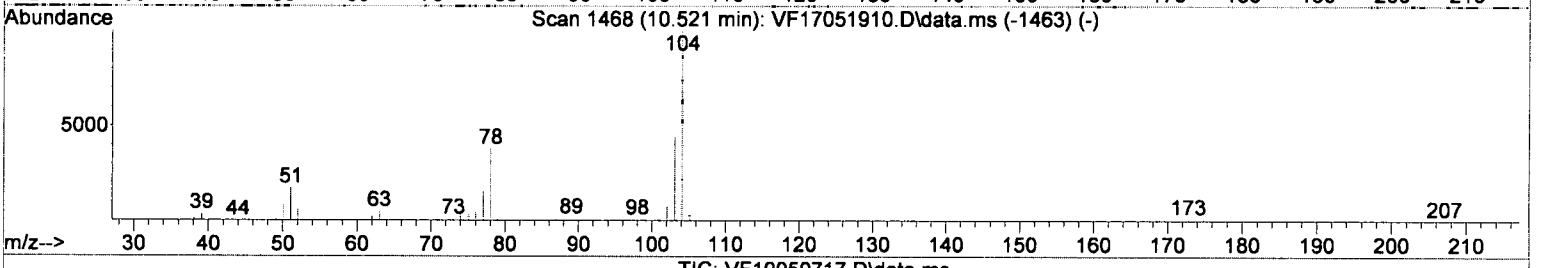
Quantitation Report (Qedit)

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







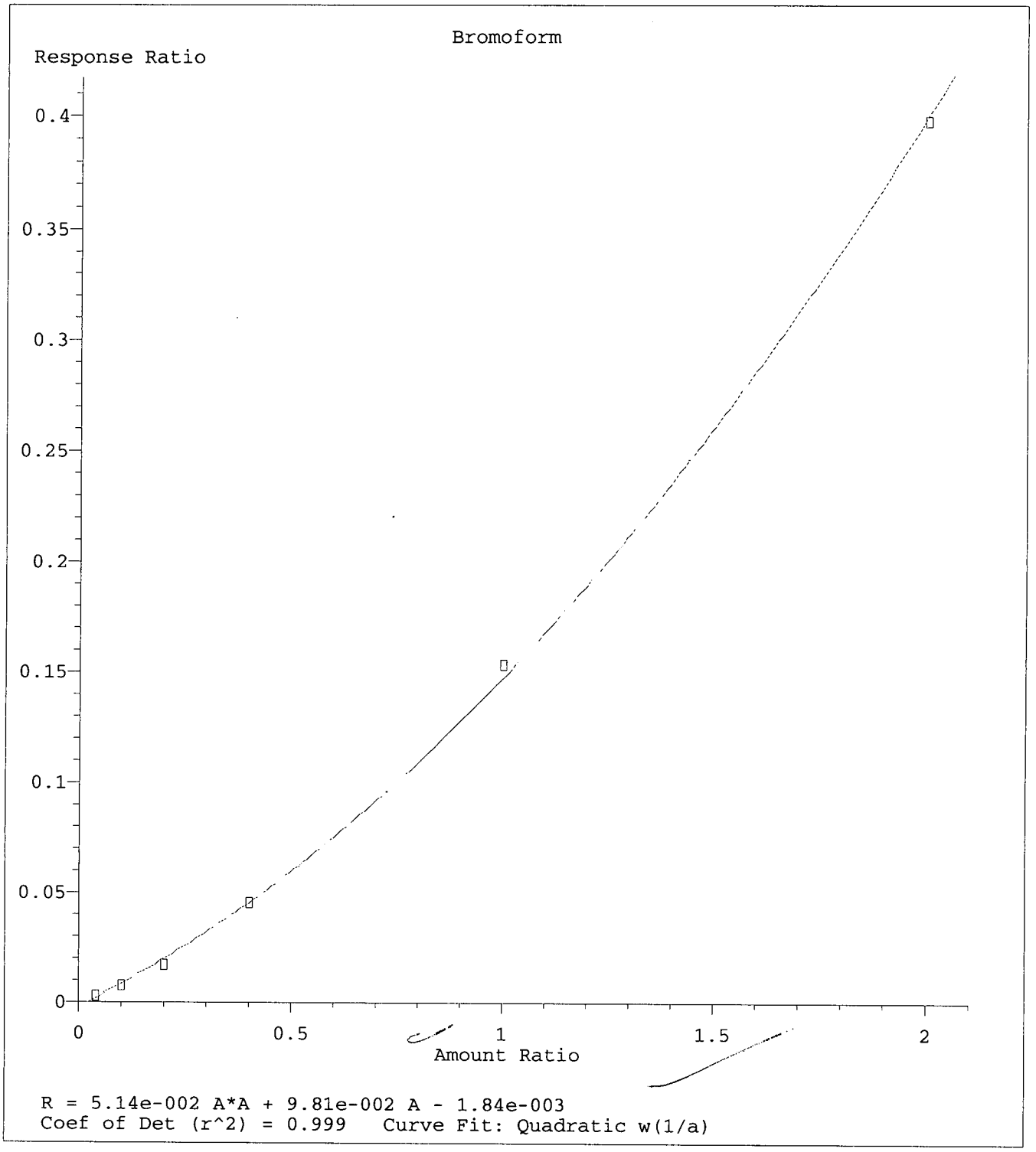
TIC: VF19050717.D\data.ms

(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



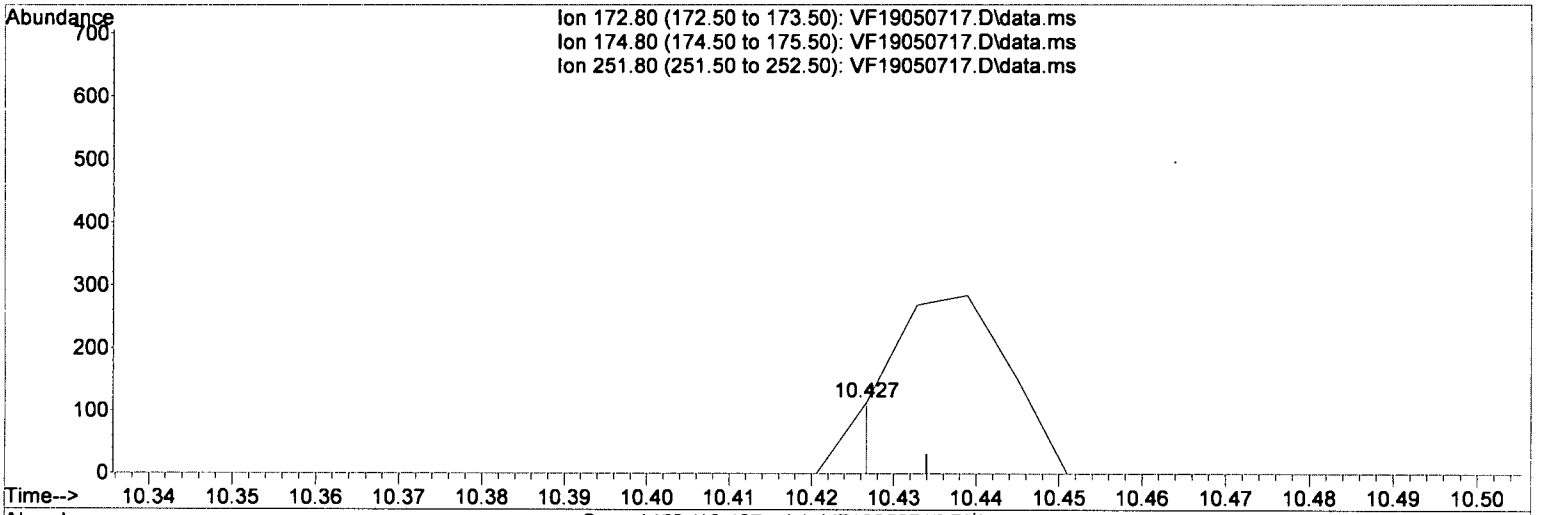
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

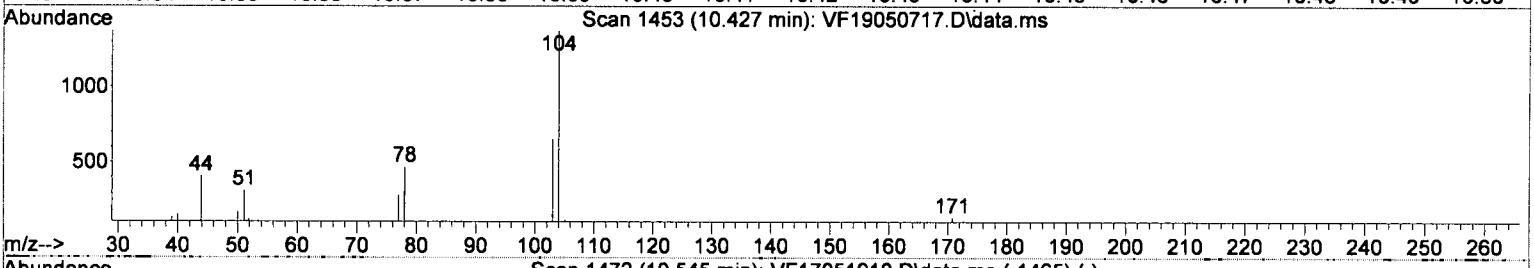
Int= 1.76
1 MDL MRL

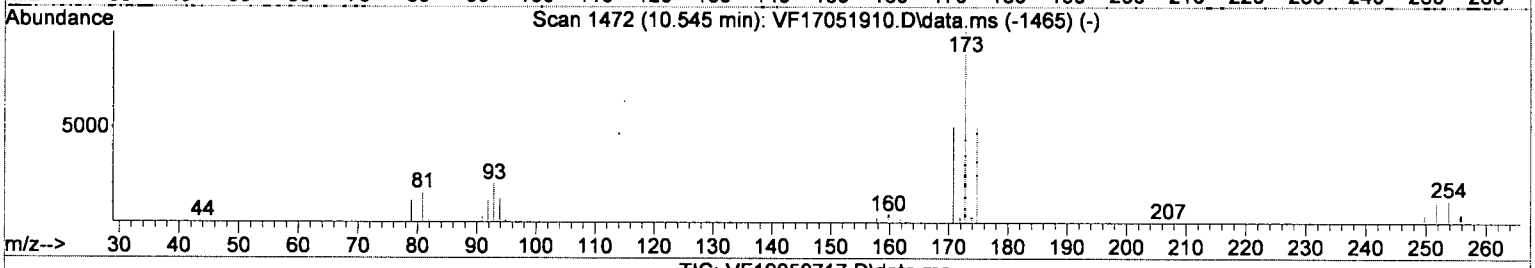
Quantitation Report (Qedit)

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







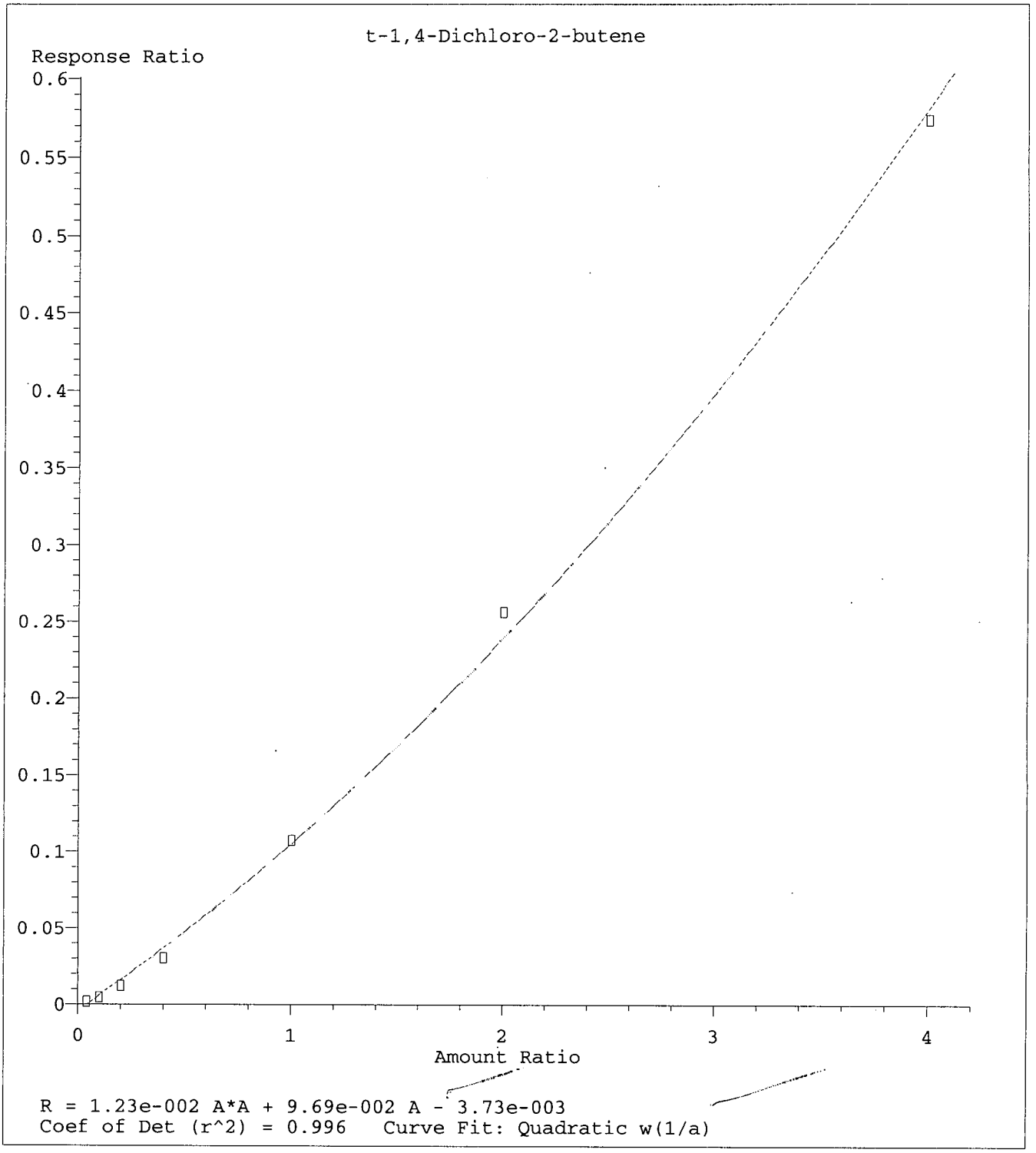
TIC: VF19050717.D\data.ms

(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



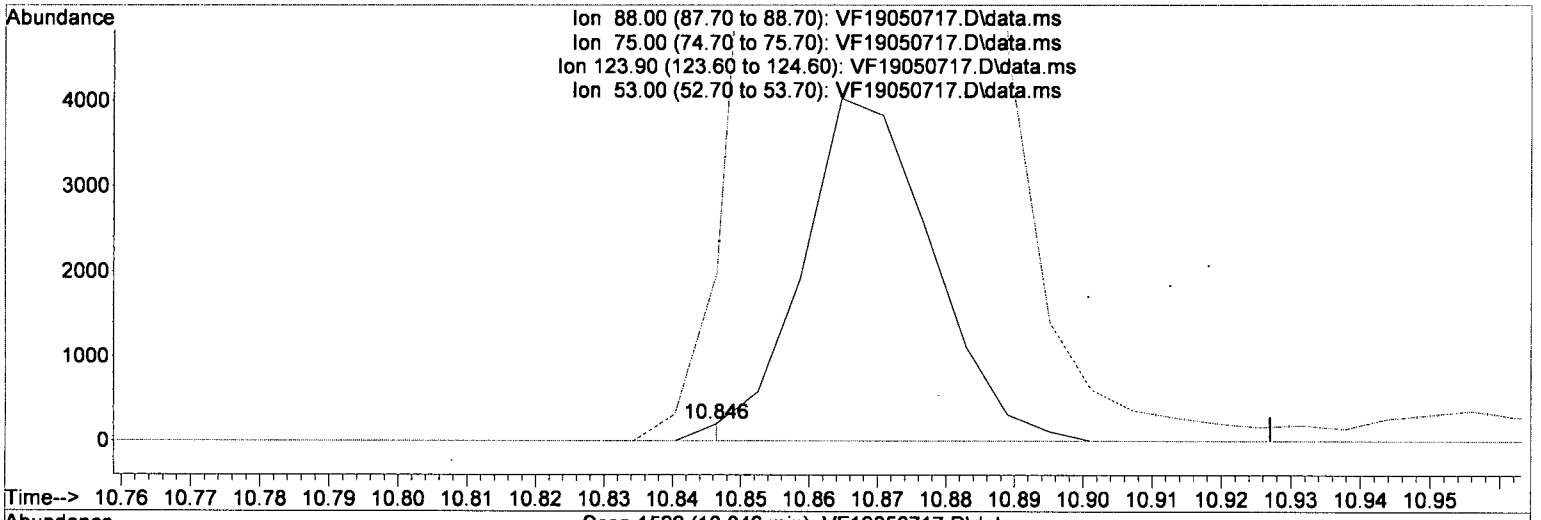
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

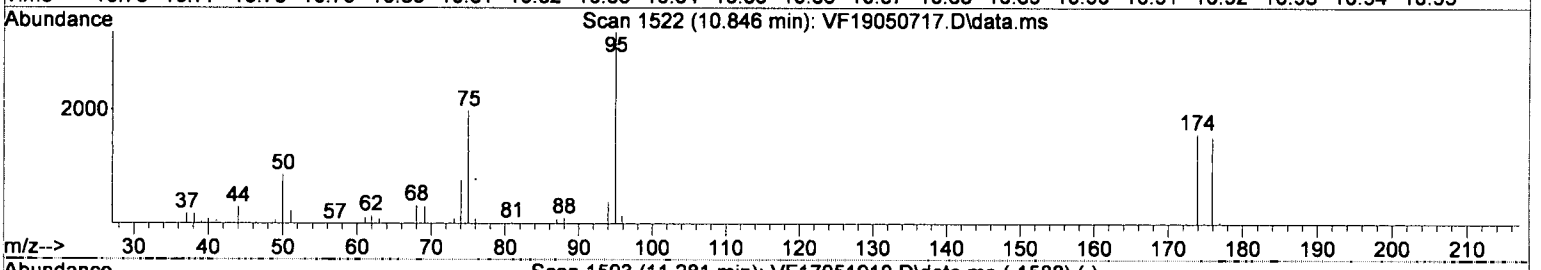
Int = 2,18

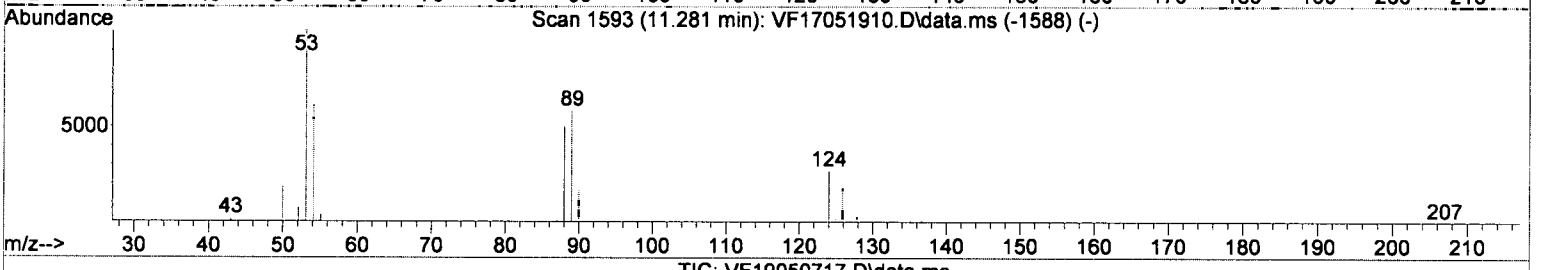
Quantitation Report (Qedit)

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







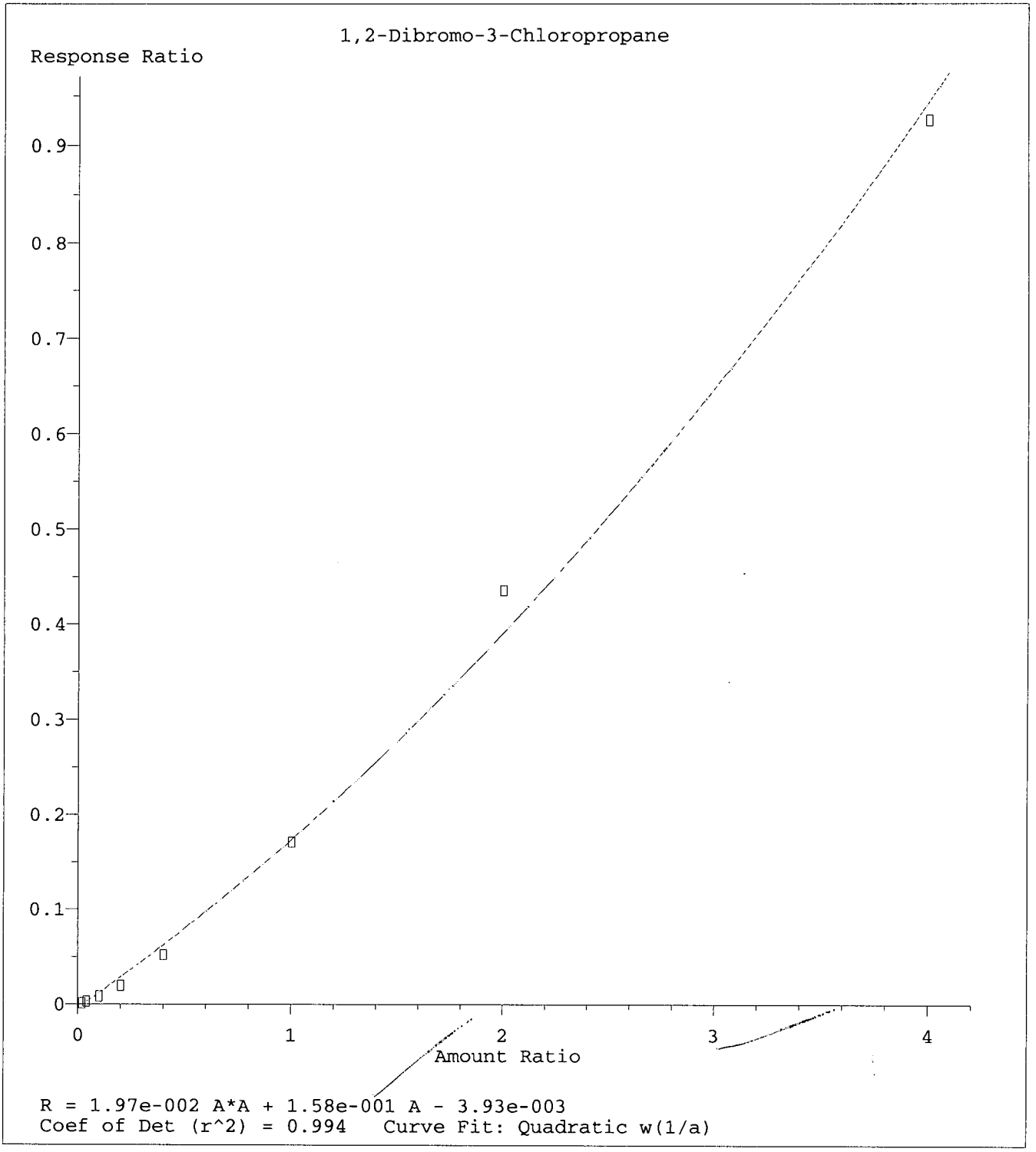
TIC: VF19050717.D\data.ms

(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#



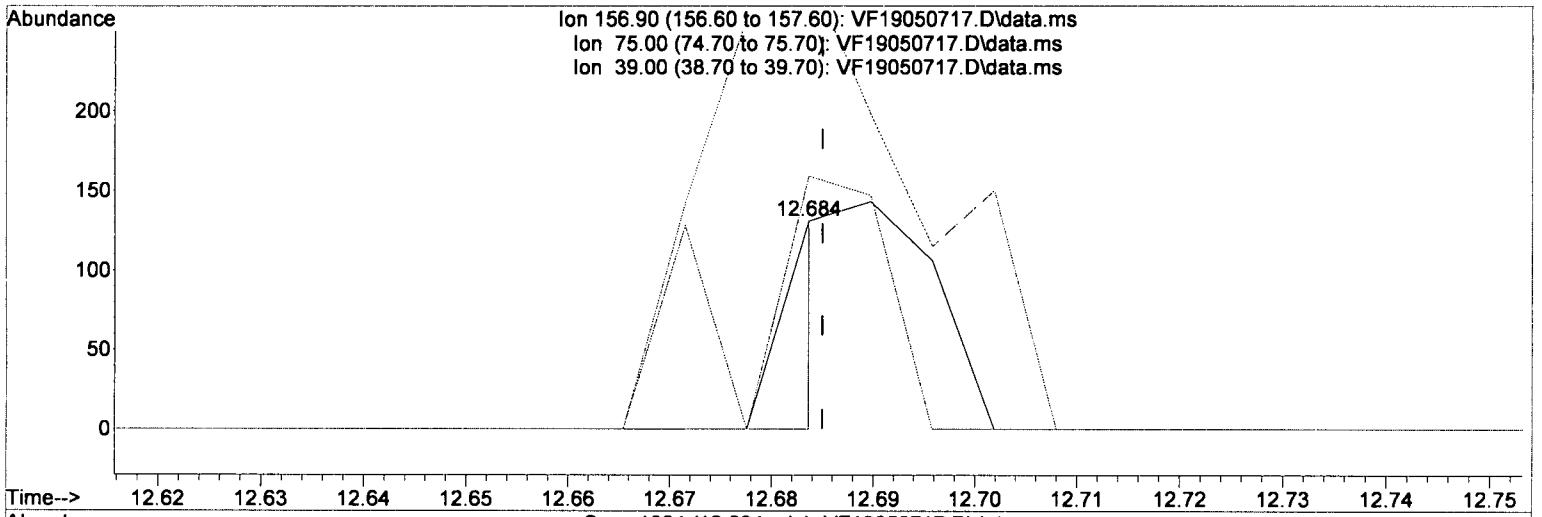
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

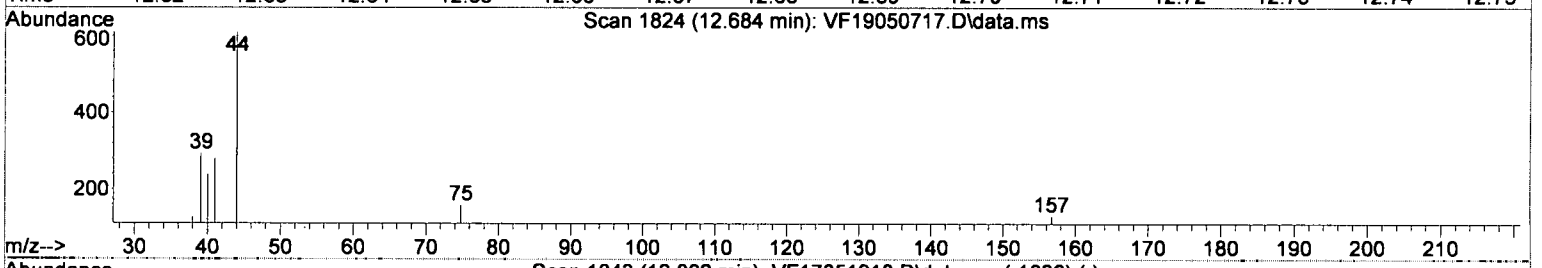
Int = 1.35

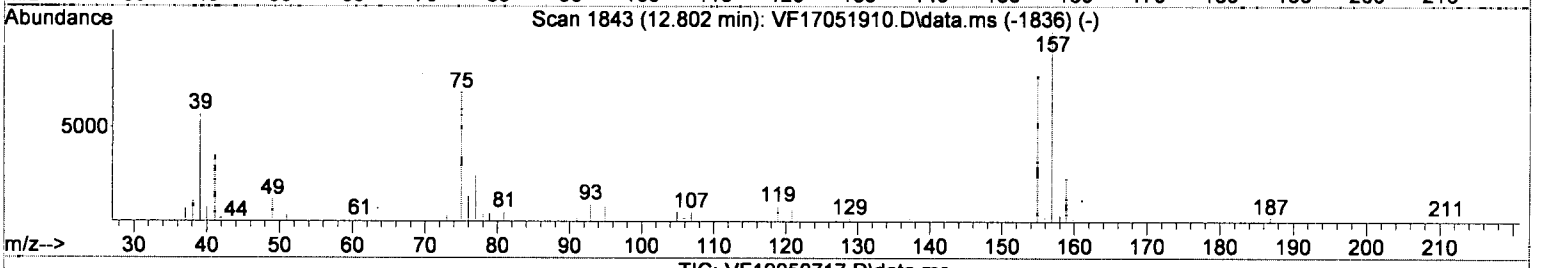
Quantitation Report (Qedit)

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







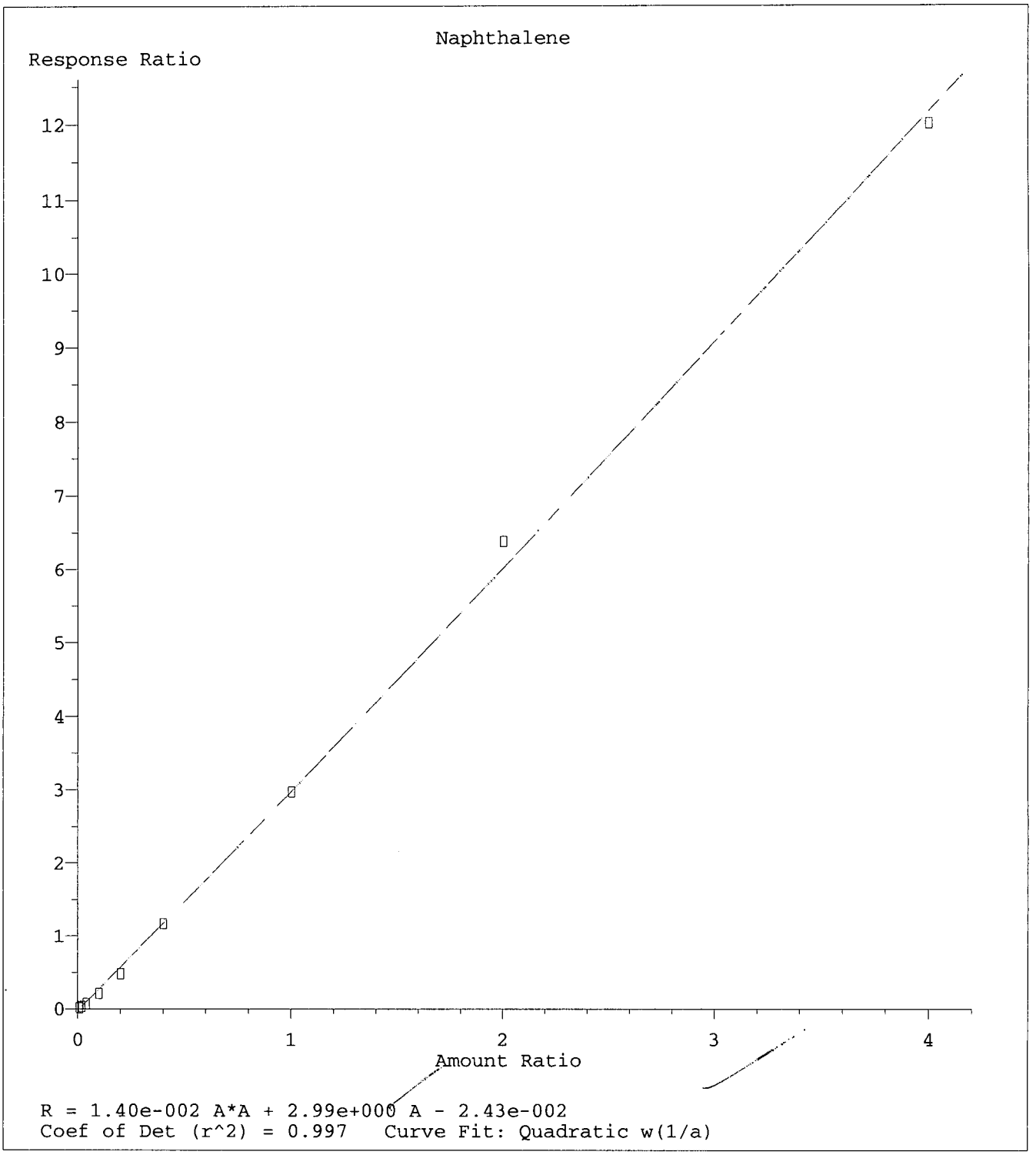
TIC: VF19050717.D\data.ms

(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



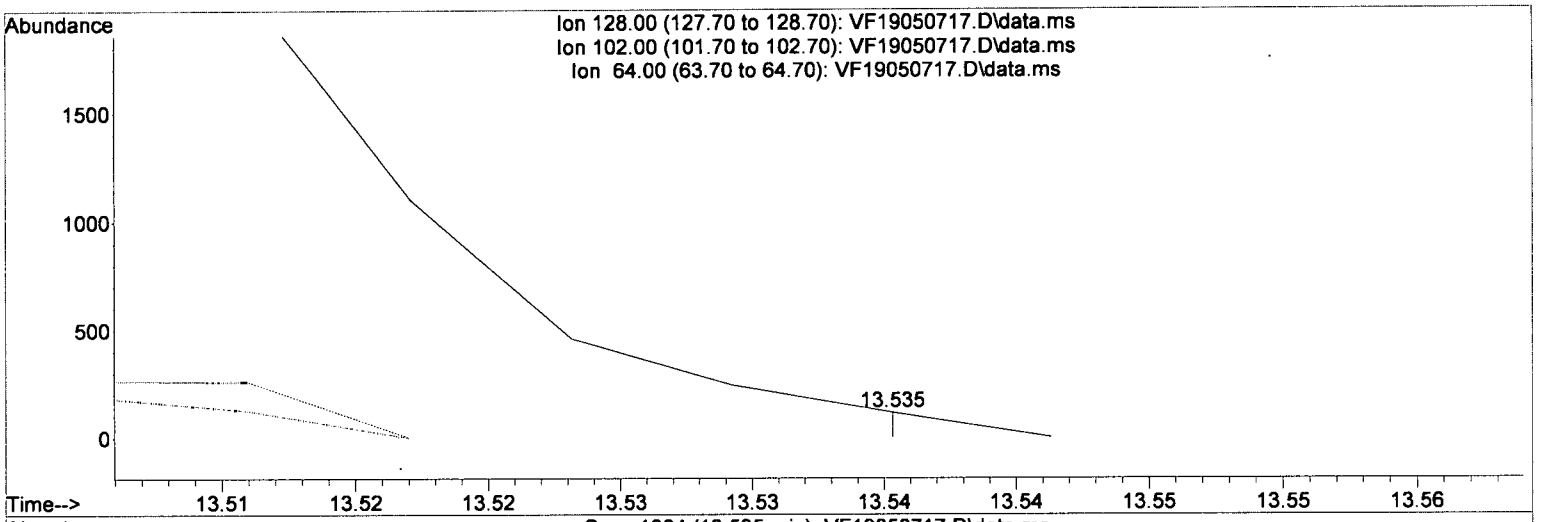
Method Name: C:\msdchem\1\METHODS\VF190507S.M
Calibration Table Last Updated: Wed May 08 11:54:03 2019

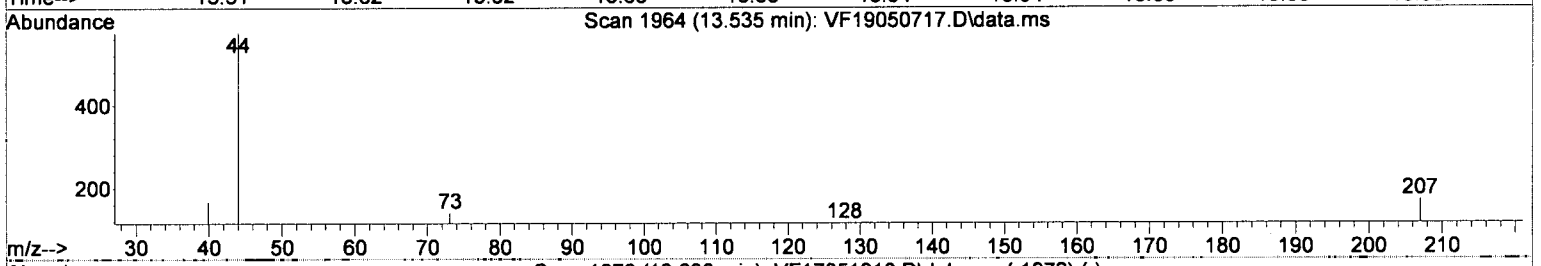
INT = 0.41

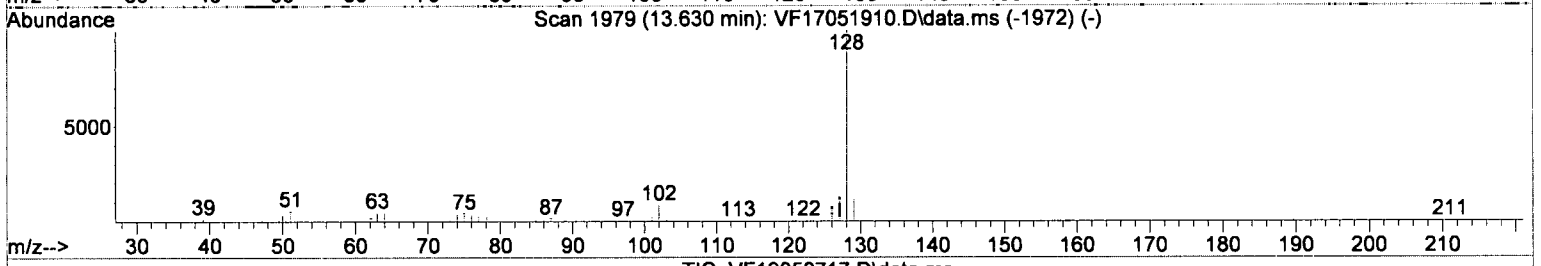
Quantitation Report (Qedit)

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

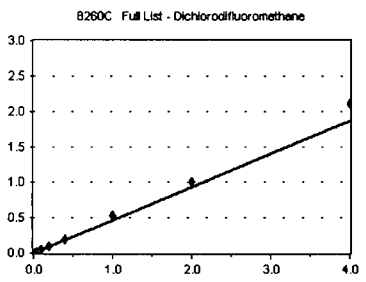
Element Calibration Review Sheet

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**

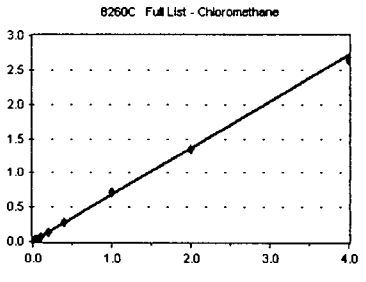


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	846	0.424	1.64
9E07048-CAL4	1	1965	0.375	1.63
9E07048-CAL5	2	4428	0.456	1.63
9E07048-CAL6	5	11506	0.462	1.63
9E07048-CAL7	10	23615	0.446	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**

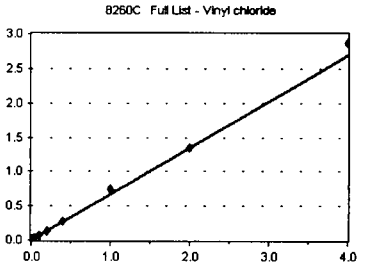


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1131~~	~~2.356~~	~~1.84~~
~~9E07048-CAL2~~	~~0.2~~	~~797~~	~~0.784~~	~~1.85~~
~~9E07048-CAL3~~	~~0.4~~	~~2048~~	~~1.026~~	~~1.85~~
9E07048-CAL4	1	3374	0.644	1.84
9E07048-CAL5	2	7222	0.743	1.84
9E07048-CAL6	5	16881	0.678	1.84
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**

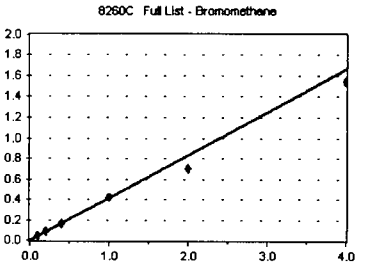


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	686	0.675	1.94
9E07048-CAL3	0.4	1253	0.628	1.95
9E07048-CAL4	1	3308	0.632	1.94
9E07048-CAL5	2	6417	0.660	1.94
9E07048-CAL6	5	16421	0.660	1.94
9E07048-CAL7	10	34298	0.648	1.94
9E07048-CAL8	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**

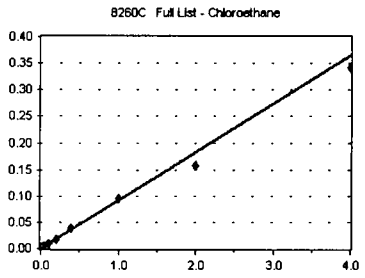
Element Calibration Review Sheet

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**

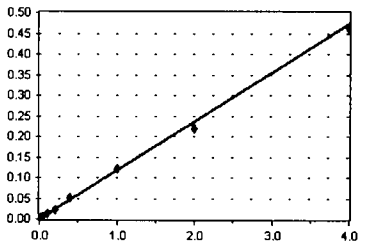


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	476	9.089	2.43
9E07048-CAL5	2	1082	0.111	2.42
9E07048-CAL6	5	2287	9.190	2.43
9E07048-CAL7	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**

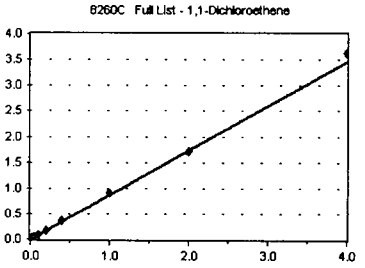


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	222	0.111	2.56
9E07048-CAL4	1	616	0.118	2.56
9E07048-CAL5	2	1256	0.129	2.56
9E07048-CAL6	5	3188	0.128	2.56
9E07048-CAL7	10	5854	0.111	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**

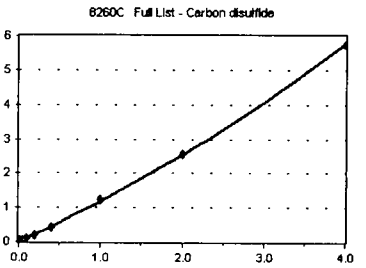


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	464	0.967	3.13
9E07048-CAL2	0.2	831	0.818	3.14
9E07048-CAL3	0.4	1699	0.851	3.14
9E07048-CAL4	1	4085	0.780	3.13
9E07048-CAL5	2	8224	0.846	3.13
9E07048-CAL6	5	21211	0.852	3.12
9E07048-CAL7	10	43446	0.821	3.14
9E07048-CAL8	20	89848	0.908	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**

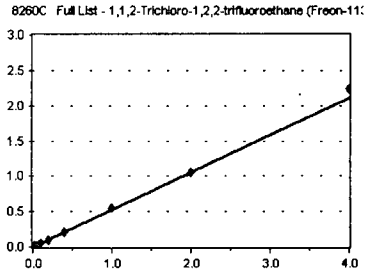
Element Calibration Review Sheet

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**

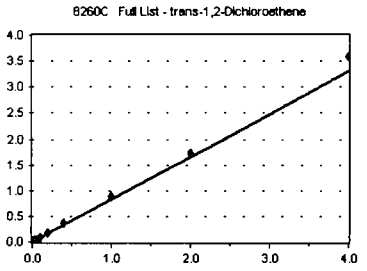


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	458	0.451	3.18
9E07048-CAL3	0.4	1041	0.522	3.18
9E07048-CAL4	1	2811	0.537	3.18
9E07048-CAL5	2	5055	0.520	3.18
9E07048-CAL6	5	13365	0.537	3.17
9E07048-CAL7	10	27267	0.515	3.18
9E07048-CAL8	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**

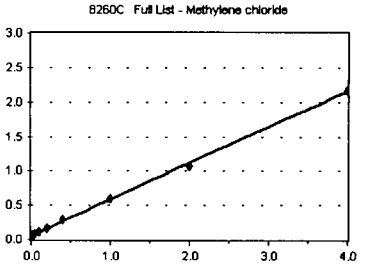


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	320	0.667	0.00
9E07048-CAL2	0.2	852	0.839	3.94
9E07048-CAL3	0.4	1577	0.790	3.95
9E07048-CAL4	1	4059	0.775	3.94
9E07048-CAL5	2	7974	0.820	3.94
9E07048-CAL6	5	21082	0.847	3.94
9E07048-CAL7	10	43282	0.818	3.94
9E07048-CAL8	20	88360	0.893	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**

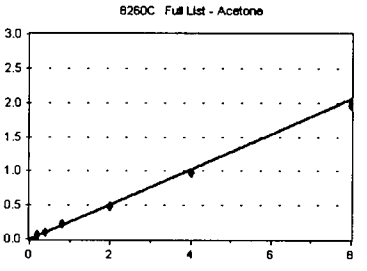


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~14820~~	~~30.870~~	~~3.78~~
~~9E07048-CAL2~~	~~0.2~~	~~13830~~	~~13.612~~	~~3.78~~
9E07048-CAL3	0.4	14007	7.017	3.78
9E07048-CAL4	1	16647	3.179	3.78
9E07048-CAL5	2	18649	1.919	3.78
9E07048-CAL6	5	27821	1.118	3.78
9E07048-CAL7	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**

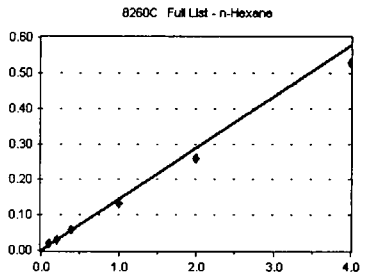
Element Calibration Review Sheet

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**

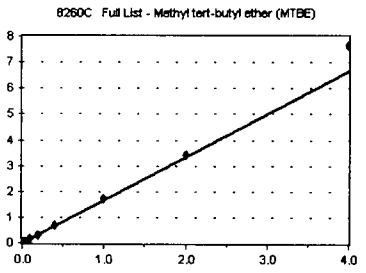


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~1835~~	~~3.822~~	~~4.02~~
~~9E07048-CAL2~~	~~0.2~~	~~1841~~	~~1.812~~	~~4.02~~
~~9E07048-CAL3~~	~~0.4~~	~~2024~~	~~1.014~~	~~4.02~~
~~9E07048-CAL4~~	~~1~~	~~2150~~	~~0.411~~	~~4.02~~
~~9E07048-CAL5~~	~~2~~	~~2796~~	~~0.288~~	~~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**

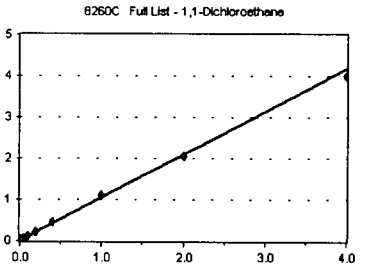


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	787	1.639	4.09
9E07048-CAL2	0.2	1746	1.719	4.08
9E07048-CAL3	0.4	3114	1.560	4.10
9E07048-CAL4	1	8040	1.535	4.09
9E07048-CAL5	2	15652	1.610	4.09
9E07048-CAL6	5	40294	1.619	4.09
9E07048-CAL7	10	82410	1.558	4.09
9E07048-CAL8	20	173881	1.758	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**

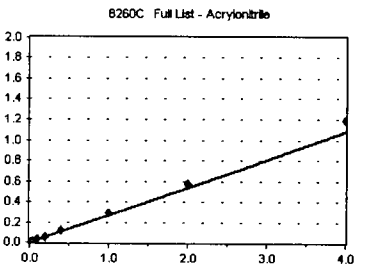


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	1.048	4.58
9E07048-CAL2	0.2	1018	1.002	4.58
9E07048-CAL3	0.4	1998	1.001	4.58
9E07048-CAL4	1	5157	0.985	4.58
9E07048-CAL5	2	10371	1.067	4.58
9E07048-CAL6	5	27022	1.086	4.58
9E07048-CAL7	10	54444	1.029	4.58
9E07048-CAL8	20	114004	1.153	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**

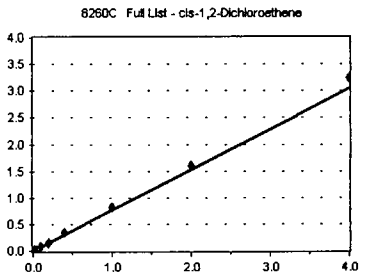
Element Calibration Review Sheet

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**

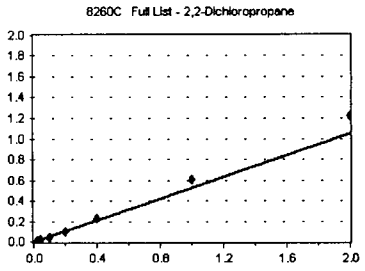


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	307	0.639	0.00
9E07048-CAL2	0.2	698	0.687	5.14
9E07048-CAL3	0.4	1447	0.725	5.14
9E07048-CAL4	1	3590	0.686	5.14
9E07048-CAL5	2	7621	0.784	5.13
9E07048-CAL6	5	19884	0.799	5.14
9E07048-CAL7	10	40226	0.760	5.14
9E07048-CAL8	20	83939	0.849	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**

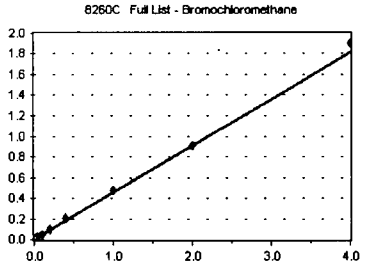


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~441~~	~~0.434~~	~~5.25~~
~~9E07048-CAL3~~	~~0.4~~	~~917~~	~~0.459~~	~~5.24~~
9E07048-CAL4	1	2310	0.441	5.24
9E07048-CAL5	2	4599	0.473	5.24
9E07048-CAL6	5	11848	0.476	5.24
9E07048-CAL7	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**

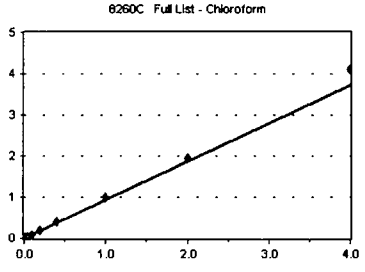


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	331	0.326	5.34
9E07048-CAL3	0.4	924	0.463	5.35
9E07048-CAL4	1	2190	0.418	5.35
9E07048-CAL5	2	4699	0.483	5.34
9E07048-CAL6	5	11857	0.476	5.34
9E07048-CAL7	10	24444	0.462	5.34
9E07048-CAL8	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**

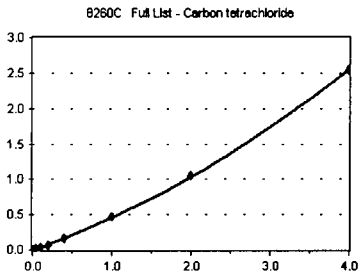
Element Calibration Review Sheet

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**

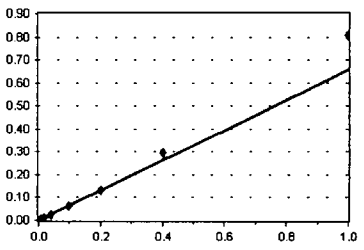


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~392~~	~~0.196~~	~~5.55~~
9E07048-CAL4	1	1343	0.256	5.55
9E07048-CAL5	2	2842	0.292	5.55
9E07048-CAL6	5	7941	0.319	5.55
9E07048-CAL7	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**

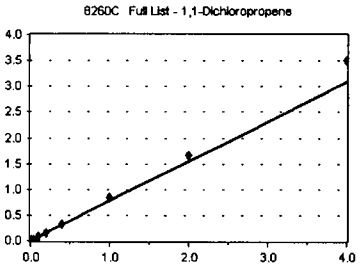


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~551~~	~~0.542~~	~~5.62~~
9E07048-CAL3	0.4	1217	0.610	5.63
9E07048-CAL4	1	2997	0.572	5.62
9E07048-CAL5	2	5724	0.589	5.62
9E07048-CAL6	5	15328	0.616	5.62
9E07048-CAL7	10	34343	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~~	~~0.804~~	~~5.62~~

AVE RF **0.655** RF RSD **13.26** AVE RT **5.62**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

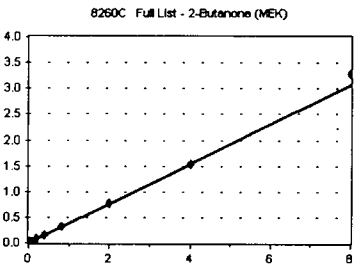


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	683	0.672	5.76
9E07048-CAL3	0.4	1416	0.709	5.75
9E07048-CAL4	1	3517	0.672	5.75
9E07048-CAL5	2	7332	0.754	5.75
9E07048-CAL6	5	19265	0.774	5.75
9E07048-CAL7	10	40206	0.760	5.75
9E07048-CAL8	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**

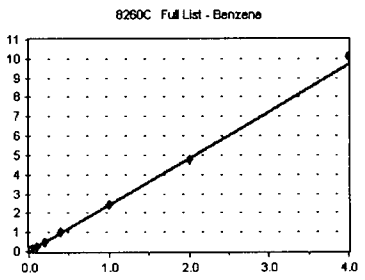
Element Calibration Review Sheet

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**

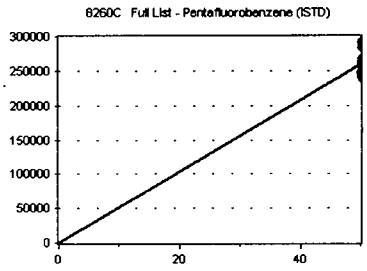


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1127	2.348	6.01
9E07048-CAL2	0.2	2458	2.419	6.01
9E07048-CAL3	0.4	4810	2.410	6.01
9E07048-CAL4	1	11954	2.283	6.01
9E07048-CAL5	2	23365	2.404	6.00
9E07048-CAL6	5	60741	2.441	6.01
9E07048-CAL7	10	124874	2.361	6.01
9E07048-CAL8	20	252305	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**

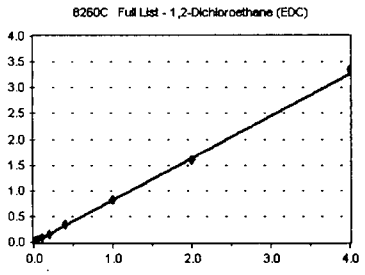


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	240040	4800.800	6.10
9E07048-CAL2	50	253997	5079.940	6.10
9E07048-CAL3	50	249504	4990.080	6.10
9E07048-CAL4	50	261850	5237.000	6.10
9E07048-CAL5	50	242998	4859.960	6.10
9E07048-CAL6	50	248863	4977.260	6.10
9E07048-CAL7	50	264477	5289.540	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**

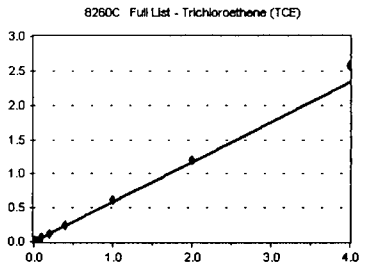


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.769	6.23
9E07048-CAL2	0.2	837	0.824	6.23
9E07048-CAL3	0.4	1552	0.778	6.23
9E07048-CAL4	1	4287	0.819	6.23
9E07048-CAL5	2	7997	0.823	6.22
9E07048-CAL6	5	21115	0.848	6.23
9E07048-CAL7	10	42029	0.795	6.23
9E07048-CAL8	20	86737	0.877	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**

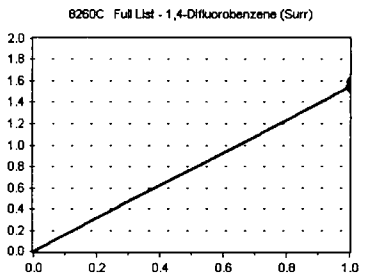
Element Calibration Review Sheet

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**

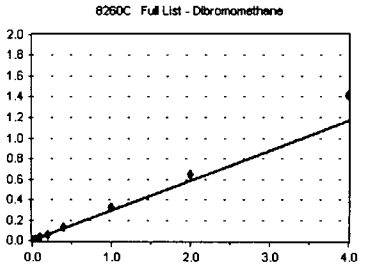


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	372792	1.553	6.66
9E07048-CAL2	50	393610	1.550	6.66
9E07048-CAL3	50	383811	1.538	6.66
9E07048-CAL4	50	402099	1.536	6.66
9E07048-CAL5	50	374305	1.540	6.66
9E07048-CAL6	50	382252	1.536	6.66
9E07048-CAL7	50	404994	1.531	6.66
9E07048-CAL8	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**

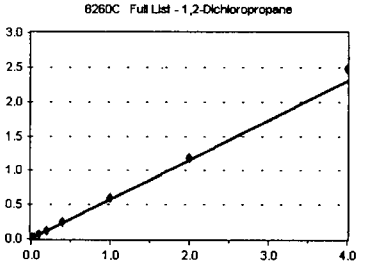


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	206	0.203	7.08
9E07048-CAL3	0.4	553	0.277	7.08
9E07048-CAL4	1	1342	0.256	7.08
9E07048-CAL5	2	2709	0.279	7.08
9E07048-CAL6	5	7109	0.286	7.08
9E07048-CAL7	10	15288	0.289	7.08
9E07048-CAL8	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**

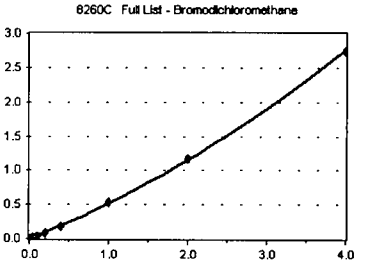


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	588	0.579	7.19
9E07048-CAL3	0.4	1034	0.518	7.19
9E07048-CAL4	1	2906	0.555	7.18
9E07048-CAL5	2	5465	0.562	7.18
9E07048-CAL6	5	14217	0.571	7.19
9E07048-CAL7	10	30050	0.568	7.19
9E07048-CAL8	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**

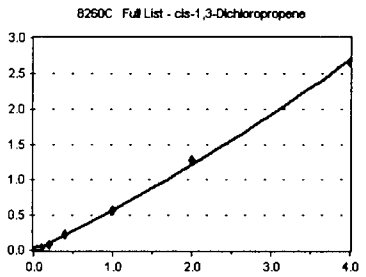
Element Calibration Review Sheet

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**

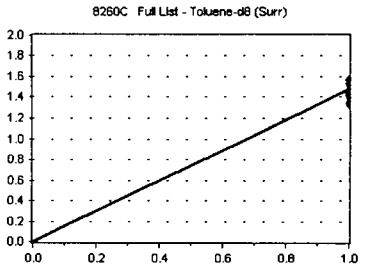


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~335~~	~~0.266~~	~~7.97~~
9E07048-CAL3	0.4	723	0.320	7.97
9E07048-CAL4	1	2124	0.330	7.97
9E07048-CAL5	2	4000	0.369	7.96
9E07048-CAL6	5	11116	0.398	7.97
9E07048-CAL7	10	26031	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**

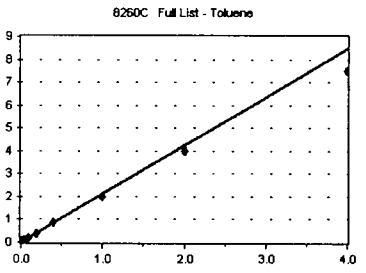


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	50	412832	1.570	8.17
9E07048-CAL2	50	451605	1.433	8.17
9E07048-CAL3	50	433301	1.536	8.17
9E07048-CAL4	50	463638	1.441	8.17
9E07048-CAL5	50	417114	1.539	8.17
9E07048-CAL6	50	428207	1.533	8.17
9E07048-CAL7	50	462102	1.452	8.17
9E07048-CAL8	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**

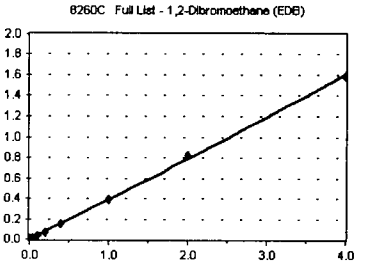


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1513	2.876	8.23
9E07048-CAL2	0.2	2847	2.259	8.23
9E07048-CAL3	0.4	4633	2.053	8.23
9E07048-CAL4	1	12595	1.958	8.23
9E07048-CAL5	2	22780	2.101	8.23
9E07048-CAL6	5	57774	2.069	8.23
9E07048-CAL7	10	124435	1.955	8.23
9E07048-CAL8	20	234051	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**

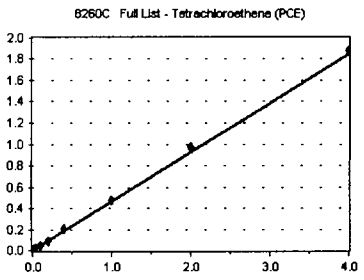
Element Calibration Review Sheet

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**

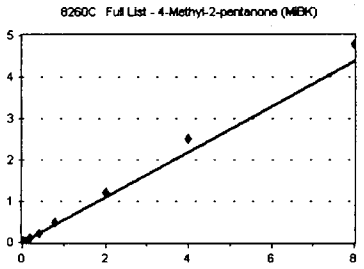


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	241	0.458	8.68
9E07048-CAL2	0.2	503	0.399	8.67
9E07048-CAL3	0.4	1054	0.467	8.68
9E07048-CAL4	1	2677	0.416	8.68
9E07048-CAL5	2	5076	0.468	8.68
9E07048-CAL6	5	13448	0.482	8.68
9E07048-CAL7	10	29011	0.456	8.68
9E07048-CAL8	20	56499	0.514	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**

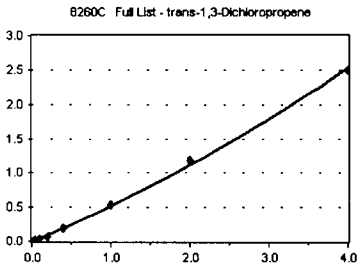


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~391~~	~~0.372~~	~~8.69~~
~~9E07048-CAL2~~	~~0.4~~	~~941~~	~~0.373~~	~~8.68~~
~~9E07048-CAL3~~	~~0.8~~	~~1734~~	~~0.384~~	~~8.68~~
9E07048-CAL4	2	5152	0.400	8.68
9E07048-CAL5	4	10467	0.483	8.68
9E07048-CAL6	10	28905	0.518	8.68
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**

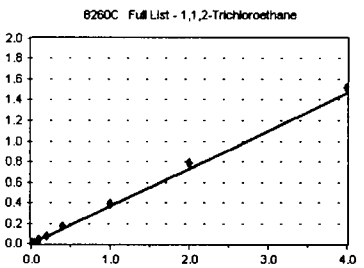


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	502	0.222	8.72
9E07048-CAL4	1	1582	0.246	8.72
9E07048-CAL5	2	3084	0.284	8.72
9E07048-CAL6	5	8937	0.320	8.72
9E07048-CAL7	10	22208	0.349	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**

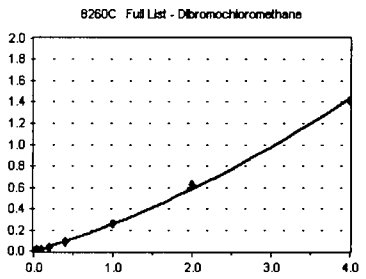
Element Calibration Review Sheet

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**

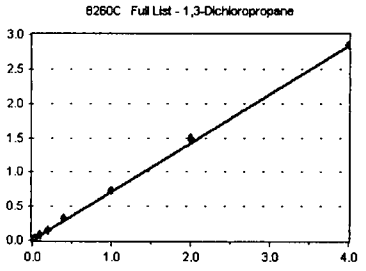


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	215	9.526	9.07
9E07048-CAL4	1	646	0.100	9.08
9E07048-CAL5	2	1529	0.141	9.08
9E07048-CAL6	5	4290	0.154	9.07
9E07048-CAL7	10	10099	0.159	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**

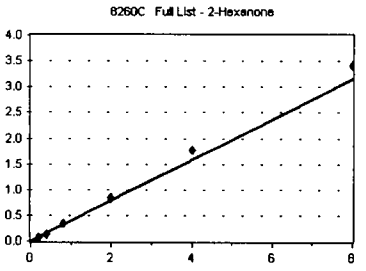


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	369	0.702	9.17
9E07048-CAL2	0.2	753	0.597	9.17
9E07048-CAL3	0.4	1532	0.679	9.18
9E07048-CAL4	1	4160	0.647	9.18
9E07048-CAL5	2	7762	0.716	9.17
9E07048-CAL6	5	20889	0.748	9.18
9E07048-CAL7	10	45205	0.710	9.18
9E07048-CAL8	20	88346	0.804	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**

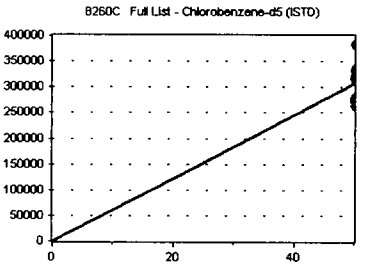


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.4~~	~~512~~	~~0.203~~	~~9.55~~
~~9E07048-CAL3~~	~~0.8~~	~~1043~~	~~0.231~~	~~9.55~~
~~9E07048-CAL4~~	~~2~~	~~3198~~	~~0.249~~	~~9.55~~
~~9E07048-CAL5~~	~~4~~	~~6383~~	~~0.294~~	~~9.55~~
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**

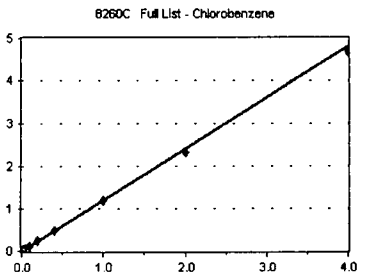
Element Calibration Review Sheet

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**

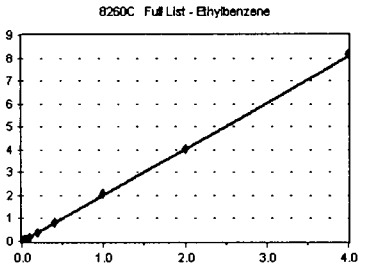


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	708	1.346	9.82
9E07048-CAL2	0.2	1621	1.286	9.82
9E07048-CAL3	0.4	2707	1.199	9.82
9E07048-CAL4	1	7684	1.194	9.82
9E07048-CAL5	2	12836	1.184	9.82
9E07048-CAL6	5	32582	1.167	9.82
9E07048-CAL7	10	74844	1.176	9.82
9E07048-CAL8	20	130501	1.188	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**

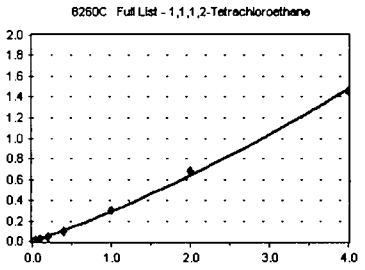


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	1175	2.234	9.85
9E07048-CAL2	0.2	2644	2.098	9.85
9E07048-CAL3	0.4	4382	1.941	9.85
9E07048-CAL4	1	12168	1.892	9.85
9E07048-CAL5	2	20590	1.899	9.85
9E07048-CAL6	5	53767	1.925	9.85
9E07048-CAL7	10	123904	1.947	9.85
9E07048-CAL8	20	225958	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**

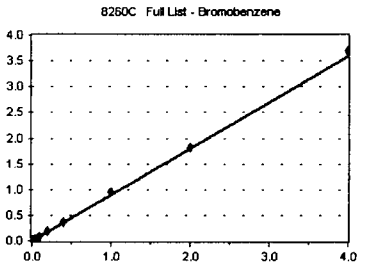


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	292	0.129	9.89
9E07048-CAL4	1	785	0.122	9.89
9E07048-CAL5	2	1701	0.157	9.89
9E07048-CAL6	5	4779	0.171	9.88
9E07048-CAL7	10	12247	0.192	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

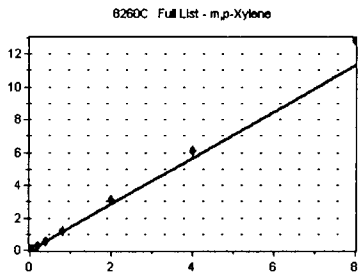
AVE RF **0.899** RF RSD **8.79** AVE RT **9.96**

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

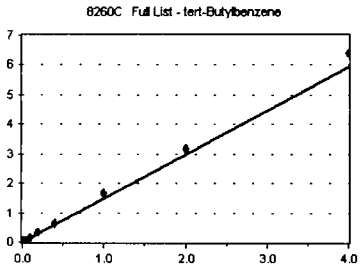


Curve Fit: **AVERAGE RF**

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

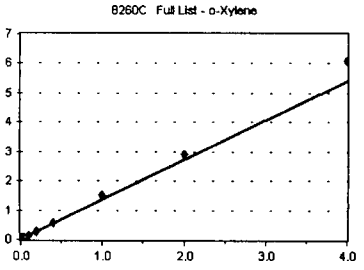


Curve Fit: **AVERAGE RF**

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

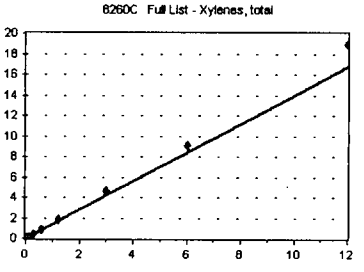


Curve Fit: **AVERAGE RF**

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**

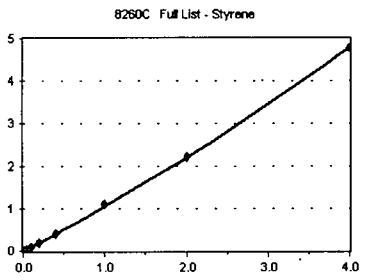
Element Calibration Review Sheet

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**

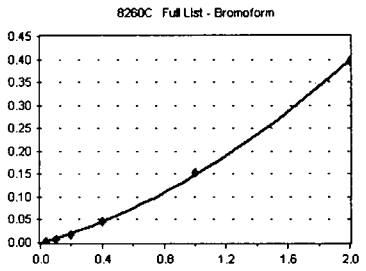


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	742	0.589	10.42
9E07048-CAL3	0.4	1408	0.624	10.42
9E07048-CAL4	1	4261	0.662	10.42
9E07048-CAL5	2	7423	0.685	10.42
9E07048-CAL6	5	22451	0.804	10.41
9E07048-CAL7	10	56305	0.885	10.41
9E07048-CAL8	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**

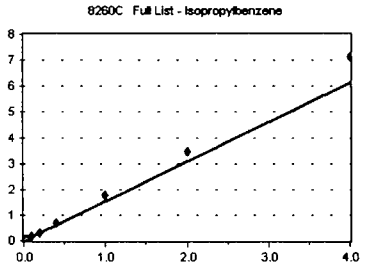


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	793	7.314	10.44
9E07048-CAL6	5	2131	7.631	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**

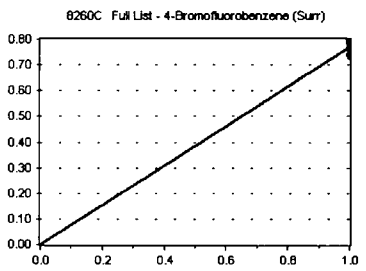


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~607~~	~~1.154~~	~~0.00~~
9E07048-CAL2	0.2	1621	1.286	10.63
9E07048-CAL3	0.4	2804	1.242	10.63
9E07048-CAL4	1	8865	1.378	10.63
9E07048-CAL5	2	14839	1.369	10.63
9E07048-CAL6	5	42773	1.532	10.63
9E07048-CAL7	10	101605	1.597	10.63
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**

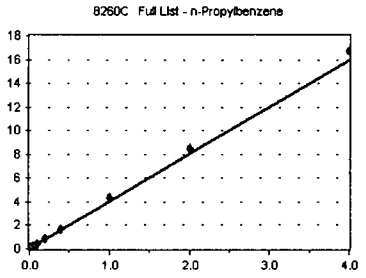
Element Calibration Review Sheet

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**

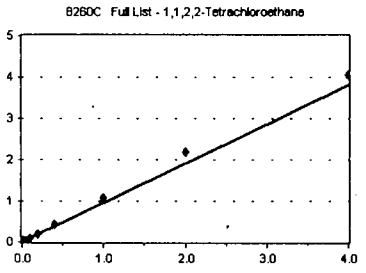


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	914	3.893	10.98
9E07048-CAL2	0.2	2125	3.768	10.98
9E07048-CAL3	0.4	3524	3.659	10.98
9E07048-CAL4	1	10761	3.802	10.97
9E07048-CAL5	2	18352	3.748	10.97
9E07048-CAL6	5	49128	3.903	10.97
9E07048-CAL7	10	115664	4.202	10.97
9E07048-CAL8	20	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**

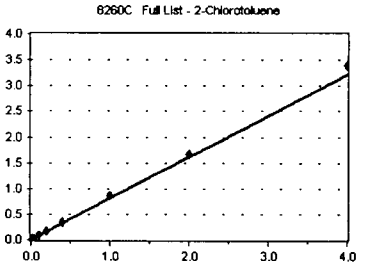


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~138~~	~~0.588~~	~~0.00~~
9E07048-CAL2	0.2	440	0.780	11.04
9E07048-CAL3	0.4	771	0.801	11.04
9E07048-CAL4	1	2364	0.835	11.04
9E07048-CAL5	2	4375	0.894	11.04
9E07048-CAL6	5	11560	0.918	11.04
9E07048-CAL7	10	27257	0.990	11.04
9E07048-CAL8	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**

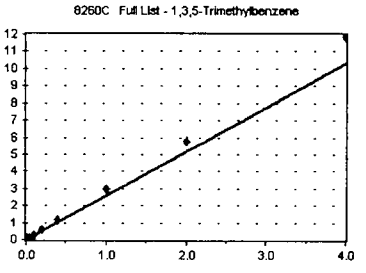


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	441	0.782	11.11
9E07048-CAL3	0.4	669	0.695	11.11
9E07048-CAL4	1	2215	0.783	11.11
9E07048-CAL5	2	3616	0.739	11.11
9E07048-CAL6	5	9901	0.787	11.11
9E07048-CAL7	10	23610	0.858	11.11
9E07048-CAL8	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**

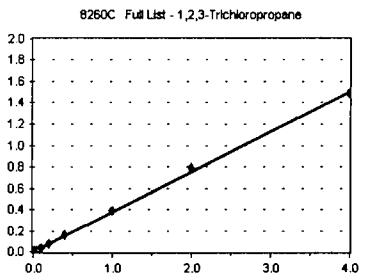
Element Calibration Review Sheet

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**

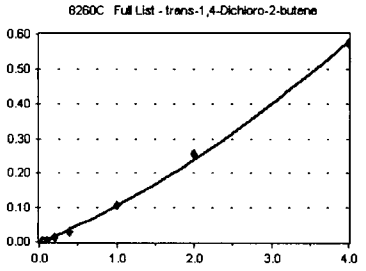


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~135~~	~~0.239~~	~~11.15~~
9E07048-CAL3	0.4	303	0.315	11.15
9E07048-CAL4	1	973	0.344	11.15
9E07048-CAL5	2	1924	0.393	11.15
9E07048-CAL6	5	4758	0.378	11.14
9E07048-CAL7	10	10739	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**

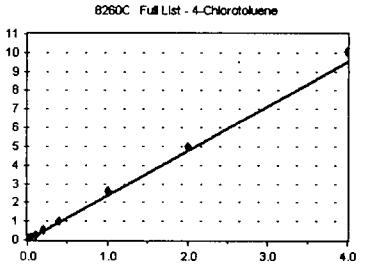


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL5	2	237	4.840	11.18
9E07048-CAL6	5	580	4.608	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**

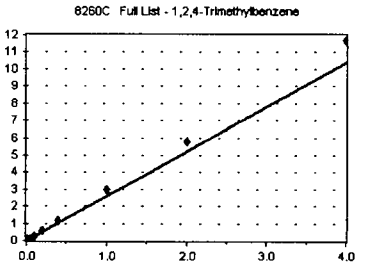


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	483	2.057	11.24
9E07048-CAL2	0.2	1253	2.222	11.24
9E07048-CAL3	0.4	2028	2.106	11.24
9E07048-CAL4	1	6529	2.307	11.24
9E07048-CAL5	2	11250	2.298	11.24
9E07048-CAL6	5	30163	2.397	11.23
9E07048-CAL7	10	71020	2.580	11.23
9E07048-CAL8	20	129493	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**

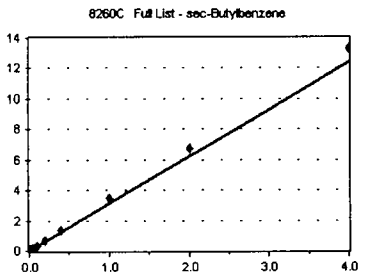
Element Calibration Review Sheet

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**

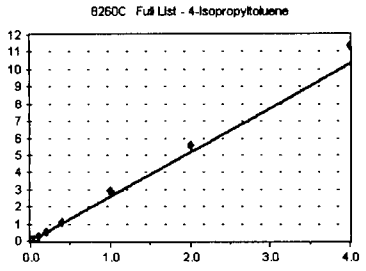


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	715	3.045	11.52
9E07048-CAL2	0.2	1494	2.649	11.52
9E07048-CAL3	0.4	2640	2.741	11.52
9E07048-CAL4	1	7874	2.782	11.52
9E07048-CAL5	2	14030	2.865	11.52
9E07048-CAL6	5	39097	3.106	11.52
9E07048-CAL7	10	92413	3.357	11.52
9E07048-CAL8	20	171858	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**

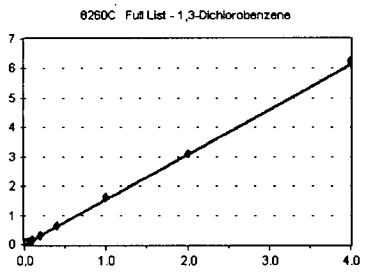


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~475~~	~~2.023~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~1097~~	~~1.945~~	~~11.63~~
~~9E07048-CAL3~~	~~0.4~~	~~1855~~	~~1.926~~	~~11.63~~
9E07048-CAL4	1	5898	2.084	11.63
9E07048-CAL5	2	10365	2.117	11.63
9E07048-CAL6	5	30161	2.396	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**

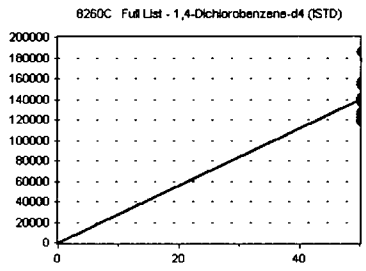


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	361	1.538	11.69
9E07048-CAL2	0.2	822	1.458	11.70
9E07048-CAL3	0.4	1391	1.444	11.70
9E07048-CAL4	1	4151	1.467	11.70
9E07048-CAL5	2	7501	1.532	11.70
9E07048-CAL6	5	19402	1.542	11.70
9E07048-CAL7	10	42681	1.551	11.70
9E07048-CAL8	20	82474	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**

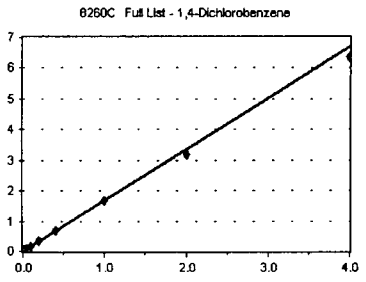
Element Calibration Review Sheet

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**

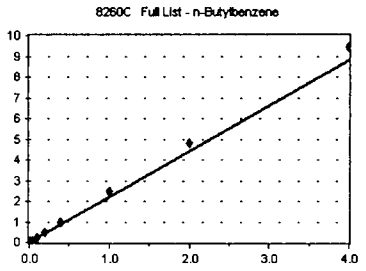


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	465	1.980	11.76
9E07048-CAL2	0.2	932	1.653	11.76
9E07048-CAL3	0.4	1636	1.699	11.76
9E07048-CAL4	1	4797	1.695	11.76
9E07048-CAL5	2	8234	1.682	11.76
9E07048-CAL6	5	20284	1.612	11.76
9E07048-CAL7	10	44850	1.629	11.76
9E07048-CAL8	20	85622	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**

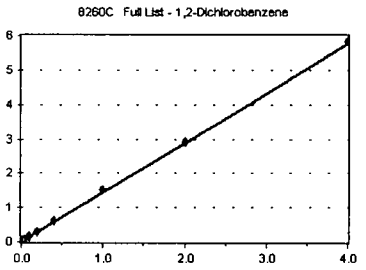


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	503	2.142	11.95
9E07048-CAL2	0.2	1099	1.949	11.95
9E07048-CAL3	0.4	1917	1.991	11.95
9E07048-CAL4	1	5710	2.017	11.95
9E07048-CAL5	2	9476	1.935	11.95
9E07048-CAL6	5	27019	2.147	11.95
9E07048-CAL7	10	65332	2.374	11.94
9E07048-CAL8	20	121885	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**

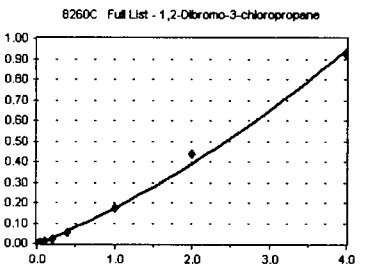


Standard	Concentration	Response	Response Factor	RT
9E07048-CAL1	0.1	319	1.359	12.08
9E07048-CAL2	0.2	799	1.417	12.08
9E07048-CAL3	0.4	1327	1.378	12.08
9E07048-CAL4	1	3856	1.362	12.08
9E07048-CAL5	2	6890	1.407	12.08
9E07048-CAL6	5	18432	1.464	12.08
9E07048-CAL7	10	40089	1.456	12.08
9E07048-CAL8	20	79323	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**

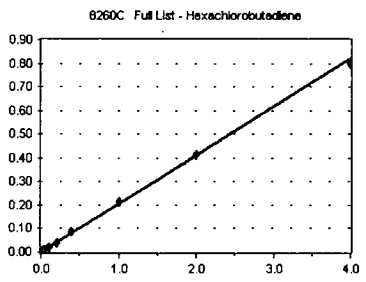
Element Calibration Review Sheet

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**

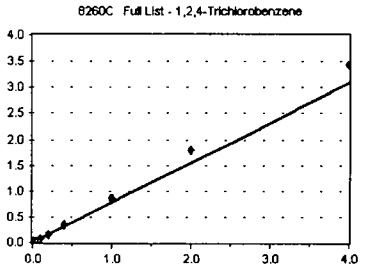


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL4	1	548	0.194	13.18
9E07048-CAL5	2	977	0.200	13.19
9E07048-CAL6	5	2590	0.206	13.19
9E07048-CAL7	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**

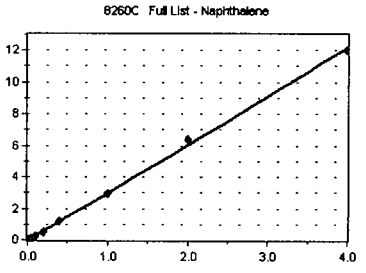


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL2	0.2	326	0.578	13.23
9E07048-CAL3	0.4	681	0.707	13.23
9E07048-CAL4	1	1879	0.664	13.23
9E07048-CAL5	2	3650	0.745	13.23
9E07048-CAL6	5	9487	0.754	13.23
9E07048-CAL7	10	21384	0.777	13.23
9E07048-CAL8	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**

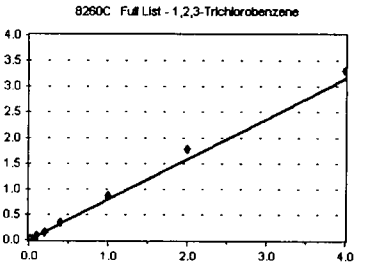


Standard	Concentration	Response	Response Factor	RT
~~9E07048-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9E07048-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9E07048-CAL3	0.4	1578	1.639	13.50
9E07048-CAL4	1	4612	1.629	13.51
9E07048-CAL5	2	9150	1.869	13.51
9E07048-CAL6	5	26502	2.106	13.50
9E07048-CAL7	10	66084	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

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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
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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

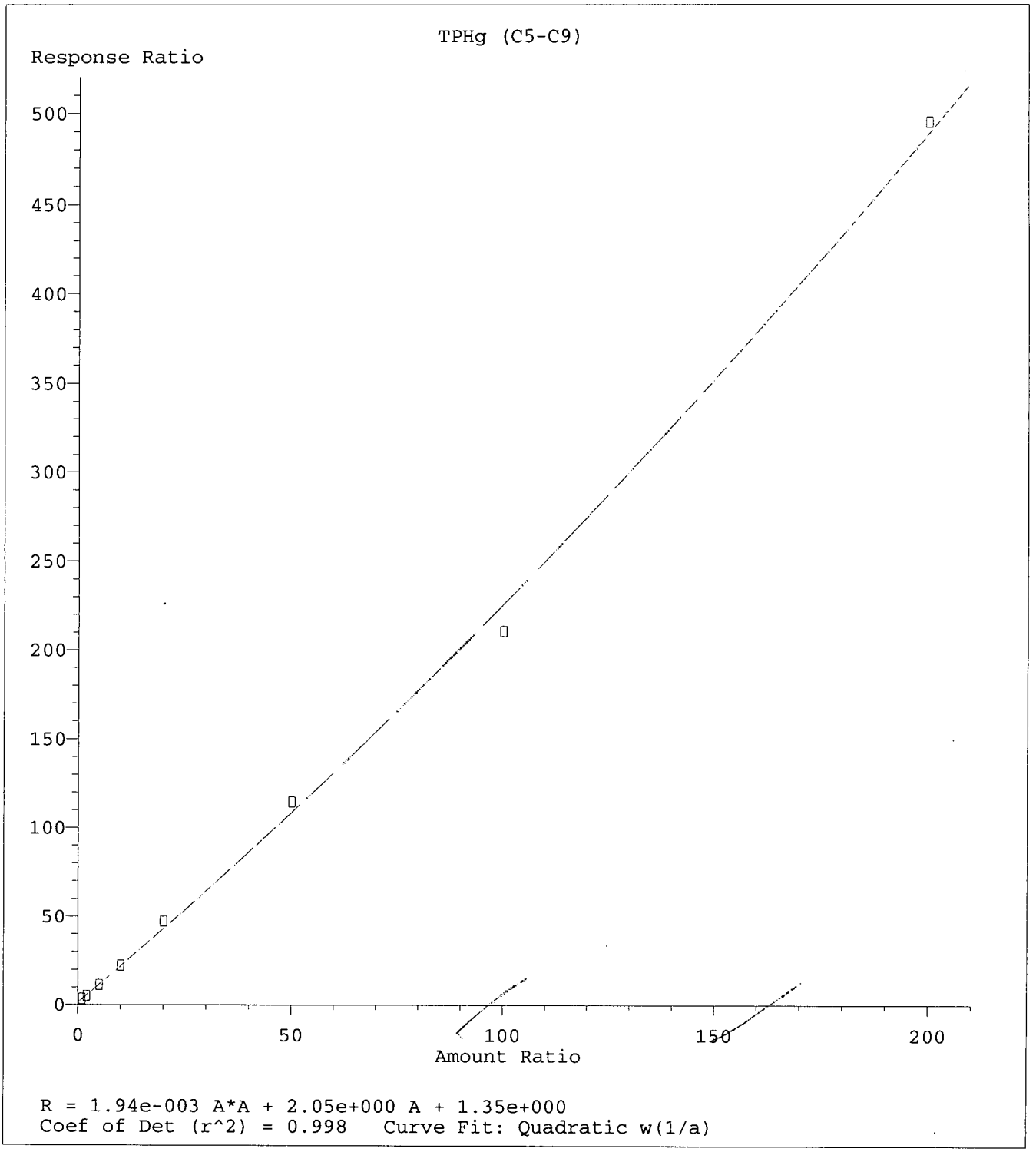
Method Path : C:\msdchem\1\METHODS\
Method File : VF190507G.M
Title : NWTPH-Gx by GC/MS
Last Update : Wed May 08 11:36:04 2019
Response Via : Initial Calibration

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



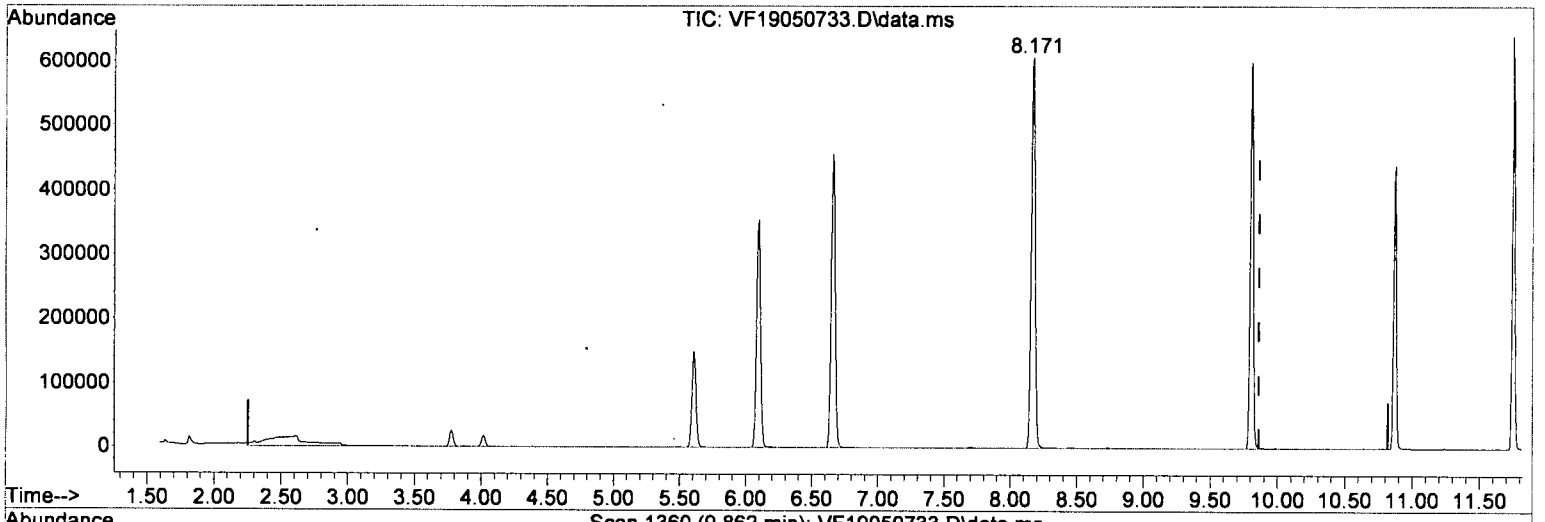
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

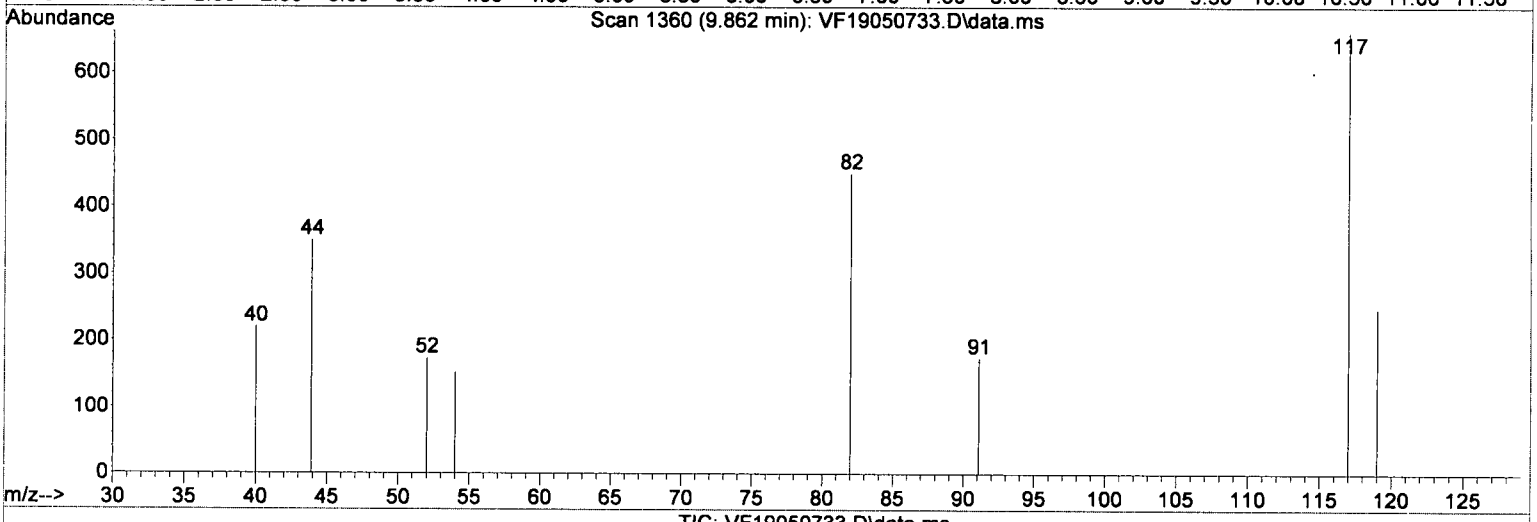
Int = 6.92

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





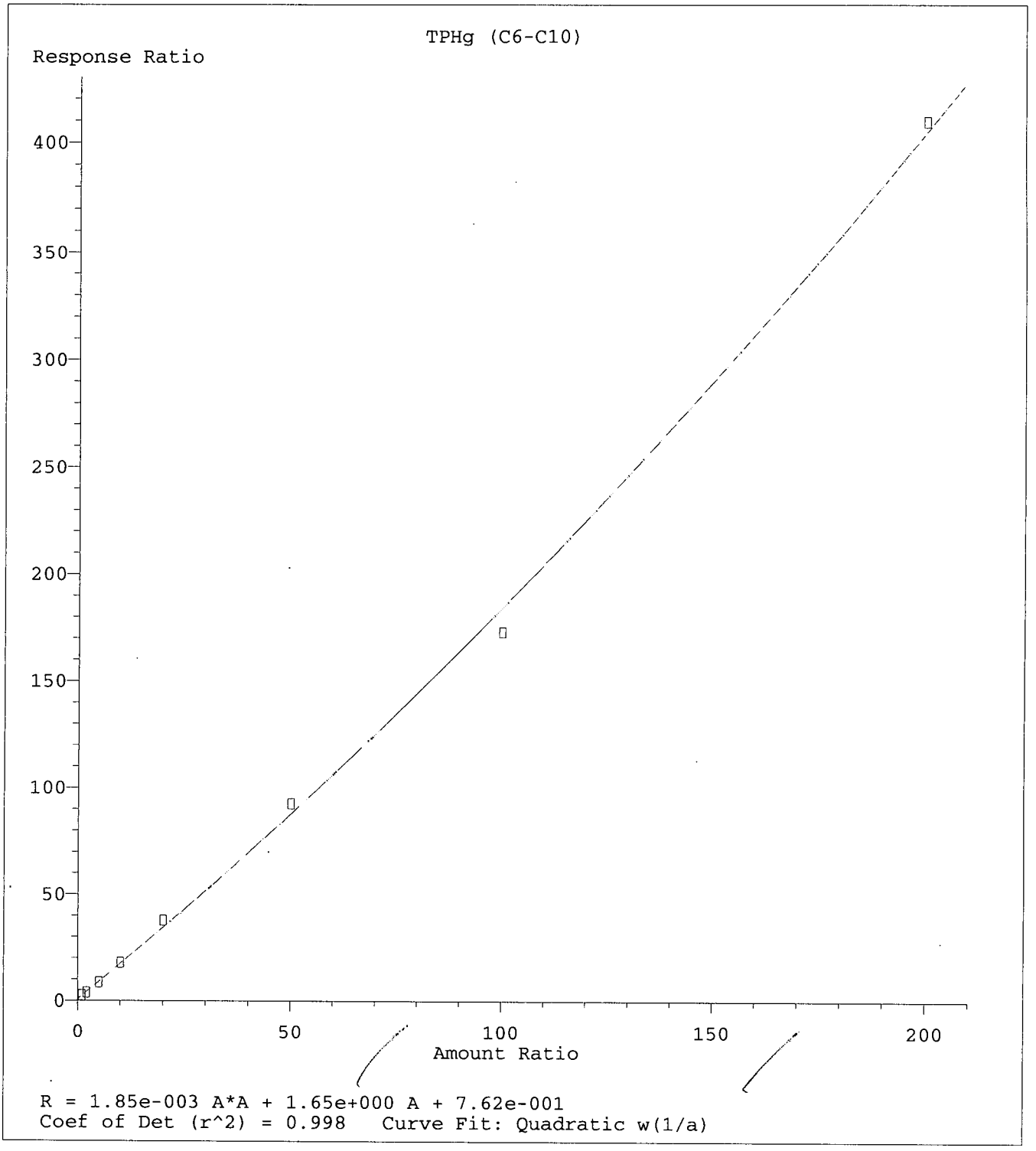
TIC: VF19050733.D\data.ms

(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



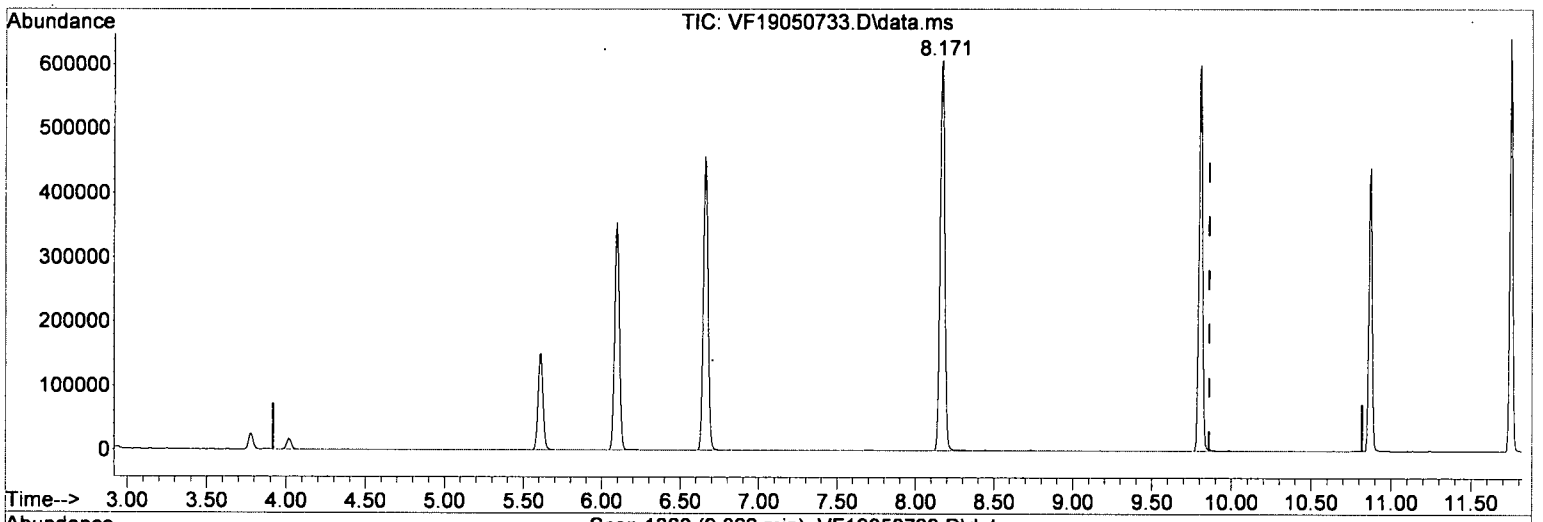
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

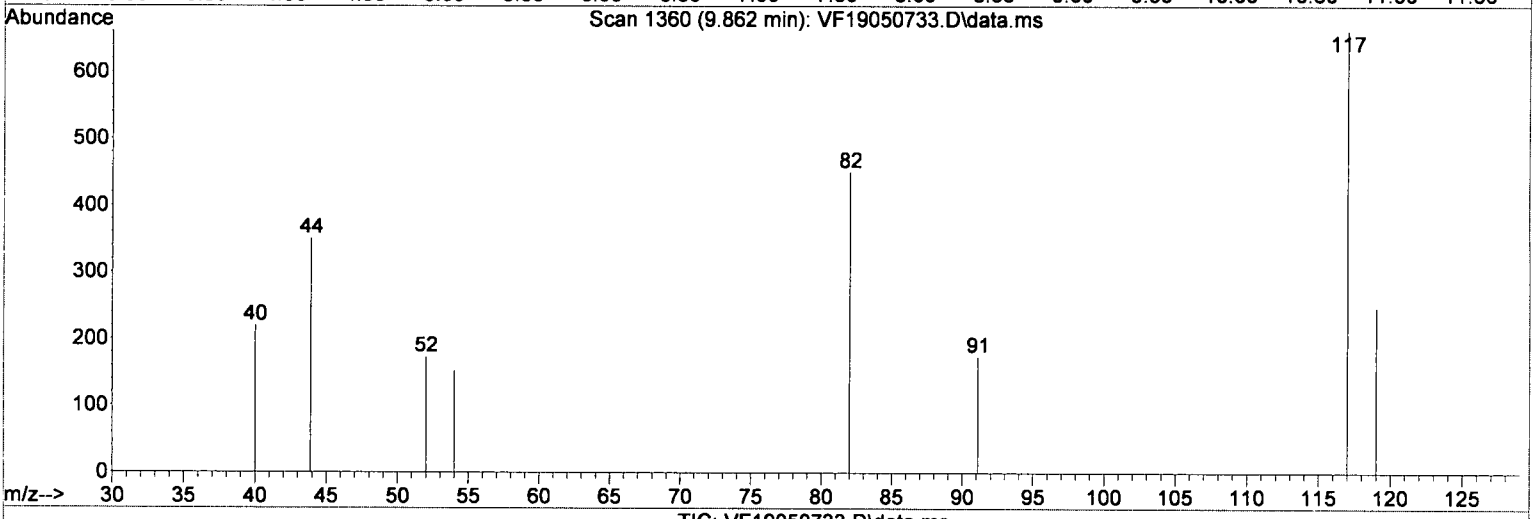
INT = 18,93

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





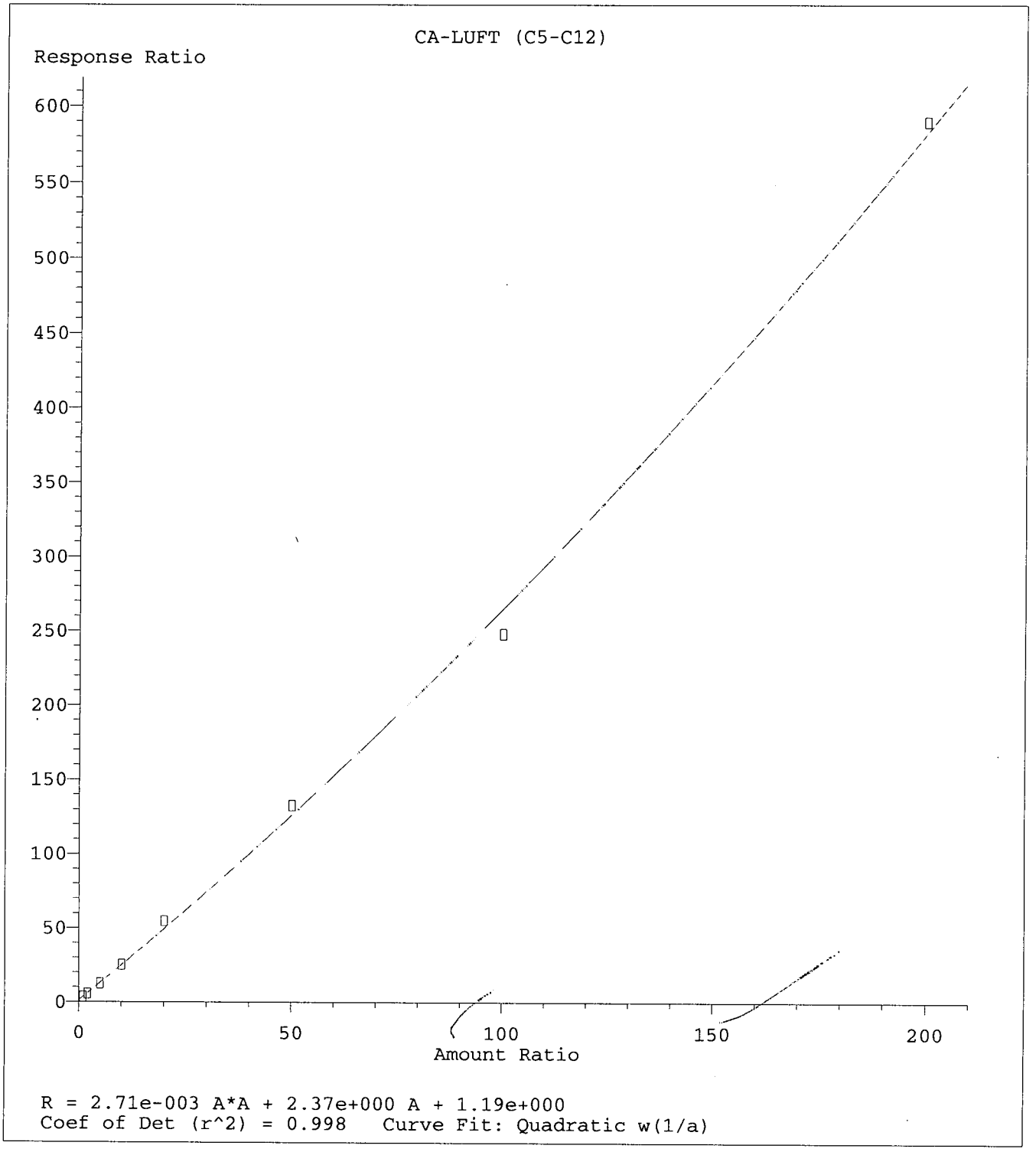
TIC: VF19050733.D\data.ms

(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



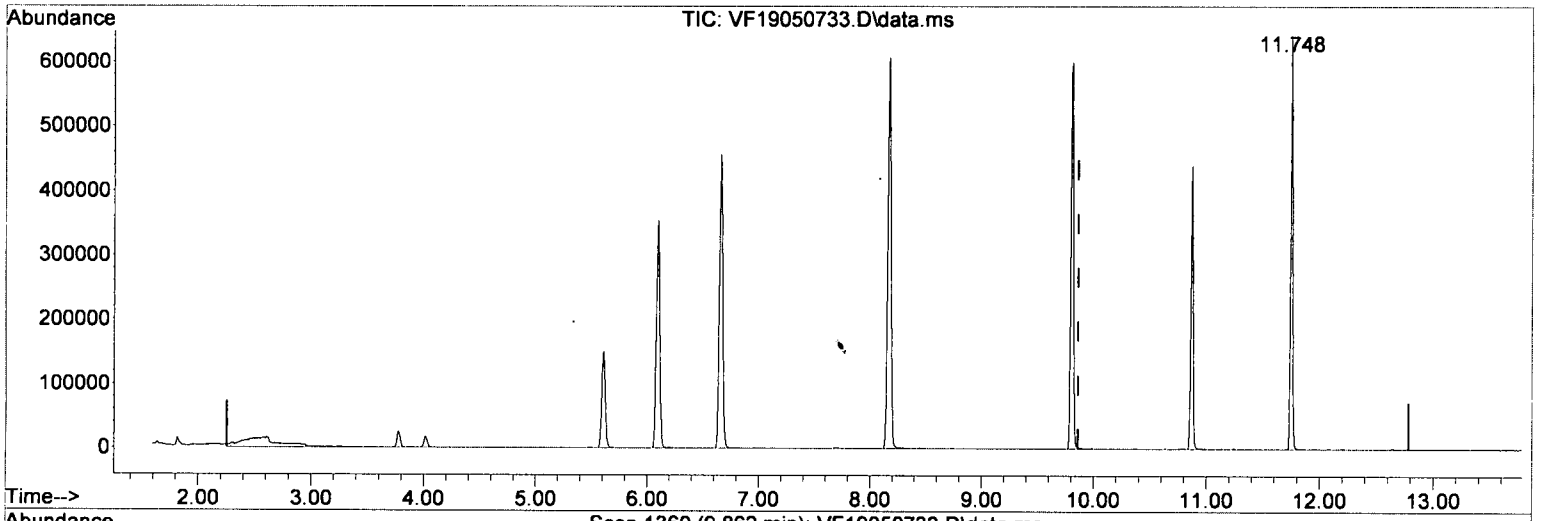
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

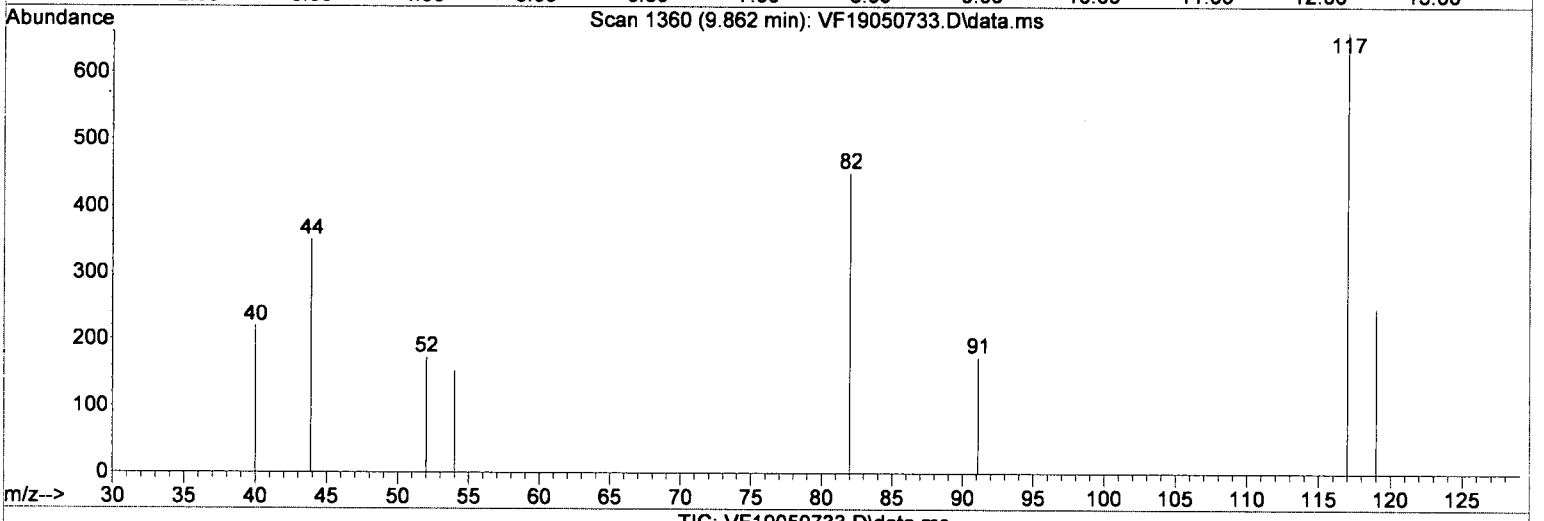
INT = 9,2

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





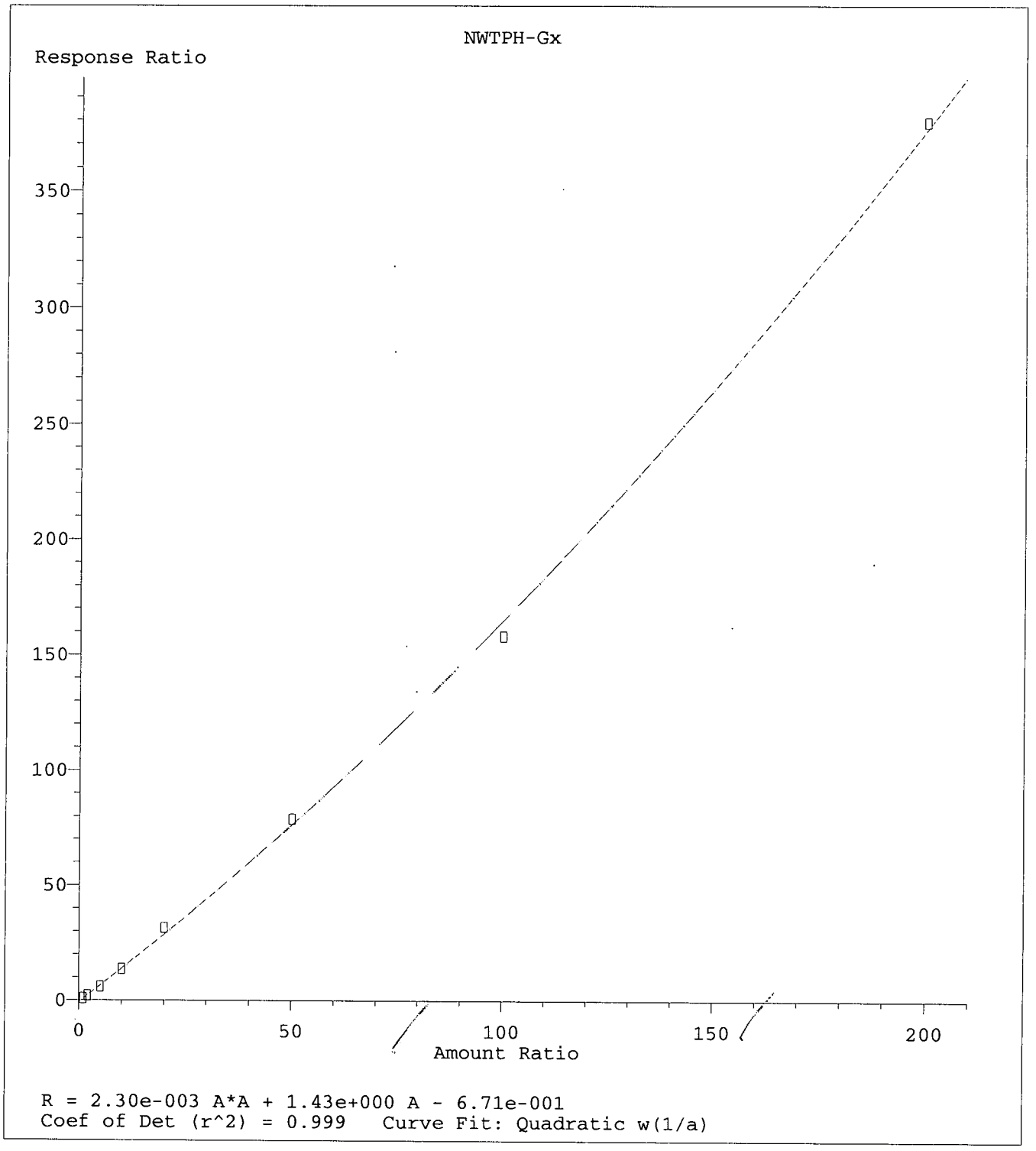
TIC: VF19050733.D\data.ms

(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



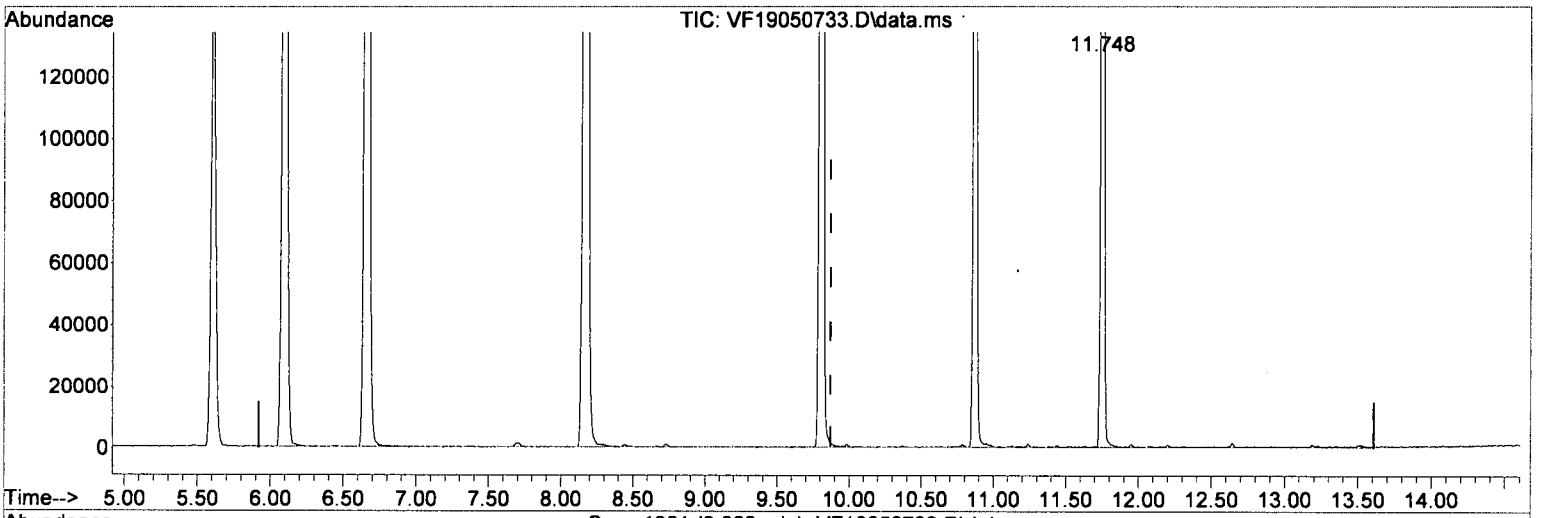
Method Name: C:\msdchem\1\METHODS\VF190507G.M
Calibration Table Last Updated: Wed May 08 11:36:04 2019

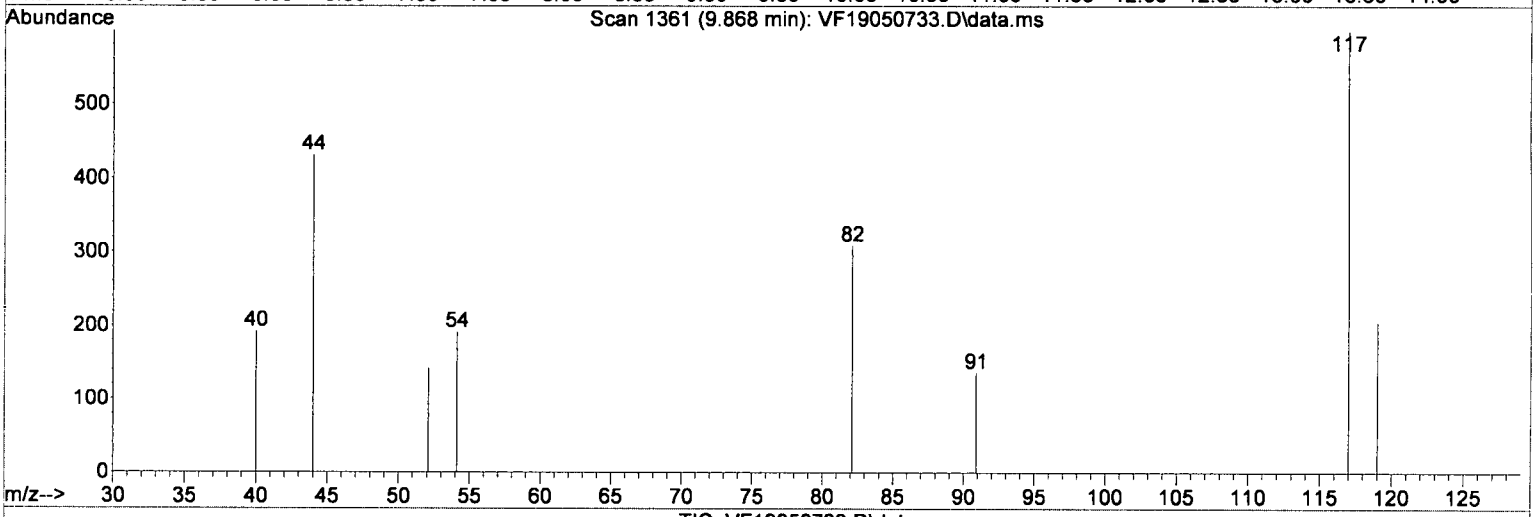
Int = 24.2

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

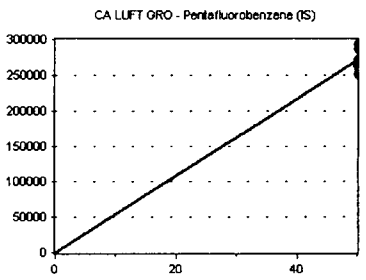
Element Calibration Review Sheet

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**

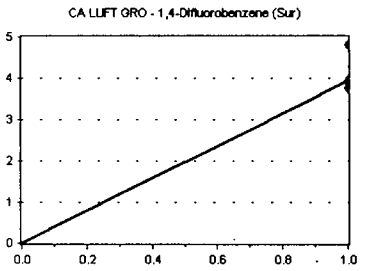


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	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**

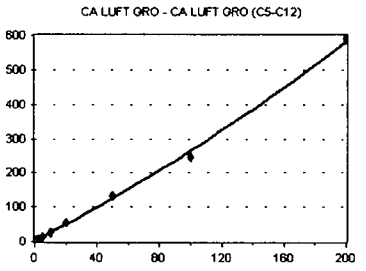


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	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**

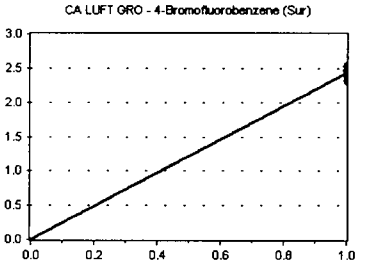


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	905552	3.596	9.86
9E07048-CALD	100	1495406	2.783	9.86
9E07048-CALE	250	3256728	2.502	9.86
9E07048-CALF	500	6691065	2.529	9.86
9E07048-CALG	1000	1.433345E+07	2.733	9.86
9E07048-CALH	2500	3.600874E+07	2.651	9.86
9E07048-CALI	5000	7.131647E+07	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**

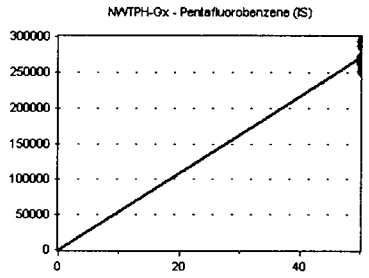
Element Calibration Review Sheet

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**

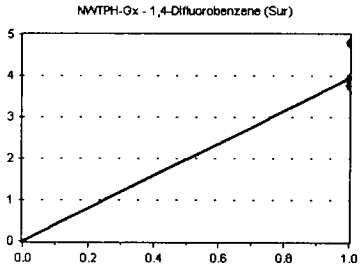


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	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**

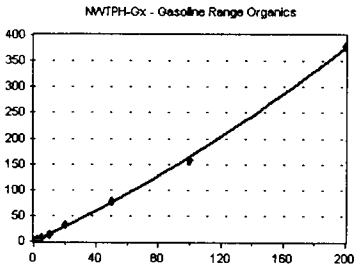


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	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**

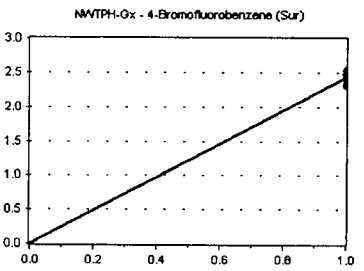


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	216743	0.861	9.87
9E07048-CALD	100	540113	1.005	9.87
9E07048-CALE	250	1533968	1.178	9.87
9E07048-CALF	500	3603975	1.362	9.87
9E07048-CALG	1000	8256018	1.574	9.87
9E07048-CALH	2500	2.140465E+07	1.576	9.87
9E07048-CALI	5000	4.546724E+07	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**

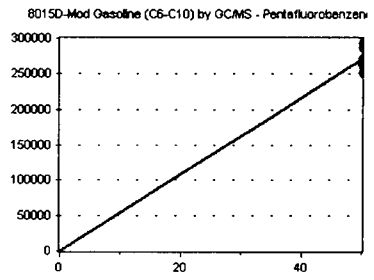
Element Calibration Review Sheet

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**

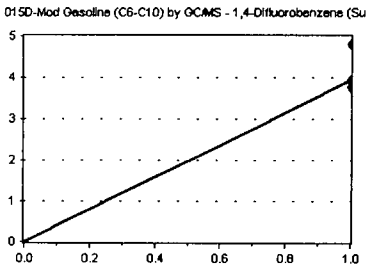


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	251815	5036.300	6.10
9E07048-CALD	50	268659	5373.180	6.10
9E07048-CALE	50	260344	5206.880	6.09
9E07048-CALF	50	264609	5292.180	6.10
9E07048-CALG	50	262223	5244.460	6.09
9E07048-CALH	50	271709	5434.180	6.10
9E07048-CALI	50	287647	5752.940	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**

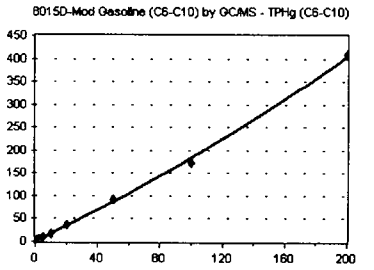


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	944857	3.752	6.66
9E07048-CALD	50	1016126	3.782	6.66
9E07048-CALE	50	976363	3.750	6.66
9E07048-CALF	50	998574	3.774	6.66
9E07048-CALG	50	994511	3.793	6.66
9E07048-CALH	50	1064809	3.919	6.66
9E07048-CALI	50	1135195	3.946	6.66
9E07048-CALJ	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**

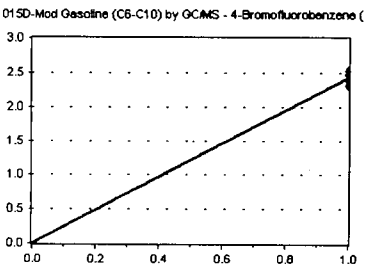


Standard	Concentration	Response	Response Factor	RT
9E07048-CALC	50	621653	2.469	9.86
9E07048-CALD	100	1022515	1.903	9.86
9E07048-CALE	250	2228270	1.712	9.86
9E07048-CALF	500	4686857	1.771	9.86
9E07048-CALG	1000	9868759	1.882	9.86
9E07048-CALH	2500	2.515076E+07	1.851	9.86
9E07048-CALI	5000	4.969054E+07	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

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

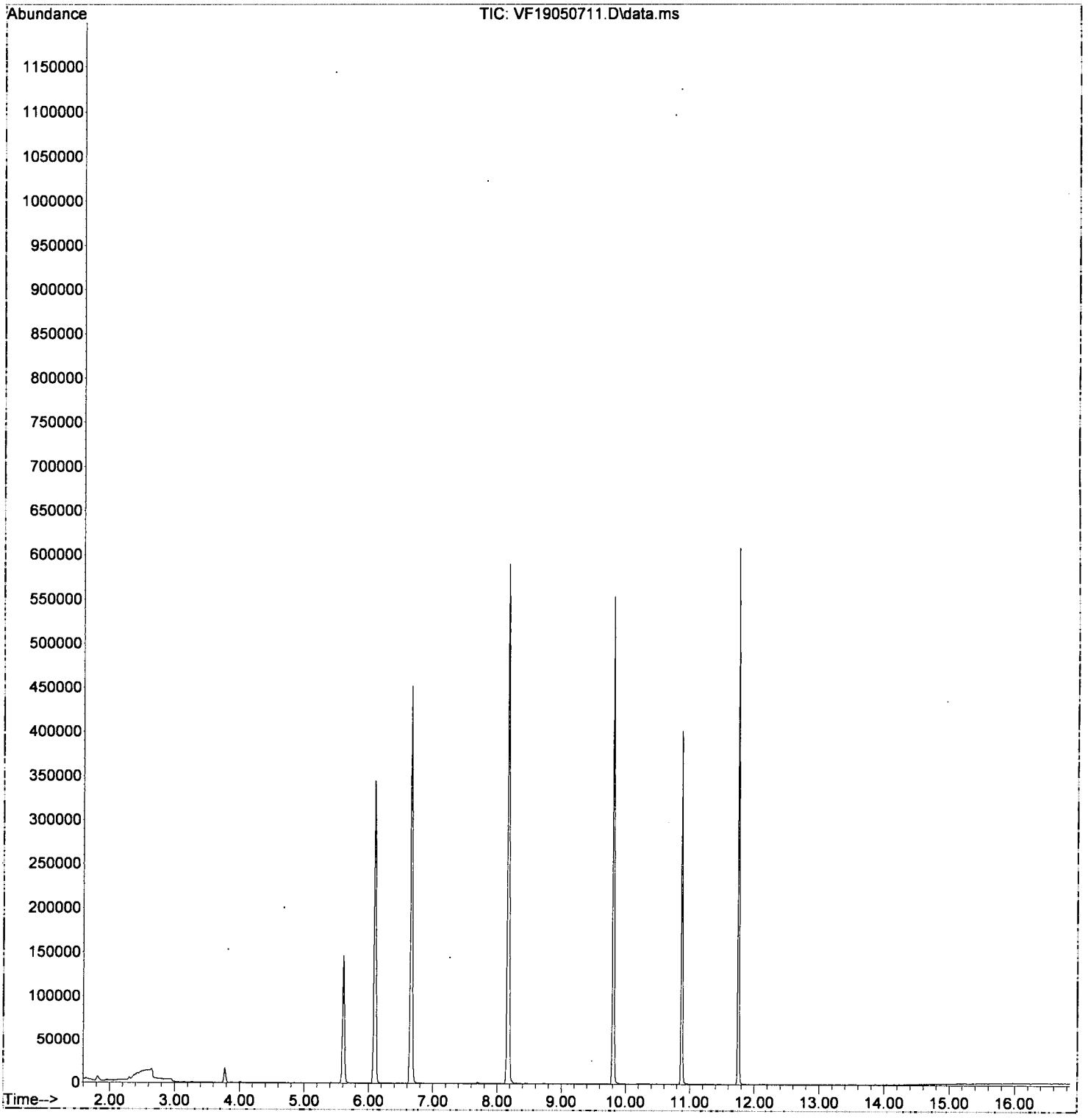
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.098	168	262943	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.802	117	288034	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	126489	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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



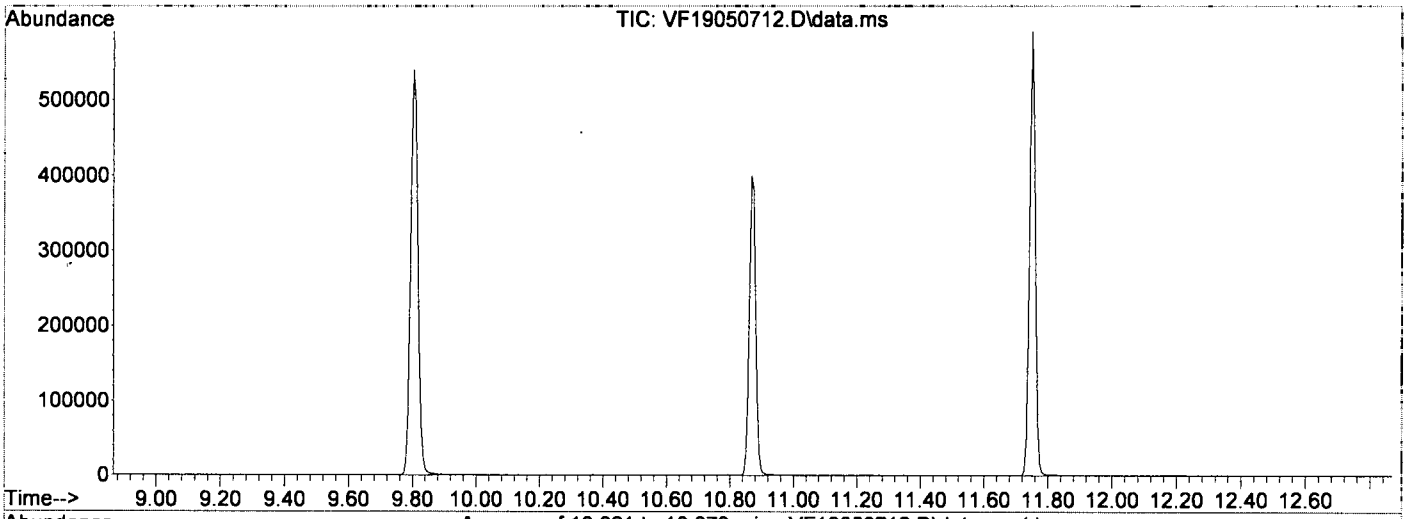
BFB

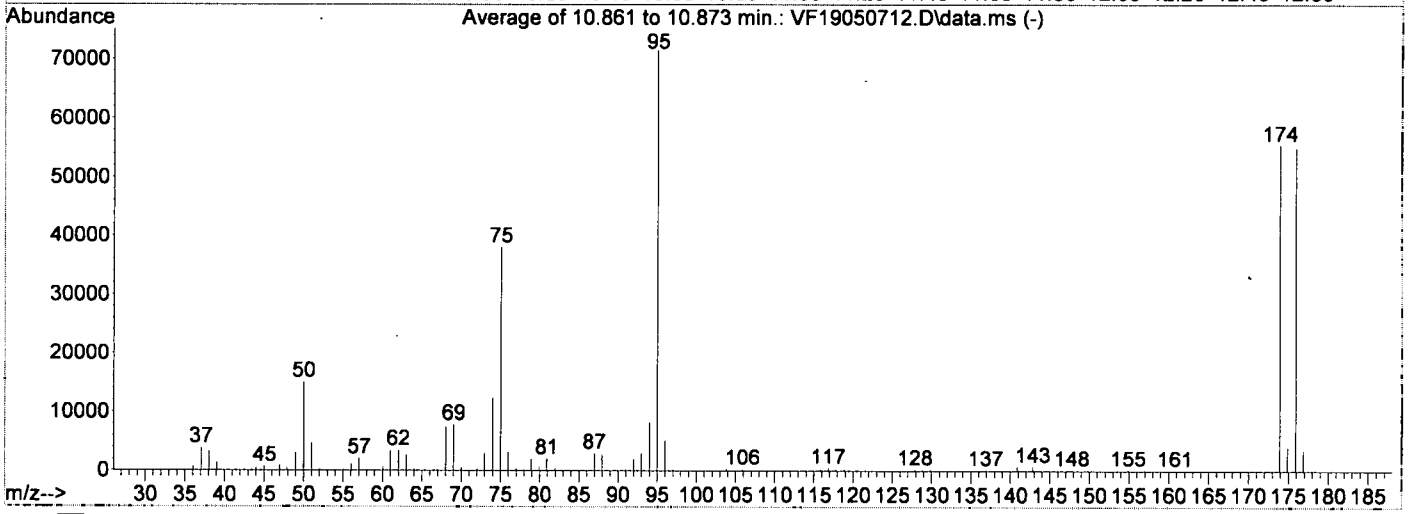
Data Path : C:\msdchem\1\DATA\2019-05\9E07048\
Data File : VF19050712.D
Acq On : 7 May 2019 7:21 pm
Operator : TB
Sample : 9E07048-TUN1
Misc : A19D196 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

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

5/8/19

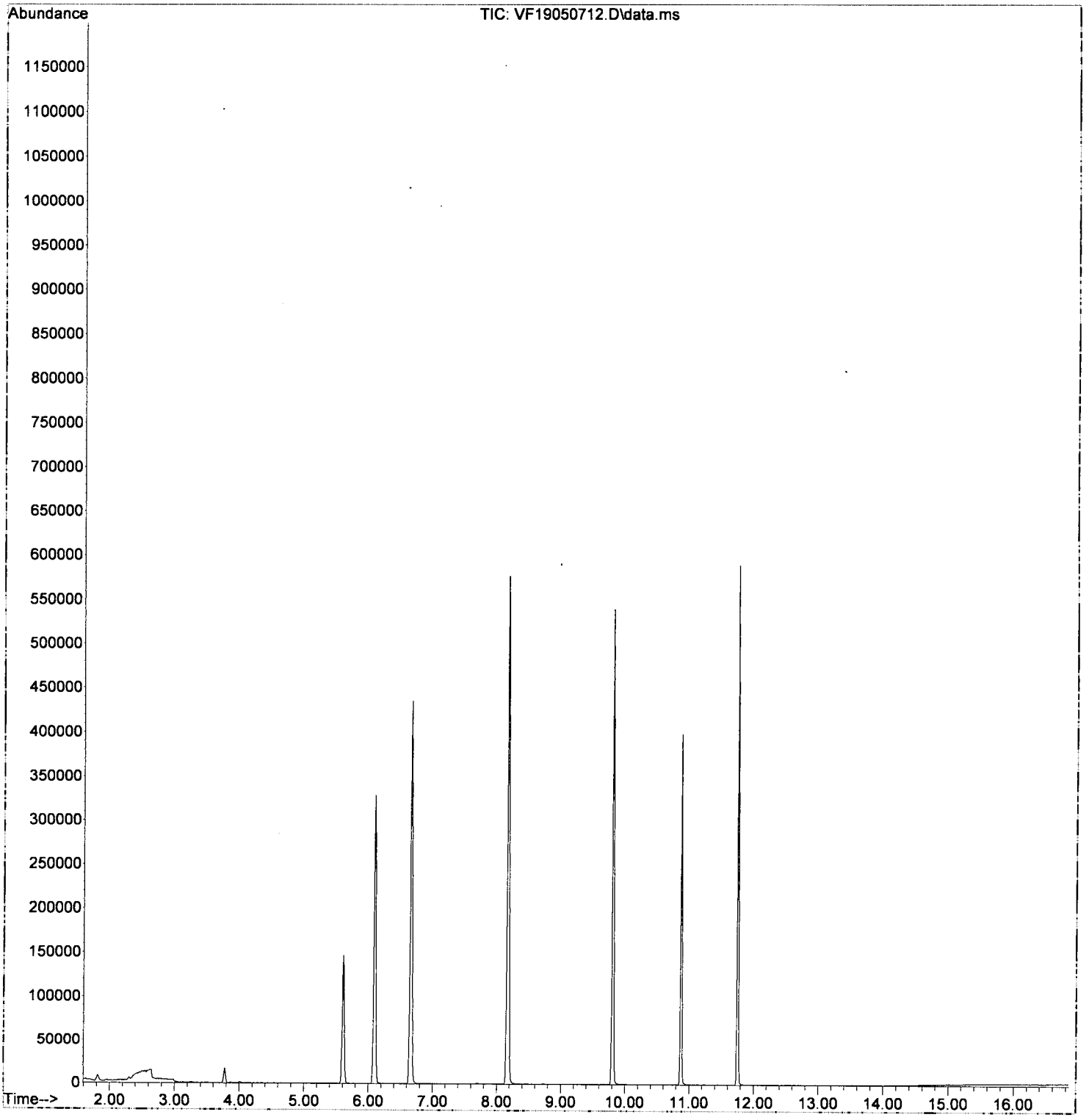
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.098	168	251113	50.00 ug/L	0.00
37) Chlorobenzene-d5 (I)	9.803	117	284438	50.00 ug/L	0.00
57) 1,4-Dichlorobenzene-d4...	11.749	152	121728	50.00 ug/L	0.00
System Monitoring Compounds					
26) Dibromofluoromethane (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

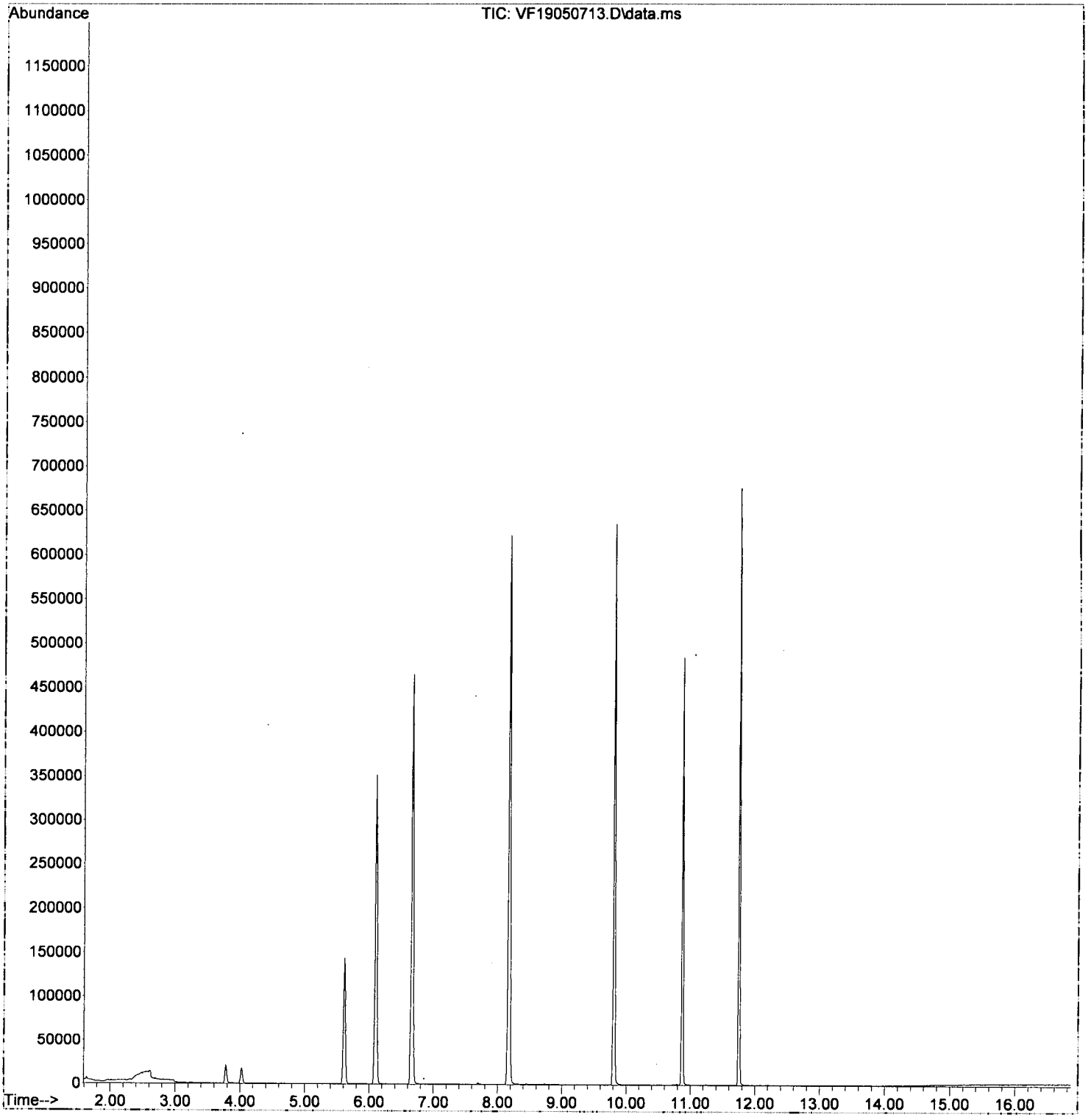
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.102	168	264636	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	322849	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.747	152	140430	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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

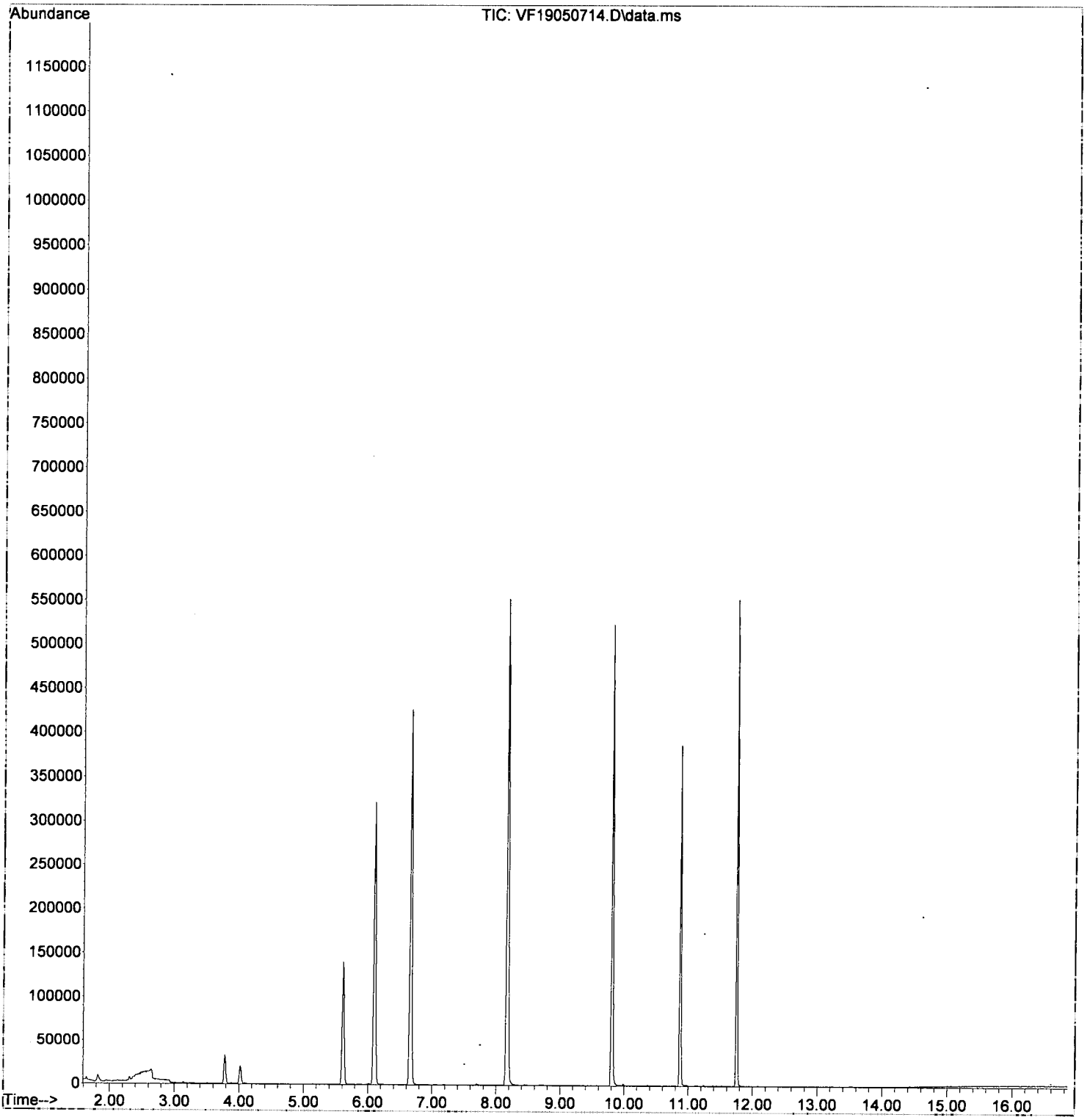
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.819	112	708	0.11	ug/L	#	1
50) Ethylbenzene	9.849	91	1175	0.11	ug/L		92
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
52) m,p-Xylenes (2)	9.989	91	1447	0.18	ug/L		93
53) o-Xylene	10.367	91	771	0.10	ug/L		82
54) Styrene	10.421	104	268	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

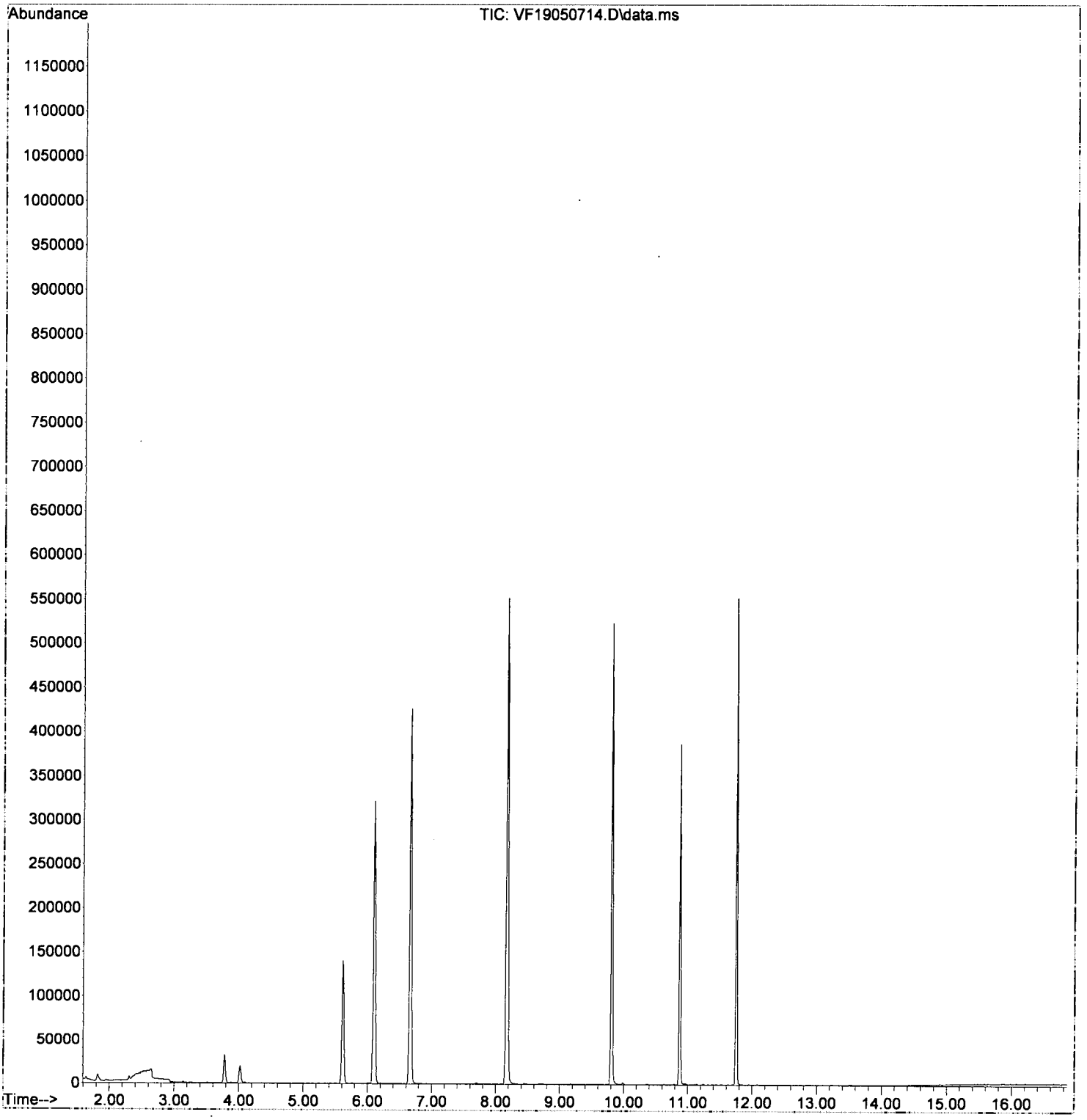
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	708	0.11	ug/L #	1
50) Ethylbenzene	9.849	91	1175	0.11	ug/L	92
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
52) m,p-Xylenes (2)	9.989	91	1447	0.18	ug/L	93
53) o-Xylene	10.367	91	771	0.10	ug/L	82
54) Styrene	0.000		0	N.D. d		
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

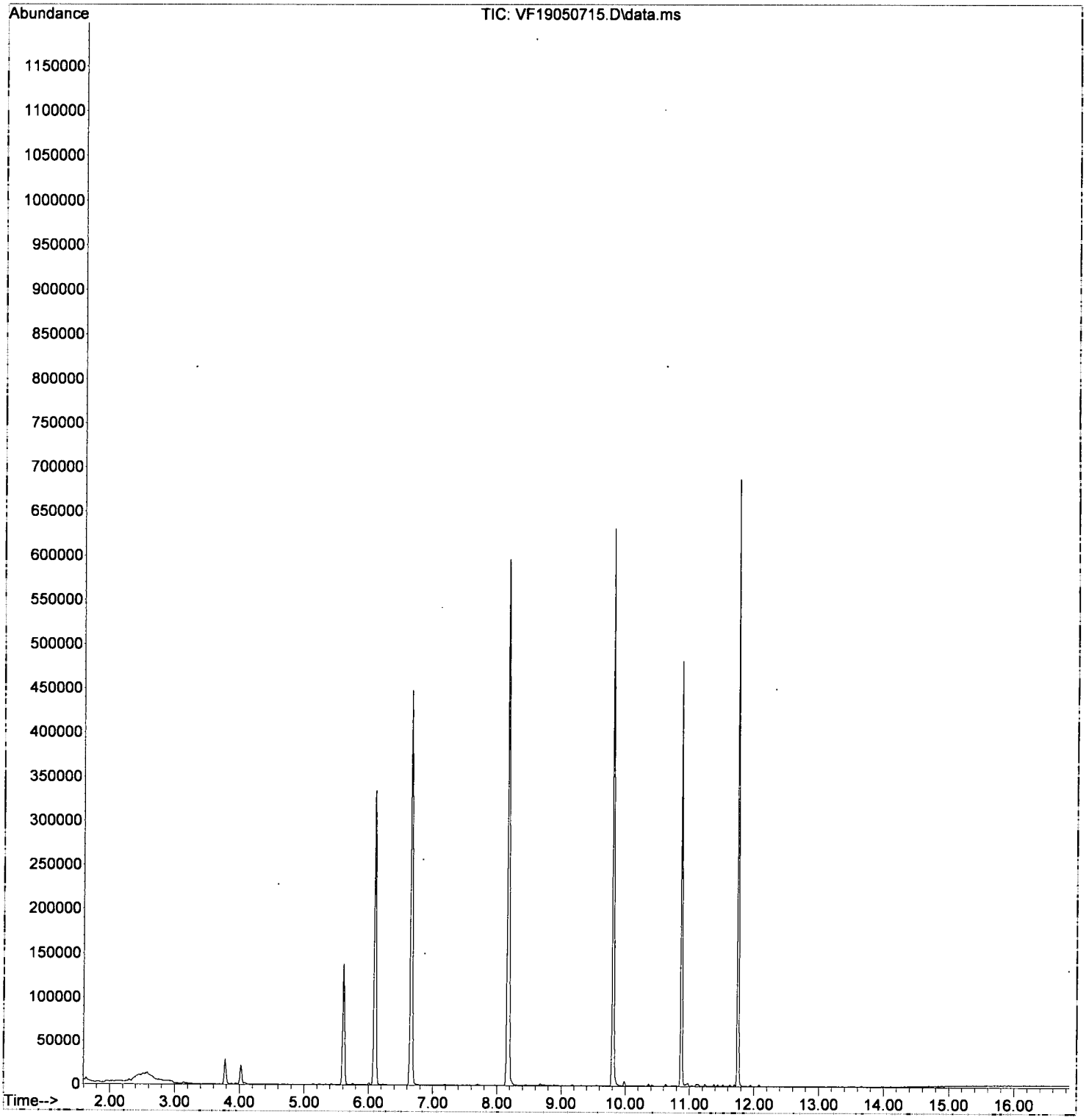
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22 ug/L #	35
50) Ethylbenzene	9.845	91	2644	0.20 ug/L	90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
52) m,p-Xylenes (2)	9.985	91	3375	0.35 ug/L	98
53) o-Xylene	10.362	91	1661	0.18 ug/L	97
54) Styrene	10.417	104	742	0.12 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

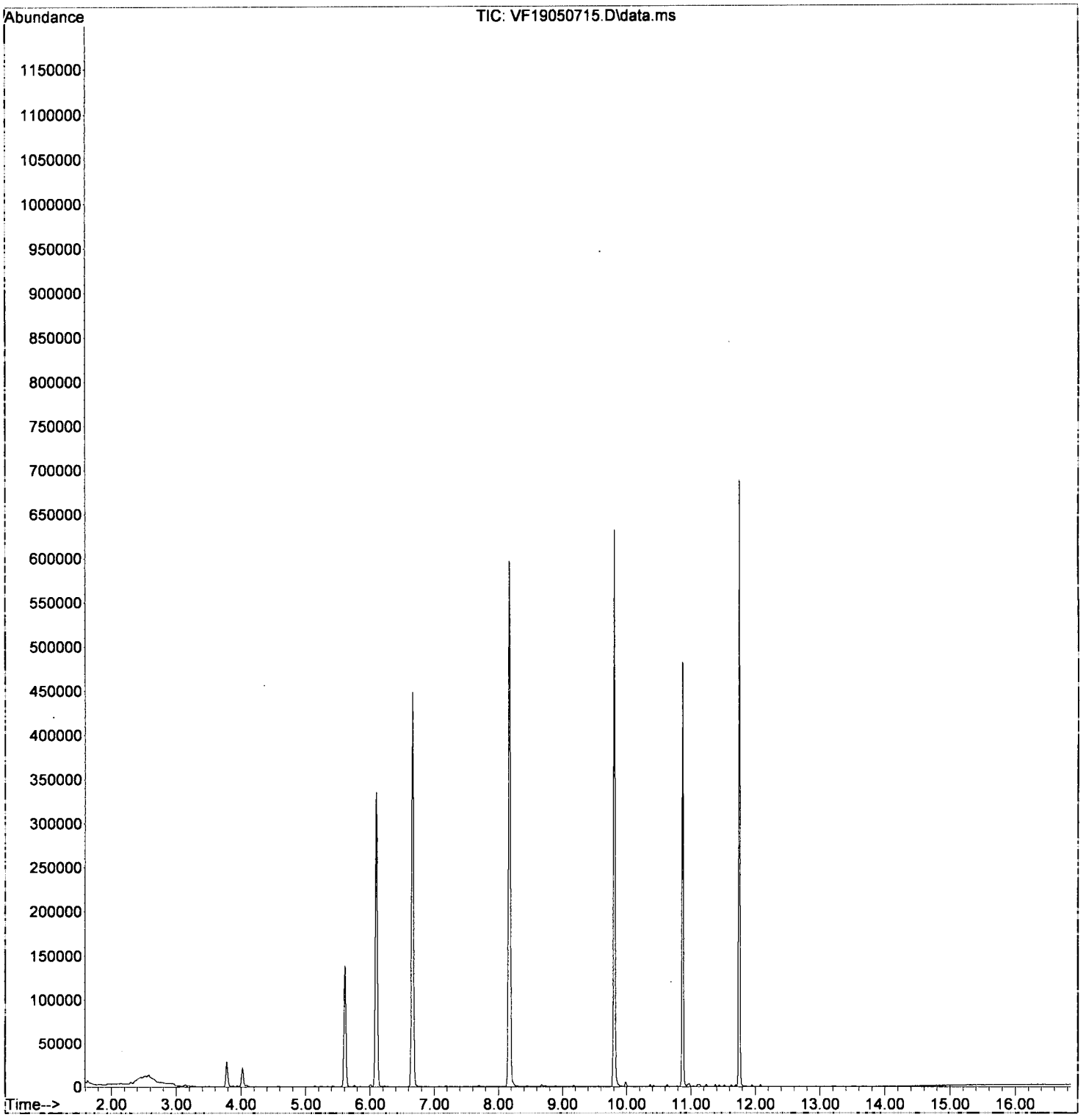
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	1621	0.22	ug/L	#	35
50) Ethylbenzene	9.845	91	2644	0.20	ug/L		90
51) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
52) m,p-Xylenes (2)	9.985	91	3375	0.35	ug/L		98
53) o-Xylene	10.362	91	1661	0.18	ug/L		97
54) Styrene	10.417	104	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

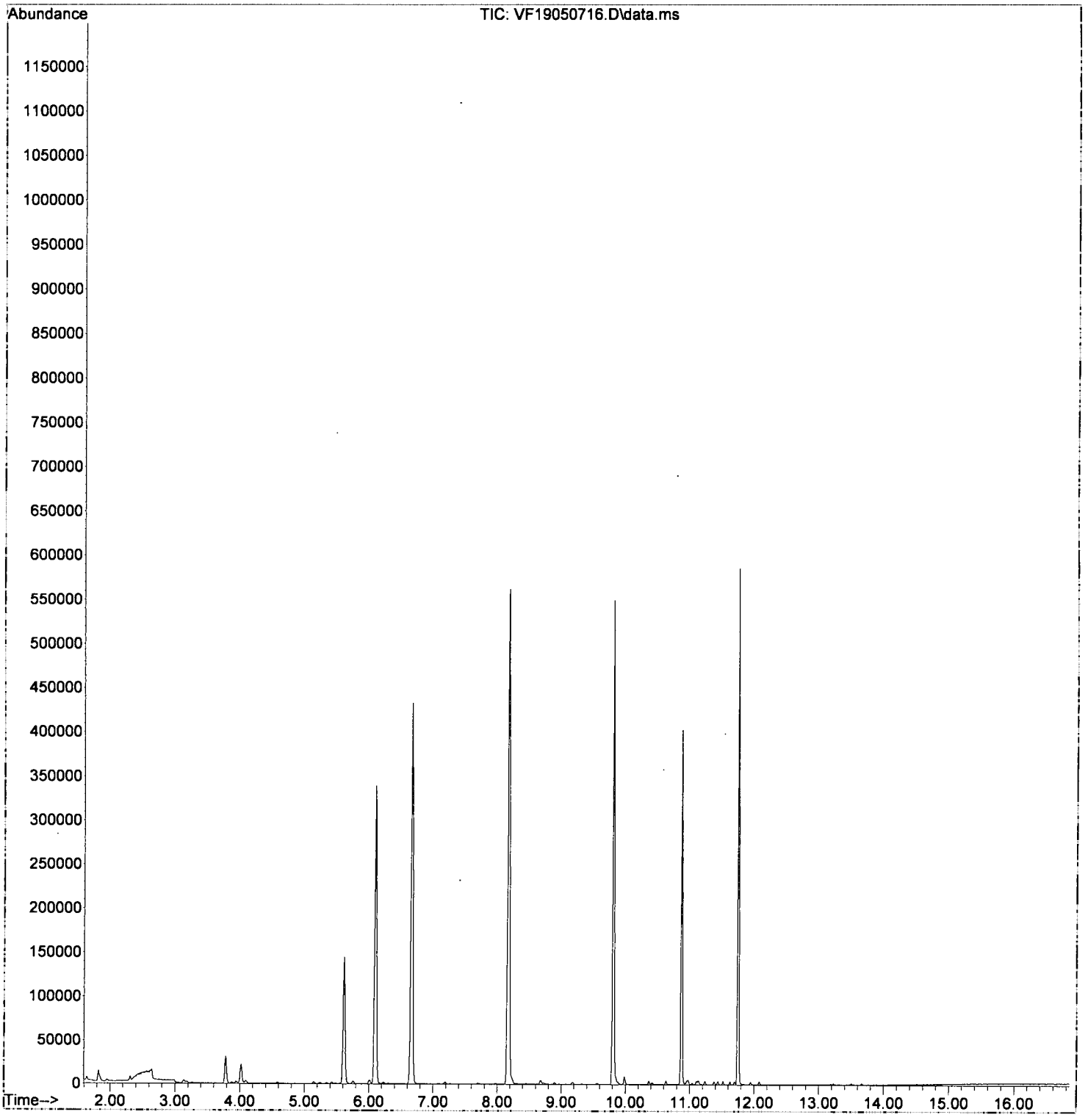
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40 ug/L #	67
50) Ethylbenzene	9.852	91	4382	0.38 ug/L	86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21 ug/L #	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63 ug/L	97
53) o-Xylene	10.363	91	2704	0.33 ug/L	96
54) Styrene	10.418	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

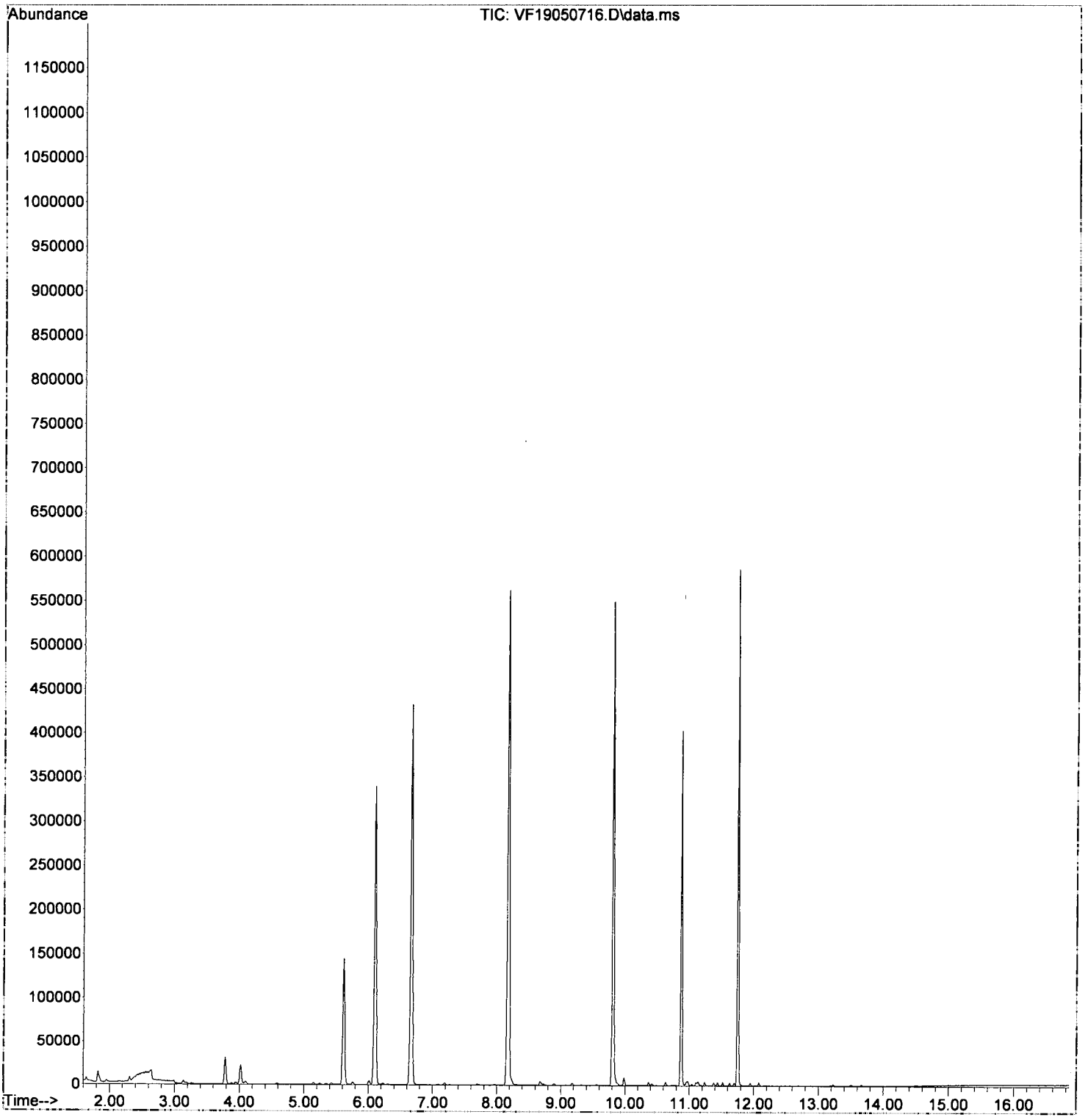
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	2707	0.40	ug/L	#	67
50) Ethylbenzene	9.852	91	4382	0.38	ug/L		86
51) 1,1,1,2-Tetrachloroethane	9.894	131	292	0.21	ug/L	#	74
52) m,p-Xylenes (2)	9.986	91	5409	0.63	ug/L		97
53) o-Xylene	10.363	91	2704	0.33	ug/L		96
54) Styrene	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

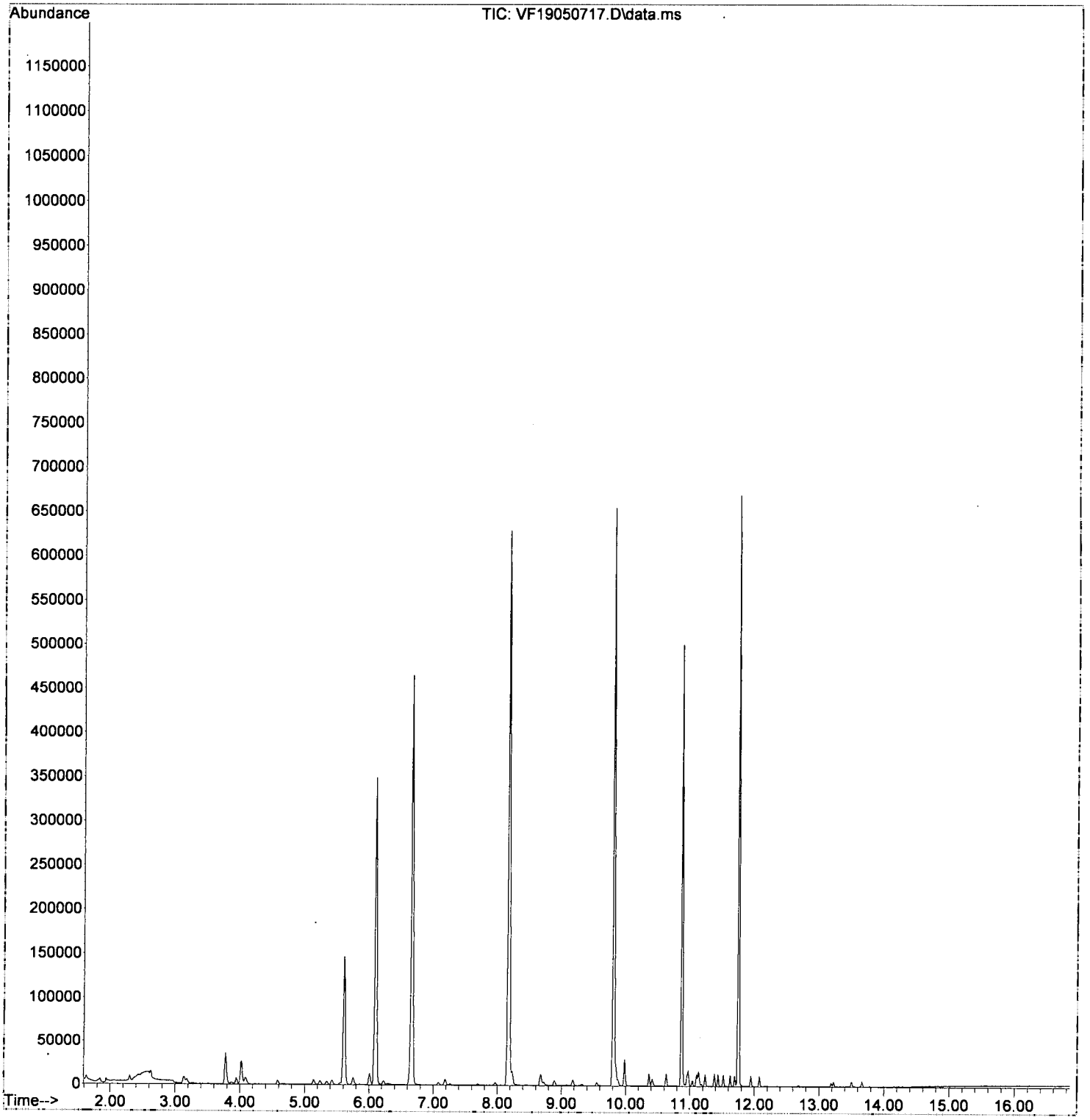
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01 ug/L	80
50) Ethylbenzene	9.849	91	12168	0.92 ug/L	95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49 ug/L	91
52) m,p-Xylenes (2)	9.983	91	16601	1.69 ug/L	91
53) o-Xylene	10.366	91	7663	0.83 ug/L	98
54) Styrene	10.415	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

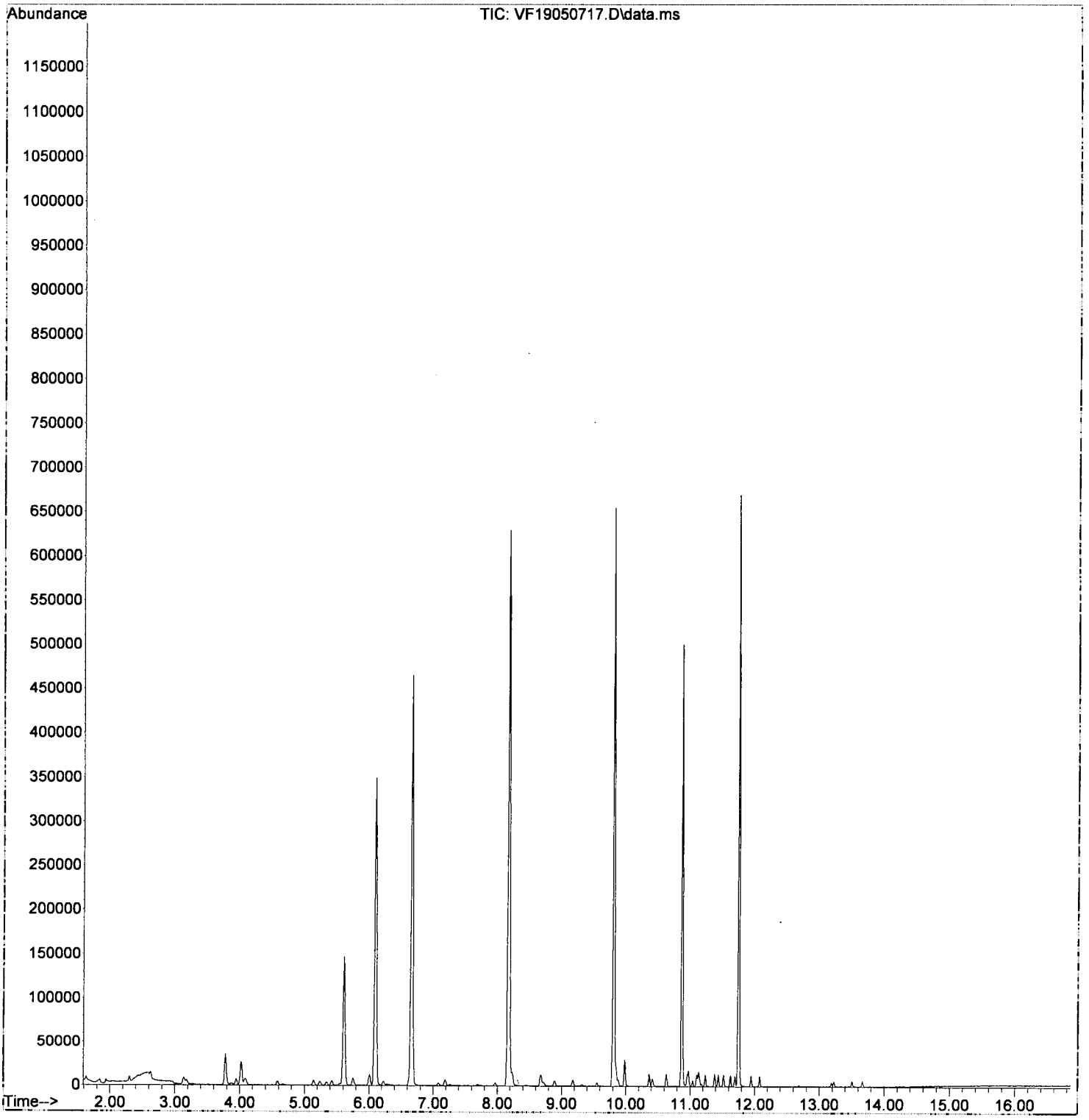
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.818	112	7684	1.01	ug/L	80
50) Ethylbenzene	9.849	91	12168	0.92	ug/L	95
51) 1,1,1,2-Tetrachloroethane	9.885	131	785	0.49	ug/L	91
52) m,p-Xylenes (2)	9.983	91	16601	1.69	ug/L	91
53) o-Xylene	10.366	91	7663	0.83	ug/L	98
54) Styrene	10.415	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

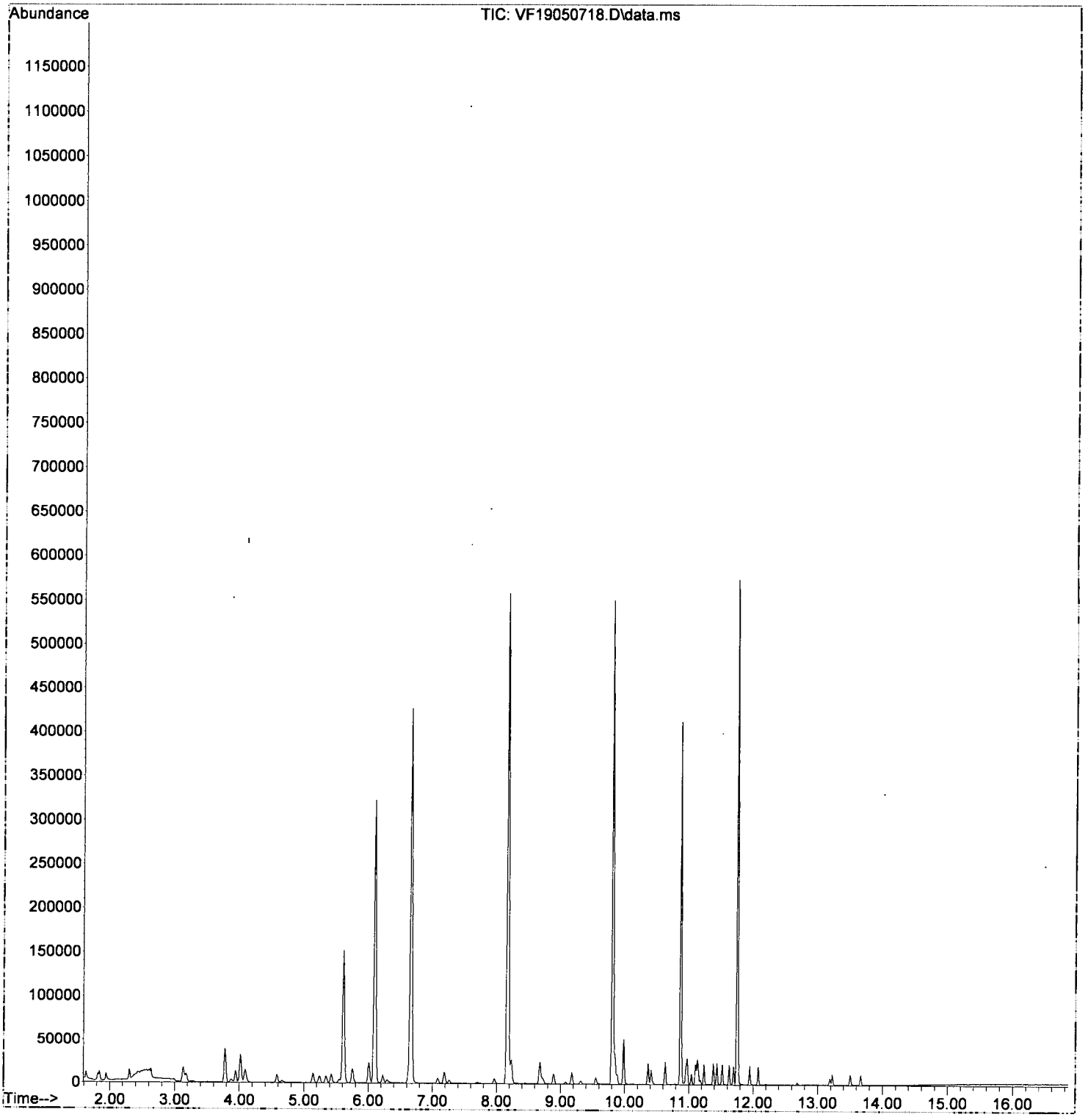
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	12836	1.99	ug/L		89
50) Ethylbenzene	9.849	91	20590	1.85	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.885	131	1701	1.26	ug/L		86
52) m,p-Xylenes (2)	9.983	91	28146	3.40	ug/L		94
53) o-Xylene	10.366	91	13306	1.71	ug/L		95
54) Styrene	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

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

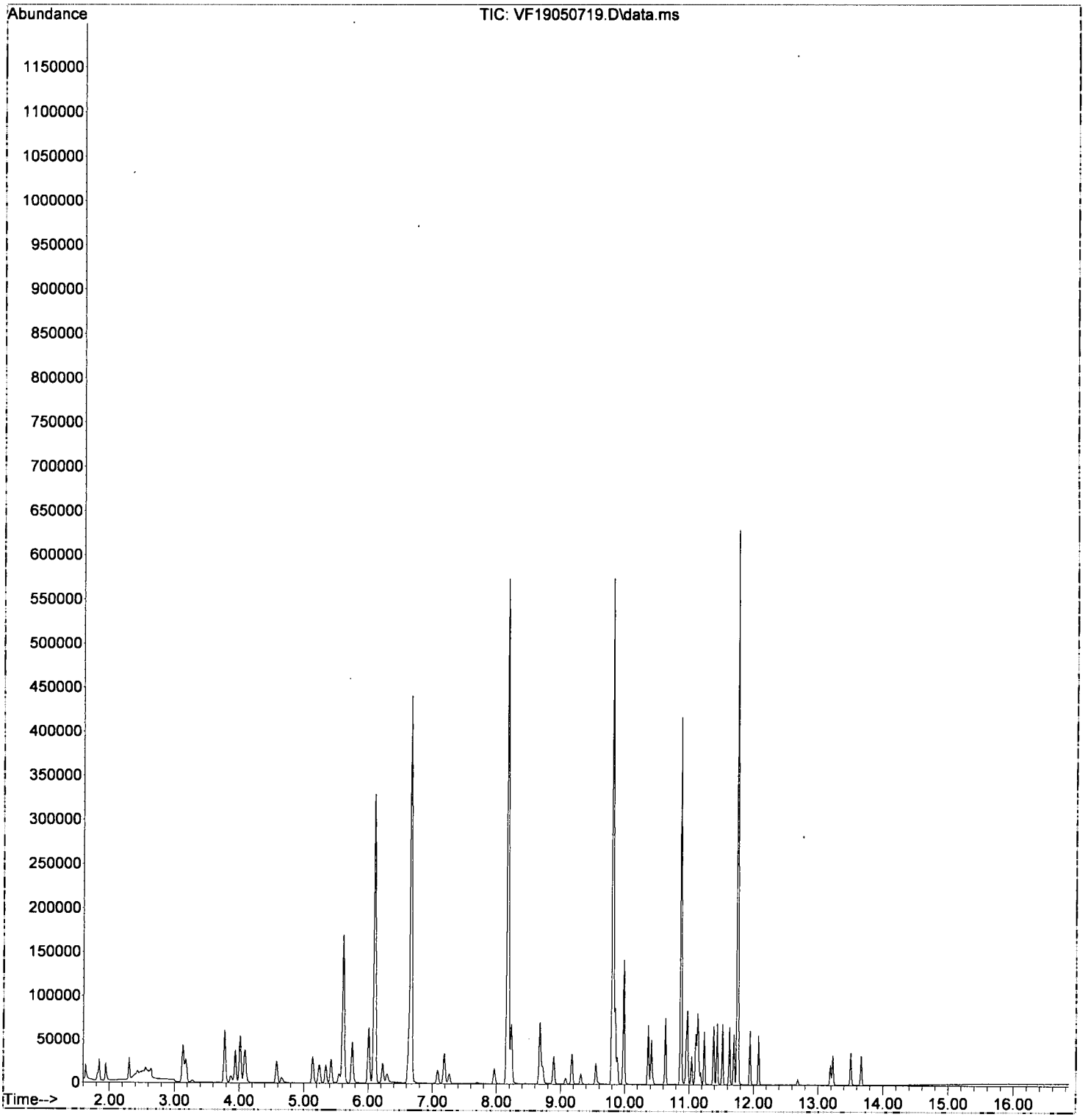
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.822	112	32582	4.91	ug/L		94
50) Ethylbenzene	9.846	91	53767	4.68	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.882	131	4779	3.43	ug/L		94
52) m,p-Xylenes (2)	9.980	91	76311	8.96	ug/L		96
53) o-Xylene	10.363	91	35546	4.44	ug/L		95
54) Styrene	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

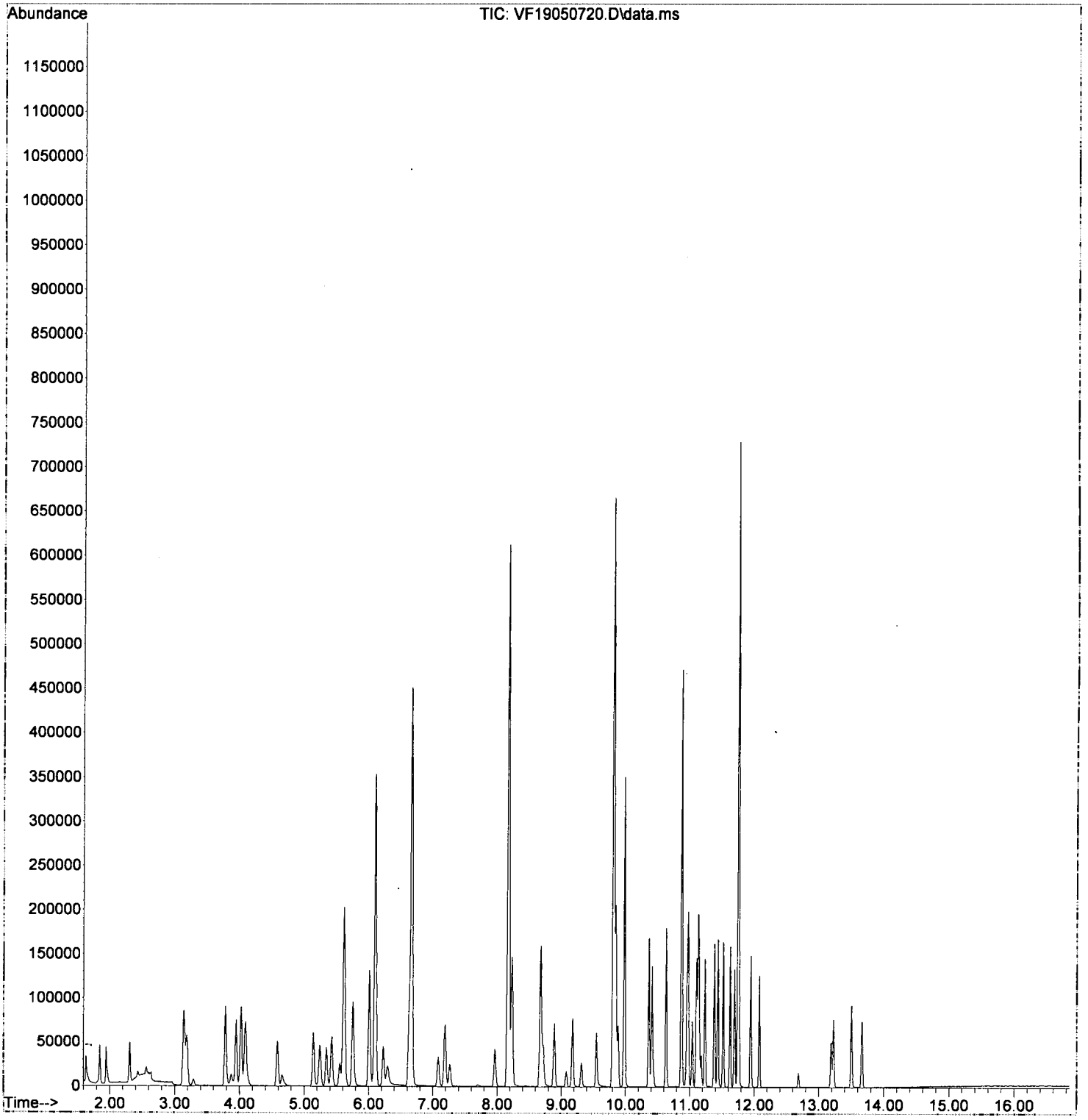
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	74844	9.90	ug/L		96
50) Ethylbenzene	9.845	91	123904	9.46	ug/L		96
51) 1,1,1,2-Tetrachloroethane	9.882	131	12247	7.72	ug/L		98
52) m,p-Xylenes (2)	9.979	91	180873	18.63	ug/L		96
53) o-Xylene	10.363	91	85079	9.33	ug/L		96
54) 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

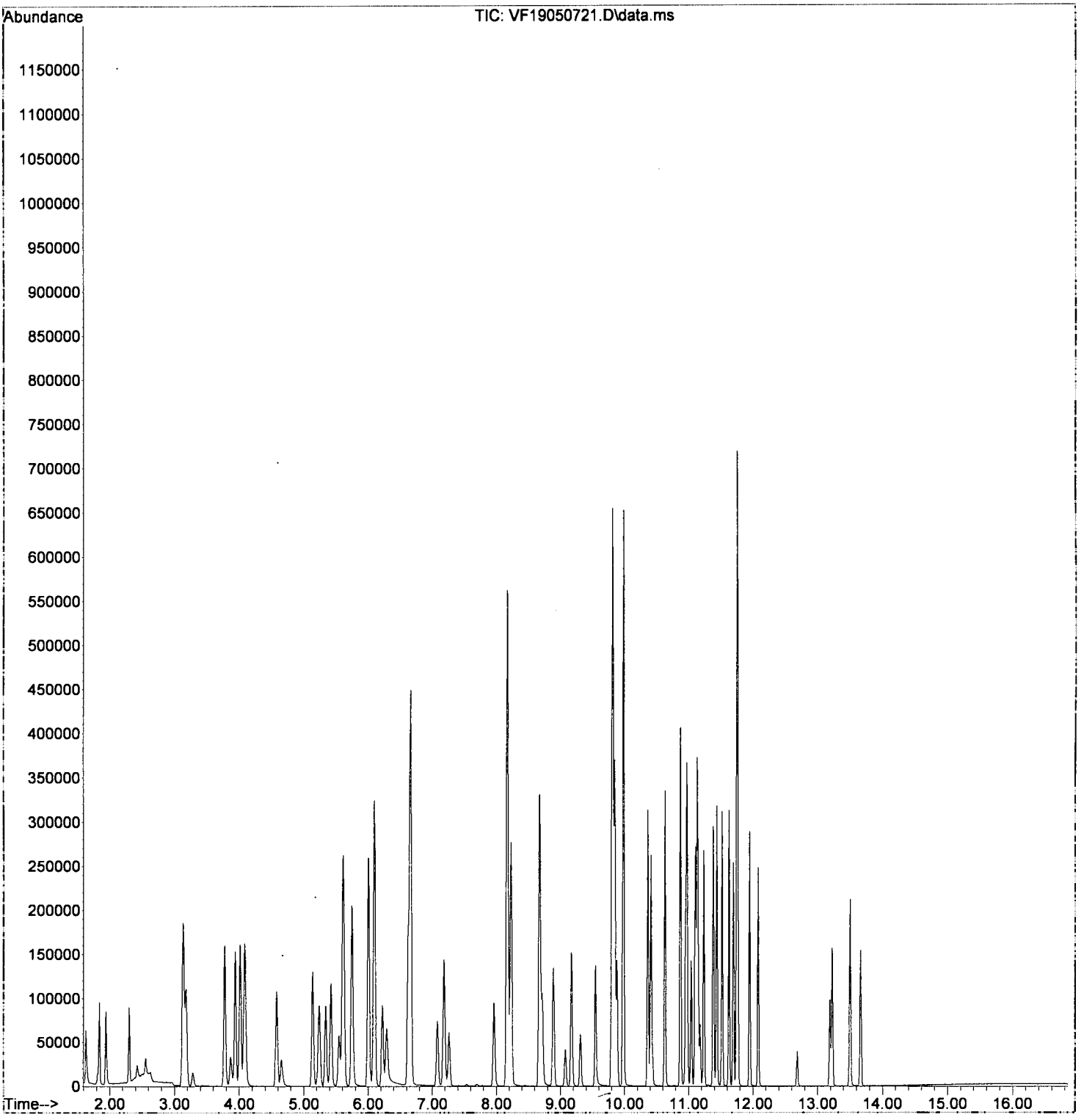
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	Chlorobenzene	9.820	112	130501	20.00	ug/L		98
50)	Ethylbenzene	9.845	91	225958	20.00	ug/L		97
51)	1,1,1,2-Tetrachloroethane	9.881	131	27384	20.00	ug/L		97
52)	m,p-Xylenes (2)	9.979	91	334982	40.00	ug/L		94
53)	o-Xylene	10.362	91	157388	20.00	ug/L		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

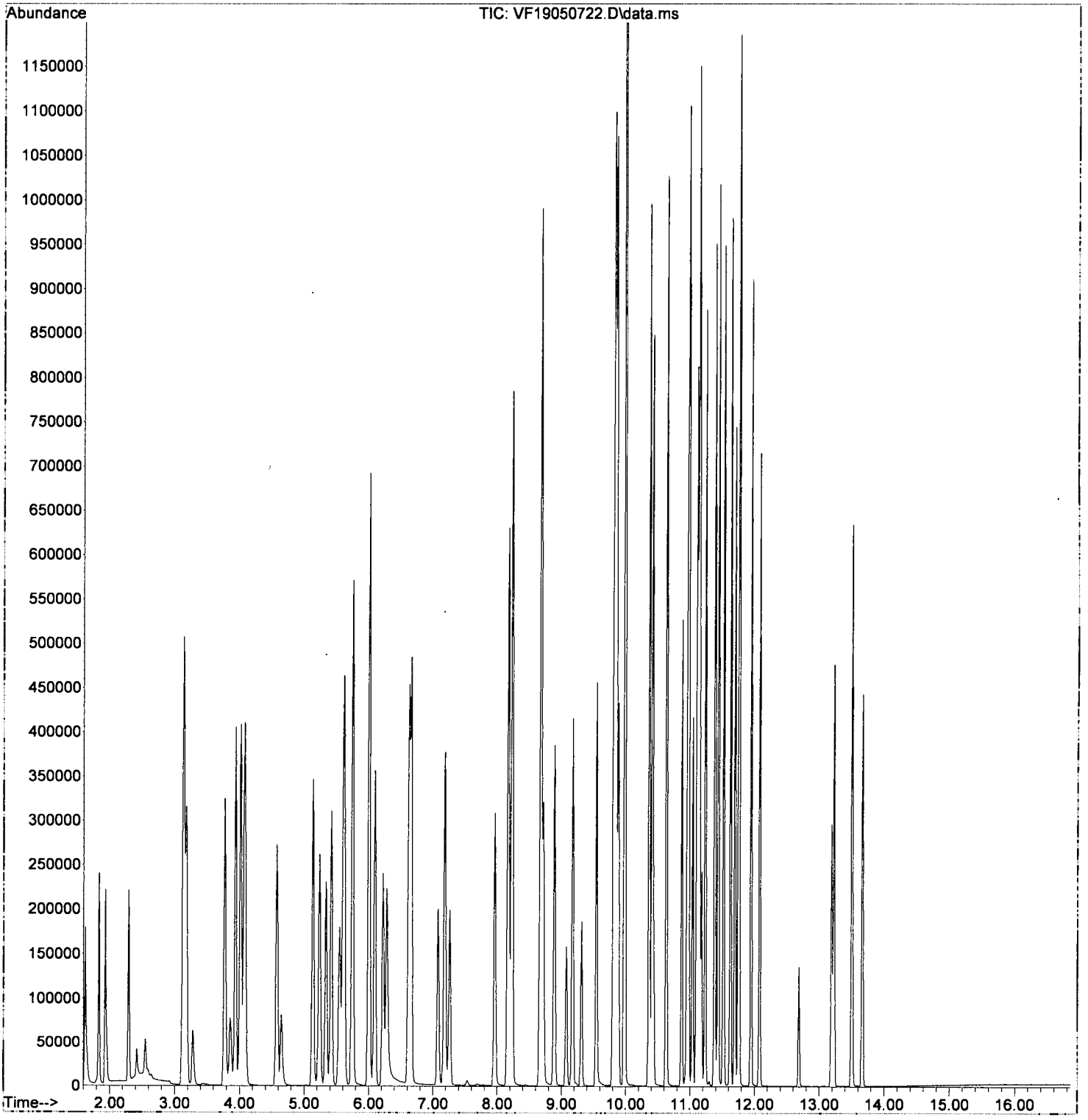
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.821	112	392199	50.04	ug/L		98
50) Ethylbenzene	9.846	91	684347	50.42	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.882	131	99762	60.65	ug/L		99
52) m,p-Xylenes (2)	9.979	91	1024139	101.80	ug/L		97
53) o-Xylene	10.363	91	494845	52.35	ug/L		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

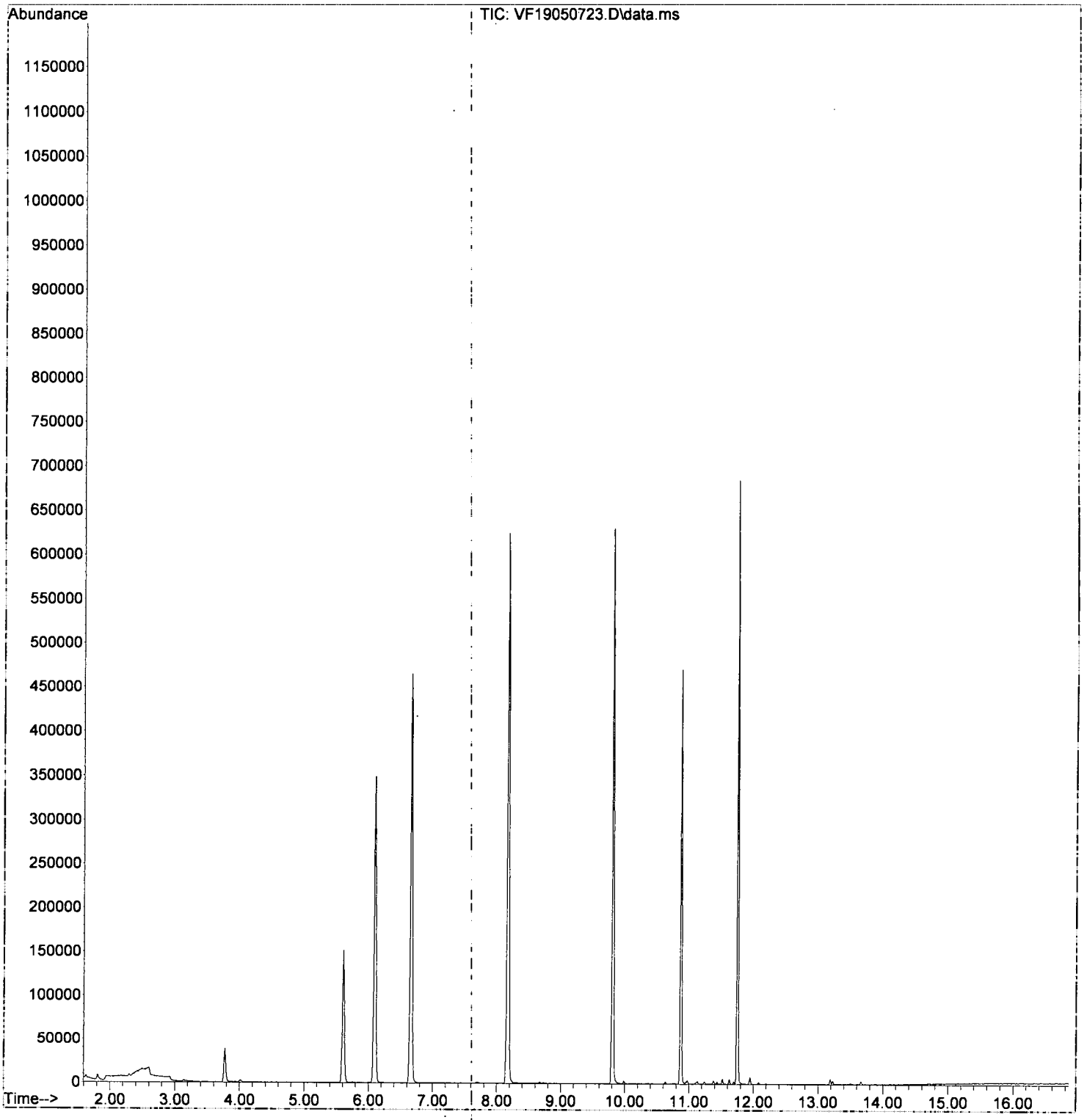
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.096	168	267959	50.00 ug/L		0.00
37) Chlorobenzene-d5 (I)	9.807	117	327429	50.00 ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.748	152	140340	50.00 ug/L		0.00
System Monitoring Compounds						
26) Dibromofluoromethane (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

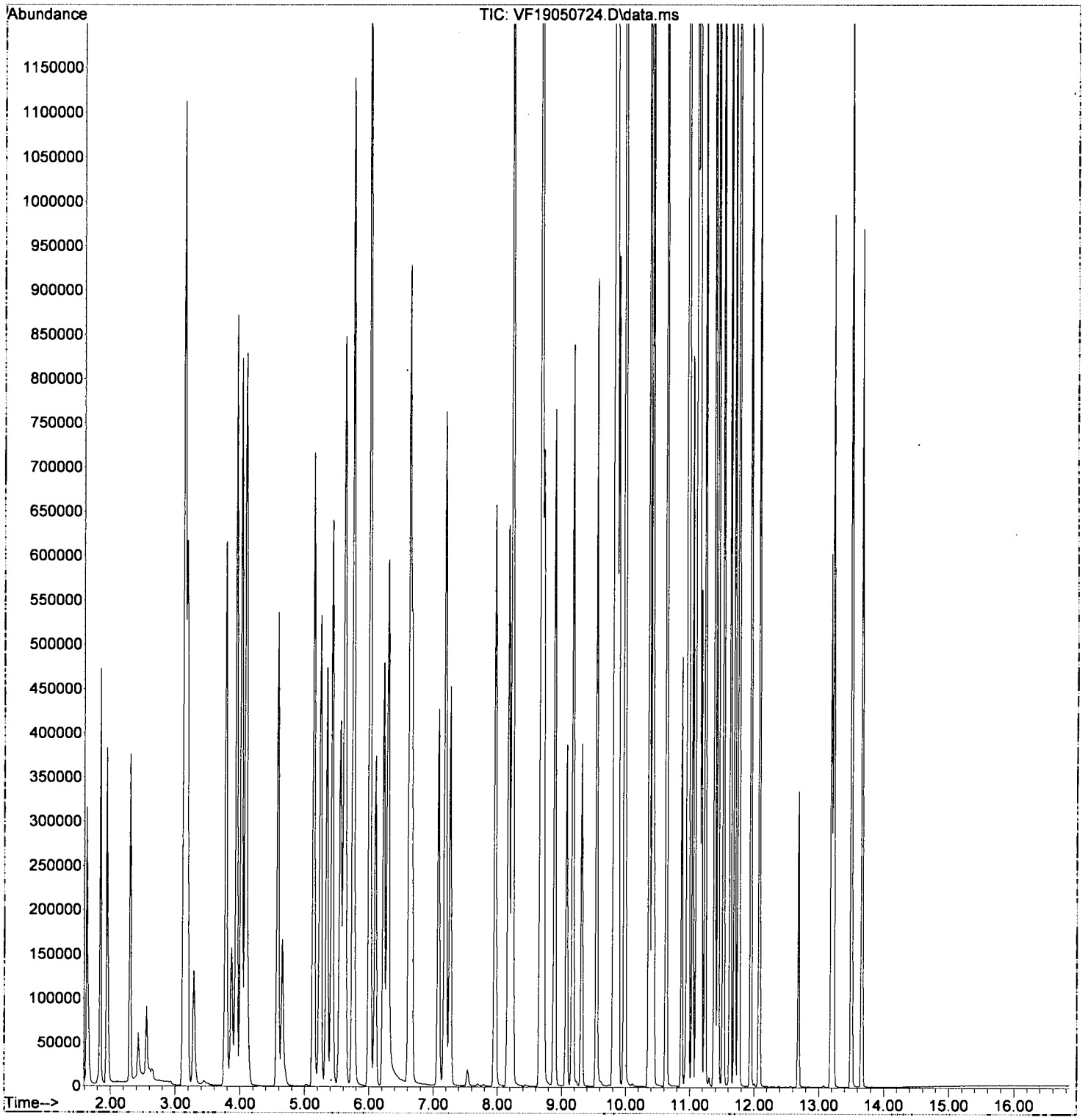
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Chlorobenzene	9.819	112	775570	97.68	ug/L	98
50) Ethylbenzene	9.843	91	1355629	98.61	ug/L	97
51) 1,1,1,2-Tetrachloroethane	9.880	131	228768	137.31	ug/L	98
52) m,p-Xylenes (2)	9.977	91	2053605	201.53	ug/L	97
53) o-Xylene	10.360	91	977297	102.06	ug/L	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

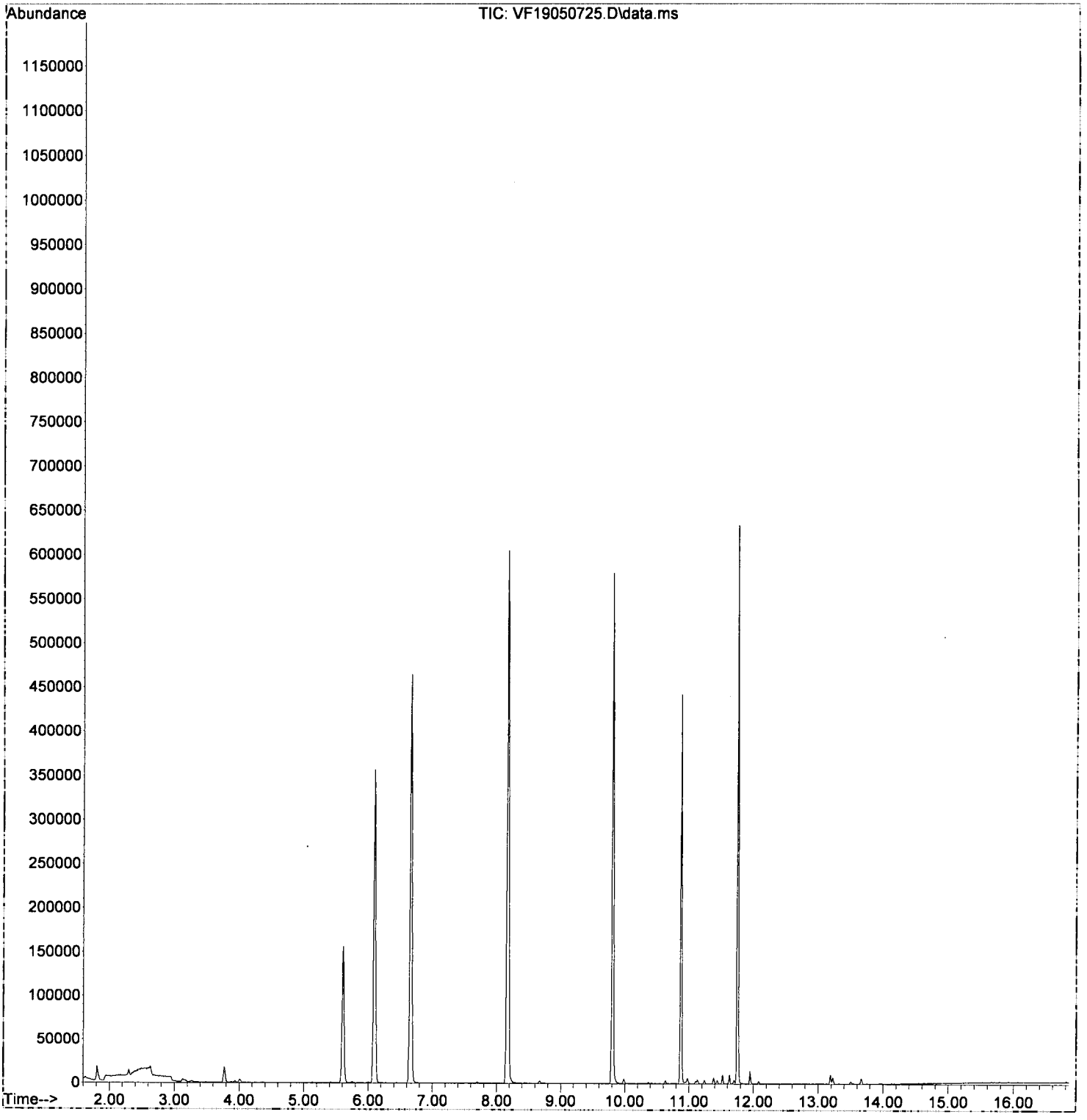
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = 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

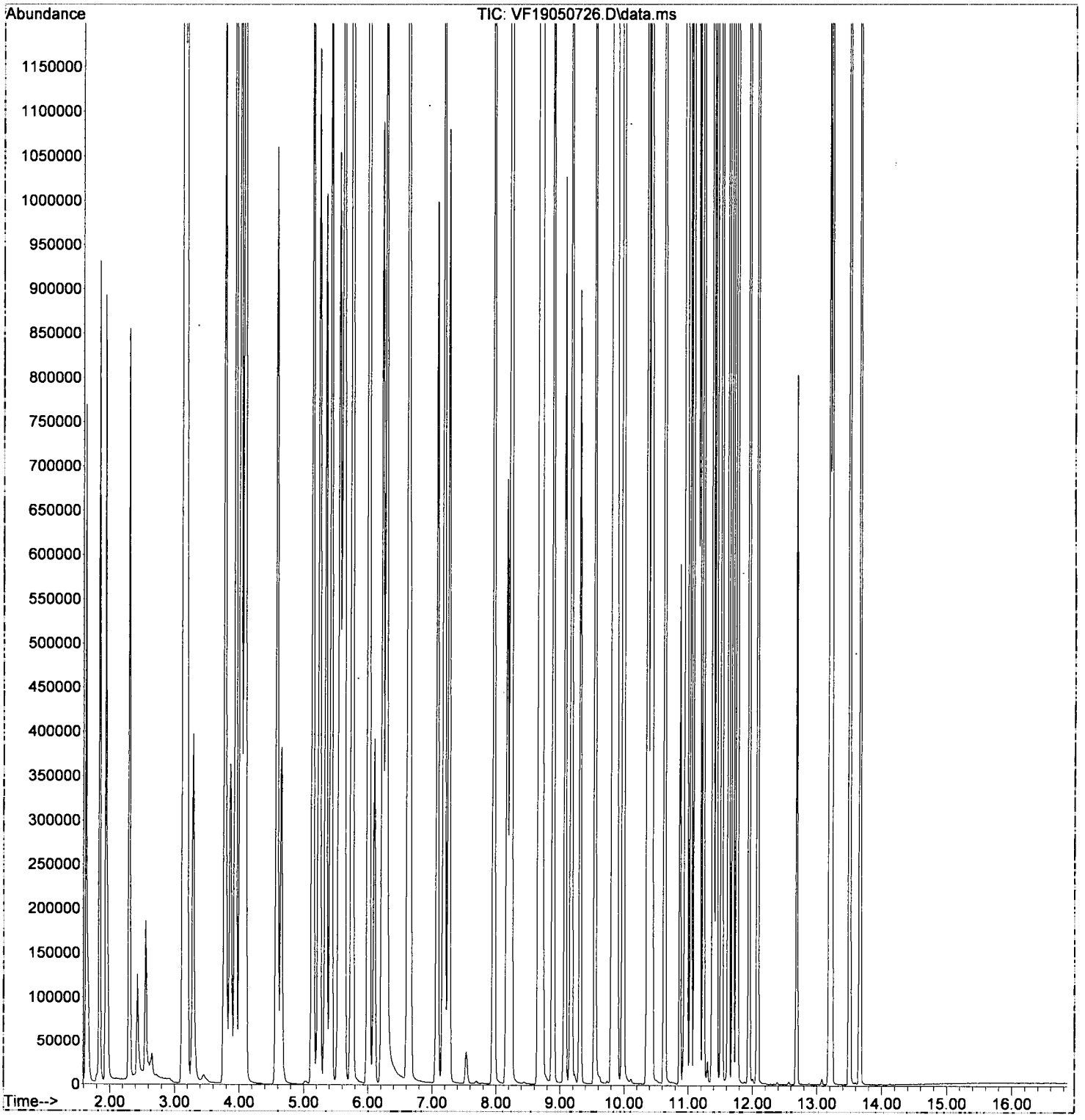
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	1783488	196.20	ug/L		96
50) Ethylbenzene	9.842	91	3128616	198.78	ug/L		98
51) 1,1,1,2-Tetrachloroethane	9.879	131	559200	293.16	ug/L		99
52) m,p-Xylenes (2)	9.982	91	4916984	421.45	ug/L		100
53) o-Xylene	10.359	91	2329915	212.52	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

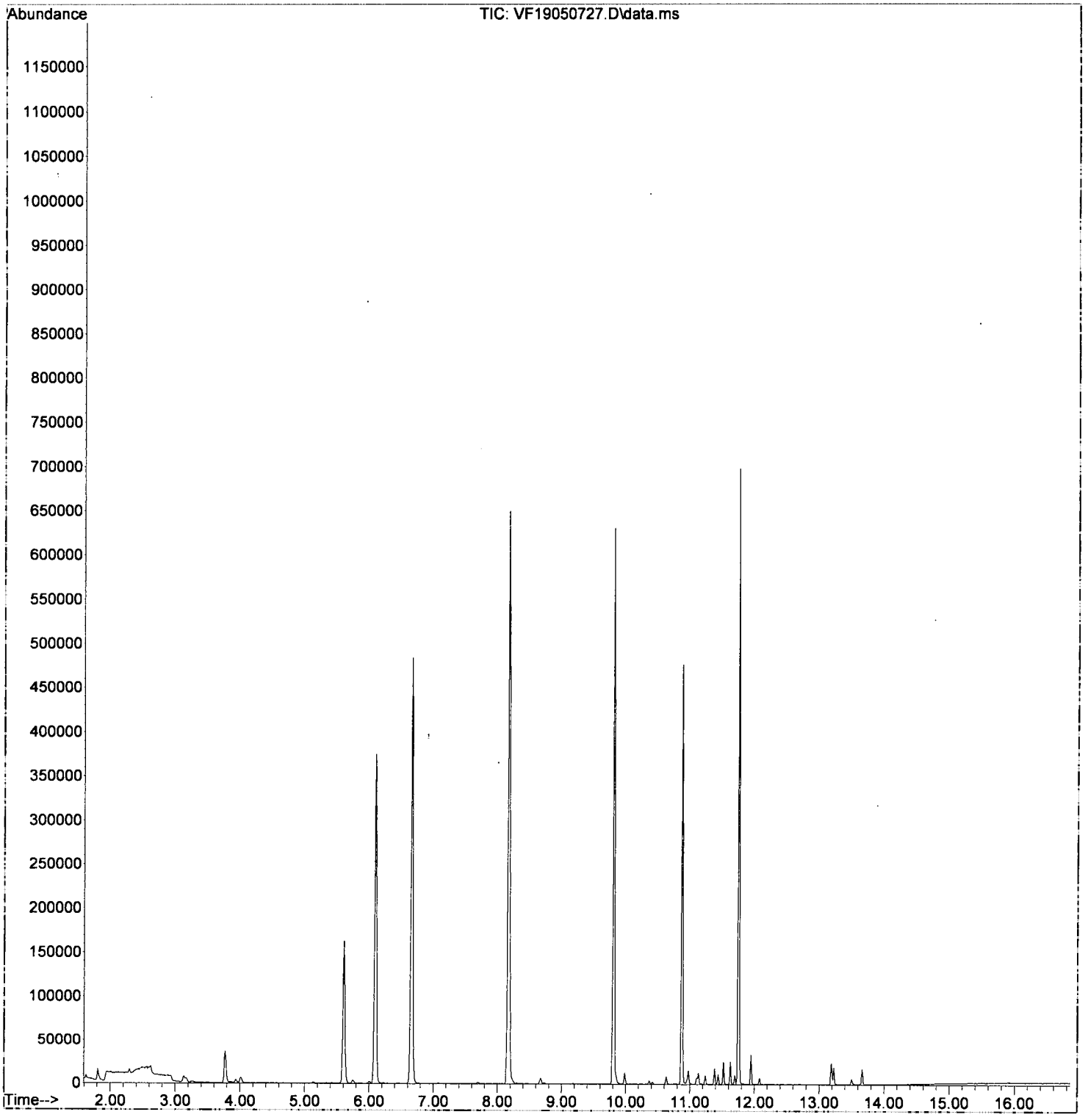
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1,2,4-Trimethylbenzene	11.437	105	5397	0.73	ug/L	96
69) sec-Butylbenzene	11.517	105	14769	1.68	ug/L	96
70) 4-Isopropyltoluene	11.626	119	11627	1.59	ug/L	95
71) 1,3-Dichlorobenzene	11.693	146	3751	0.86	ug/L	93
72) 1,4-Dichlorobenzene	11.760	146	4398	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

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

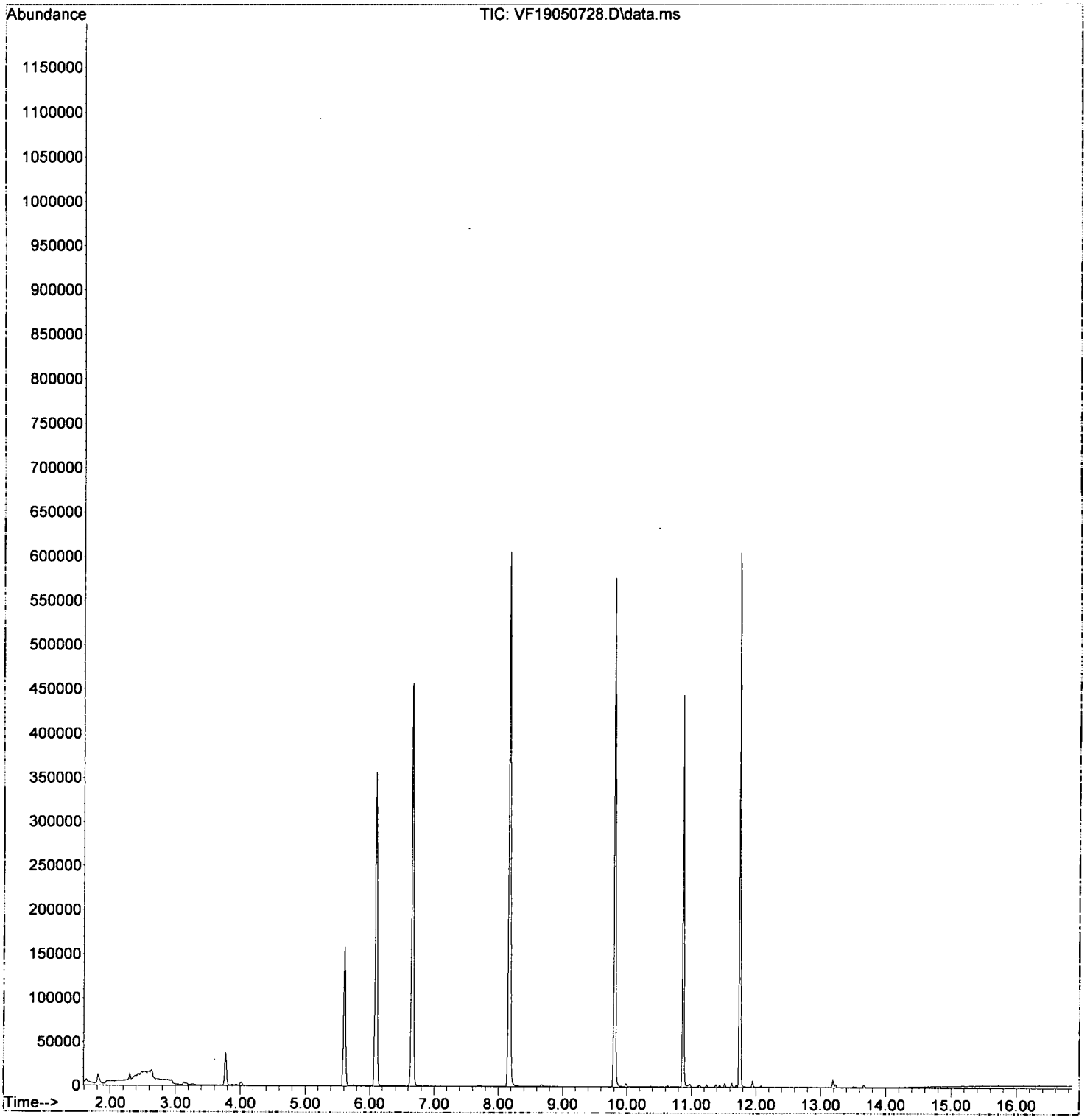
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	168	267878	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.806	117	295788	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.753	152	131412	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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

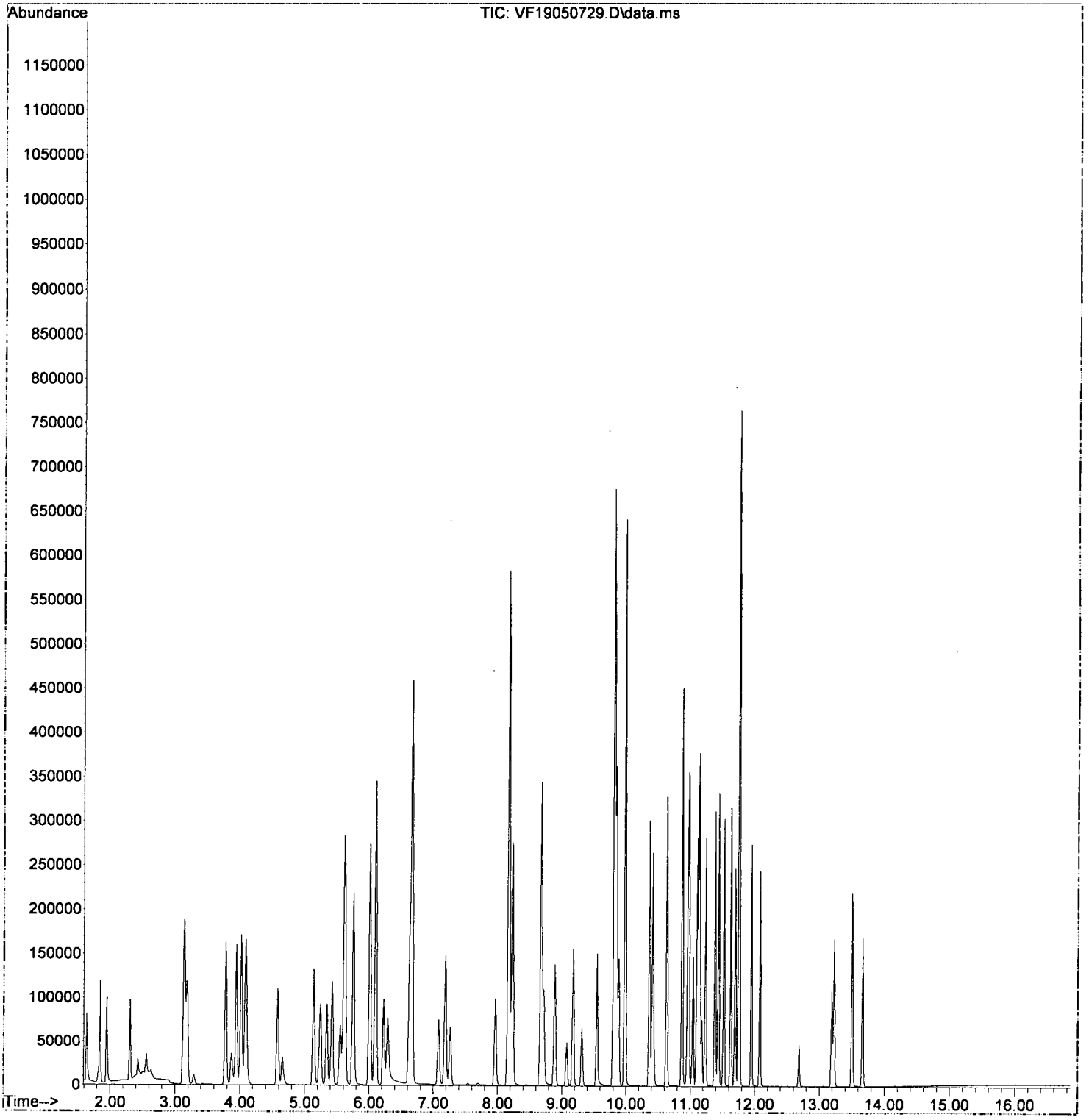
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Chlorobenzene	9.818	112	129383	18.63	ug/L		95
50) Ethylbenzene	9.849	91	229244	19.76	ug/L		97
51) 1,1,1,2-Tetrachloroethane	9.879	131	31999	20.27	ug/L		99
52) m,p-Xylenes (2)	9.983	91	335654	41.31	ug/L		97
53) o-Xylene	10.360	91	160147	20.48	ug/L		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

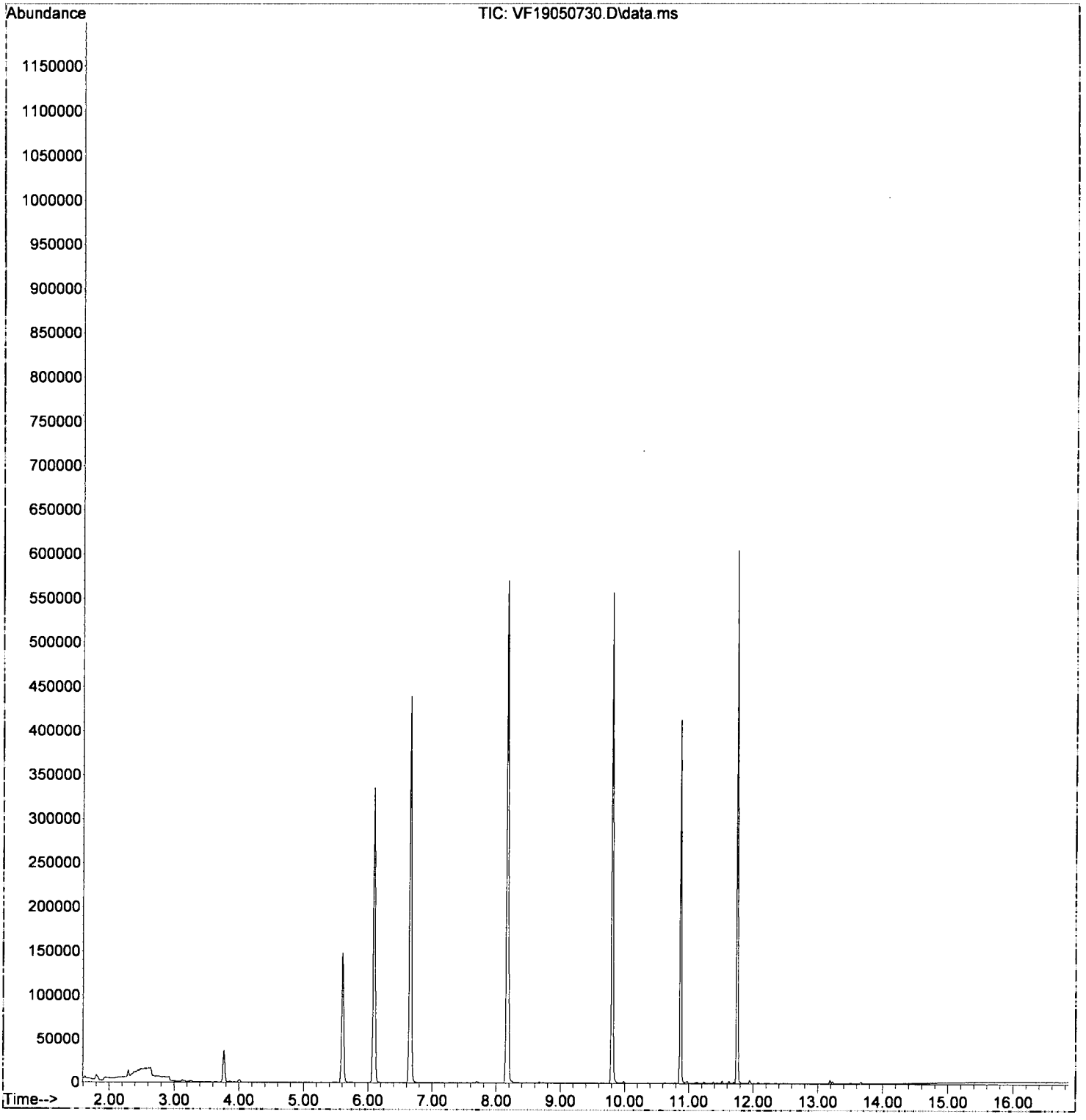
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	168	252291	50.00	ug/L		0.00
37) Chlorobenzene-d5 (I)	9.803	117	281229	50.00	ug/L		0.00
57) 1,4-Dichlorobenzene-d4...	11.750	152	123851	50.00	ug/L		0.00
System Monitoring Compounds							
26) Dibromofluoromethane (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



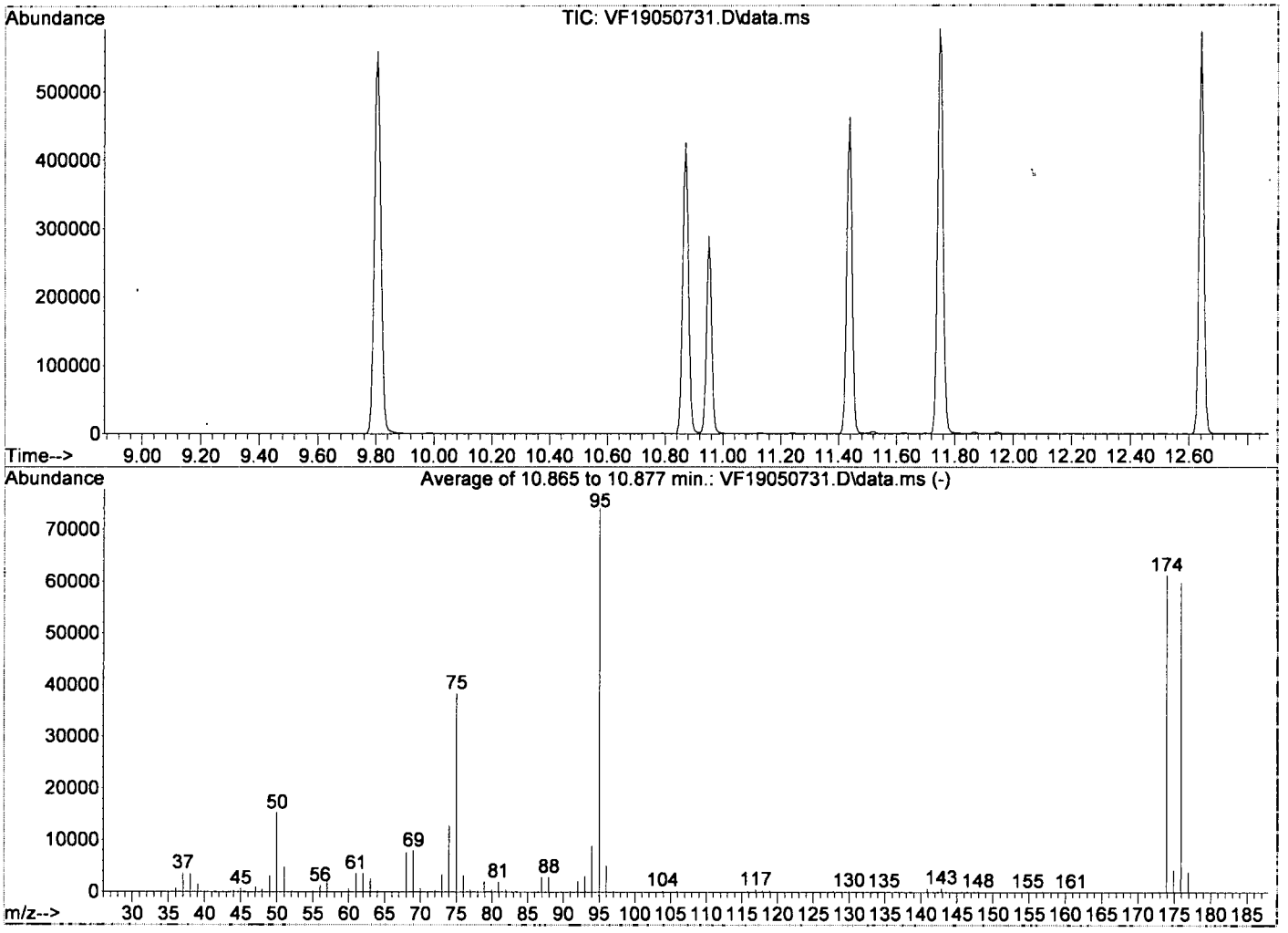
BFB

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

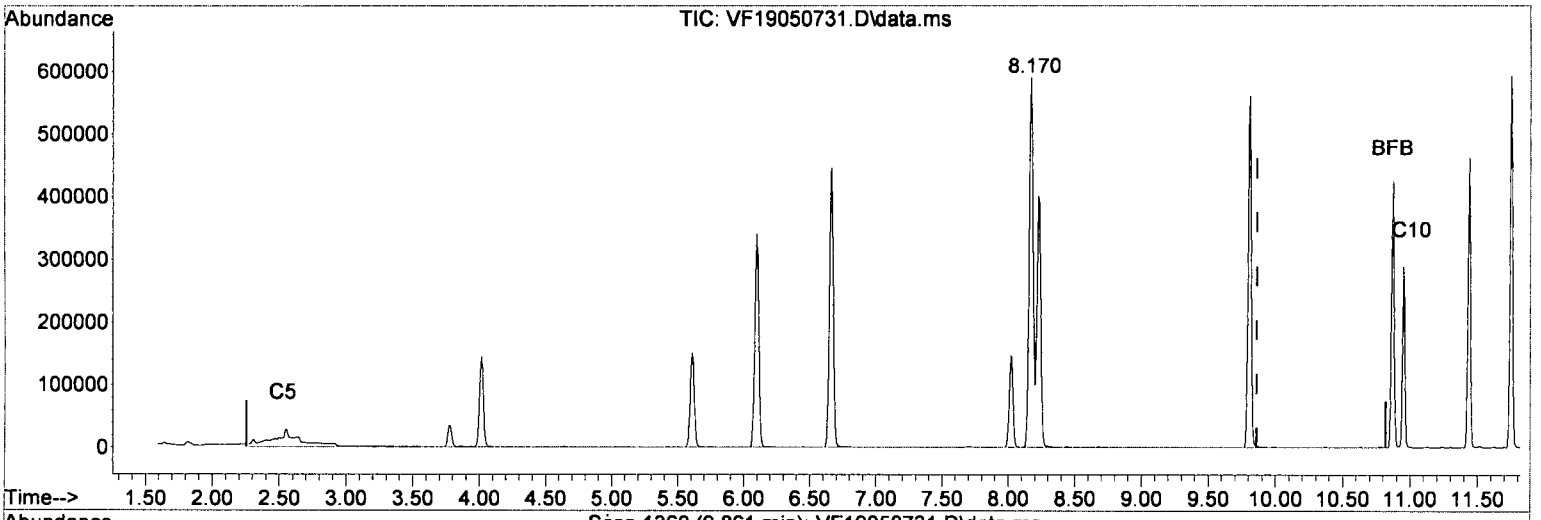
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	256053	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	927362	45.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	573331	46.12	ug/L	0.00
4) Chlorobenzene-d5 (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	

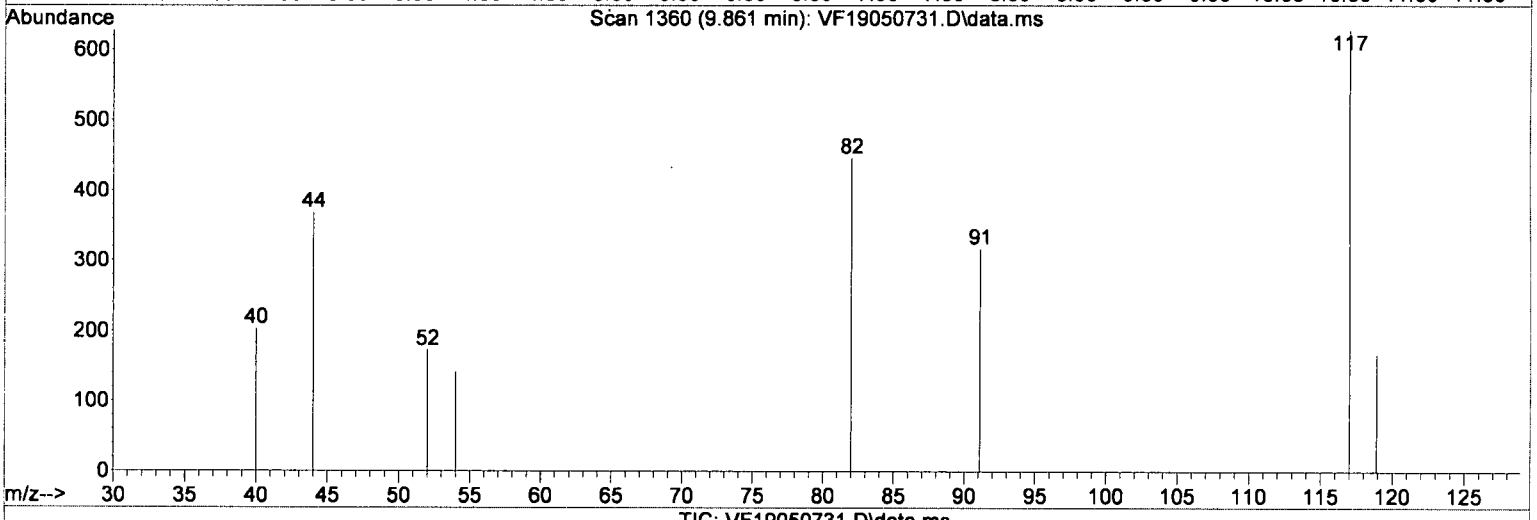
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

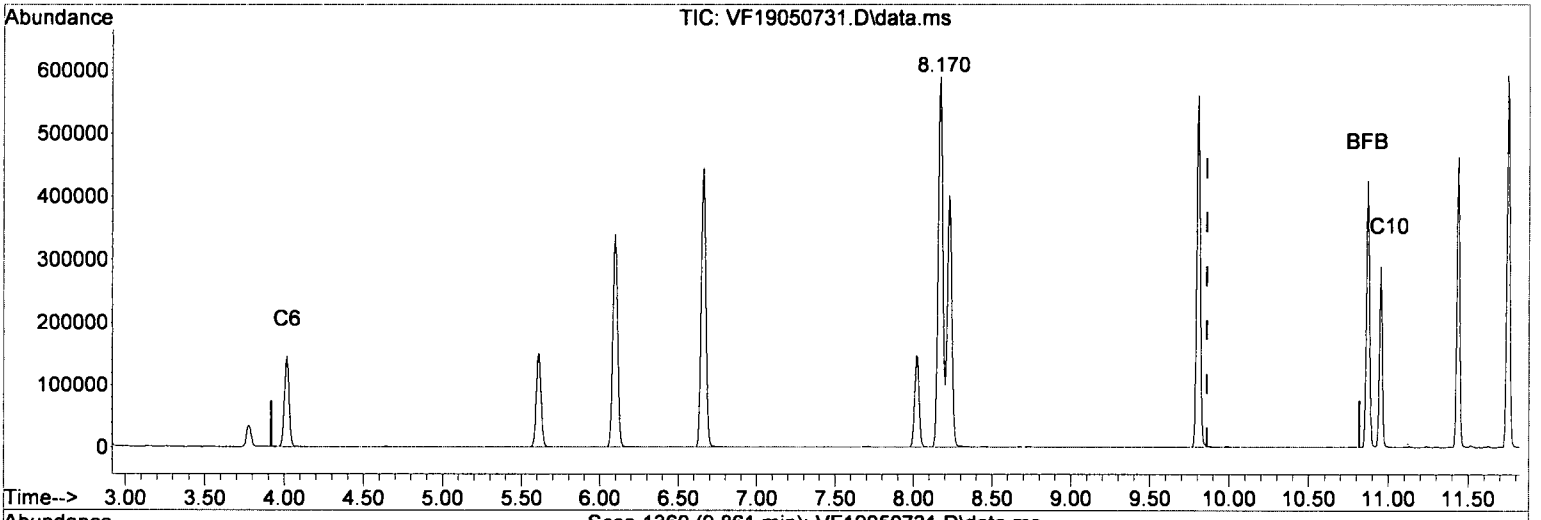
response 1843880

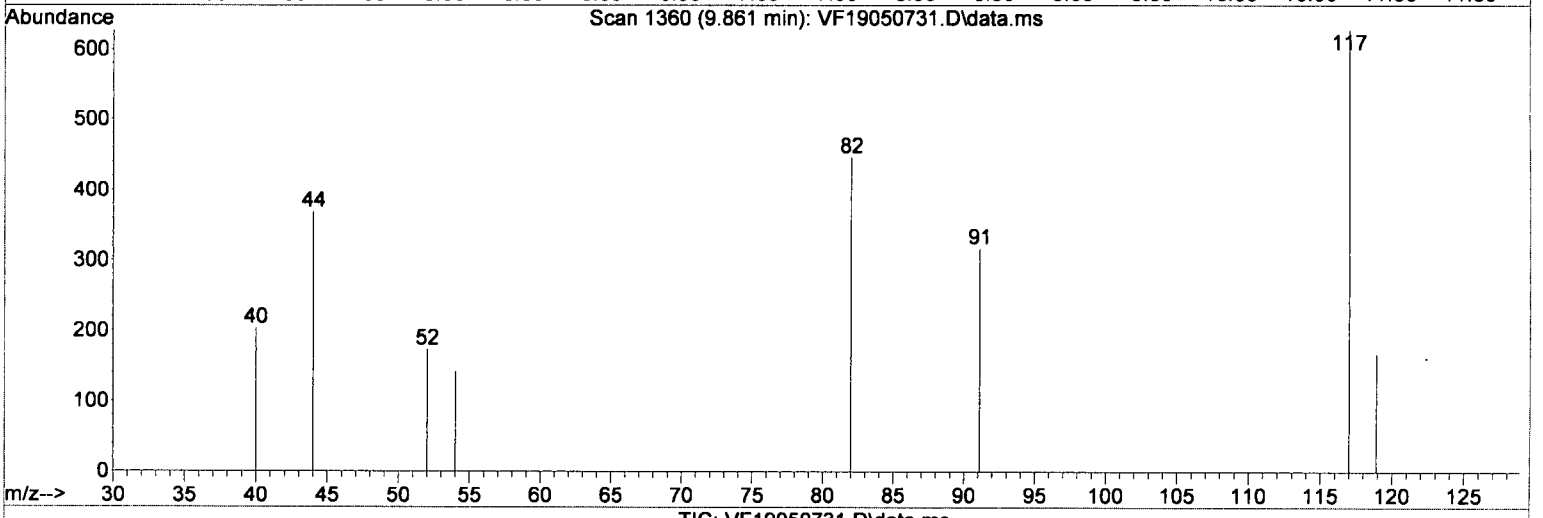
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.43#
0.00	0.00	1.05#
0.00	0.00	0.00

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

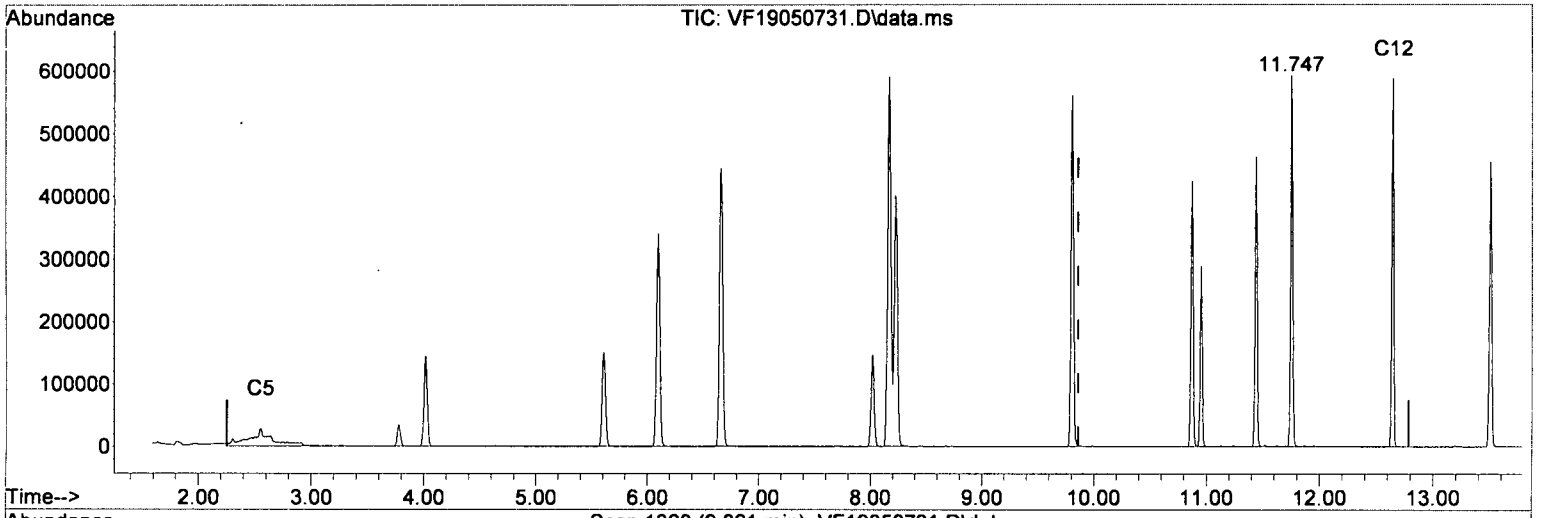
response 1719873

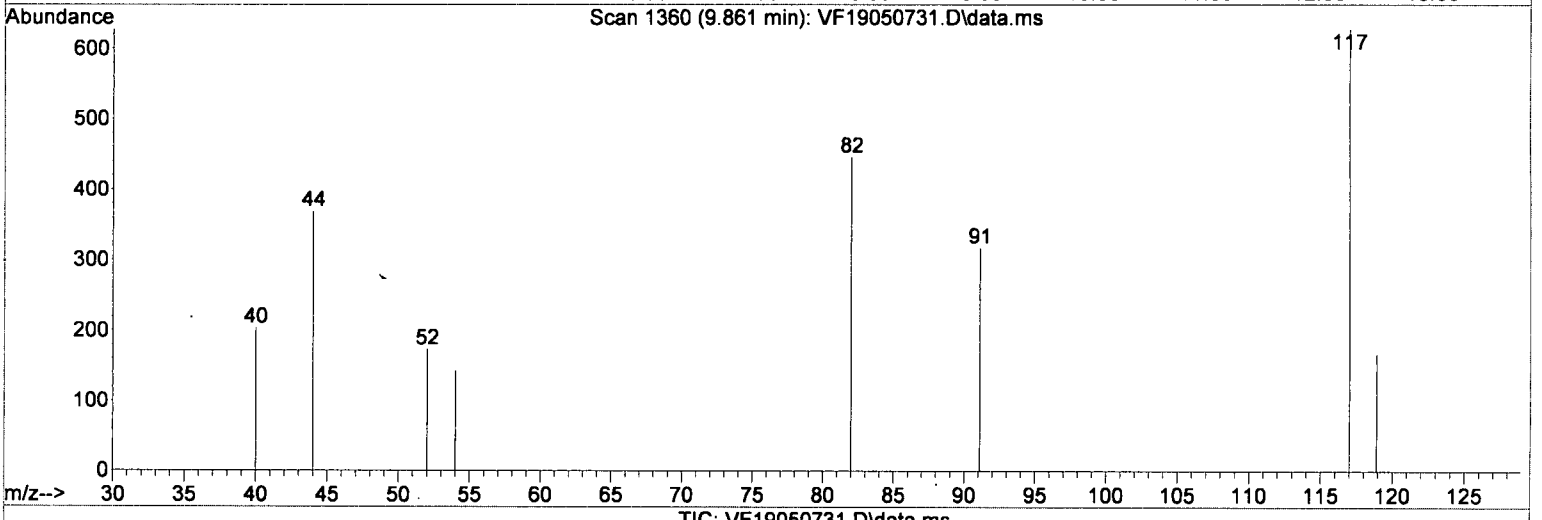
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.54#
0.00	0.00	1.13#
0.00	0.00	0.00

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

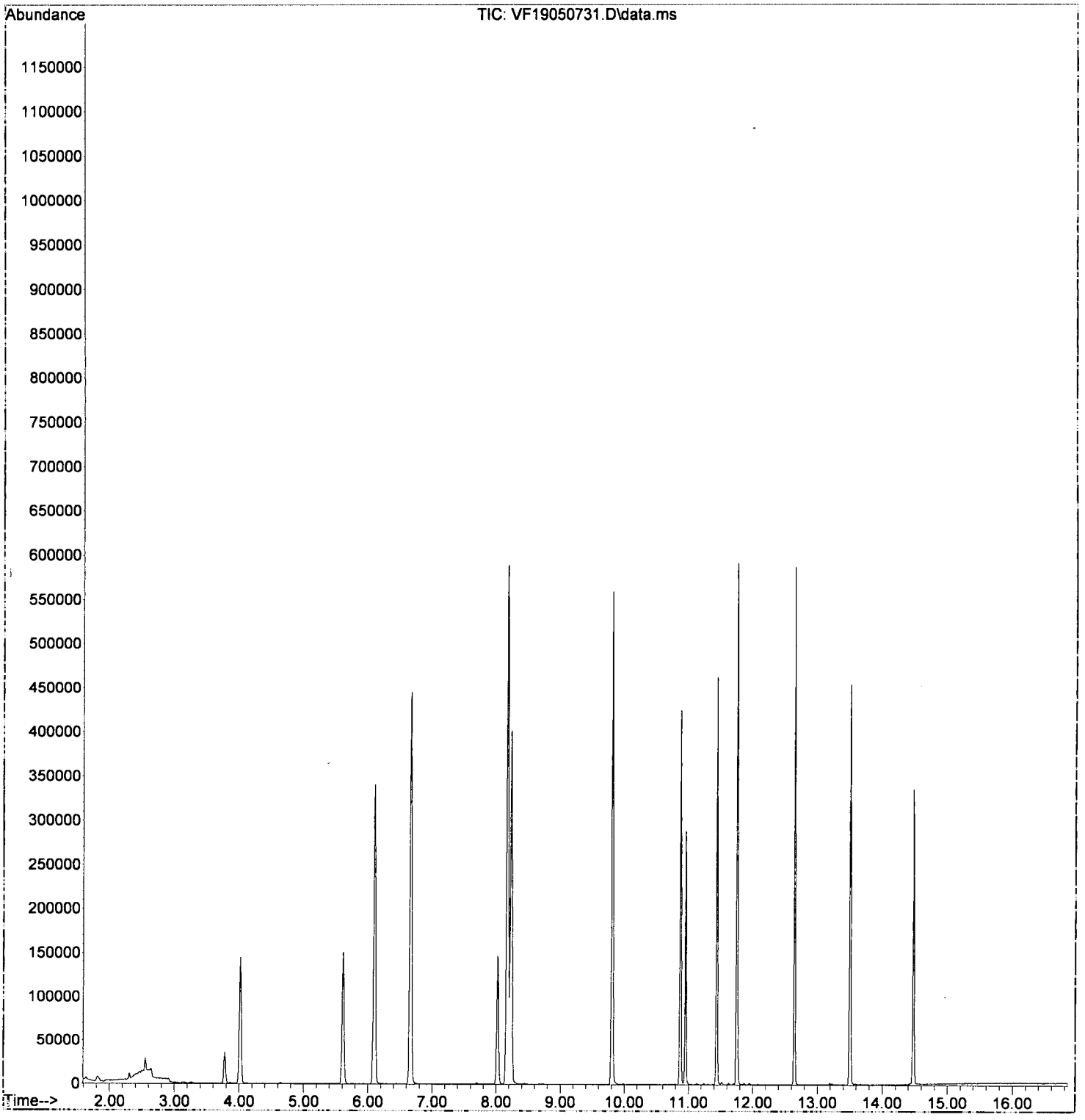
response 3432981

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

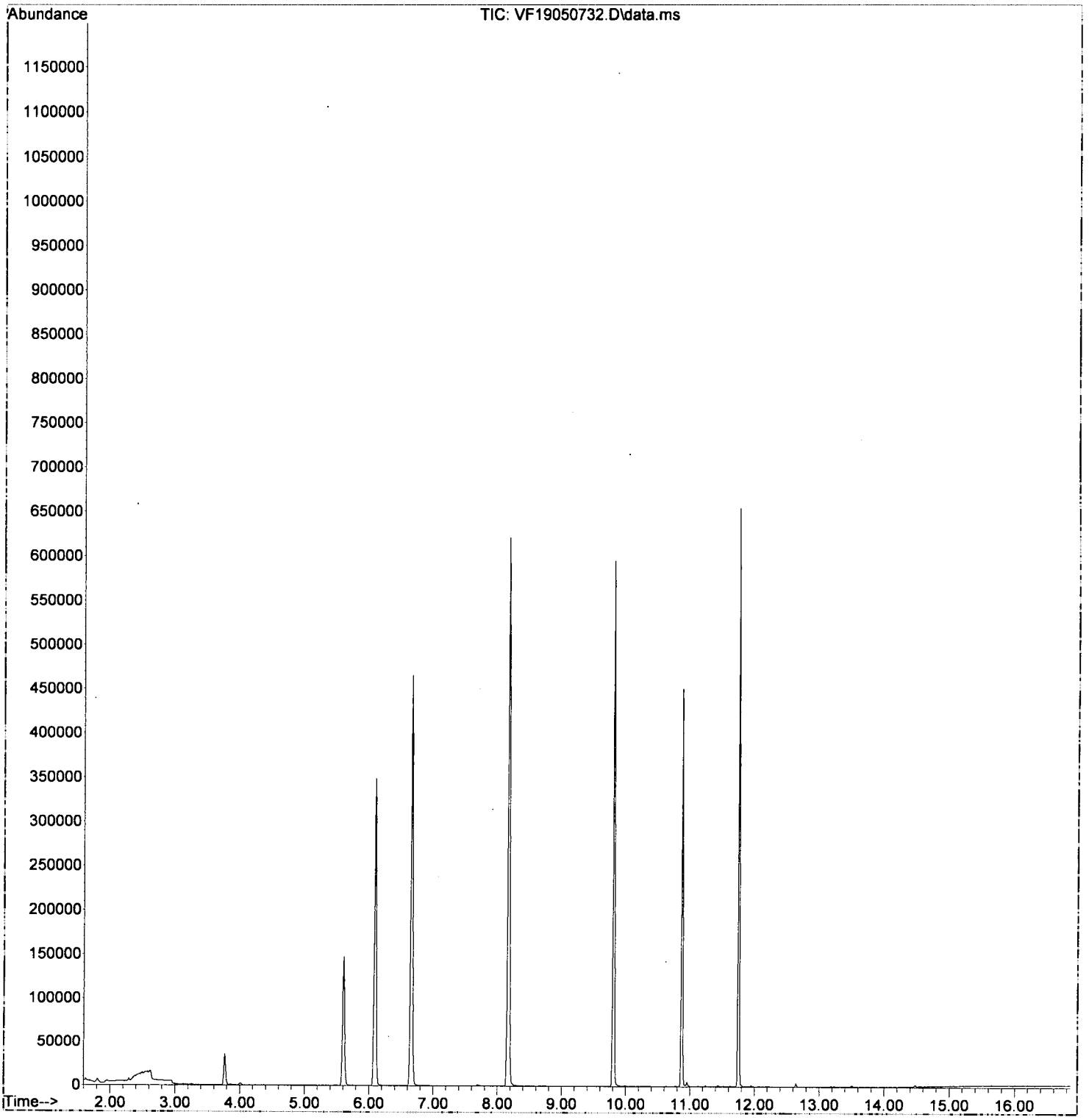
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	264063	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	949029	45.58	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	629967	49.14	ug/L	0.00
4) Chlorobenzene-d5 (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

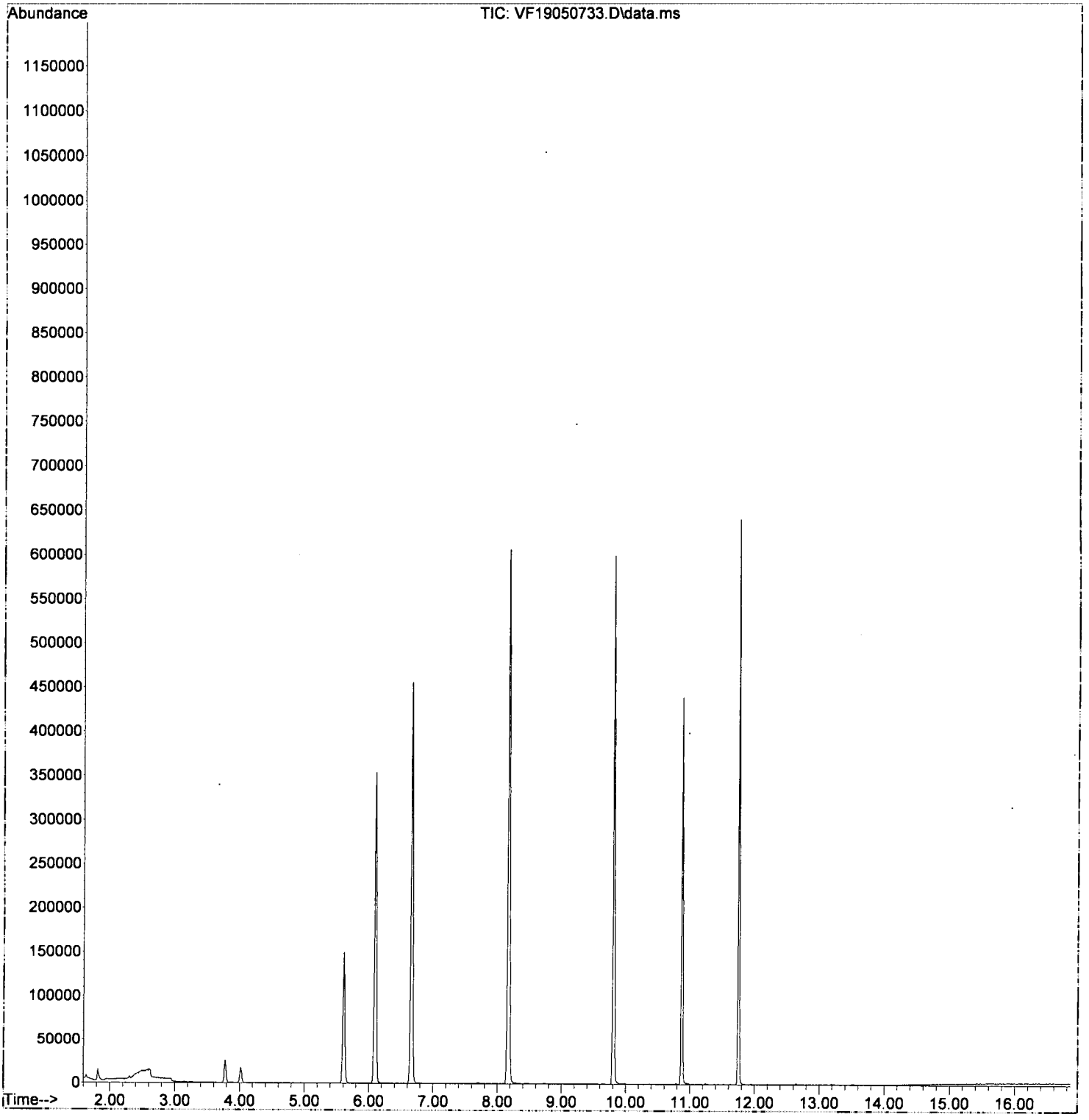
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264736	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	955227	45.76	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.872	TIC	619863	48.23	ug/L	0.00
4) Chlorobenzene-d5 (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

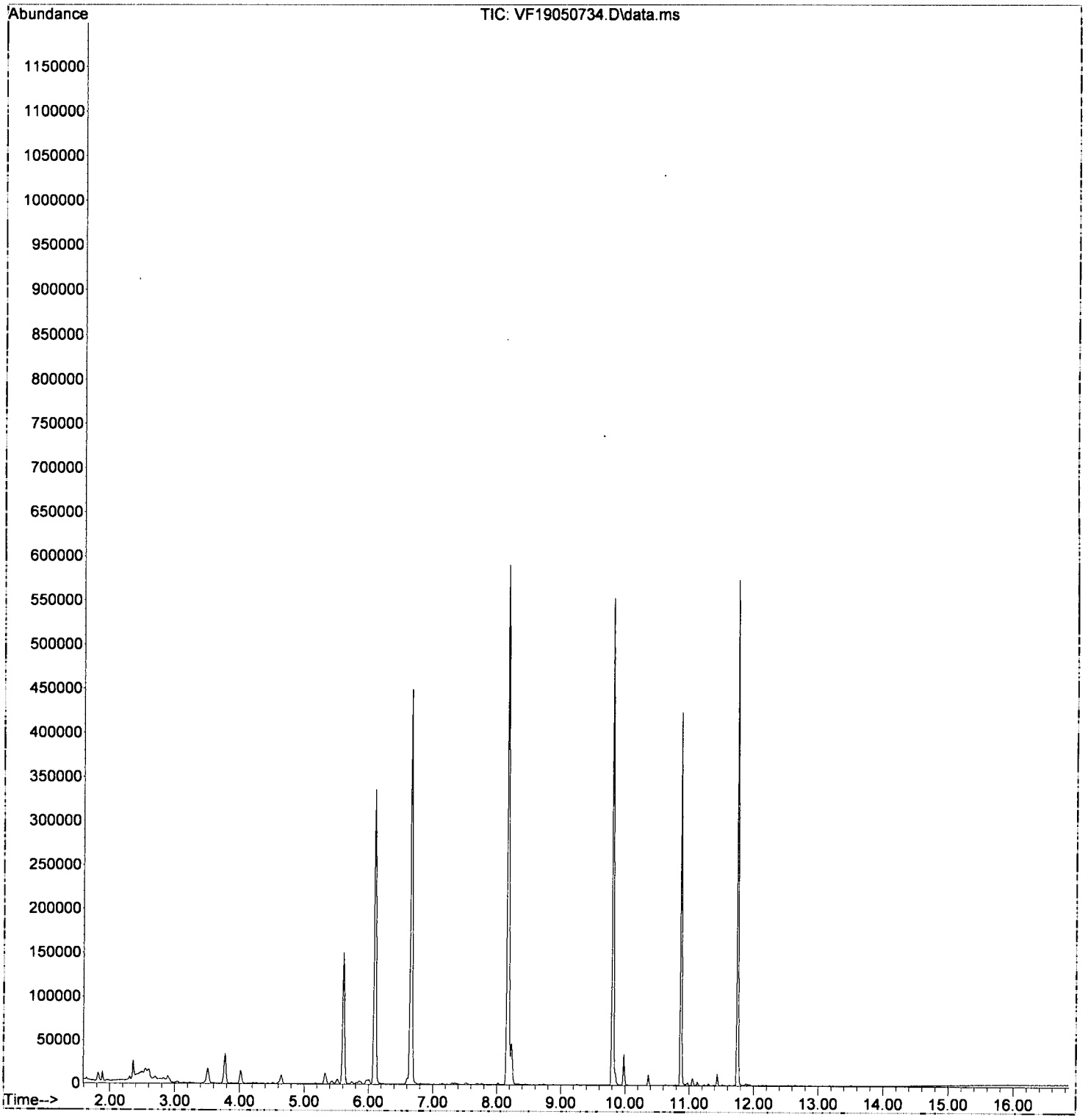
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	251815	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	944857	49.85	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	583068	47.82	ug/L	0.00
4) Chlorobenzene-d5 (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

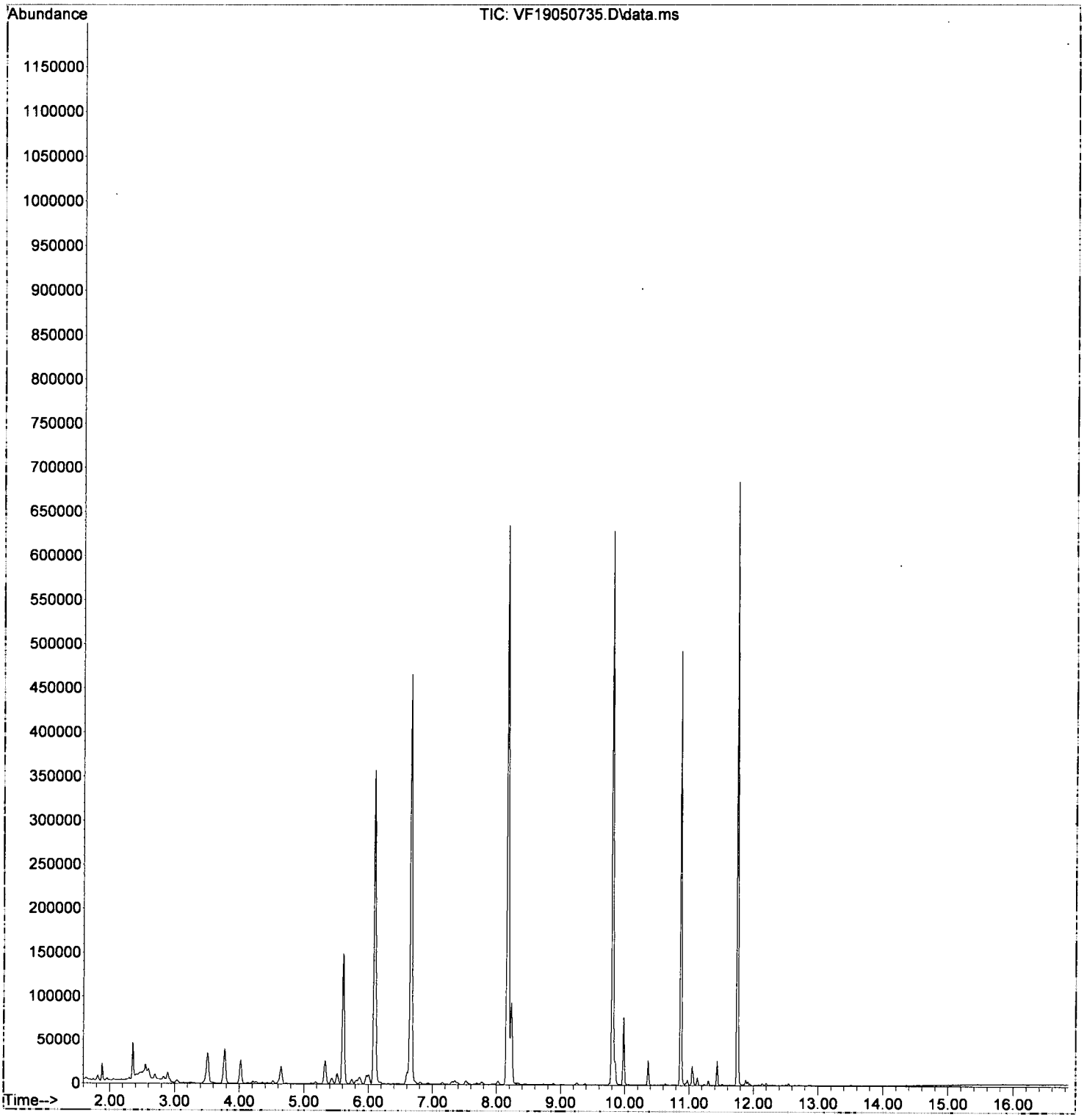
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.098	168	268659	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	1016126	50.25	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	665016	51.12	ug/L	0.00
4) Chlorobenzene-d5 (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

5/8/19

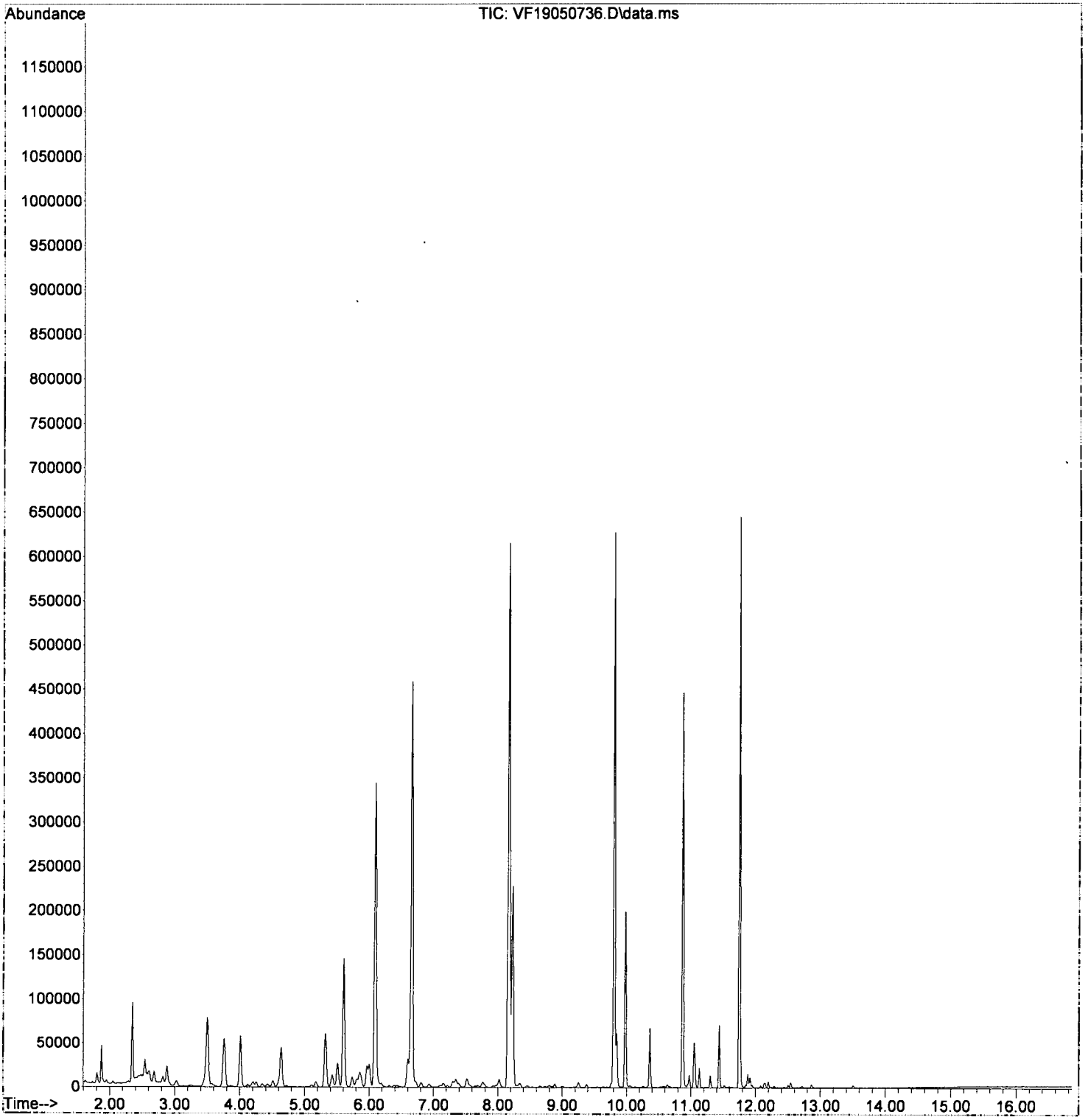
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.092	168	260344	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	976363	49.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	627727	49.80	ug/L	0.00
4) Chlorobenzene-d5 (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

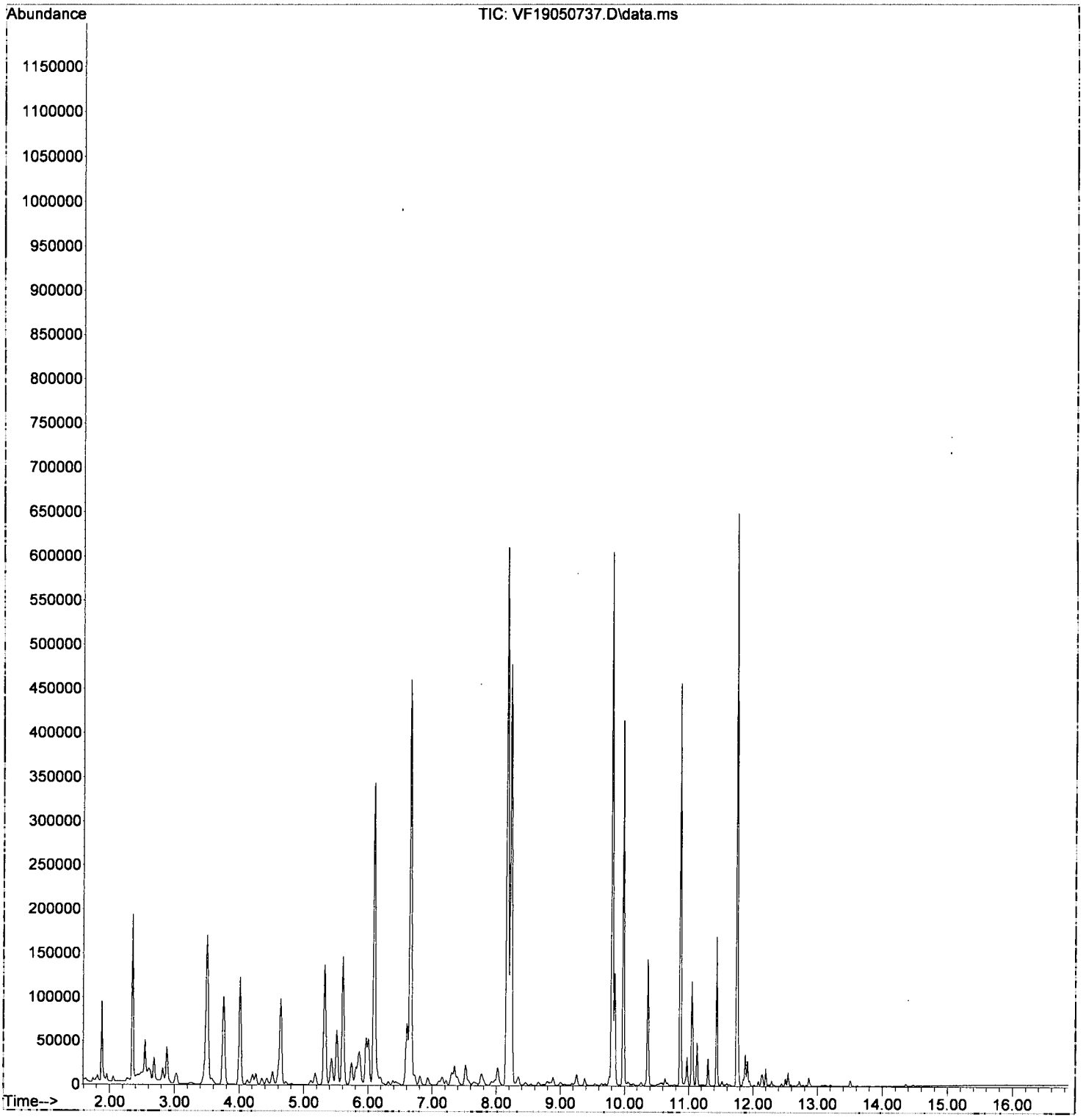
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	264609	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	998574	50.14	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640403	49.98	ug/L	0.00
4) Chlorobenzene-d5 (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

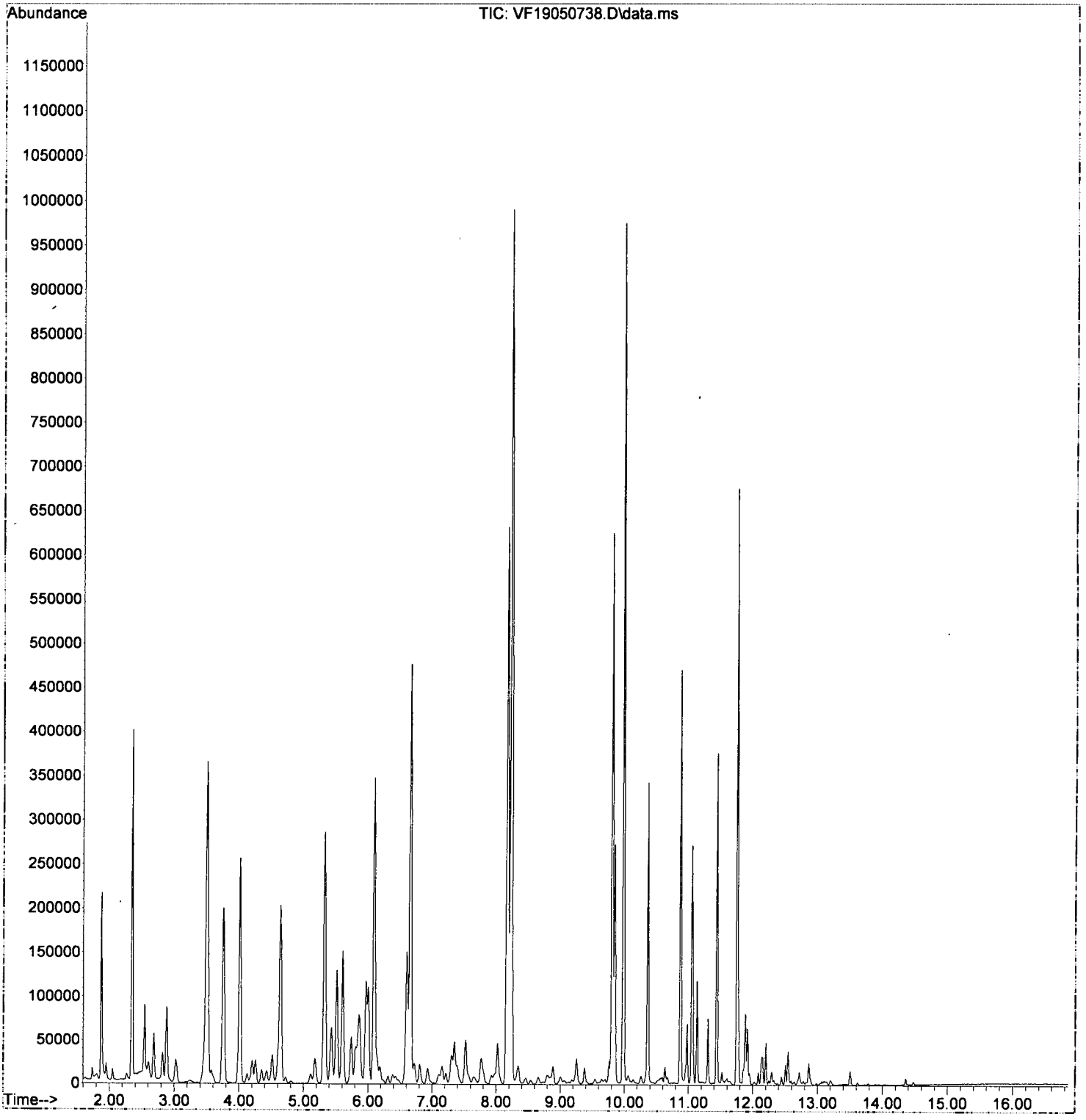
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	262223	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	994511	50.39	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	665155	52.39	ug/L	0.00
4) Chlorobenzene-d5 (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

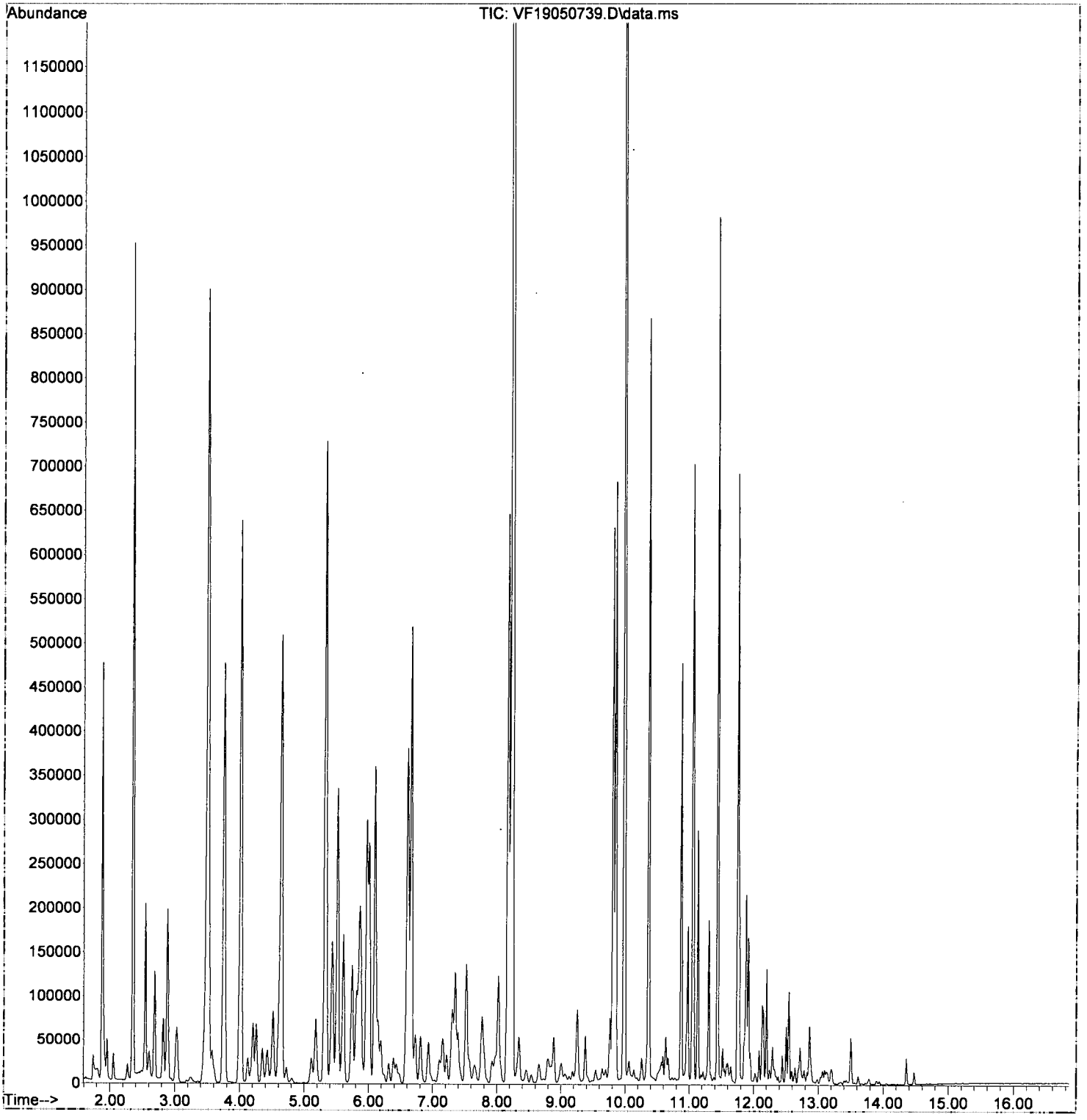
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	271709	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	TIC	1064809	52.07	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	671226	51.02	ug/L	0.00
4) Chlorobenzene-d5 (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

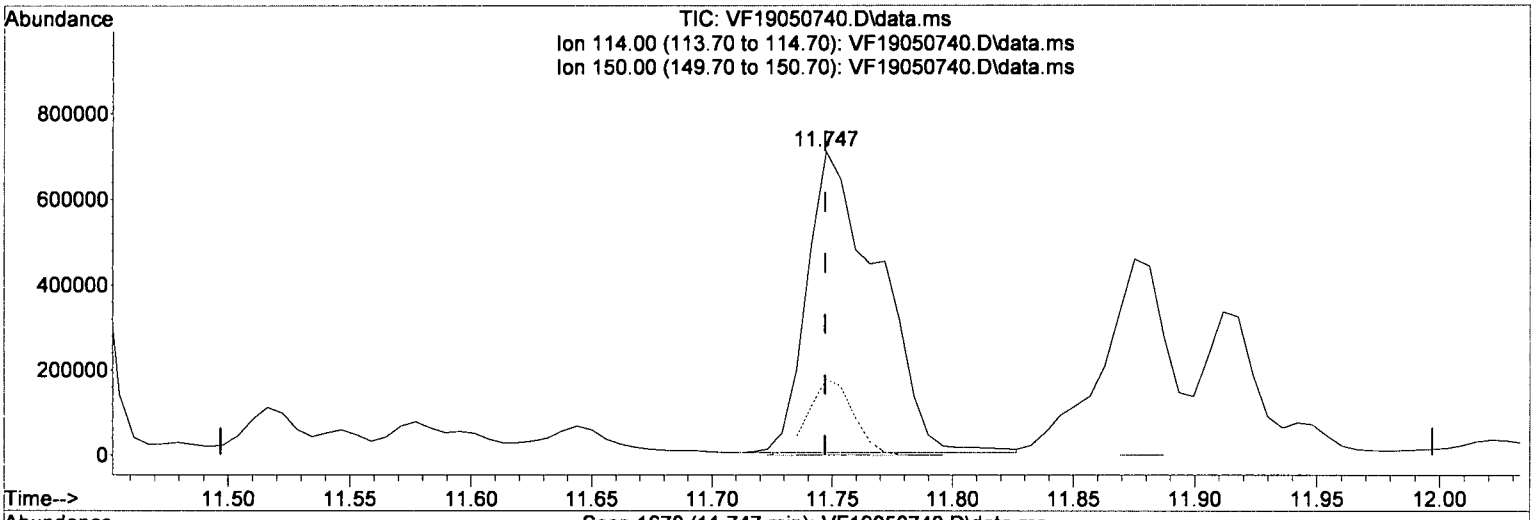
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.096	168	287647	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.662	TIC	1135195	52.43	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	689679	49.52	ug/L	0.00
4) Chlorobenzene-d5 (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	

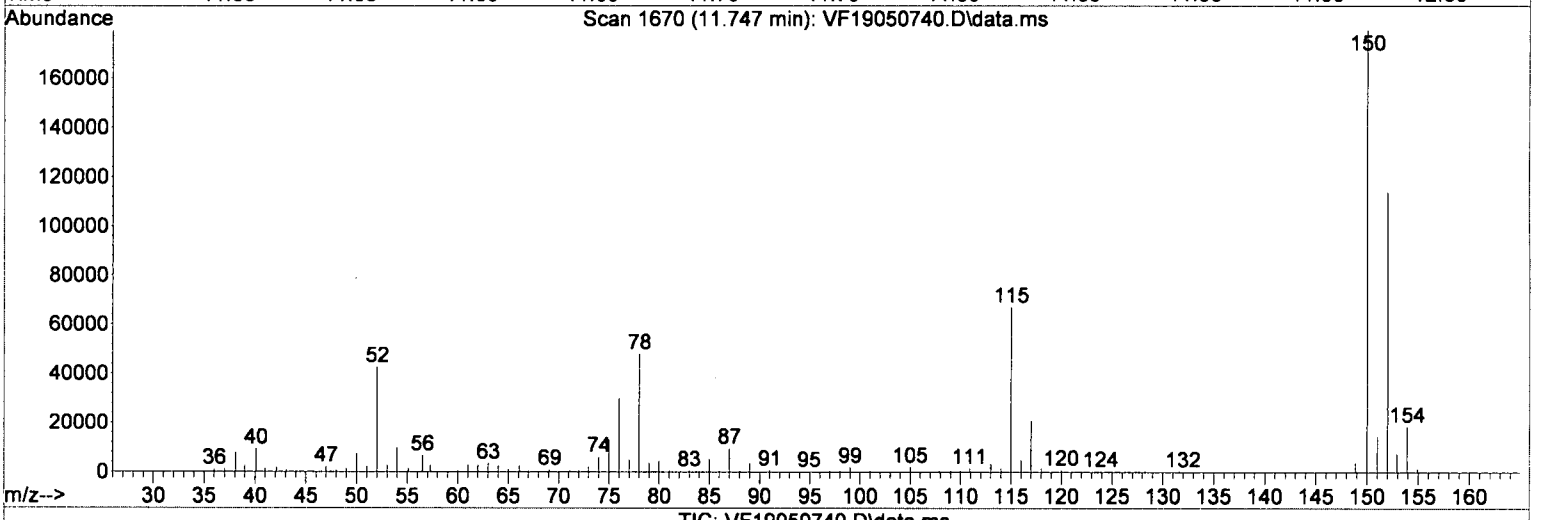
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

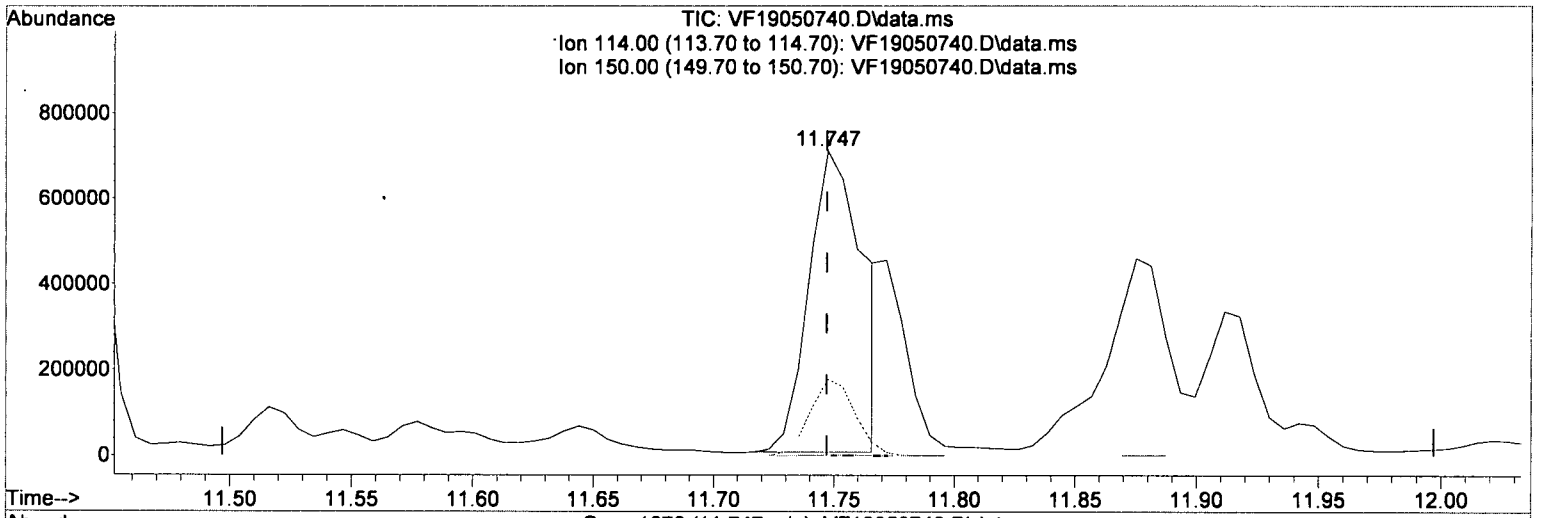
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	16.09
0.00	0.00	0.00

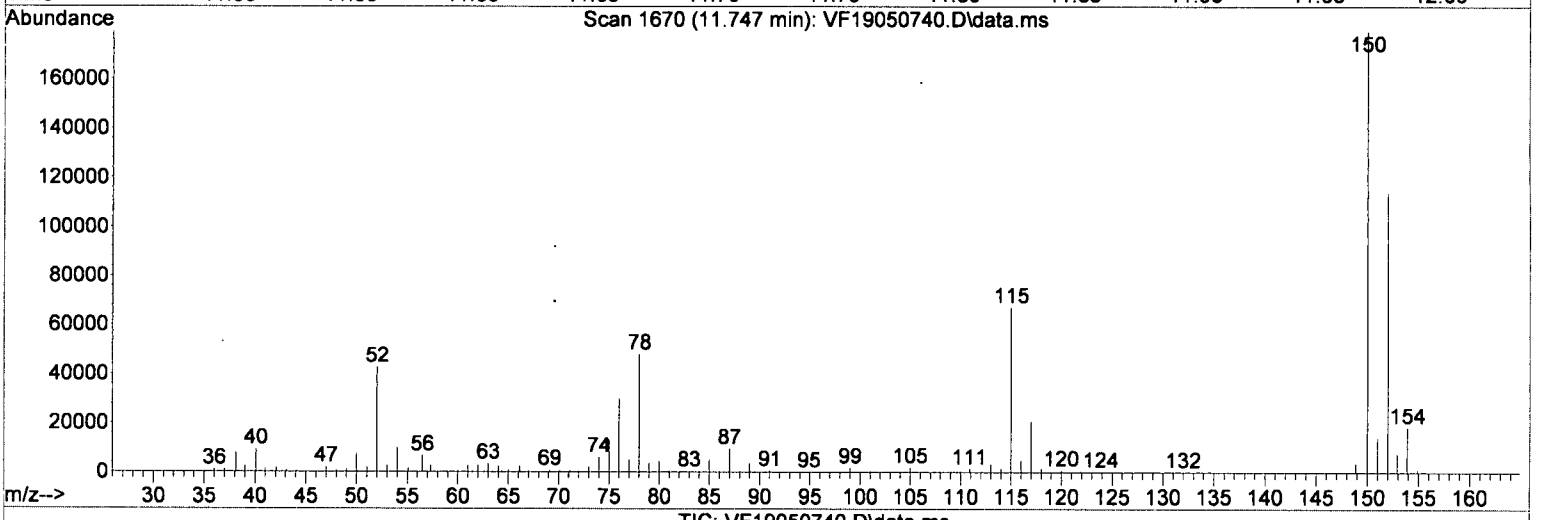
MT

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

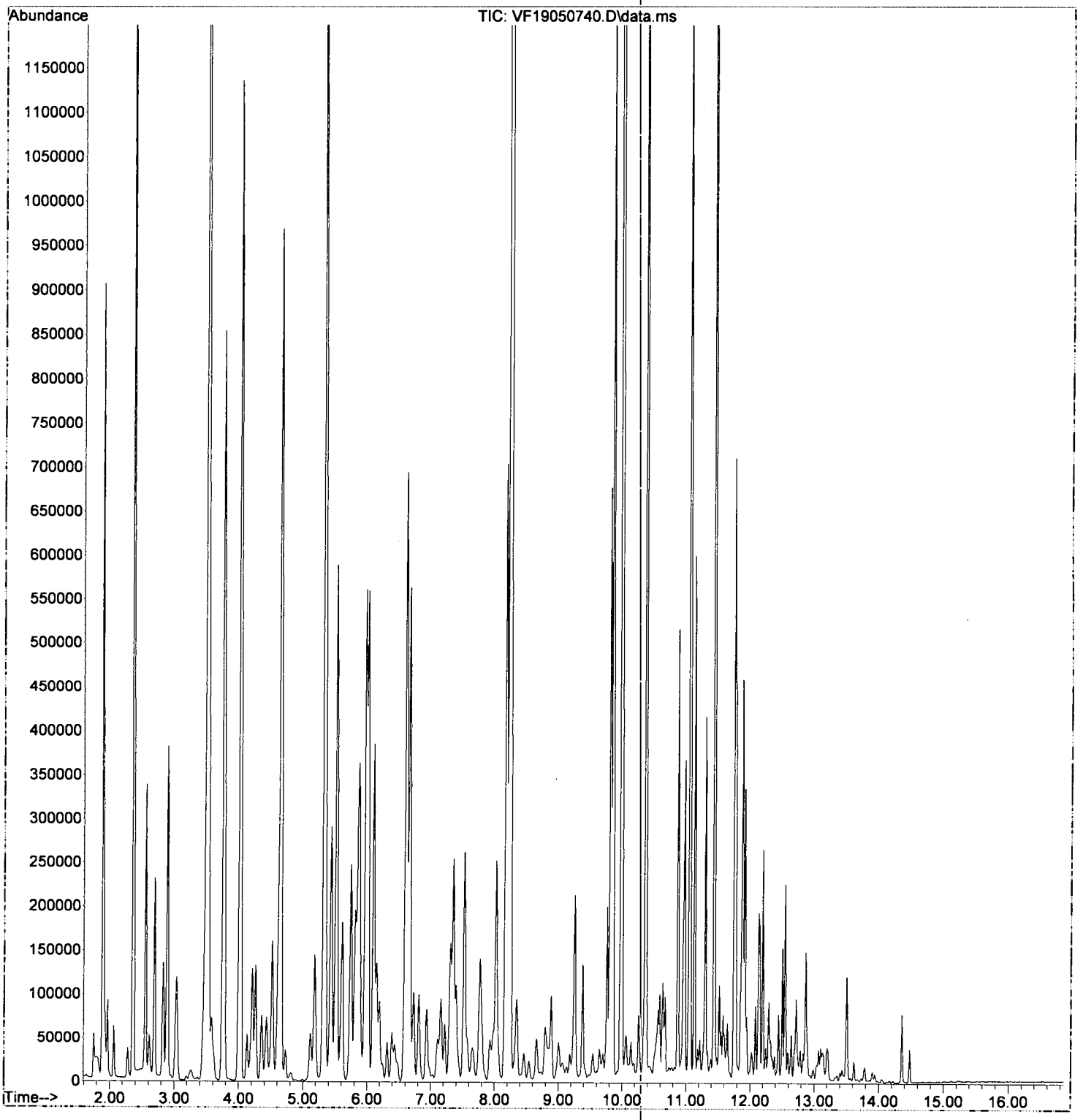
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.64
150.00	24.00	0.47
0.00	0.00	0.00

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	

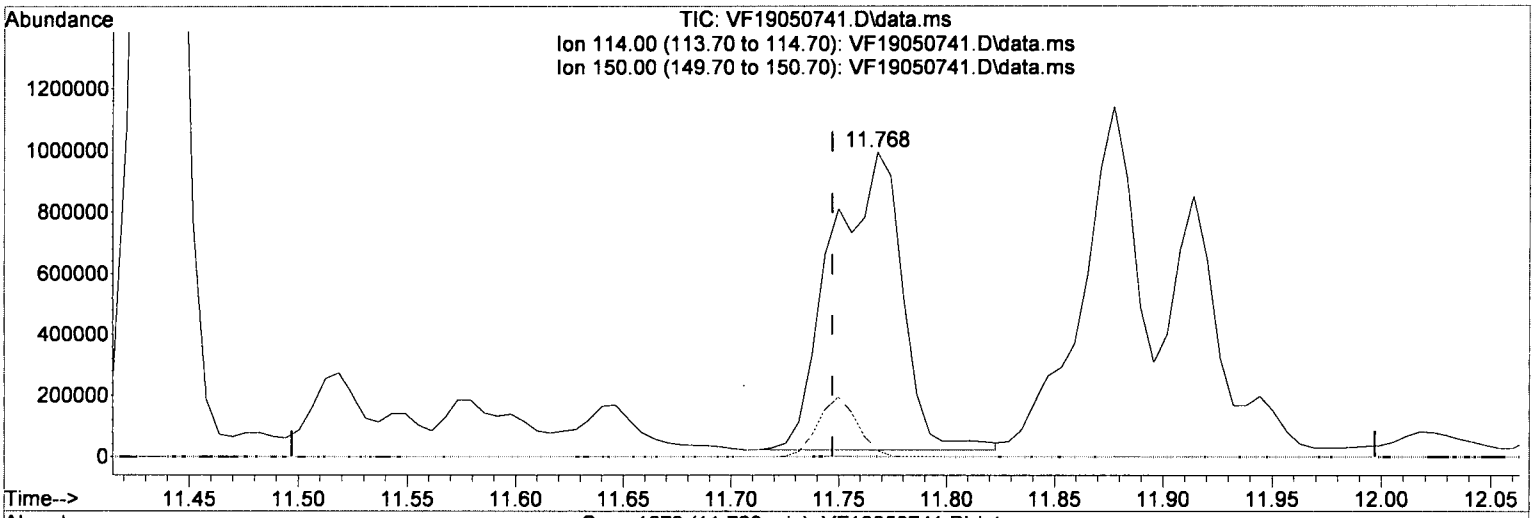
NF

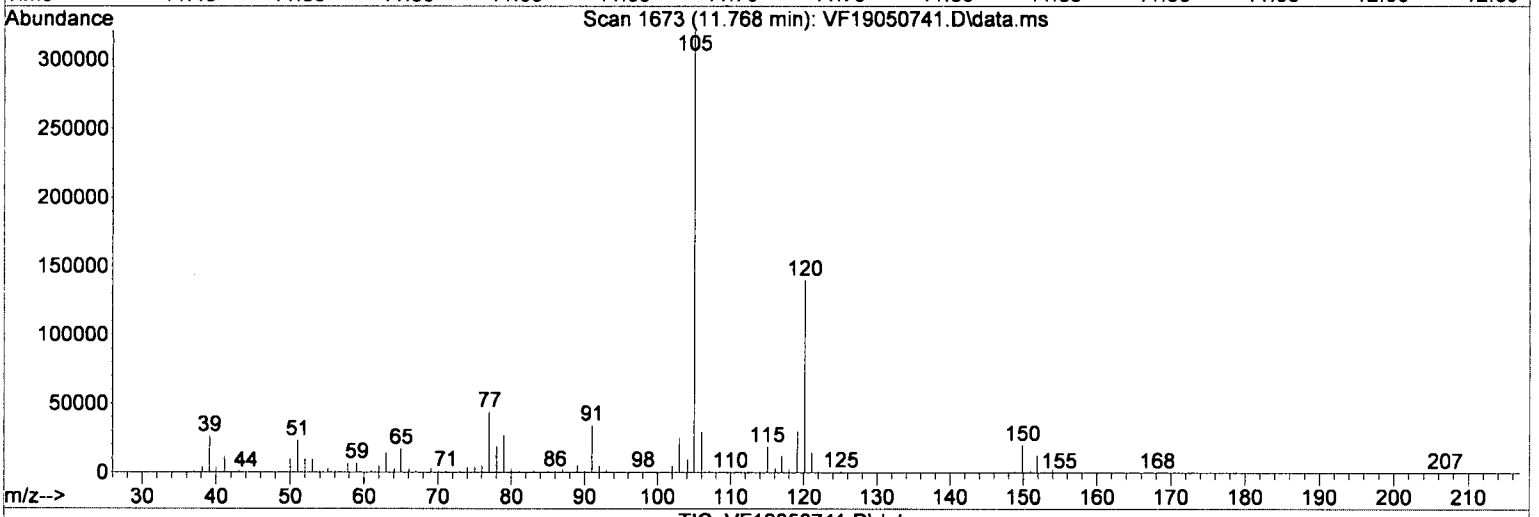
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

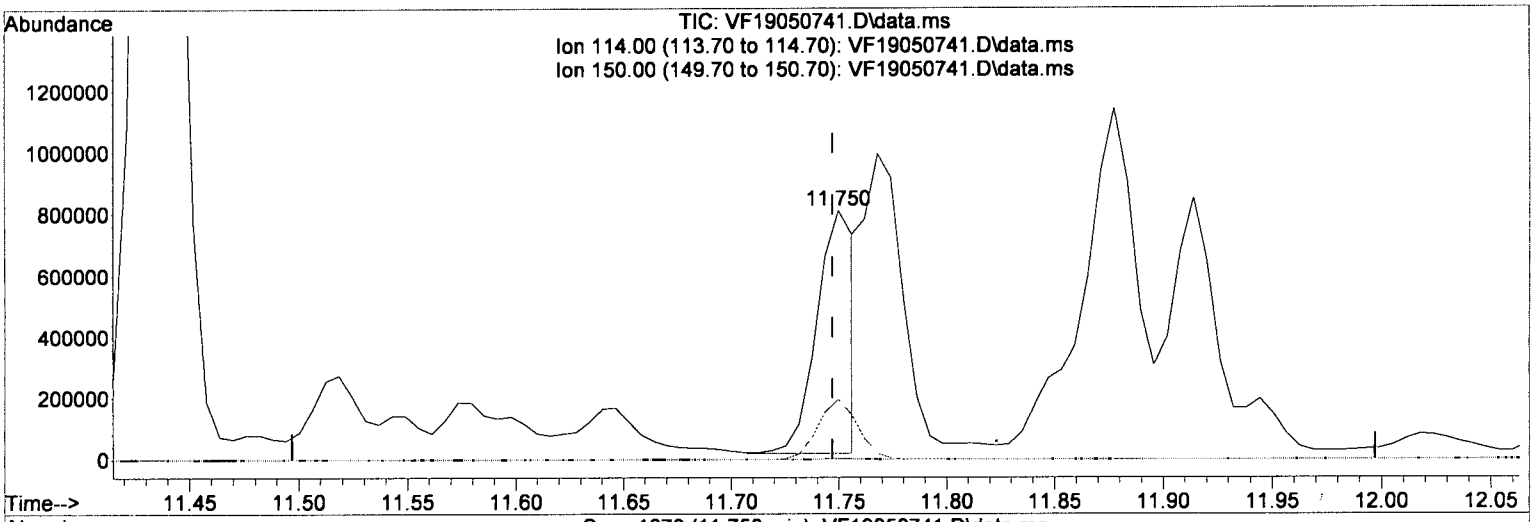
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	11.23
0.00	0.00	0.00

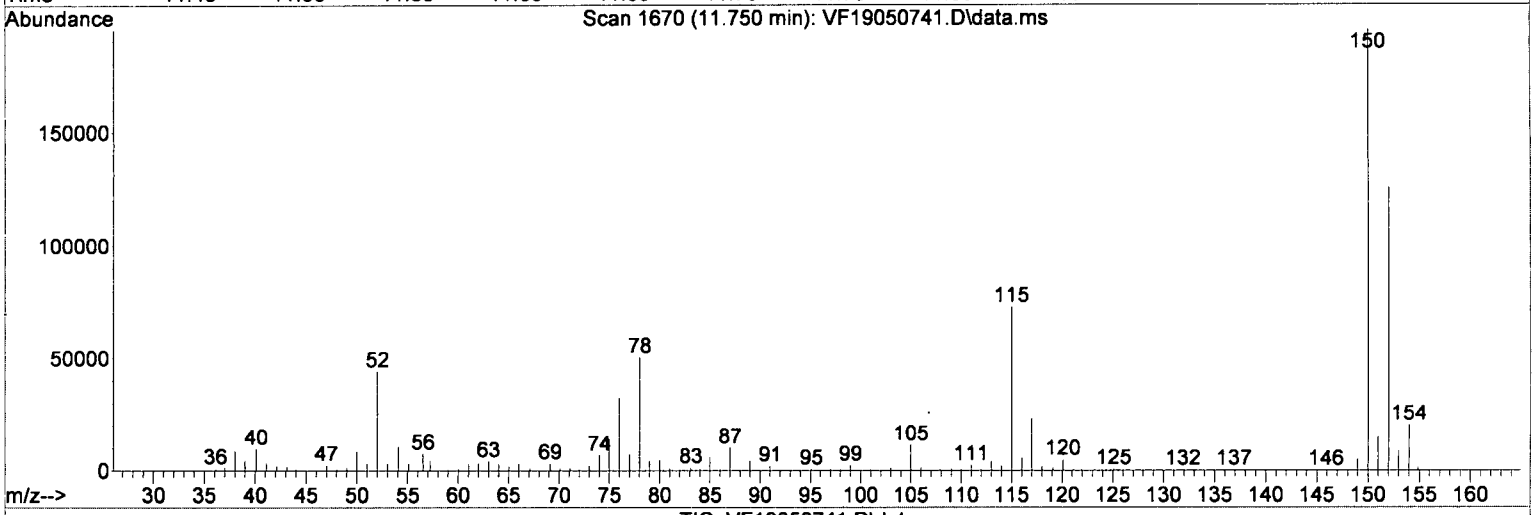
MI

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

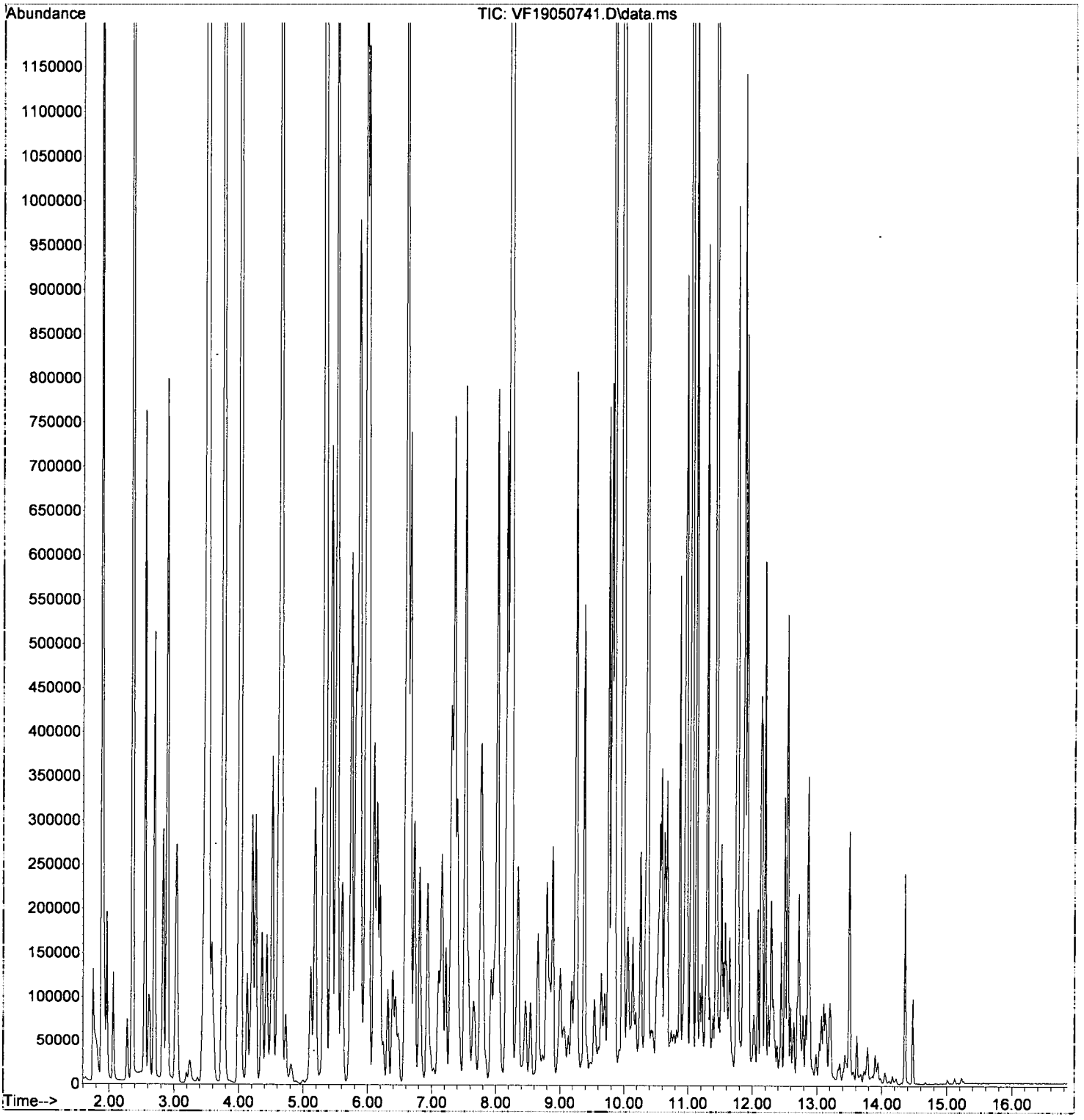
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	26.25
0.00	0.00	0.00

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 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

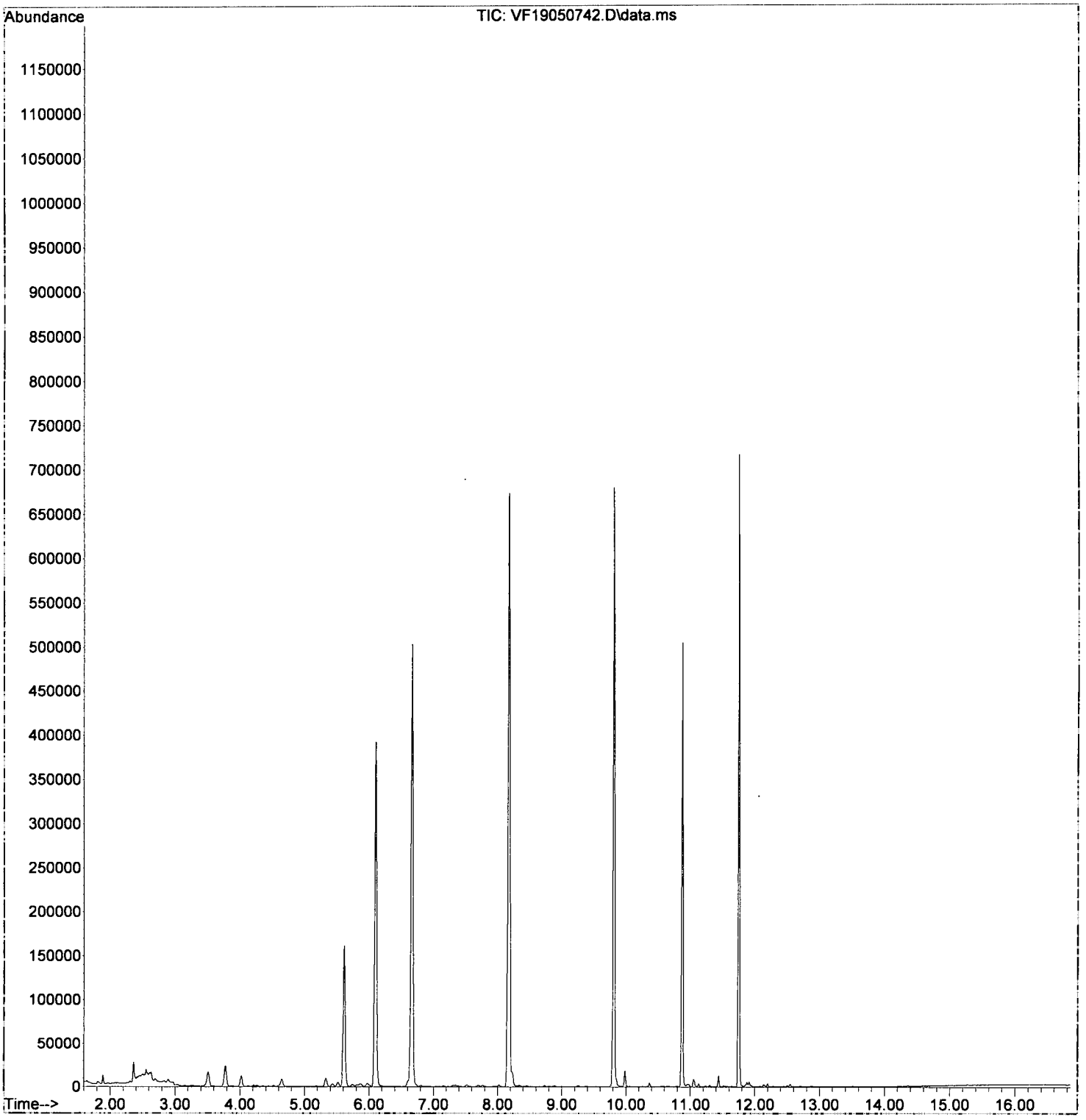
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	300299	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	1091415	46.10	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	718071	49.25	ug/L	0.00
4) Chlorobenzene-d5 (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

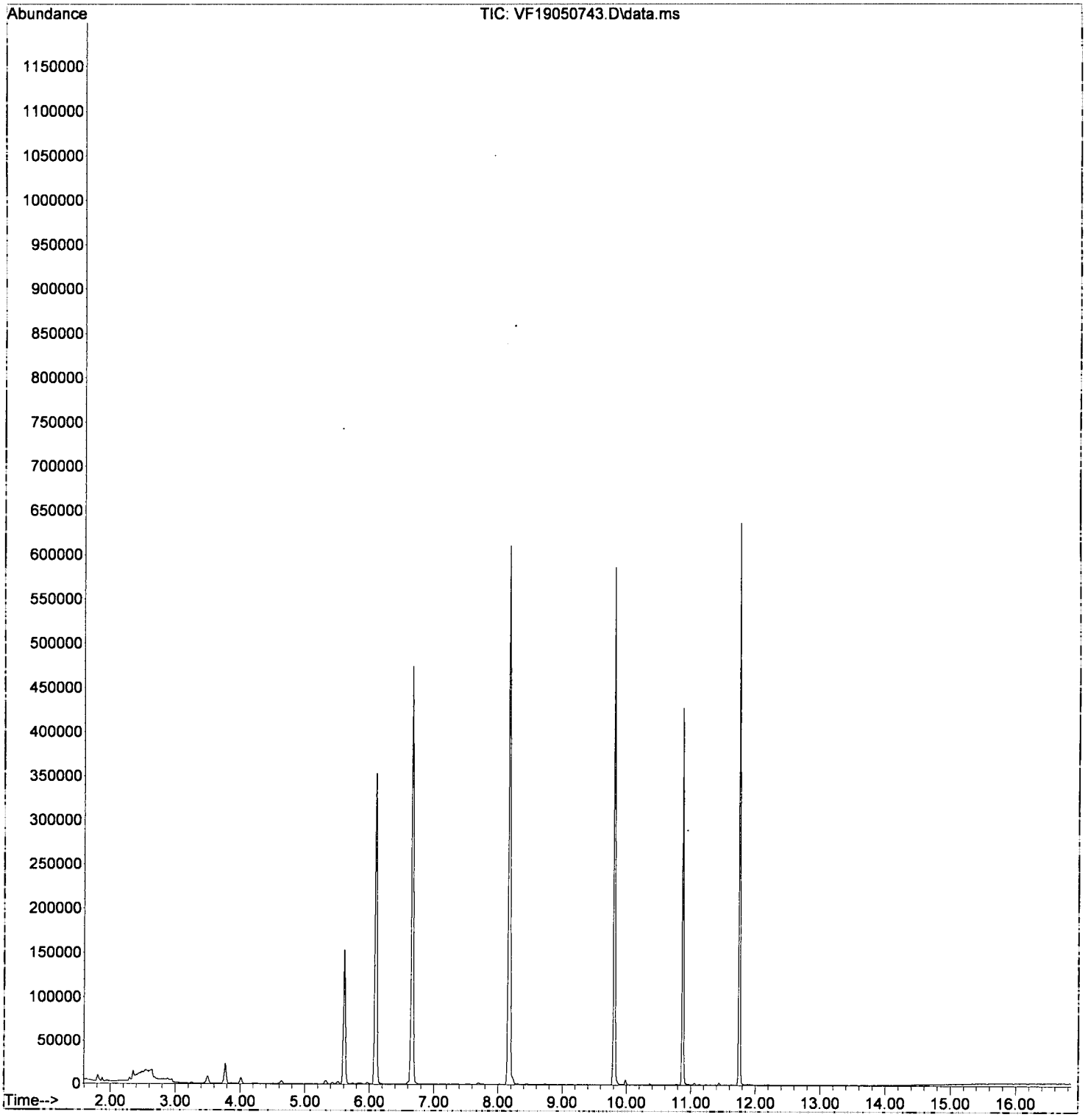
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	273596	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.657	TIC	987251	45.77	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	608879	45.84	ug/L	0.00
4) Chlorobenzene-d5 (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

5/8/19

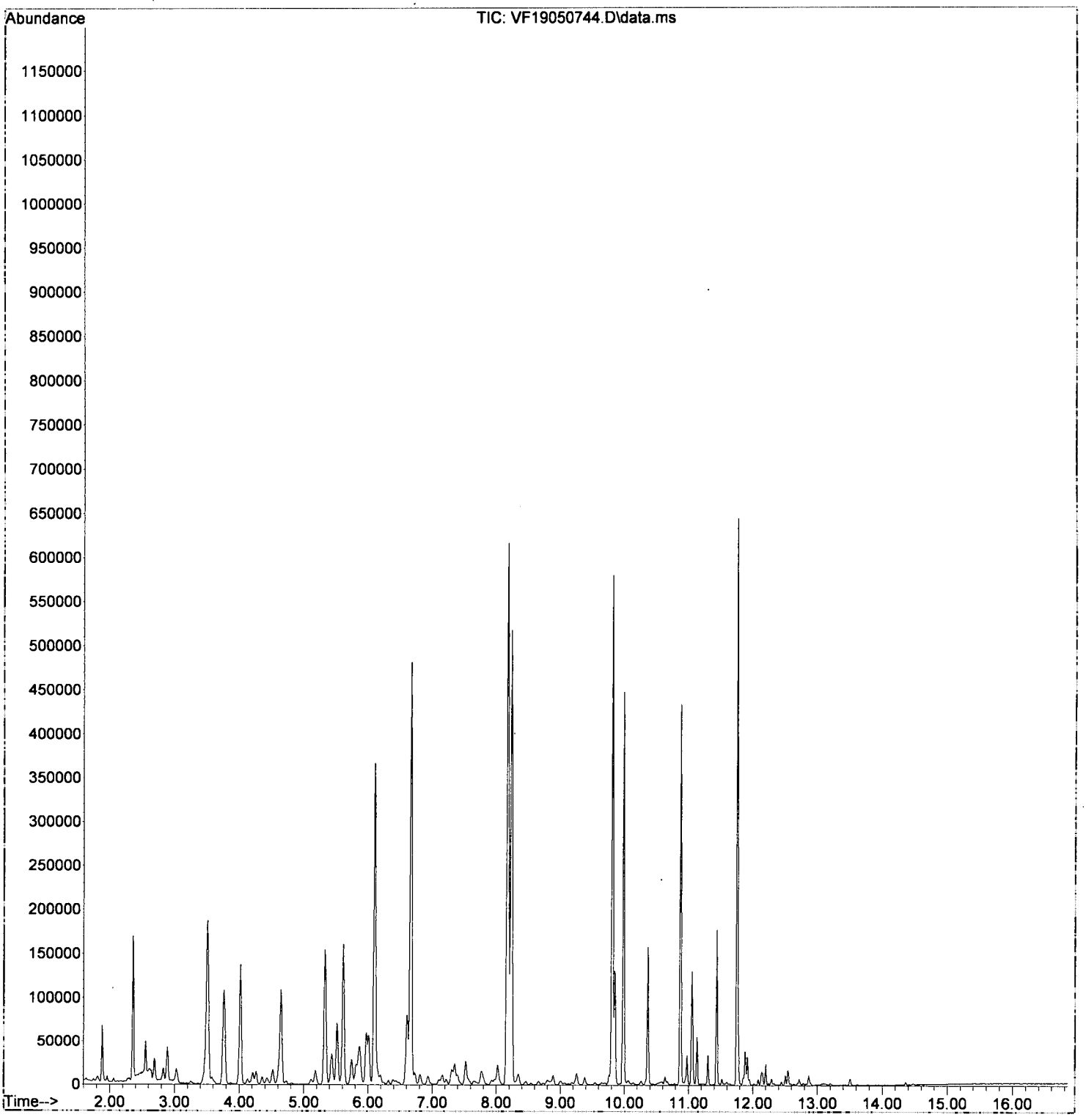
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.097	168	273841	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.663	TIC	1008883	46.73	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.873	TIC	617926	46.48	ug/L	0.00
4) Chlorobenzene-d5 (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

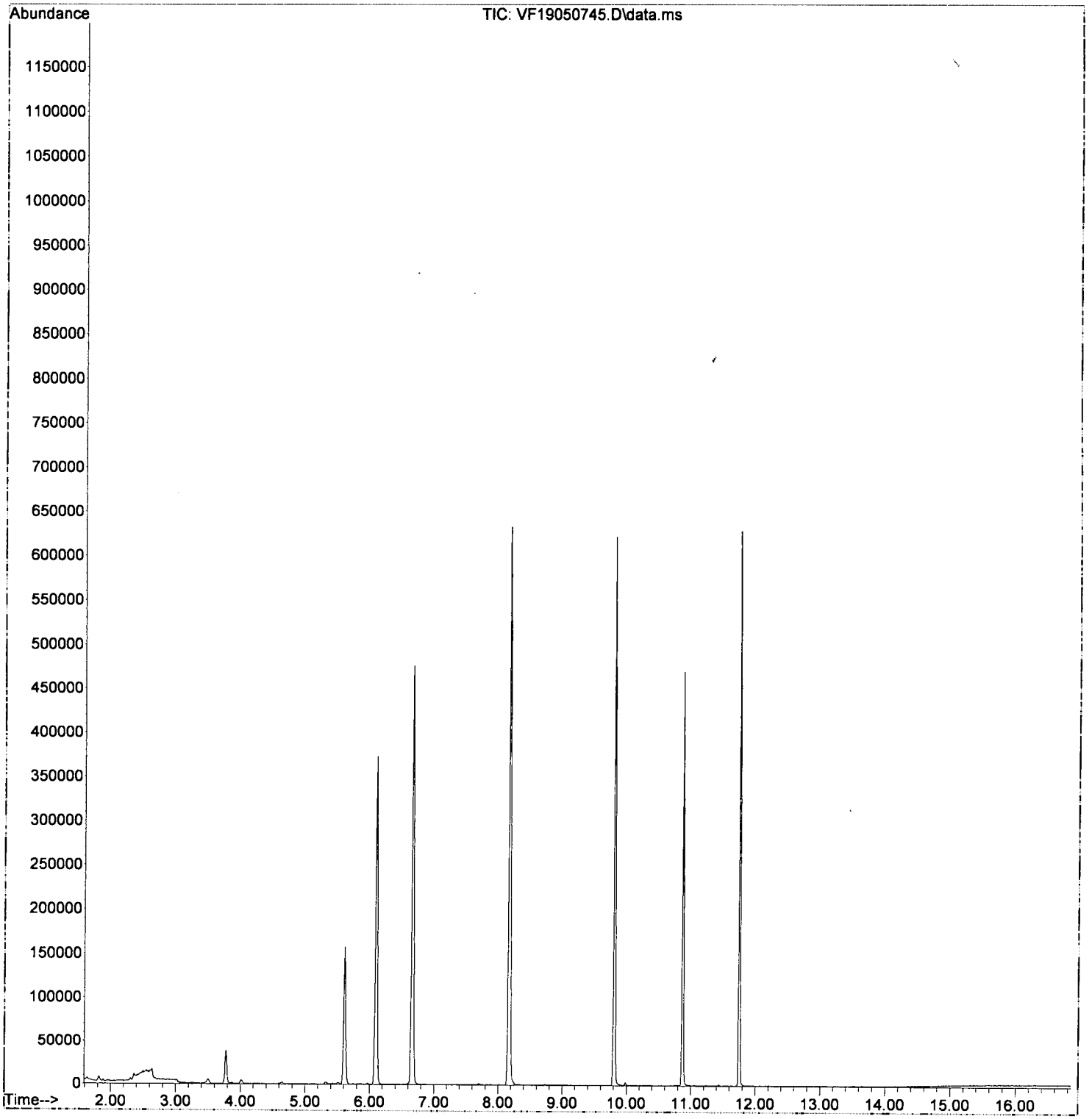
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	277007	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	TIC	1000763	45.82	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.871	TIC	640294	47.61	ug/L	0.00
4) Chlorobenzene-d5 (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 9051065

Sequence 9E21026 (A9E0582-01)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051065 (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
	9051065-BLK1		QC	05/20/19 16:13	15	5				100					
	9051065-BS1		QC	05/20/19 16:13	15	5	A19D326		100	100					
	A9E0508-05	A	8270D LL Full List	05/20/19 16:13	1.16	5				100	COMP1	expedited on 5/17 AM			
	9051065-DUP1		QC	05/20/19 16:13	1.24	5		A9E0508-05		100					
	9051065-DUP2		QC	05/20/19 16:13	1.24	5		A9E0508-05		100		Added 5/21/2019 by ams			
	A9E0582-01	A	8270D LL Full List	05/20/19 16:13	0.5	5				100	2708-190515-005	expedited 5/20			
	9051065-MS1		QC	05/20/19 16:13	0.49	5	A19D326	A9E0582-01	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

Reviewed By: AMS Date 5/21/19

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051065 (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
1	9051065-BLK1		QC	05/20/19 16:13	~~15~~ 15	~~25~~ 25				100					
2	9051065-BS1		QC	05/20/19 16:13	15	~~25~~ 25	A19D326		100	100					
3	A9E0508-05	A	8270D LL Full List	05/20/19 16:13	~~15~~ 1.16	~~25~~ 25				100	COMP1	expedited on ~~5/17 AM~~ black bits strong odor			
4	9051065-DUP1		QC	05/20/19 16:13	~~15~~ 1.24	~~25~~ 25		A9E0508-05		100		black bits, strong odor			
5	A9E0582-01	A	8270D LL Full List	05/20/19 16:13	~~15~~ 0.50	~~25~~ 25				100	2708-190515-005	expedited 5/20 TAR			
6	9051065-MS1		QC	05/20/19 16:13	~~15~~ 0.49	~~25~~ 25	A19D326	A9E0582-01	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

JC

Surrogate(s)

Std ID	Exp. Date	Description
A19E036	10/30/19	PAH Soil and Water Surr. (50ppm)

JC

Method 3546 digestion time and temperture achieved.

Initial: JC

Witness Cmh 5/20/19

JC 5-20-19
Prepared By: Date

Cm 5-20-19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9E21026**	Instrument:	**SV-GCMS9**
Date:	**05/21/19 08:03**	Calibration:	**A9E1009**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E21026-TUN1	Solid	QC	QC			A19B027	A19E139
2	9E21026-CCV1	Solid	QC	QC			A19B027	A19C237
3	9E21026-CCB1	Solid	QC	QC			A19B027	
4	9051065-BLK1	Solid	QC	QC		9051065	A19B027	
5	9051065-BS1	Solid	QC	QC		9051065	A19B027	
6	A9E0508-05	Solid	8270D LL Full List	Hahn and Associates	05/21/19	9051065	A19B027	
7	9051065-DUP1	Solid	QC	QC		9051065	A19B027	
8	9051065-DUP2	Solid	QC	QC		9051065	A19B027	
9	A9E0582-01	Solid	8270D LL Full List	Hahn and Associates	05/23/19	9051065	A19B027	
10	9E21026-IBL1	Solid	QC	QC			A19B027	

Data Entered By: AMS 5/21/19

Comments:

Data Reviewed By: 5/21/19

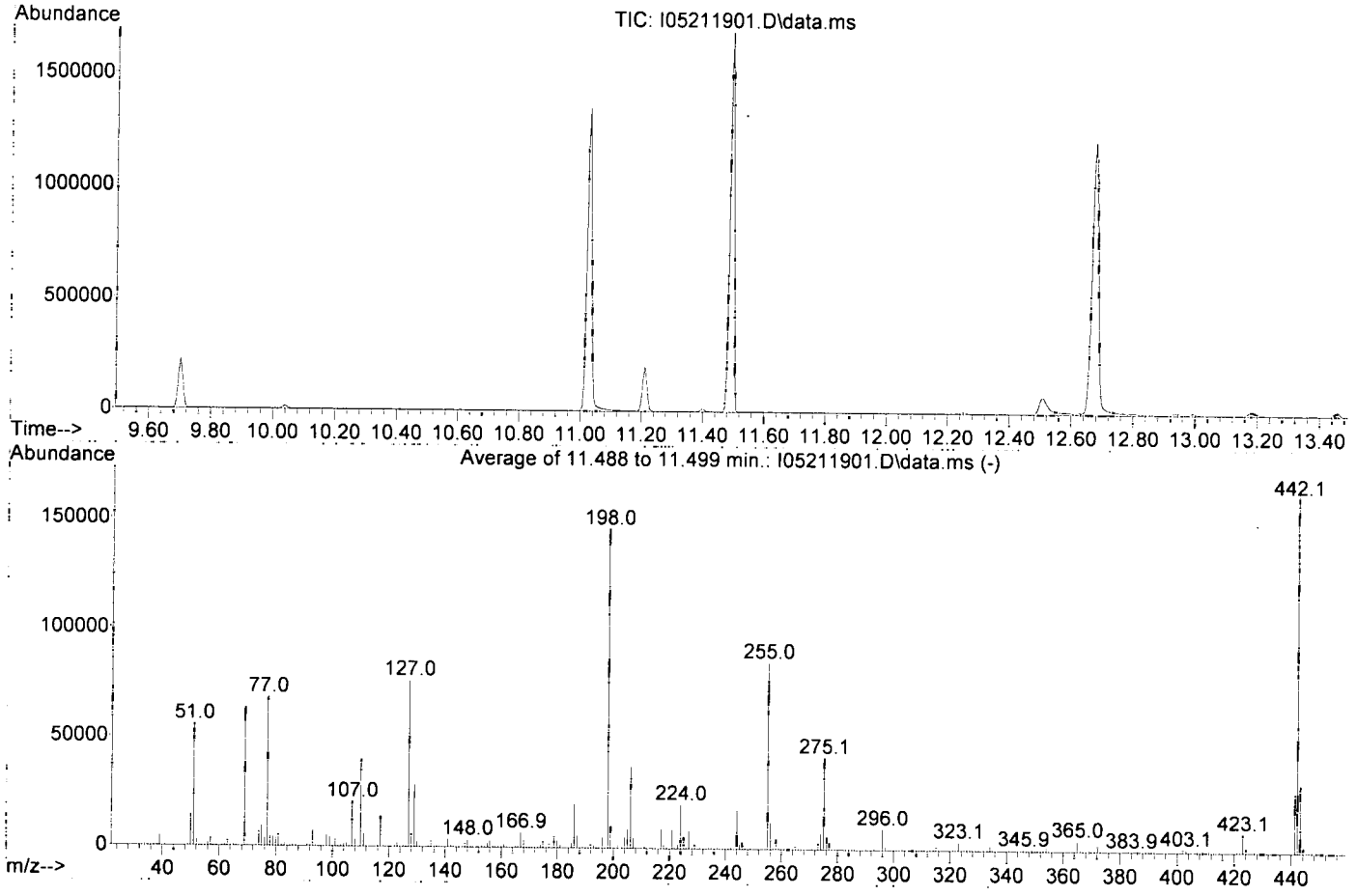
DFTPP

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211901.D
Acq On : 21 May 2019 8:10 am
Operator : JK /AMS /DTH
Sample : 9E21026-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\DFTPP-8270.M
Title : DFTPP Tune Methodug/mL
Last Update : Wed May 08 19:51:32 2019

AMS
5/21/19



AutoFind: Scans 1496, 1497, 1498; Background Corrected with Scan 1489

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	38.1	55640	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	63224	PASS
70	69	0.00	2	0.6	372	PASS
127	198	10	80	52.4	76485	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	145992	PASS
199	198	5	9	6.8	9917	PASS
275	198	10	60	28.8	42056	PASS
365	198	1	100	3.3	4859	PASS
441	442	0.01	24	16.5	27075	PASS
442	198	50	200	112.6	164408	PASS
443	442	15	24	19.6	32149	PASS

J

No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211901.D
Acq On : 21 May 2019 8:10 am
Operator : JK /AMS /DTH
Sample : 9E21026-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 21 10:40:11 2019
Quant Method : C:\msdchem\1\methods\DFTPP-8270.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Wed May 08 19:51:32 2019
Response via : Initial Calibration
InstName : SV-GCMS9

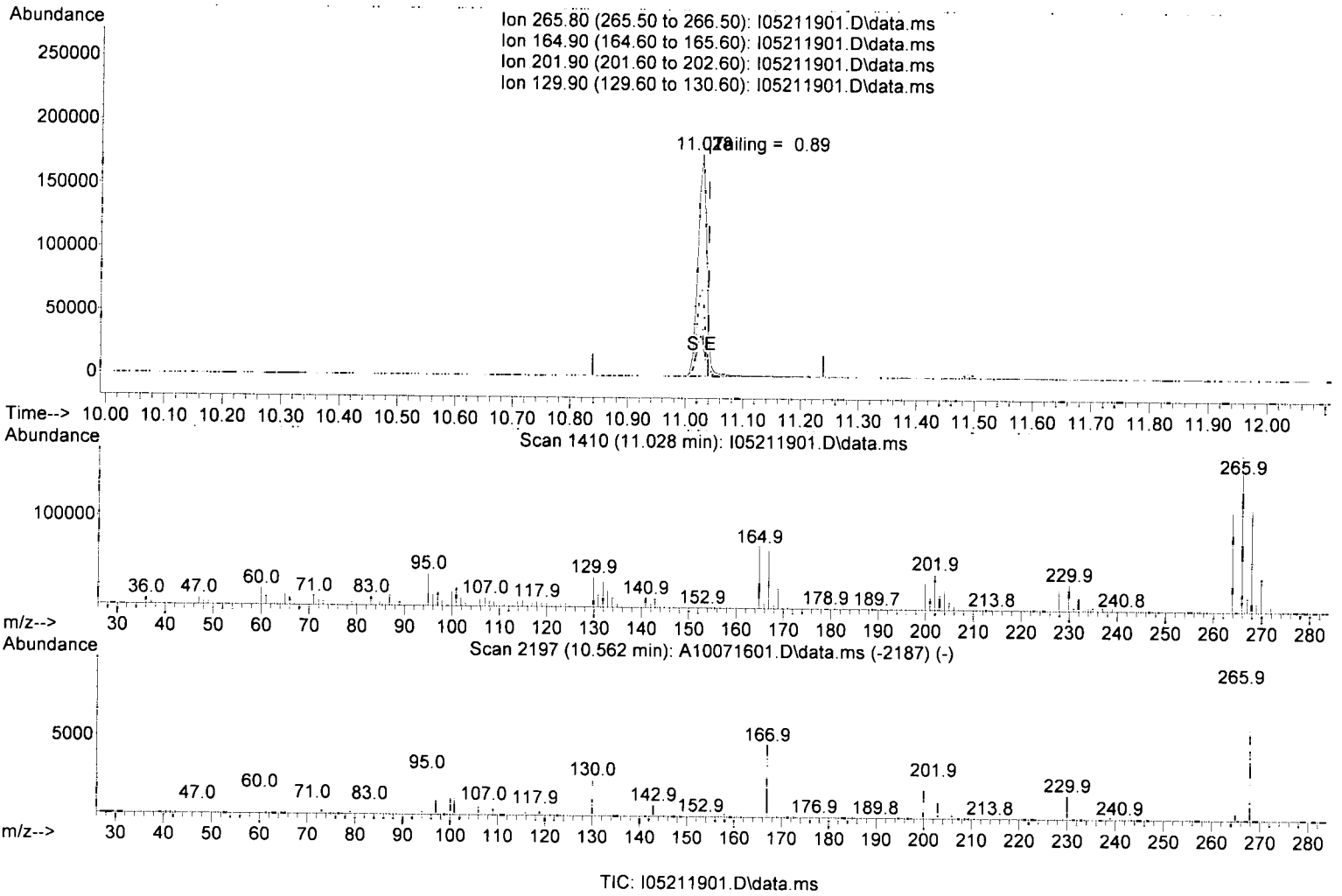
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	7.931	136	106680	2.00	ug/mL	-0.01
2) Acenaphthene-d10	9.702	162	51307	2.00	ug/mL	-0.01
4) Phenanthrene-d10	11.210	188	78169	2.00	ug/mL	-0.01
10) Chrysene-d12	14.933	240	62005	2.00	ug/mL	-0.01
11) Perylene-d12	16.933	264	55285	2.00	ug/mL	0.00
Target Compounds						Qvalue
3) Pentachlorophenol	11.028	266	186881	32.47	ug/mL	91
5) DFTPP	11.494	442	190149	28.94	ug/mL	97
6) Benzidine	12.676	184	734109	31.19	ug/mL	89
7) 4,4-DDE	12.938	TIC	9398	No Calib	#	
8) 4,4-DDD	13.457	TIC	20669	6.38	ug/mL#	1
9) 4,4-DDT	14.029	TIC	2364410	35.89	ug/mL#	1

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211901.D
Acq On : 21 May 2019 8:10 am
Operator : JK /AMS /DTH
Sample : 9E21026-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 21 10:40:11 2019
Quant Method : C:\msdchem\1\methods\DFTPP-8270.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Wed May 08 19:51:32 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211901.D\data.ms

(3) Pentachlorophenol

11.028min (-0.011) 32.47 ug/mL

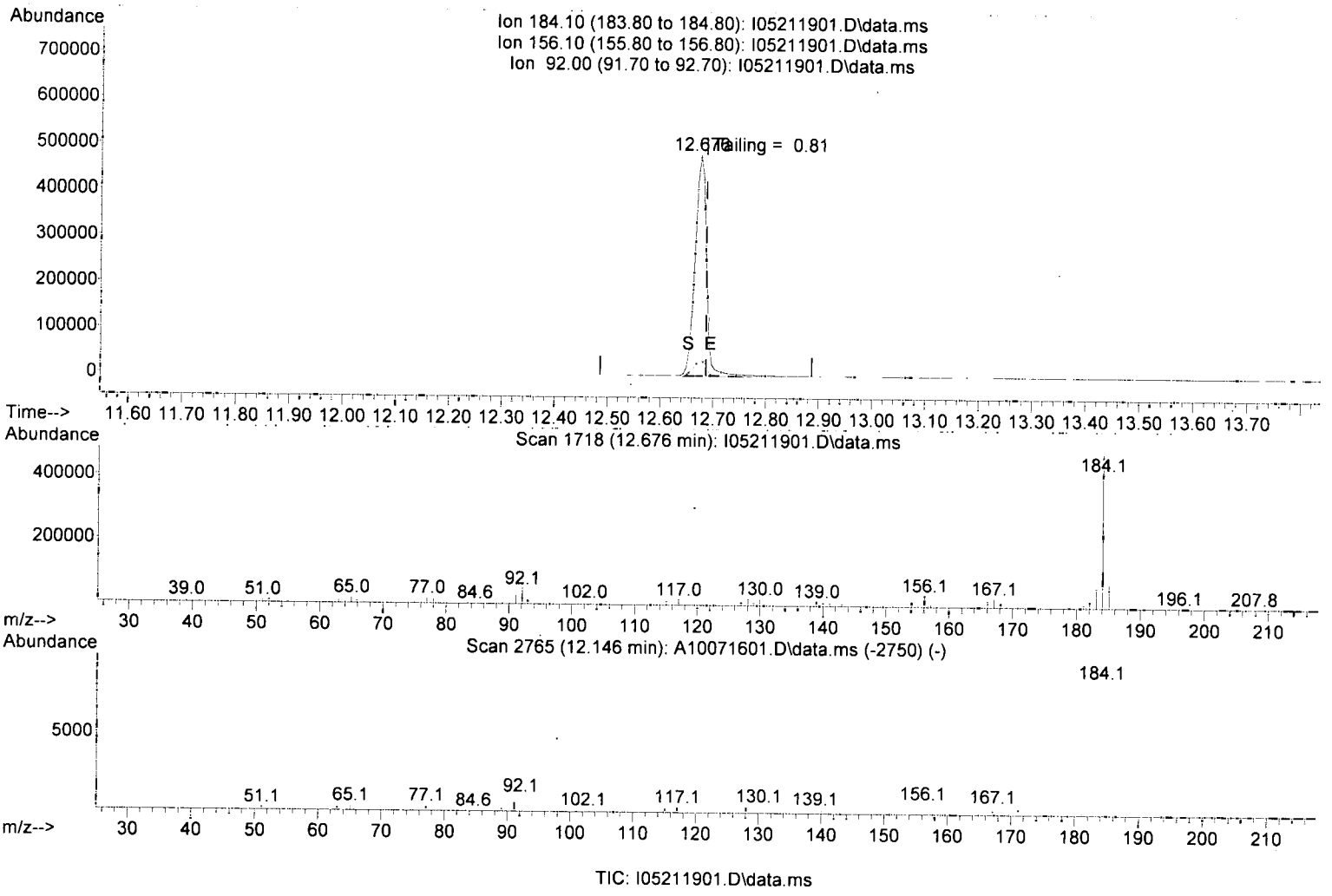
response 186881

Ion	Exp%	Act%
265.80	100.00	100.00
164.90	47.40	39.29
201.90	26.10	22.80
129.90	22.80	19.19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211901.D
Acq On : 21 May 2019 8:10 am
Operator : JK /AMS /DTH
Sample : 9E21026-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 21 10:40:11 2019
Quant Method : C:\msdchem\1\methods\DFTPP-8270.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Wed May 08 19:51:32 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211901.D\data.ms

(6) Benzidine

12.676min (-0.011) 31.19 ug/mL

response 734109

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	9.40	7.08
92.00	15.50	9.76
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9E21026-TUN1
SV-GCMS9

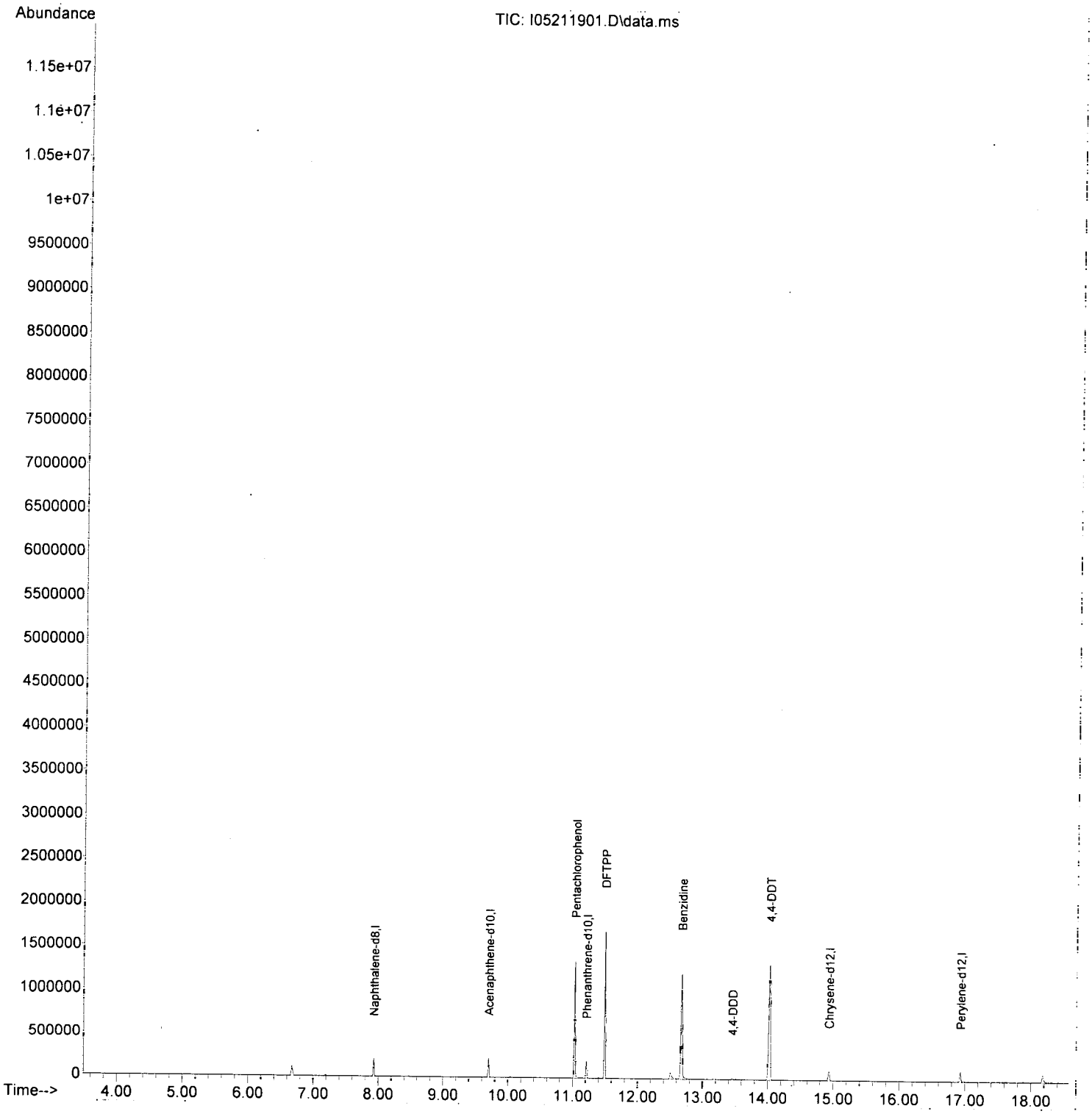
First Column Area Counts		Percent Breakdown	
DDE	9398		
DDD	20669		
DDT	2364410	1.26	PASS

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211901.D
Acq On : 21 May 2019 8:10 am
Operator : JK /AMS /DTH
Sample : 9E21026-TUN1
Misc : 1x, A19E139 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 21 10:40:11 2019
Quant Method : C:\msdchem\1\methods\DFTPP-8270.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Wed May 08 19:51:32 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211902.D
Acq On : 21 May 2019 8:38 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

AMS 5/21/19

Quant Time: May 21 10:41:18 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

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	72	-0.01
2	T	N-Nitrosodimethylamine	1000.000	918.669	8.1	72	-0.01
3	T	Pyridine	1000.000	932.260	6.8	70	0.00
4	S	2-Fluorophenol (Surr)	1000.000	981.011	1.9	71	0.00
5	S	Phenol-d6 (Surr)	1000.000	982.891	1.7	71	0.00
6	T	Phenol	1000.000	972.607	2.7	69	0.00
7	T	Aniline	1000.000	692.508	30.7#	56	0.00
8	T	Bis(2-chloroethyl) ether	1000.000	979.063	2.1	69	-0.01
9	T	2-Chlorophenol	1000.000	1038.758	-3.9	73	0.00
10	T	1,3-Dichlorobenzene	1000.000	976.014	2.4	70	0.00
11	T	1,4-Dichlorobenzene	1000.000	996.662	0.3	70	-0.01
12	T	Benzyl alcohol	1000.000	923.095	7.7	65	0.00
13	T	1,2-Dichlorobenzene	1000.000	1040.936	-4.1	74	0.00
14	T	2-Methylphenol	1000.000	1054.965	-5.5	75	-0.01
15	T	2,2'-Oxybis(1-Chloropropane	1000.000	937.740	6.2	67	-0.01
16	T	N-Nitrosodi-n-propylamine	1000.000	986.372	1.4	70	0.00
17	T	3+4-Methylphenol	1000.000	1021.875	-2.2	71	0.00
18	T	Hexachloroethane	1000.000	984.178	1.6	71	-0.01
19	S	Nitrobenzene-d5 (Surr)	1000.000	1003.435	-0.3	74	-0.01
20	T	Nitrobenzene	1000.000	982.788	1.7	71	0.00
21	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	73	-0.01
22	T	Isophorone	1000.000	972.569	2.7	68	-0.01
23	T	2-Nitrophenol	1000.000	1092.675	-9.3	75	0.00
24	T	2,4-Dimethylphenol	1000.000	1038.685	-3.9	70	0.00
25	T	Bis(2-chloroethoxy) methane	1000.000	967.463	3.3	68	-0.01
26	T	Benzoic acid	2000.000	1892.693	5.4	64	0.00
27	T	2,4-Dichlorophenol	1000.000	986.568	1.3	70	0.00
28	T	1,2,4-Trichlorobenzene	1000.000	999.763	0.0	70	0.00
29	T	Naphthalene	1000.000	1039.632	-4.0	73	-0.01
30	T	4-Chloroaniline	1000.000	770.615	22.9#	55	0.00
31	T	Hexachlorobutadiene	1000.000	1076.724	-7.7	77	-0.01
32	T	4-Chloro-3-methylphenol	1000.000	960.814	3.9	68	0.00
33	T	2-Methylnaphthalene	1000.000	1030.525	-3.1	70	-0.01
34	T	1-Methylnaphthalene	1000.000	1015.514	-1.6	69	-0.01
35	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	71	-0.01
36	T	Hexachlorocyclopentadiene	1000.000	1112.817	-11.3	75	0.00
37	T	2,4,6-Trichlorophenol	1000.000	1013.109	-1.3	68	0.00
38	T	2,4,5-Trichlorophenol	1000.000	1013.251	-1.3	67	0.00
39	T	1,1'-Biphenyl	1000.000	1074.436	-7.4	70	0.00
40	S	2-Fluorobiphenyl (Surr)	1000.000	1097.082	-9.7	72	0.00
41	T	2-Chloronaphthalene	1000.000	1073.213	-7.3	71	-0.01
42	T	2-Nitroaniline	1000.000	1077.279	-7.7	71	0.00
43	T	2,6-Dimethylnaphthalene	1000.000	1063.484	-6.3	69	0.00
44	T	1,4-Dinitrobenzene	1000.000	1067.501	-6.8	73	-0.01
45	T	Dimethyl phthalate	1000.000	1058.127	-5.8	71	0.00
46	T	1,3-Dinitrobenzene	1000.000	1068.032	-6.8	70	0.00
47	T	2,6-Dinitrotoluene	1000.000	1103.411	-10.3	70	0.00
48	T	1,2-Dinitrobenzene	1000.000	1067.850	-6.8	69	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211902.D
Acq On : 21 May 2019 8:38 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:18 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

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	1071.066	-7.1	70	-0.01
50	T	3-Nitroaniline	1000.000	1213.153	-21.3#	77	0.00
51	T	Acenaphthene	1000.000	1040.561	-4.1	70	-0.01
52	T	2,4-Dinitrophenol	1000.000	967.186	3.3	67	0.00
53	T	4-Nitrophenol	1000.000	883.703	11.6	59	0.00
54	T	2,4-Dinitrotoluene	1000.000	1016.341	-1.6	70	0.00
55	T	Dibenzofuran	1000.000	1075.872	-7.6	71	0.00
56	T	2,3,5,6-Tetrachlorophenol	1000.000	996.460	0.4	67	-0.01
57	T	2,3,4,6-Tetrachlorophenol	1000.000	1044.252	-4.4	68	0.00
58	T	Diethyl phthalate	1000.000	1038.936	-3.9	73	0.00
59	T	2,3,5-Trimethylnaphthalene	1000.000	992.330	0.8	71	0.00
60	T	Fluorene	1000.000	992.300	0.8	71	0.00
61	T	4-Chlorophenyl phenyl ether	1000.000	1023.699	-2.4	70	0.00
62	T	4-Nitroaniline	1000.000	955.585	4.4	62	0.00
63	T	4,6-Dinitro-2-methylphenol	1000.000	1039.084	-3.9	70	0.00
64	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	72	0.00
65	T	N-Nitrosodiphenylamine	1000.000	1053.578	-5.4	71	0.00
66	T	Azobenzene (1,2-DPH)	1000.000	1041.595	-4.2	70	0.00
67	S	2,4,6-Tribromophenol (Surr)	1000.000	1150.701	-15.1	73	0.00
68	T	4-Bromophenyl phenyl ether	1000.000	1024.914	-2.5	69	0.00
69	T	Hexachlorobenzene	1000.000	994.590	0.5	70	-0.01
70	T	Pentachlorophenol (PCP)	1000.000	1130.606	-13.1	80	0.00
71	T	Phenanthrene	1000.000	1015.599	-1.6	71	0.00
72	T	Anthracene	1000.000	1049.975	-5.0	73	0.00
73	T	Carbazole	1000.000	1015.626	-1.6	66	0.00
74	T	Di-n-butyl phthalate	1000.000	1060.829	-6.1	70	0.00
75	T	Fluoranthene	1000.000	1016.236	-1.6	67	-0.01
76	T	Benzidine	2000.000	772.171	61.4#	32	0.00
77	T	Pyrene	1000.000	1002.221	-0.2	68	0.00
78	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	70	-0.01
79	S	Terphenyl-d14 (Surr)	1000.000	1045.511	-4.6	70	0.00
80	T	Butyl benzyl phthalate	1000.000	1068.452	-6.8	69	-0.01
81	T	Bis(2-ethylhexyl) adipate	1000.000	989.769	1.0	68	-0.01
82	T	3,3-Dichlorobenzidine	2000.000	2510.595	-25.5#	79	0.00
83	T	Benz(a)anthracene	1000.000	1000.292	-0.0	67	-0.02
84	T	Chrysene	1000.000	1008.644	-0.9	70	-0.01
85	T	Bis(2-ethylhexyl) phthalate	1000.000	1085.093	-8.5	72	-0.01
86	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	71	0.00
87	T	Di-n-octyl phthalate	1000.000	1019.099	-1.9	71	-0.01
88	T	Benzo(b)fluoranthene	1000.000	996.717	0.3	67	-0.01
89	T	Benzo(k)fluoranthene	1000.000	990.482	1.0	68	-0.02
90	T	Benzo(b+k)fluoranthene	2000.000	1978.647	1.1	68	-0.02
91	T	Benzo(e)pyrene	1000.000	1036.316	-3.6	68	-0.02
92	T	Benzo(a)pyrene	1000.000	1020.521	-2.1	68	-0.01
93	T	Perylene	1000.000	1132.977	-13.3	76	-0.01
94	I	Dibenz(a,h)Anthrcene-d14 (I	2000.000	2000.000	0.0	70	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211902.D
Acq On : 21 May 2019 8:38 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:18 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

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	991.733	0.8	70	-0.01
96 T	Dibenz(a,h)anthracene	1000.000	1033.563	-3.4	70	-0.01
97 T	Benzo(g,h,i)perylene	1000.000	1041.955	-4.2	69	-0.02

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211902.D
Acq On : 21 May 2019 8:38 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:18 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.685	152	84488	2000.00	ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.937	136	319520	2000.00	ng/ml	-0.01
35) Acenaphthene-d10 (ISTD)	9.707	162	159574	2000.00	ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.216	188	304901	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.045	240	298923	2000.00	ng/ml	-0.01
86) Perylene-d12 (ISTD)	18.533	264	286034	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.913	292	278158	2000.00	ng/ml	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.461	112	54160	981.01	ng/ml	0.00
5) Phenol-d6 (Surr)	6.332	99	70612	982.89	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.220	82	59949	1003.43	ng/ml	-0.01
40) 2-Fluorobiphenyl (Surr)	9.017	172	131262	1097.08	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.510	330	16146	1150.70	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.018	244	153152	1045.51	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.161	74	38787	918.67	ng/ml	98
3) Pyridine	4.177	79	60081	932.26	ng/ml	99
6) Phenol	6.348	94	74312	972.61	ng/ml	98
7) Aniline	6.375	93	45024	692.51	ng/ml	99
8) Bis(2-chloroethyl) ether	6.423	93	62956	979.06	ng/ml	97
9) 2-Chlorophenol	6.493	128	59934	1038.76	ng/ml	91
10) 1,3-Dichlorobenzene	6.637	146	64410	976.01	ng/ml	96
11) 1,4-Dichlorobenzene	6.701	146	61436	996.66	ng/ml	97
12) Benzyl alcohol	6.819	108	29640	923.09	ng/ml	100
13) 1,2-Dichlorobenzene	6.857	146	61909	1040.94	ng/ml	97
14) 2-Methylphenol	6.921	107	46170	1054.96	ng/ml	95
15) 2,2'-Oxybis(1-Chloropr...	6.942	45	73441	937.74	ng/ml	93
16) N-Nitrosodi-n-propylamine	7.070	70	43266	986.37	ng/ml	93
17) 3+4-Methylphenol	7.070	107	55607	1021.88	ng/ml	97
18) Hexachloroethane	7.183	201	19545	984.18	ng/ml	95
20) Nitrobenzene	7.242	77	57755	982.79	ng/ml	90
22) Isophorone	7.472	82	115077	972.57	ng/ml	94
23) 2-Nitrophenol	7.557	139	33013	1092.68	ng/ml	98
24) 2,4-Dimethylphenol	7.595	122	47085	1038.69	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.675	93	67188	967.46	ng/ml	99
26) Benzoic acid	7.696	105	36938	1892.69	ng/ml	96
27) 2,4-Dichlorophenol	7.798	162	41529	986.57	ng/ml	98
28) 1,2,4-Trichlorobenzene	7.883	180	51069	999.76	ng/ml	97
29) Naphthalene	7.958	128	165684	1039.63	ng/ml	97
30) 4-Chloroaniline	8.017	127	31472	770.62	ng/ml	94
31) Hexachlorobutadiene	8.087	225	28558	1076.72	ng/ml	96
32) 4-Chloro-3-methylphenol	8.488	107	45929	960.81	ng/ml	96
33) 2-Methylnaphthalene	8.648	142	123902	1030.52	ng/ml	98
34) 1-Methylnaphthalene	8.750	142	114996	1015.51	ng/ml	99
36) Hexachlorocyclopentadiene	8.819	237	25954	1112.82	ng/ml	98
37) 2,4,6-Trichlorophenol	8.937	196	30067	1013.11	ng/ml	99
38) 2,4,5-Trichlorophenol	8.980	198	28221	1013.25	ng/ml	96
39) 1,1'-Biphenyl	9.119	154	143268	1074.44	ng/ml	99
41) 2-Chloronaphthalene	9.140	162	103112	1073.21	ng/ml	98
42) 2-Nitroaniline	9.242	138	34729	1077.28	ng/ml	90
43) 2,6-Dimethylnaphthalene	9.279	156	104491	1063.48	ng/ml	97

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211902.D
Acq On : 21 May 2019 8:38 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

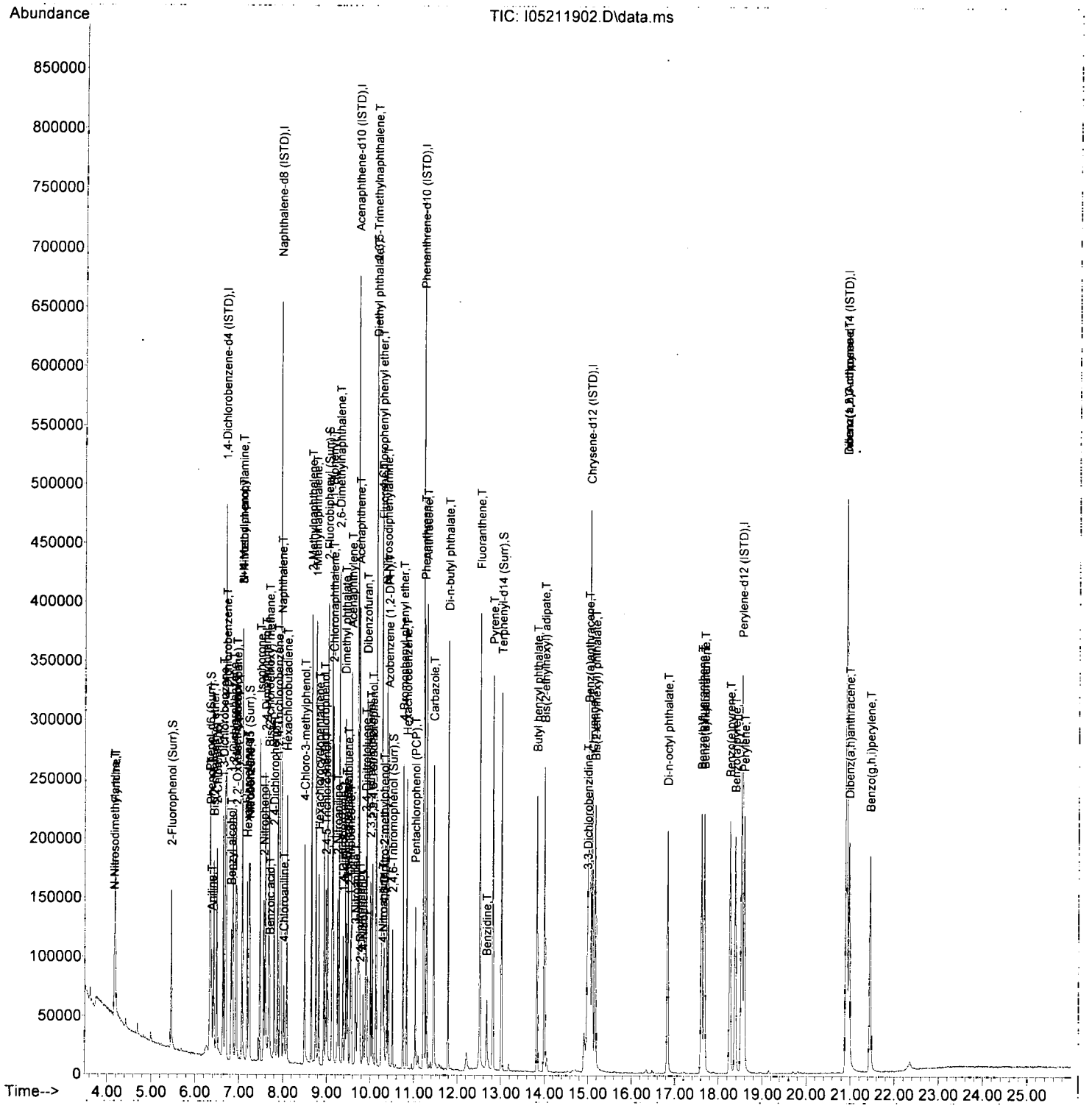
Quant Time: May 21 10:41:18 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.365	168	16801	1067.50	ng/ml	90
45) Dimethyl phthalate	9.419	163	118125	1058.13	ng/ml	100
46) 1,3-Dinitrobenzene	9.451	168	19147	1068.03	ng/ml	93
47) 2,6-Dinitrotoluene	9.483	165	27544	1103.41	ng/ml	80
48) 1,2-Dinitrobenzene	9.536	168	13221	1067.85	ng/ml	95
49) Acenaphthylene	9.563	152	169073	1071.07	ng/ml	99
50) 3-Nitroaniline	9.659	138	23815	1213.15	ng/ml	93
51) Acenaphthene	9.739	153	103477	1040.56	ng/ml	98
52) 2,4-Dinitrophenol	9.761	184	8109	967.19	ng/ml	87
53) 4-Nitrophenol	9.830	139	15675	883.70	ng/ml	93
54) 2,4-Dinitrotoluene	9.889	165	35030	1016.34	ng/ml	85
55) Dibenzofuran	9.916	168	145594	1075.87	ng/ml	96
56) 2,3,5,6-Tetrachlorophenol	9.996	232	23667	996.46	ng/ml	89
57) 2,3,4,6-Tetrachlorophenol	10.044	232	26013	1044.25	ng/ml	86
58) Diethyl phthalate	10.130	149	112385	1038.94	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.125	170	96134	992.33	ng/ml	97
60) Fluorene	10.264	166	115727	992.30	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.253	204	55778	1023.70	ng/ml	90
62) 4-Nitroaniline	10.280	138	22835	955.58	ng/ml	97
63) 4,6-Dinitro-2-methylph...	10.306	198	14825	1039.08	ng/ml	77
65) N-Nitrosodiphenylamine	10.371	169	99220	1053.58	ng/ml	98
66) Azobenzene (1,2-DPH)	10.413	77	110092	1041.60	ng/ml	88
68) 4-Bromophenyl phenyl e...	10.750	248	34358	1024.91	ng/ml	86
69) Hexachlorobenzene	10.831	284	37036	994.59	ng/ml	94
70) Pentachlorophenol (PCP)	11.028	266	18617	1130.61	ng/ml	96
71) Phenanthrene	11.242	178	165415	1015.60	ng/ml	98
72) Anthracene	11.291	178	170994	1049.98	ng/ml	99
73) Carbazole	11.451	167	144955	1015.63	ng/ml	99
74) Di-n-butyl phthalate	11.788	149	196183	1060.83	ng/ml	99
75) Fluoranthene	12.515	202	193411	1016.24	ng/ml	97
76) Benzidine	12.671	184	38623	772.17	ng/ml	97
77) Pyrene	12.815	202	194116	1002.22	ng/ml	99
80) Butyl benzyl phthalate	13.831	149	88367	1068.45	ng/ml	91
81) Bis(2-ethylhexyl) adipate	14.002	129	77993	989.77	ng/ml	99
82) 3,3-Dichlorobenzidine	14.992	252	49332	2510.60	ng/ml	92
83) Benz(a)anthracene	15.013	228	173679	1000.29	ng/ml	98
84) Chrysene	15.104	228	161565	1008.64	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.168	149	114359	1085.09	ng/ml	95
87) Di-n-octyl phthalate	16.832	149	201893	1019.10	ng/ml	98
88) Benzo(b)fluoranthene	17.607	252	179976	996.72	ng/ml	94
89) Benzo(k)fluoranthene	17.671	252	177354	990.48	ng/ml	94
90) Benzo(b+k)fluoranthene	17.671	252	366688	1978.65	ng/ml	94
91) Benzo(e)pyrene	18.260	252	177233	1036.32	ng/ml	97
92) Benzo(a)pyrene	18.383	252	167064	1020.52	ng/ml	95
93) Perylene	18.586	252	164064	1132.98	ng/ml	98
95) Indeno(1,2,3-cd)pyrene	20.913	276	151480	991.73	ng/ml	87
96) Dibenz(a,h)anthracene	20.977	278	139373	1033.56	ng/ml	91
97) Benzo(g,h,i)perylene	21.448	276	155620	1041.96	ng/ml	87

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

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211902.D
Acq On : 21 May 2019 8:38 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCV1
Misc : 1x, A19C237@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:18 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211903.D
Acq On : 21 May 2019 9:15 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

AMS 5/21/19

Quant Time: May 21 10:41:45 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.685	152	80937	2000.00	ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.942	136	333025	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.707	162	157346	2000.00	ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.216	188	307390	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.045	240	305366	2000.00	ng/ml	-0.01
86) Perylene-d12 (ISTD)	18.527	264	281155	2000.00	ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	20.907	292	260638	2000.00	ng/ml	-0.02
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)	7.167	82	63	1.10	ng/ml	-0.06
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	0.000		0	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	0.000		0	N.D.		
33) 2-Methylnaphthalene	0.000		0	N.D.		
34) 1-Methylnaphthalene	0.000		0	N.D.		
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	0.000		0	N.D.		
38) 2,4,5-Trichlorophenol	0.000		0	N.D.		
39) 1,1'-Biphenyl	0.000		0	N.D.		
41) 2-Chloronaphthalene	0.000		0	N.D.		
42) 2-Nitroaniline	0.000		0	N.D.		
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211903.D
Acq On : 21 May 2019 9:15 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

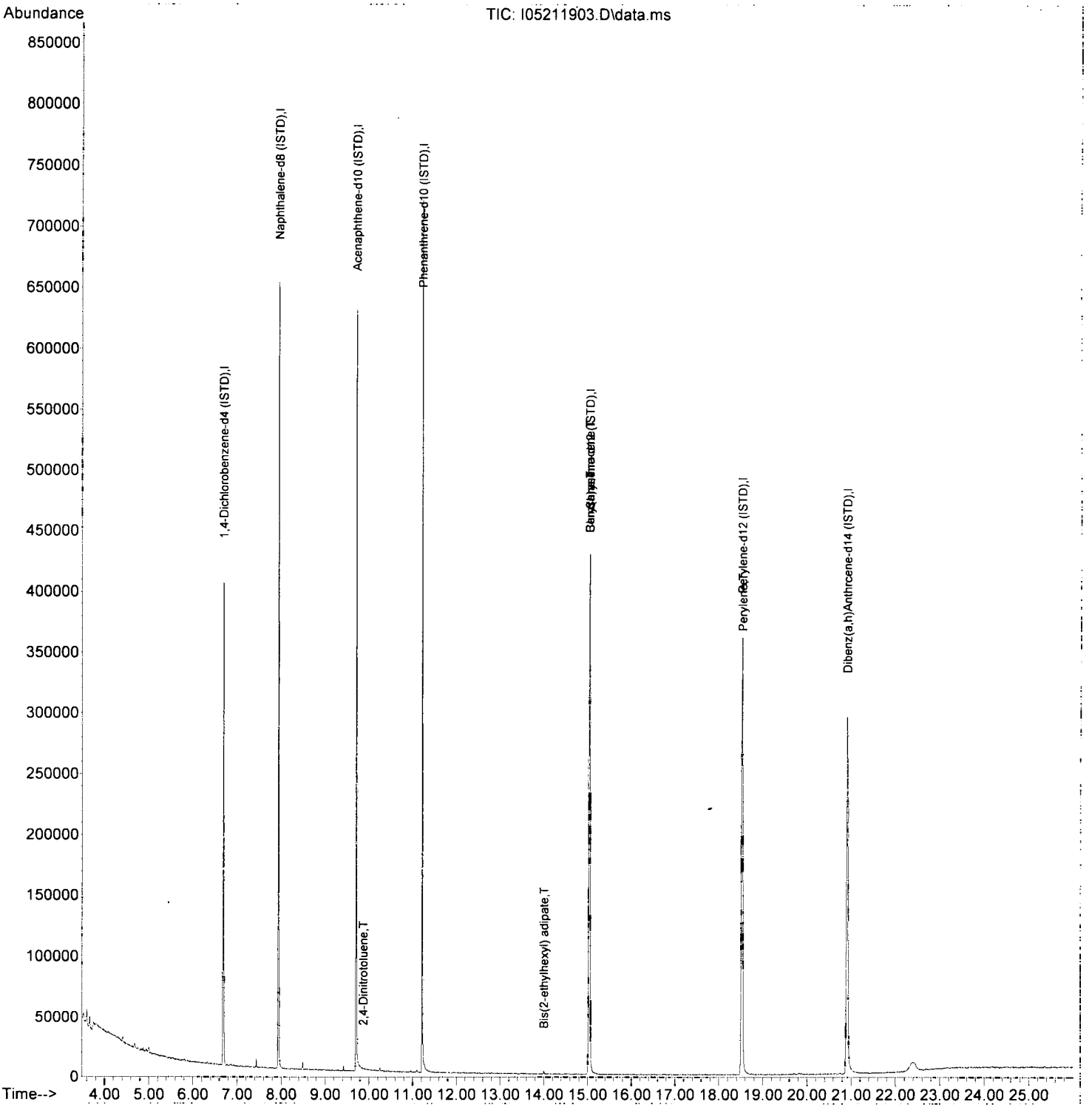
Quant Time: May 21 10:41:45 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

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	9.868	165	78	34.93 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)	0.000		0	N.D.	
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	0.000		0	N.D.	
71) Phenanthrene	11.216	178	107	N.D.	
72) Anthracene	11.216	178	107	N.D.	
73) Carbazole	0.000		0	N.D.	
74) Di-n-butyl phthalate	0.000		0	N.D.	
75) Fluoranthene	0.000		0	N.D.	
76) Benzidine	12.687	184	92	Below Cal	62
77) Pyrene	0.000		0	N.D.	
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.002	129	664	8.25 ng/ml	77
82) 3,3-Dichlorobenzidine	15.008	252	359	Below Cal	72
83) Benz(a)anthracene	15.040	228	758	4.27 ng/ml	65
84) Chrysene	15.040	228	719	4.39 ng/ml	62
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	0.000		0	N.D.	
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.533	252	969	6.81 ng/ml	76
95) Indeno(1,2,3-cd)pyrene	0.000		0	N.D.	
96) Dibenz(a,h)anthracene	0.000		0	N.D.	
97) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211903.D
Acq On : 21 May 2019 9:15 am
Operator : JK /AMS /DTH
Sample : 9E21026-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:45 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

B02
B
AMS 5/21/19

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.691	152	89774	2000.00 ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.942	136	348983	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	161332	2000.00 ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.221	188	315328	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.045	240	320540	2000.00 ng/ml	-0.01
86) Perylene-d12 (ISTD)	18.532	264	296996	2000.00 ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.913	292	282864	2000.00 ng/ml	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	5.466	112	47493	809.60 ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	60392	791.14 ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.225	82	55207	869.65 ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.017	172	107895	891.96 ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.510	330	12613	869.19 ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.018	244	147533	939.23 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	4.187	74	212	4.73 ng/ml#	1
3) Pyridine	4.236	79	1046	15.27 ng/ml#	13
6) Phenol	6.354	94	5688	(70.06) ng/ml	91 B02
7) Aniline	6.380	93	881	12.75 ng/ml	76
8) Bis(2-chloroethyl) ether	6.434	93	335	4.90 ng/ml	84
9) 2-Chlorophenol	6.498	128	151	N.D.	
10) 1,3-Dichlorobenzene	6.637	146	269	3.84 ng/ml	81
11) 1,4-Dichlorobenzene	6.701	146	295	4.50 ng/ml#	28
12) Benzyl alcohol	6.835	108	245	32.88 ng/ml#	60
13) 1,2-Dichlorobenzene	6.862	146	266	4.21 ng/ml	86
14) 2-Methylphenol	6.931	107	1289	(27.72) ng/ml	93 B02
15) 2,2'-Oxybis(1-Chloropr...	6.953	45	256	3.08 ng/ml	60
16) N-Nitrosodi-n-propylamine	7.065	70	206	4.42 ng/ml	59
17) 3+4-Methylphenol	7.081	107	2289	(39.59) ng/ml#	79 B02
18) Hexachloroethane	0.000		0	N.D.	
20) Nitrobenzene	7.242	77	989	15.84 ng/ml#	28
22) Isophorone	7.477	82	383	2.96 ng/ml#	30
23) 2-Nitrophenol	0.000		0	N.D.	
24) 2,4-Dimethylphenol	7.605	122	394	7.96 ng/ml	94
25) Bis(2-chloroethoxy) me...	7.685	93	178	N.D.	
26) Benzoic acid	7.685	105	127	708.46 ng/ml#	1
27) 2,4-Dichlorophenol	0.000		0	N.D.	
28) 1,2,4-Trichlorobenzene	7.883	180	145	2.60 ng/ml#	43
29) Naphthalene	7.964	128	557156	3200.88 ng/ml	98 B
30) 4-Chloroaniline	8.022	127	180	4.04 ng/ml	76
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	8.525	107	129	67.03 ng/ml#	1
33) 2-Methylnaphthalene	8.654	142	87893	669.31 ng/ml	98 B
34) 1-Methylnaphthalene	8.755	142	39919	322.76 ng/ml	96 B
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	9.124	154	19605	145.43 ng/ml	98
41) 2-Chloronaphthalene	9.151	162	107	N.D.	
42) 2-Nitroaniline	0.000		0	N.D.	
43) 2,6-Dimethylnaphthalene	9.290	156	4658	46.89 ng/ml	94

No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

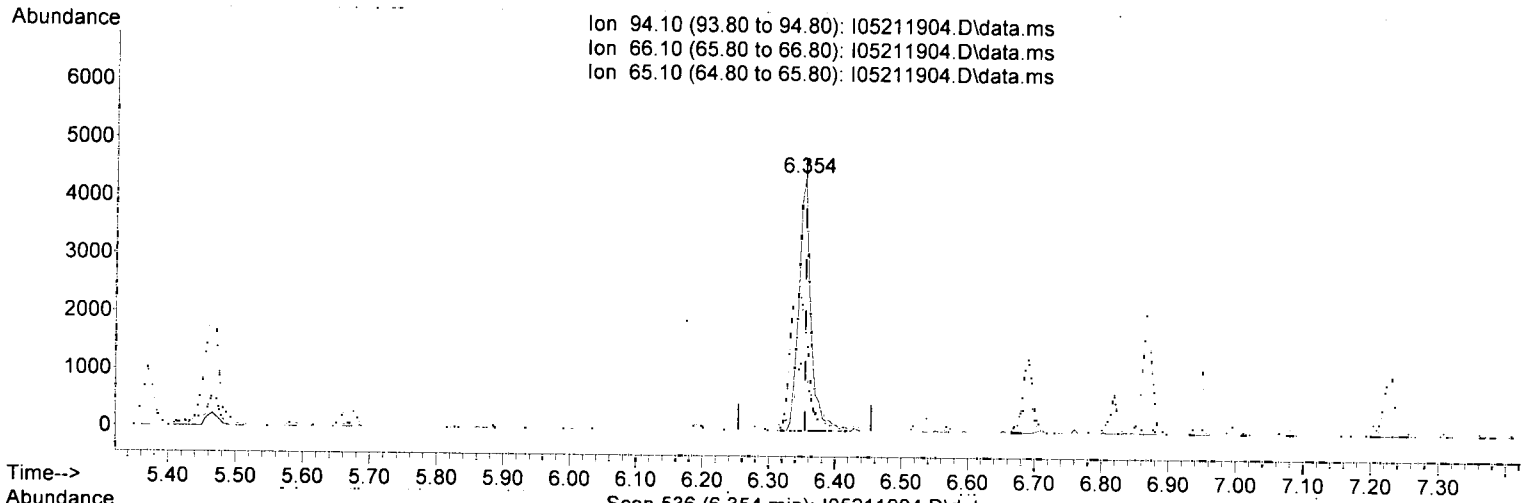
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)	
44) 1,4-Dinitrobenzene	9.397	168	206	77.61 ng/ml#	7	
45) Dimethyl phthalate	0.000		0	N.D.		
46) 1,3-Dinitrobenzene	9.397	168	206	11.37 ng/ml#	1	
47) 2,6-Dinitrotoluene	9.397	165	58	N.D.		
48) 1,2-Dinitrobenzene	0.000		0	N.D.		
49) Acenaphthylene	9.568	152	796	4.99 ng/ml	73	
50) 3-Nitroaniline	0.000		0	N.D.		
51) Acenaphthene	9.745	153	44544	443.05 ng/ml	96	B
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	9.745	139	313	74.63 ng/ml#	58	
54) 2,4-Dinitrotoluene	9.873	165	528	47.10 ng/ml#	27	
55) Dibenzofuran	9.916	168	19140	139.89 ng/ml	94	B
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	10.135	149	134	N.D.		
59) 2,3,5-Trimethylnaphtha...	10.119	170	350	3.57 ng/ml	75	
60) Fluorene	10.263	166	9259	78.53 ng/ml	99	B
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.		
62) 4-Nitroaniline	10.263	138	76	3.15 ng/ml#	23	
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.		
65) N-Nitrosodiphenylamine	10.381	169	155	N.D.		
66) Azobenzene (1,2-DPH)	10.429	77	116	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	11.242	178	13996	83.09 ng/ml	93	B
72) Anthracene	11.296	178	2680	15.91 ng/ml	95	B02
73) Carbazole	11.456	167	586	3.97 ng/ml	85	
74) Di-n-butyl phthalate	11.788	149	463	N.D.		
75) Fluoranthene	12.521	202	3101	15.75 ng/ml	86	B02
76) Benzidine	12.702	184	56	Below Cal	66	
77) Pyrene	12.815	202	2351	11.74 ng/ml	81	B02
80) Butyl benzyl phthalate	13.842	149	196	12.03 ng/ml#	40	
81) Bis(2-ethylhexyl) adipate	14.008	129	853	10.09 ng/ml	93	
82) 3,3-Dichlorobenzidine	14.992	252	188	Below Cal	79	
83) Benz(a)anthracene	15.040	228	756	4.06 ng/ml	61	
84) Chrysene	15.088	228	64	N.D.		
85) Bis(2-ethylhexyl) phth...	15.168	149	163	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	0.000		0	N.D.		
92) Benzo(a)pyrene	0.000		0	N.D.		
93) Perylene	18.527	252	989	6.58 ng/ml#	64	
95) Indeno(1,2,3-cd)pyrene	0.000		0	N.D.		
96) Dibenz(a,h)anthracene	0.000		0	N.D.		
97) Benzo(g,h,i)perylene	0.000		0	N.D.		

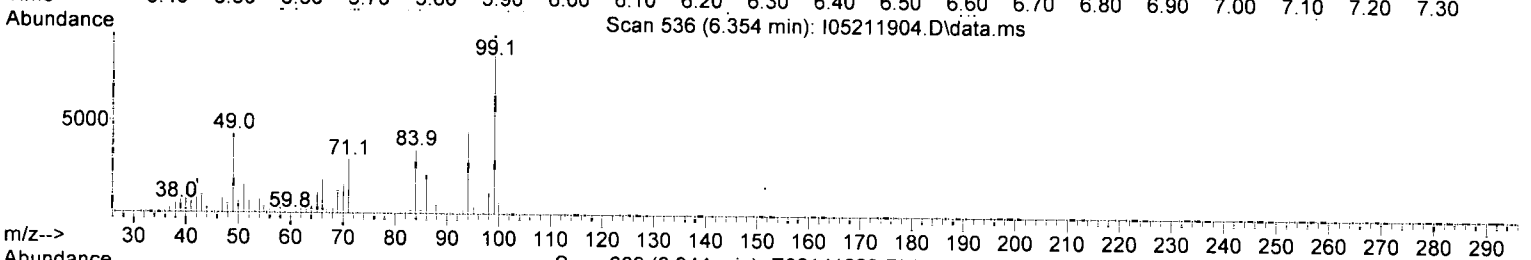
(#) = qualifier out of range (m) = manual integration (+) = signals summed

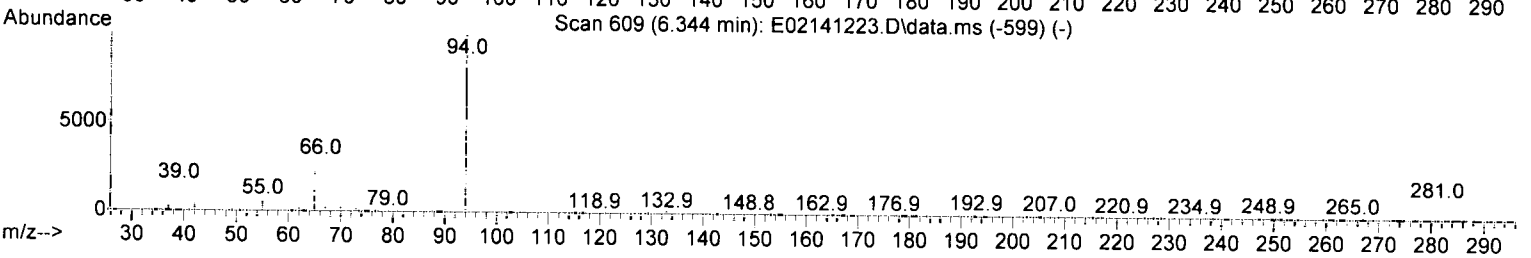
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05211904.D\data.ms

(6) Phenol (T)

6.354min (-0.001) 70.06 ng/ml

response 5688

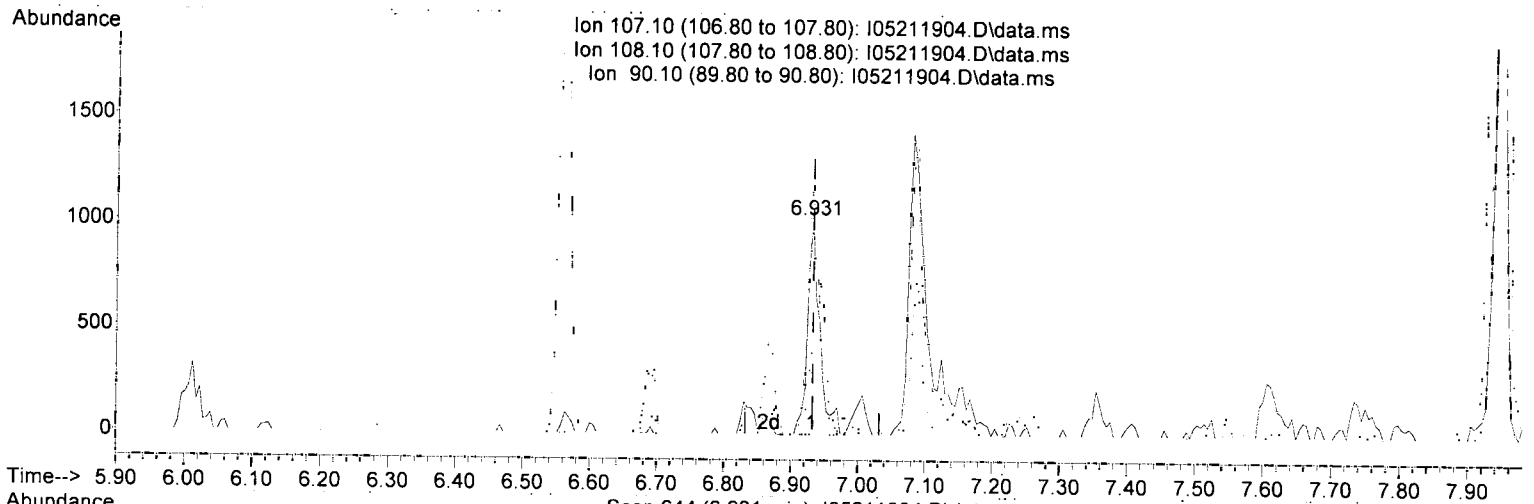
Ion	Exp%	Act%
94.10	100.00	100.00
66.10	34.30	42.21
65.10	26.20	25.32
0.00	0.00	0.00

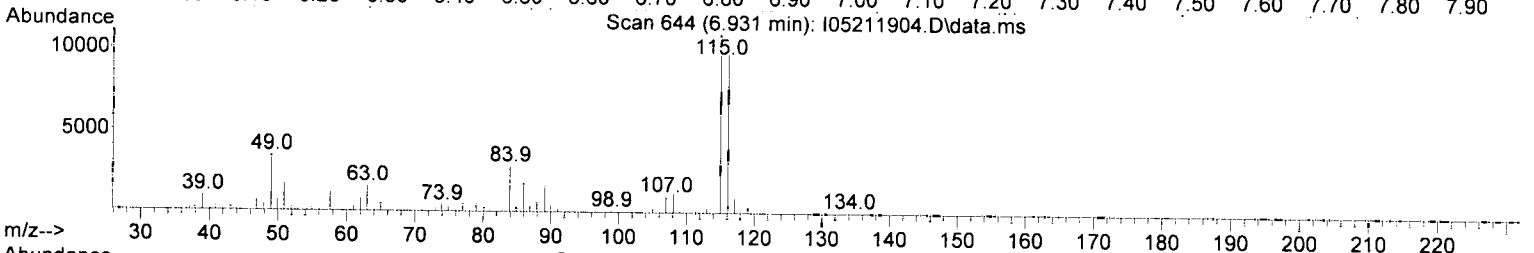
5/21/19

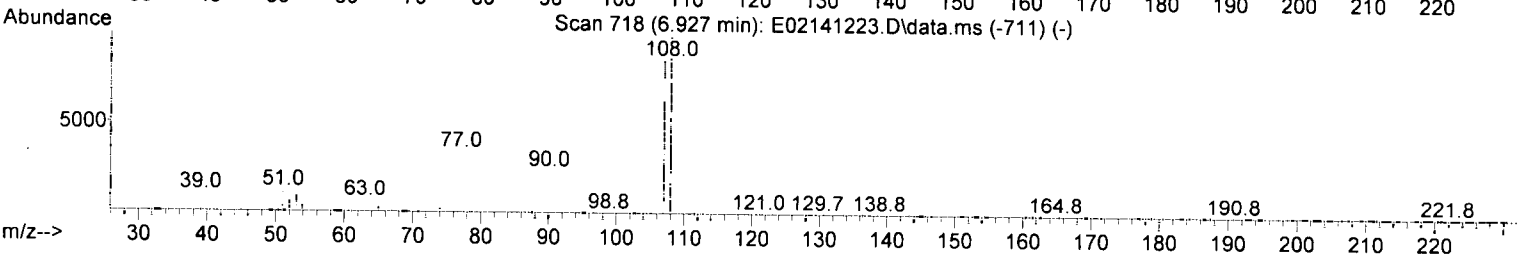
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05211904.D\data.ms

(14) 2-Methylphenol (T)

6.931min (-0.001) 27.72 ng/ml

response 1289

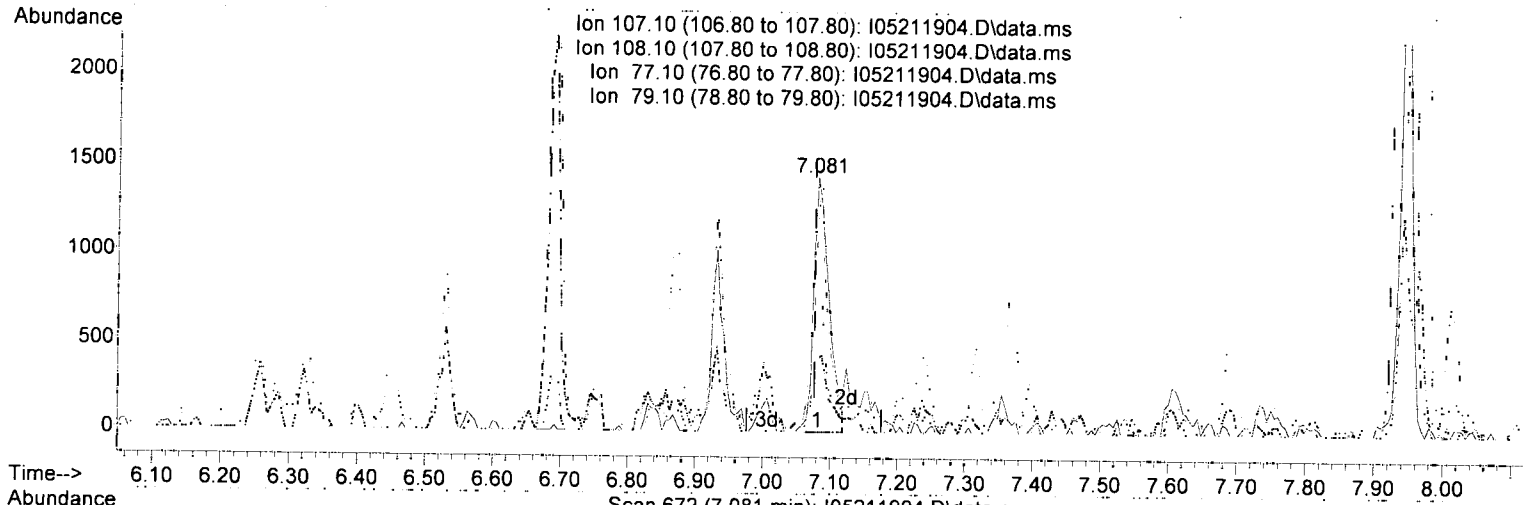
Ion	Exp%	Act%
107.10	100.00	100.00
108.10	115.50	118.96
90.10	27.70	39.69
0.00	0.00	0.00

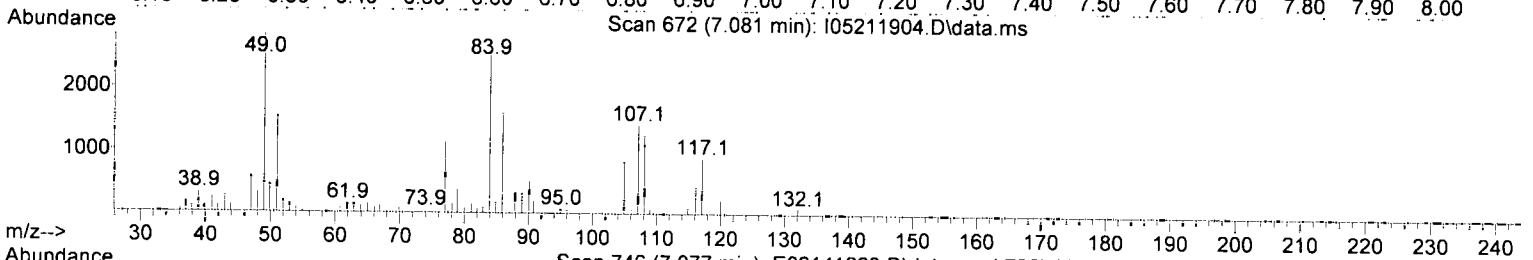
B02

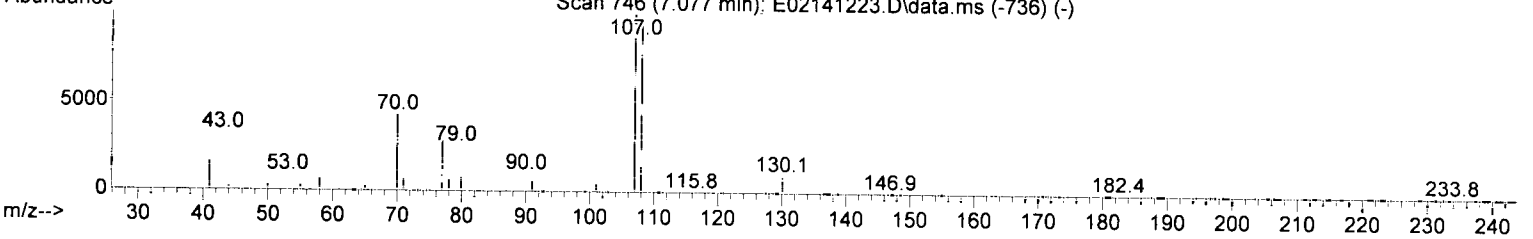
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05211904.D\data.ms

(17) 3+4-Methylphenol (T)

7.081min (+ 0.005) 39.59 ng/ml

response 2289

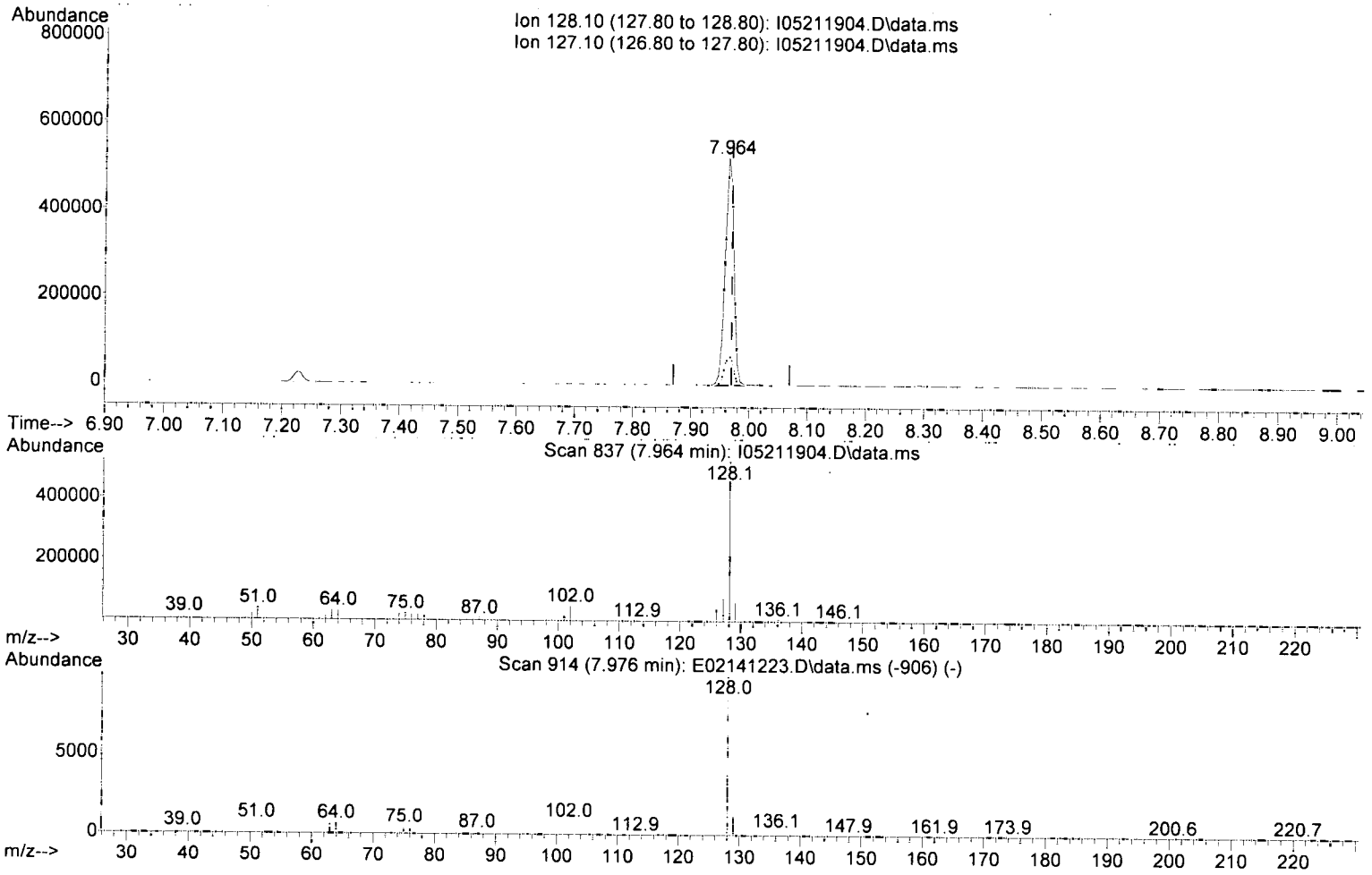
Ion	Exp%	Act%
107.10	100.00	100.00
108.10	91.10	87.59
77.10	32.60	80.93#
79.10	27.90	28.19

B02

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(29) Naphthalene (T)

7.964min (-0.006) 3200.88 ng/ml

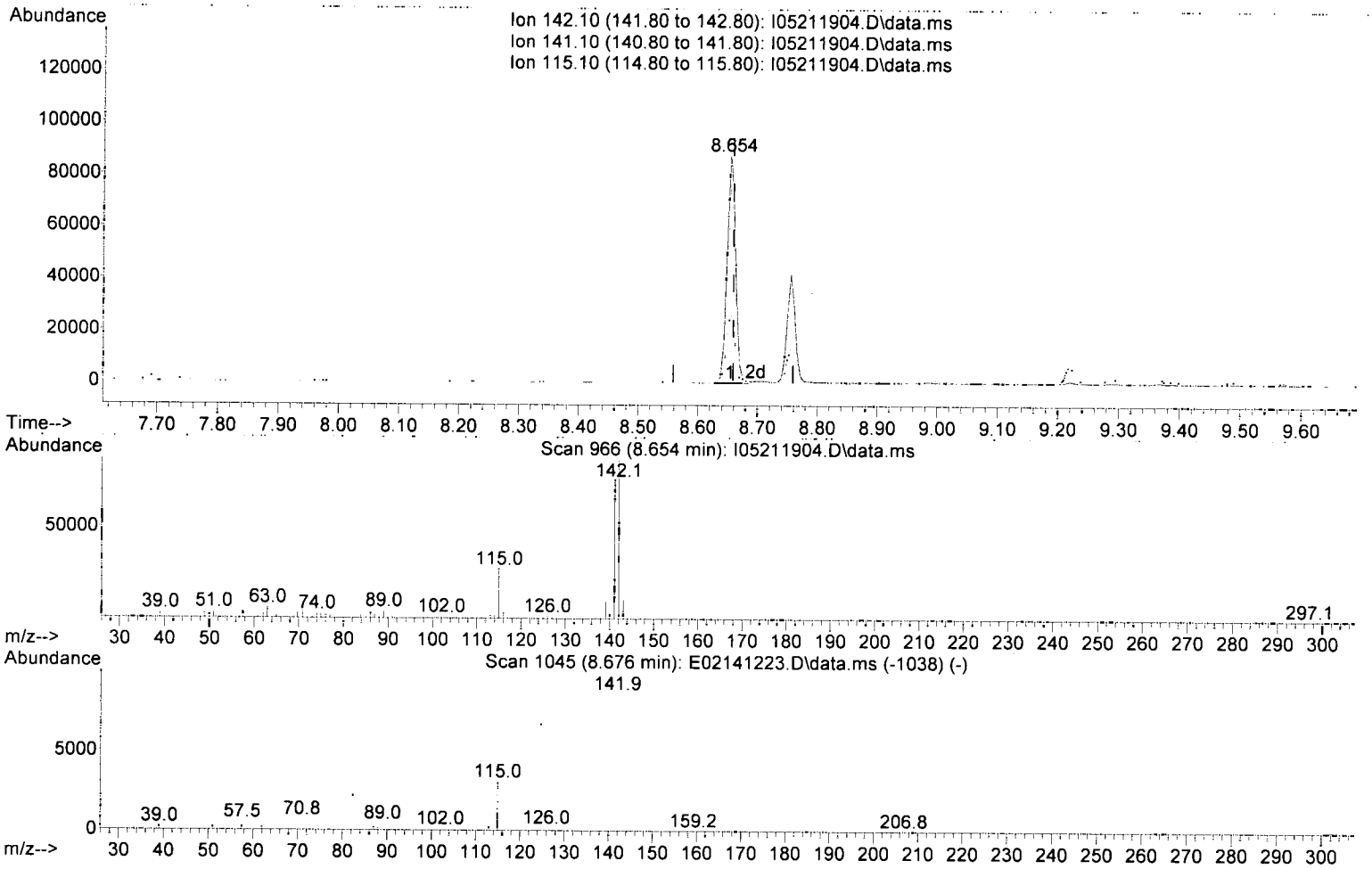
response 557156

Ion	Exp%	Act%
128.10	100.00	100.00
127.10	12.70	13.57
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(33) 2-Methylnaphthalene (T)

8.654min (-0.005) 669.31 ng/ml

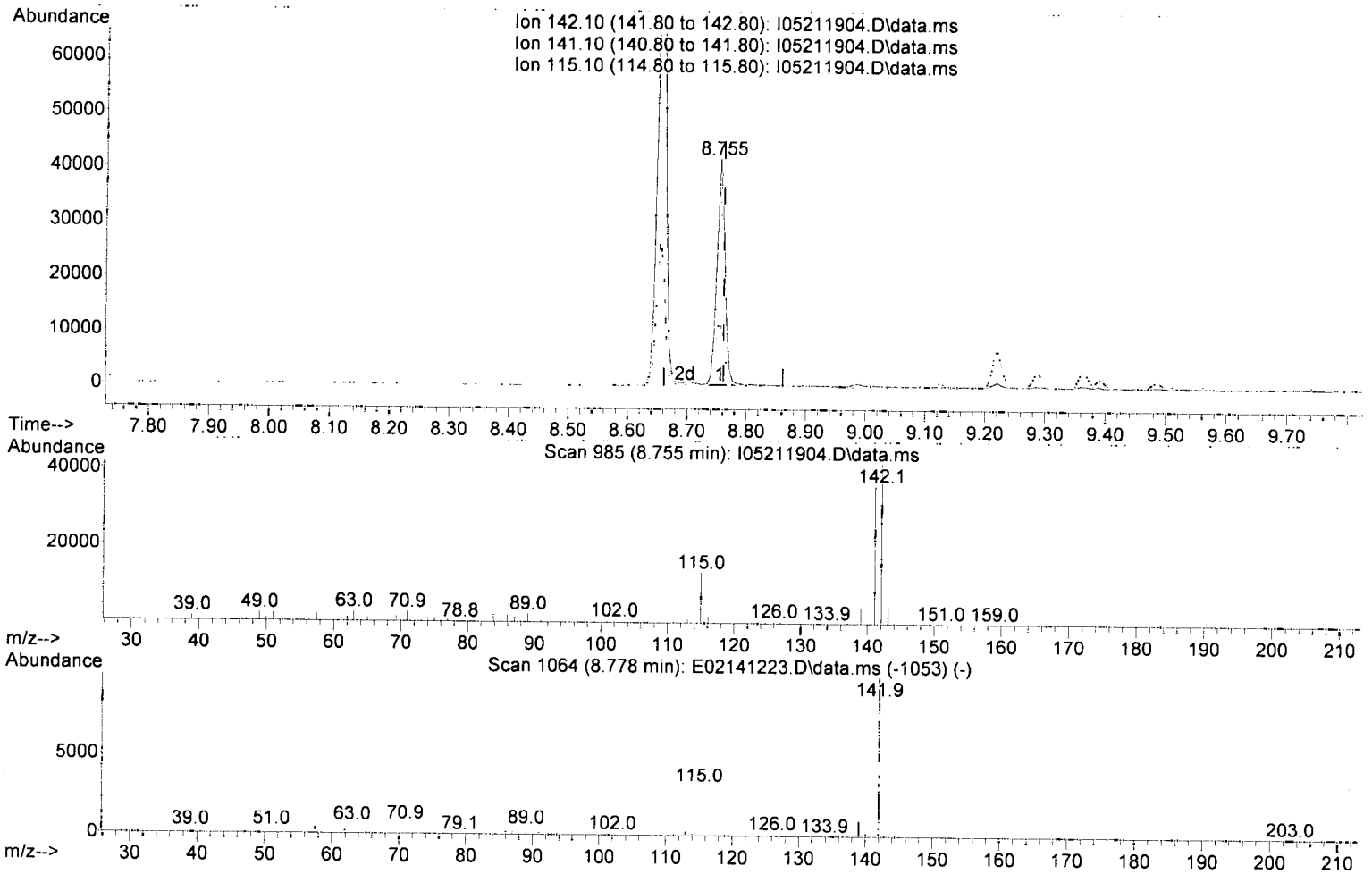
response 87893

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	86.30	87.23
115.10	33.70	30.75
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(34) 1-Methylnaphthalene (T)

8.755min (-0.006) 322.76 ng/ml

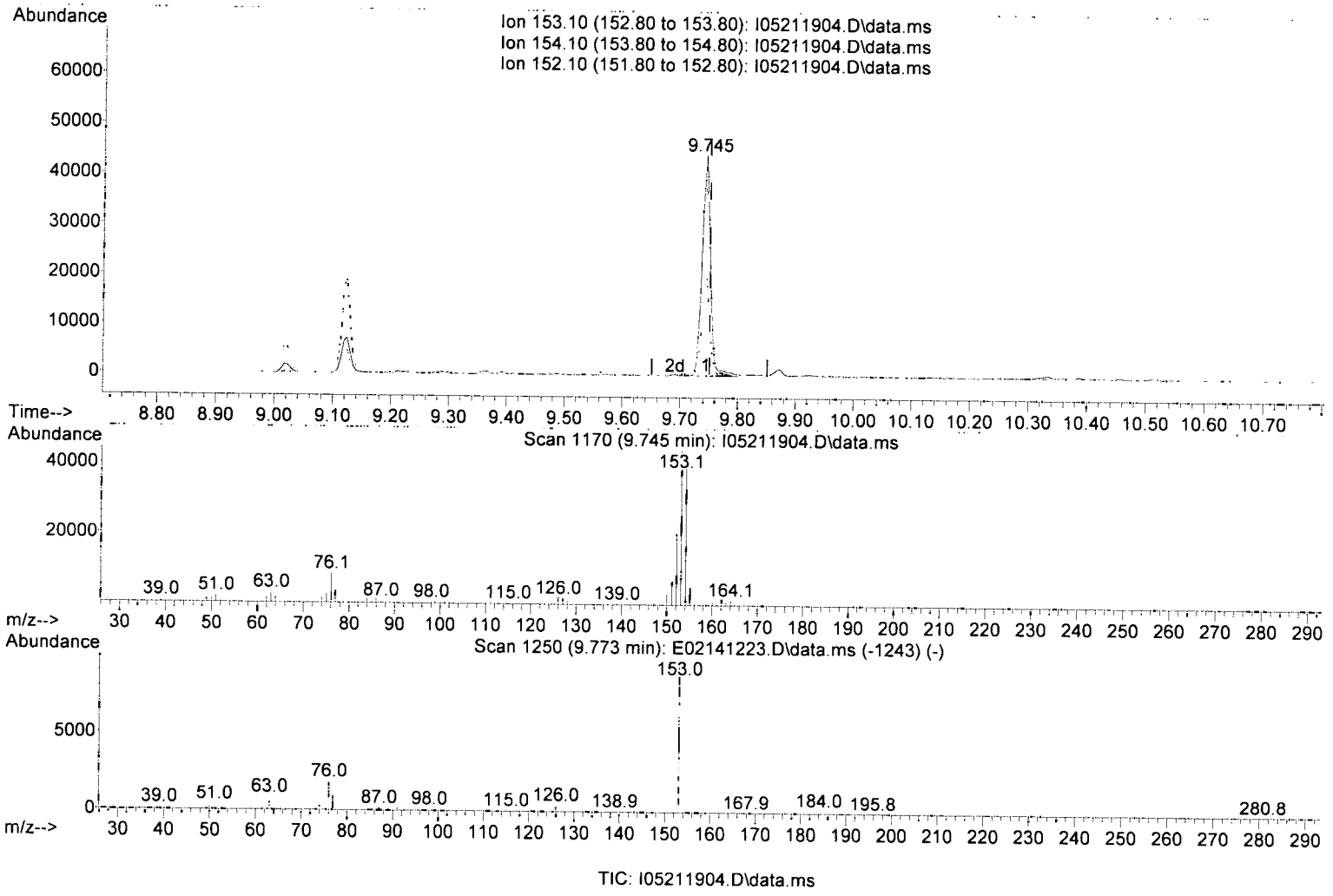
response 39919

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	89.20	86.45
115.10	34.90	31.41
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(51) Acenaphthene (T)

9.745min (-0.006) 443.05 ng/ml

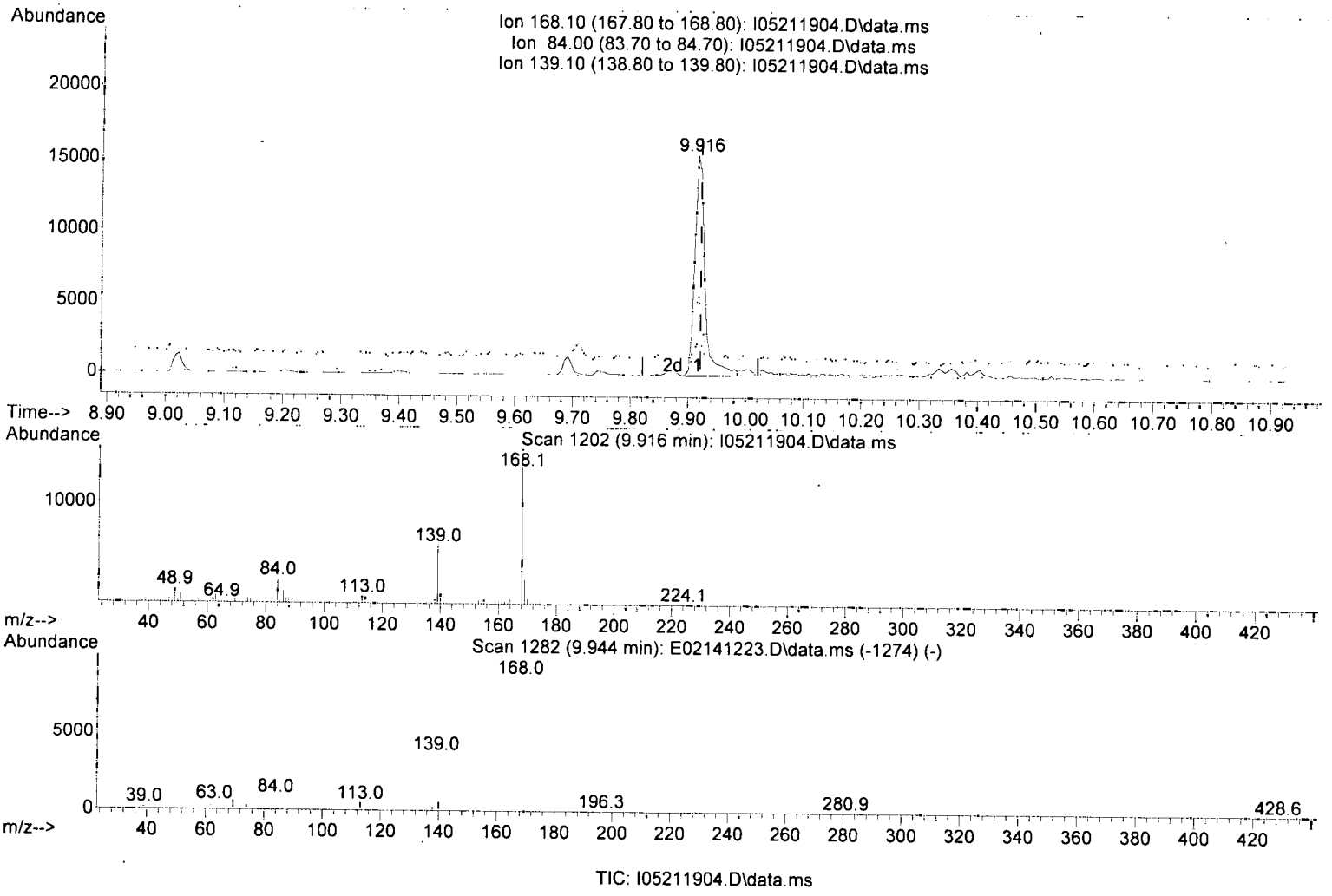
response 44544

Ion	Exp%	Act%
153.10	100.00	100.00
154.10	93.50	88.48
152.10	47.70	46.03
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(55) Dibenzofuran (T)

9.916min (-0.005) 139.89 ng/ml

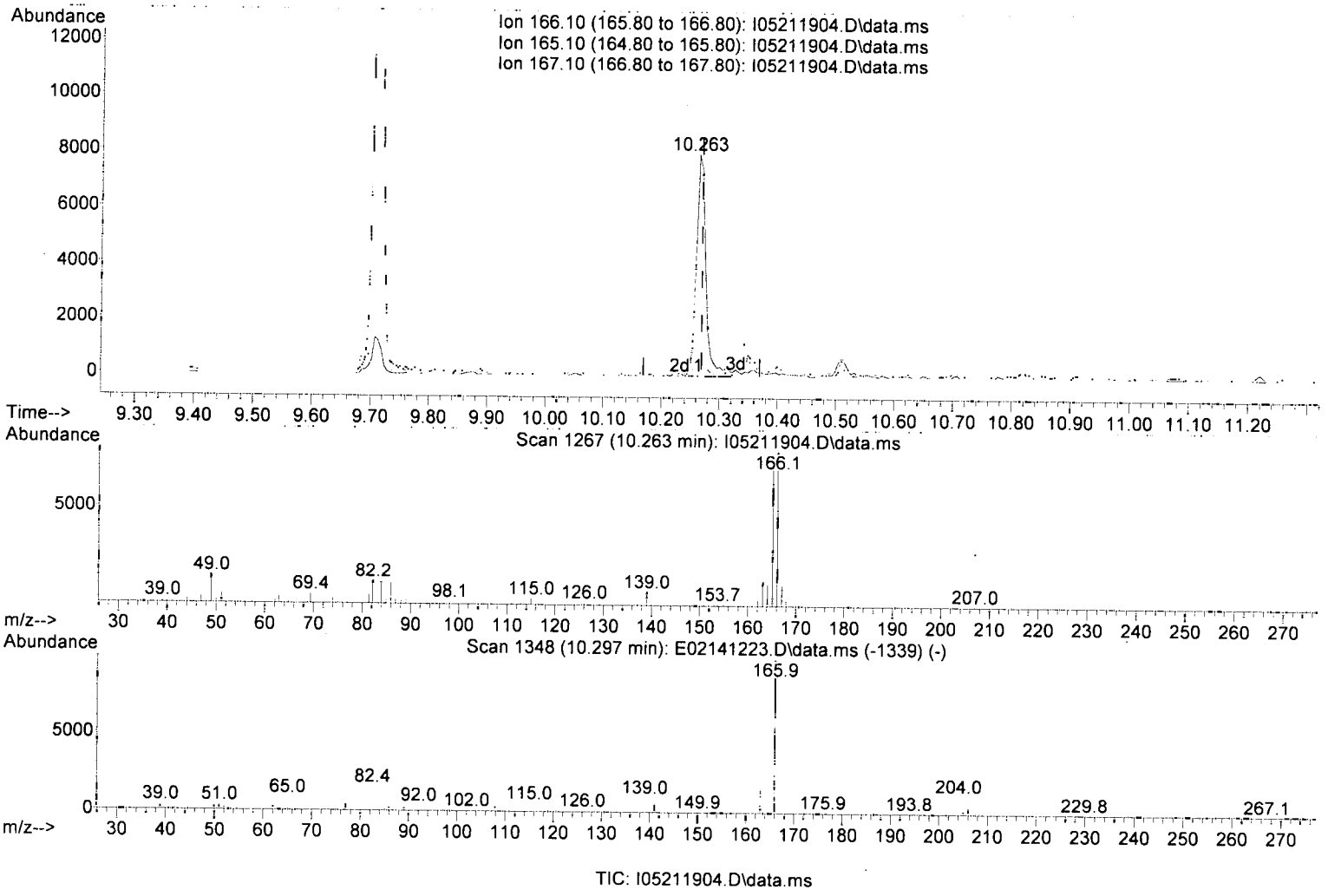
response 19140

Ion	Exp%	Act%
168.10	100.00	100.00
84.00	8.70	17.03
139.10	39.00	37.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(60) Fluorene (T)

10.263min (-0.006) 78.53 ng/ml

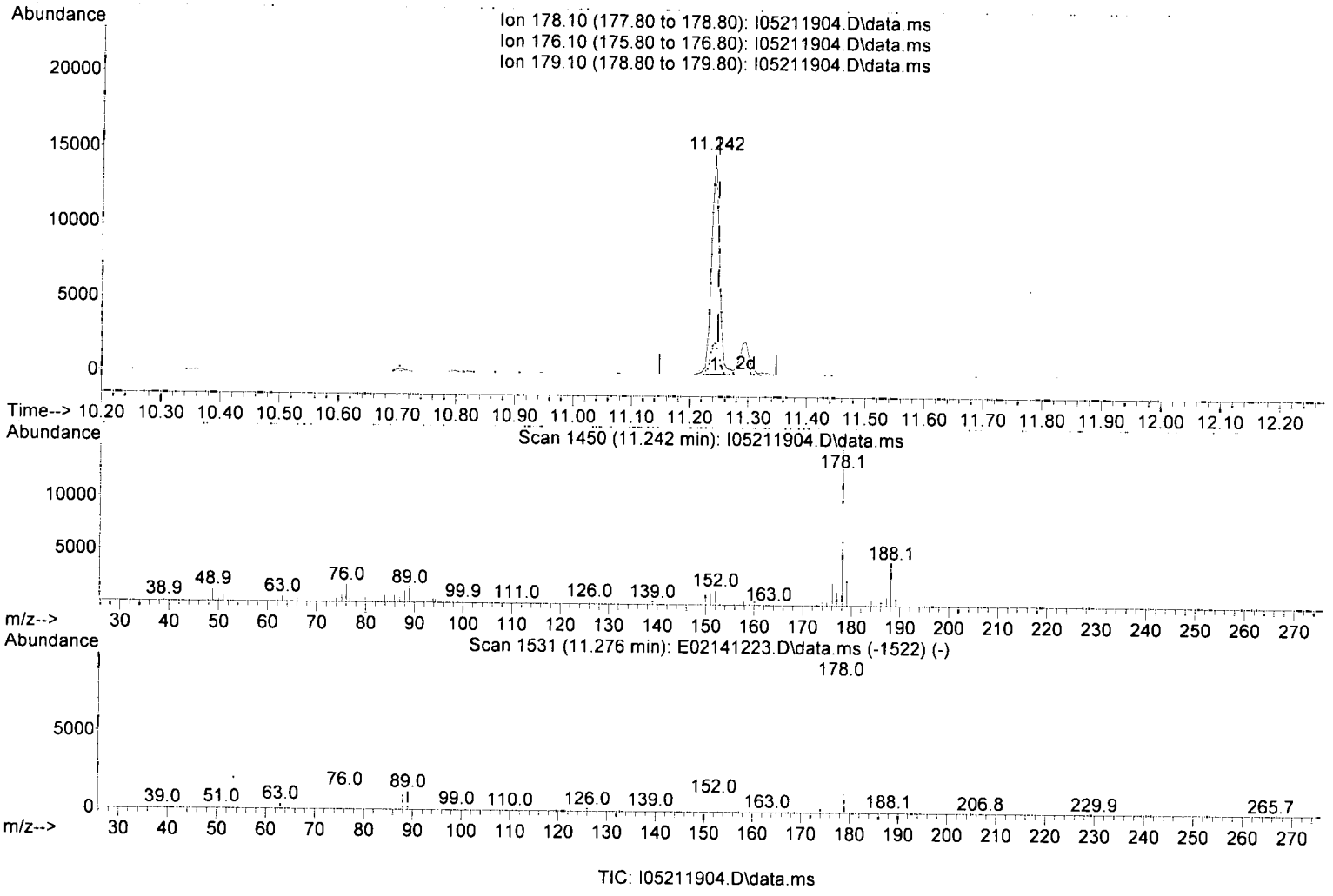
response 9259

Ion	Exp%	Act%
166.10	100.00	100.00
165.10	93.70	92.78
167.10	13.50	13.49
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(71) Phenanthrene (T)

11.242min (-0.006) 83.09 ng/ml

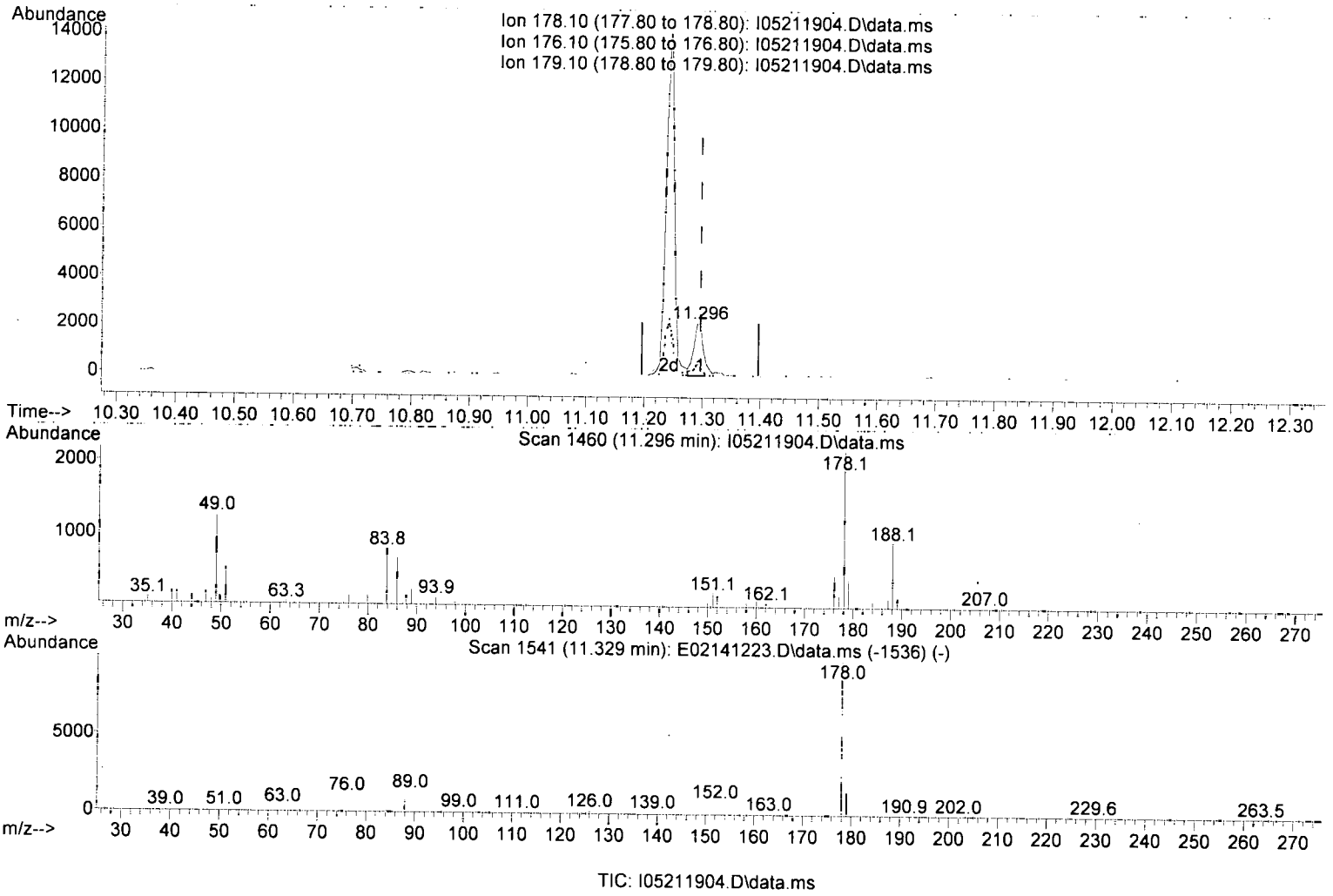
response 13996

Ion	Exp%	Act%
178.10	100.00	100.00
176.10	19.40	14.51
179.10	15.20	16.07
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(72) Anthracene (T)

11.296min (-0.000) 15.91 ng/ml

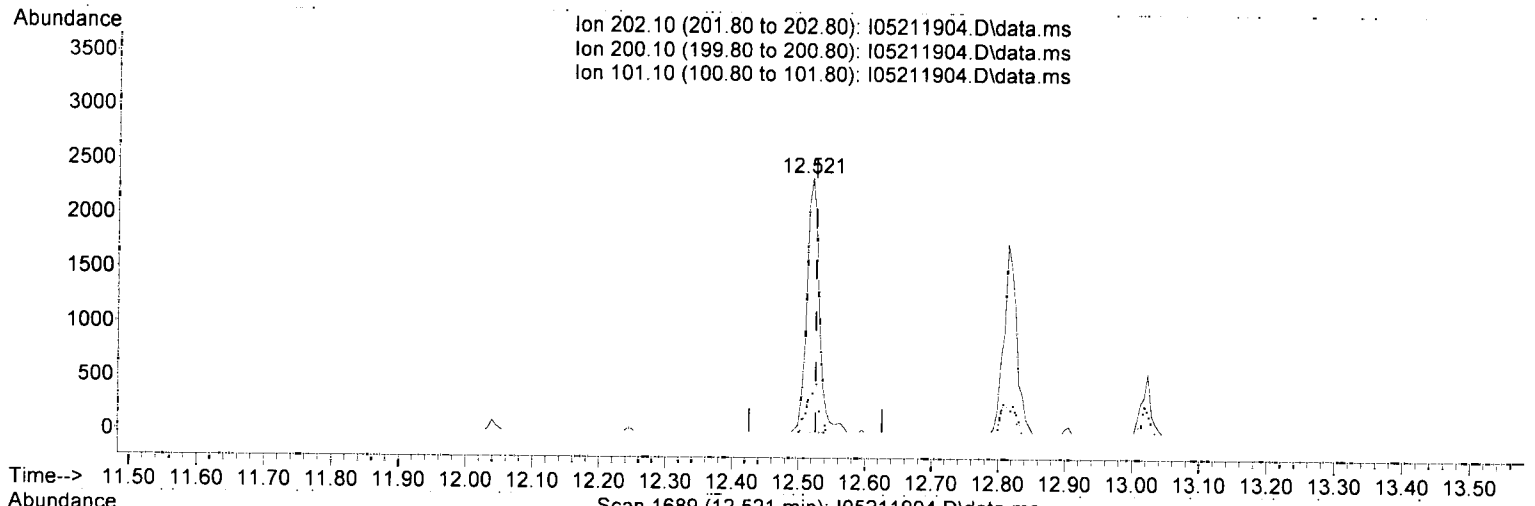
response 2680

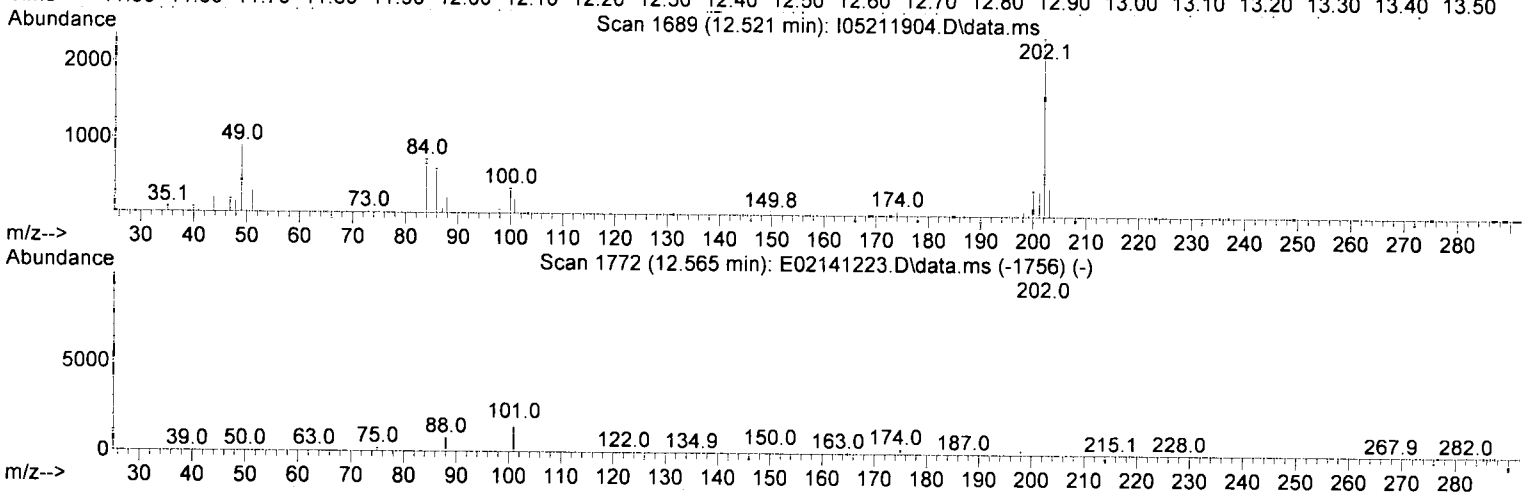
Ion	Exp%	Act%
178.10	100.00	100.00
176.10	18.70	21.22
179.10	15.90	17.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9





TIC: I05211904.D\data.ms

(75) Fluoranthene (T)

12.521min (-0.005) 15.75 ng/ml

response 3101

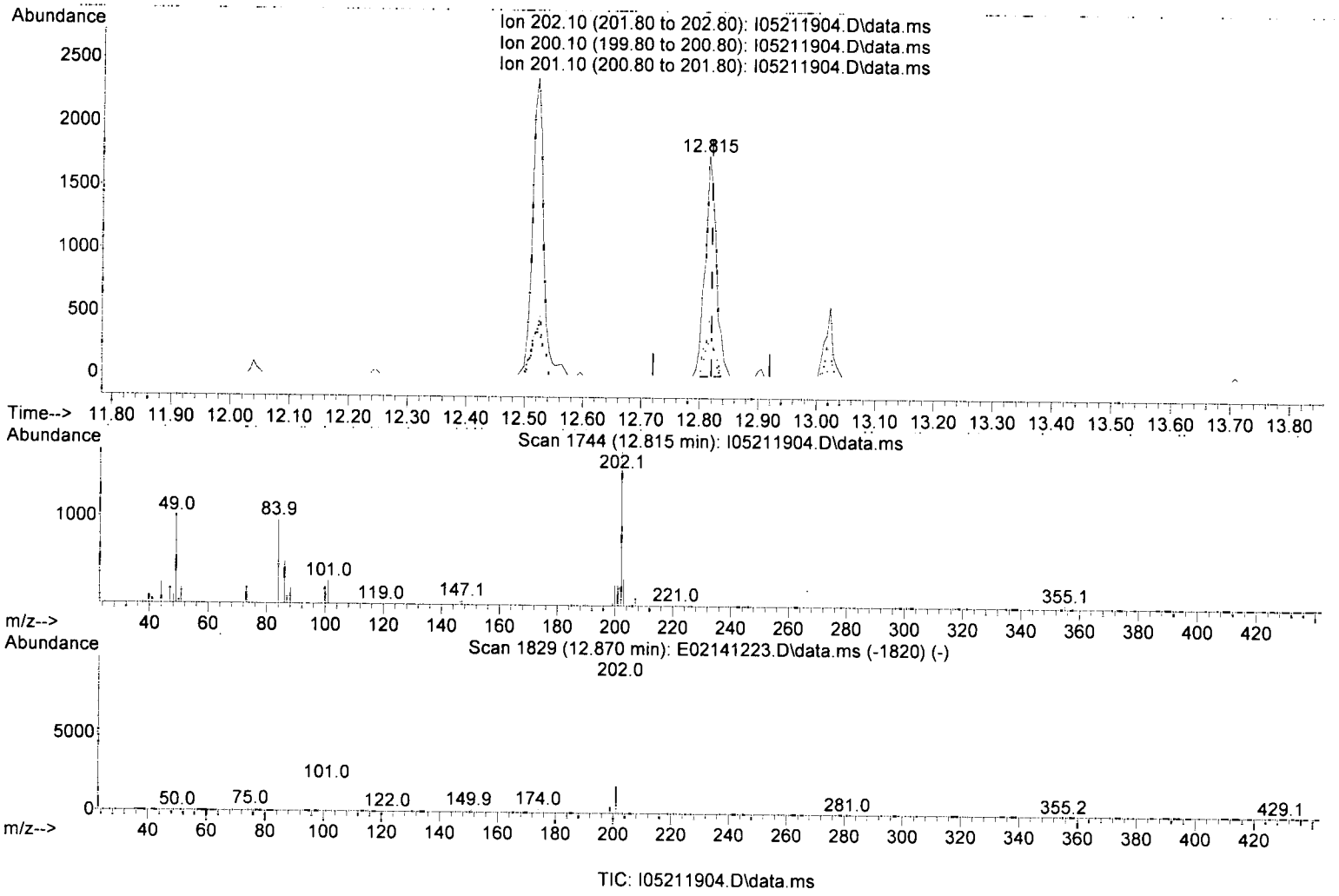
Ion	Exp%	Act%
202.10	100.00	100.00
200.10	20.20	15.15
101.10	17.00	9.42
0.00	0.00	0.00

B02

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211904.D\data.ms

(77) Pyrene (T)

12.815min (-0.005) 11.74 ng/ml

response 2351

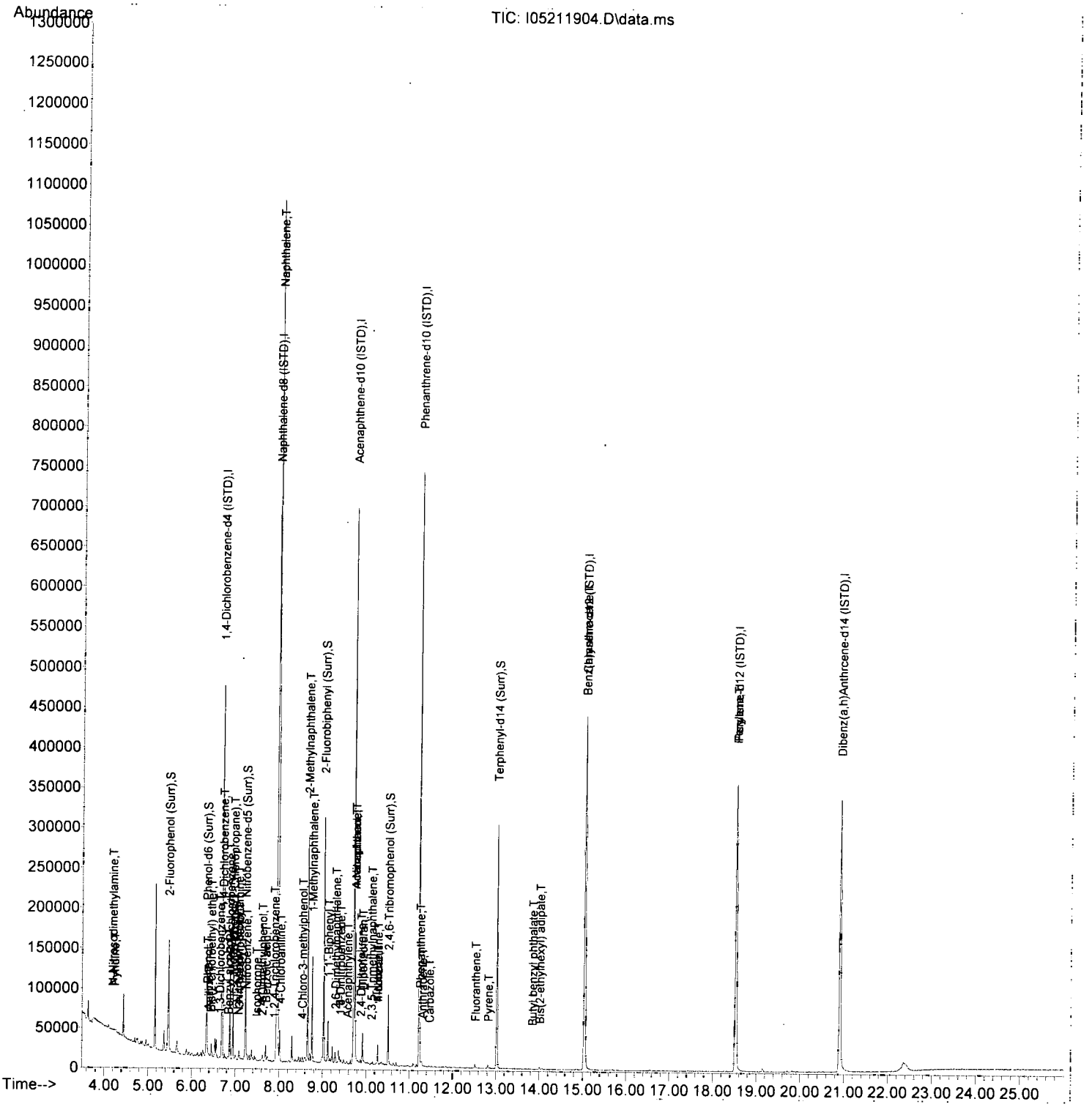
Ion	Exp%	Act%
202.10	100.00	100.00
200.10	20.70	28.26
201.10	17.30	26.72
0.00	0.00	0.00

B02

No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211904.D
Acq On : 21 May 2019 9:51 am
Operator : JK /AMS /DTH
Sample : 9051065-BLK1
Misc : 1x, 8270D LL Full List
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:41:56 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211905.D
Acq On : 21 May 2019 10:28 am
Operator : JK /AMS /DTH
Sample : 9051065-BS1
Misc : 1x, 8270D LL Full List
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Q14
AMS 5/21/19

Quant Time: May 21 10:58:58 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.691	152	83244	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.942	136	312447	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	156647	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.221	188	299885	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.056	240	287291	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.532	264	276396	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.923	292	279119	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.471	112	48422	890.18	ng/ml	0.00
5) Phenol-d6 (Surr)	6.343	99	62725	886.16	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.225	82	49101	834.14	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	109342	930.95	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.515	330	14521	1052.20	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.018	244	136304	968.17	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.161	74	58626	1409.31	ng/ml	91
3) Pyridine	4.187	79	71345	1123.58	ng/ml	98
6) Phenol	6.354	94	123558	1641.31	ng/ml	99
7) Aniline	6.380	93	72622	1133.68	ng/ml	96
8) Bis(2-chloroethyl) ether	6.428	93	92926	1466.74	ng/ml	99
9) 2-Chlorophenol	6.498	128	91548	1610.39	ng/ml	91
10) 1,3-Dichlorobenzene	6.637	146	96637	1486.24	ng/ml	98
11) 1,4-Dichlorobenzene	6.707	146	95273	1568.69	ng/ml	97
12) Benzyl alcohol	6.824	108	51429	1574.24	ng/ml	93
13) 1,2-Dichlorobenzene	6.862	146	91952	1569.18	ng/ml	96
14) 2-Methylphenol	6.931	107	71182	1650.78	ng/ml	97
15) 2,2'-Oxybis(1-Chloropr...	6.947	45	105581	1368.27	ng/ml	93
16) N-Nitrosodi-n-propylamine	7.076	70	65795	1522.40	ng/ml	94
17) 3+4-Methylphenol	7.081	107	92754	1729.99	ng/ml	99
18) Hexachloroethane	7.188	201	30557	1561.67	ng/ml	93
20) Nitrobenzene	7.247	77	88010	1520.00	ng/ml	93
22) Isophorone	7.477	82	179242	1549.15	ng/ml	95
23) 2-Nitrophenol	7.562	139	49916	1689.54	ng/ml	97
24) 2,4-Dimethylphenol	7.600	122	77601	1750.61	ng/ml	98
25) Bis(2-chloroethoxy) me...	7.685	93	103887	1529.77	ng/ml	99
26) Benzoic acid	7.701	105	34385	1836.99	ng/ml	98
27) 2,4-Dichlorophenol	7.803	162	69423	1681.06	ng/ml	99
28) 1,2,4-Trichlorobenzene	7.883	180	77534	1552.22	ng/ml	98
29) Naphthalene	7.969	128	679555	4360.59	ng/ml	97
30) 4-Chloroaniline	8.022	127	36762	920.52	ng/ml	95
31) Hexachlorobutadiene	8.092	225	40473	1560.50	ng/ml	98
32) 4-Chloro-3-methylphenol	8.493	107	75237	1563.29	ng/ml	99
33) 2-Methylnaphthalene	8.659	142	260835	2218.54	ng/ml	97
34) 1-Methylnaphthalene	8.755	142	205031	1851.59	ng/ml	98
36) Hexachlorocyclopentadiene	8.825	237	43450	1864.64	ng/ml	95
37) 2,4,6-Trichlorophenol	8.942	196	48354	1645.13	ng/ml	99
38) 2,4,5-Trichlorophenol	8.980	198	46882	1698.63	ng/ml	100
39) 1,1'-Biphenyl	9.124	154	21060	160.89	ng/ml	98
41) 2-Chloronaphthalene	9.146	162	164011	1738.96	ng/ml	98
42) 2-Nitroaniline	9.247	138	56126	1773.54	ng/ml	91
43) 2,6-Dimethylnaphthalene	9.290	156	4736	49.10	ng/ml	94

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211905.D
Acq On : 21 May 2019 10:28 am
Operator : JK /AMS /DTH
Sample : 9051065-BS1
Misc : 1x, 8270D LL Full List
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:58:58 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

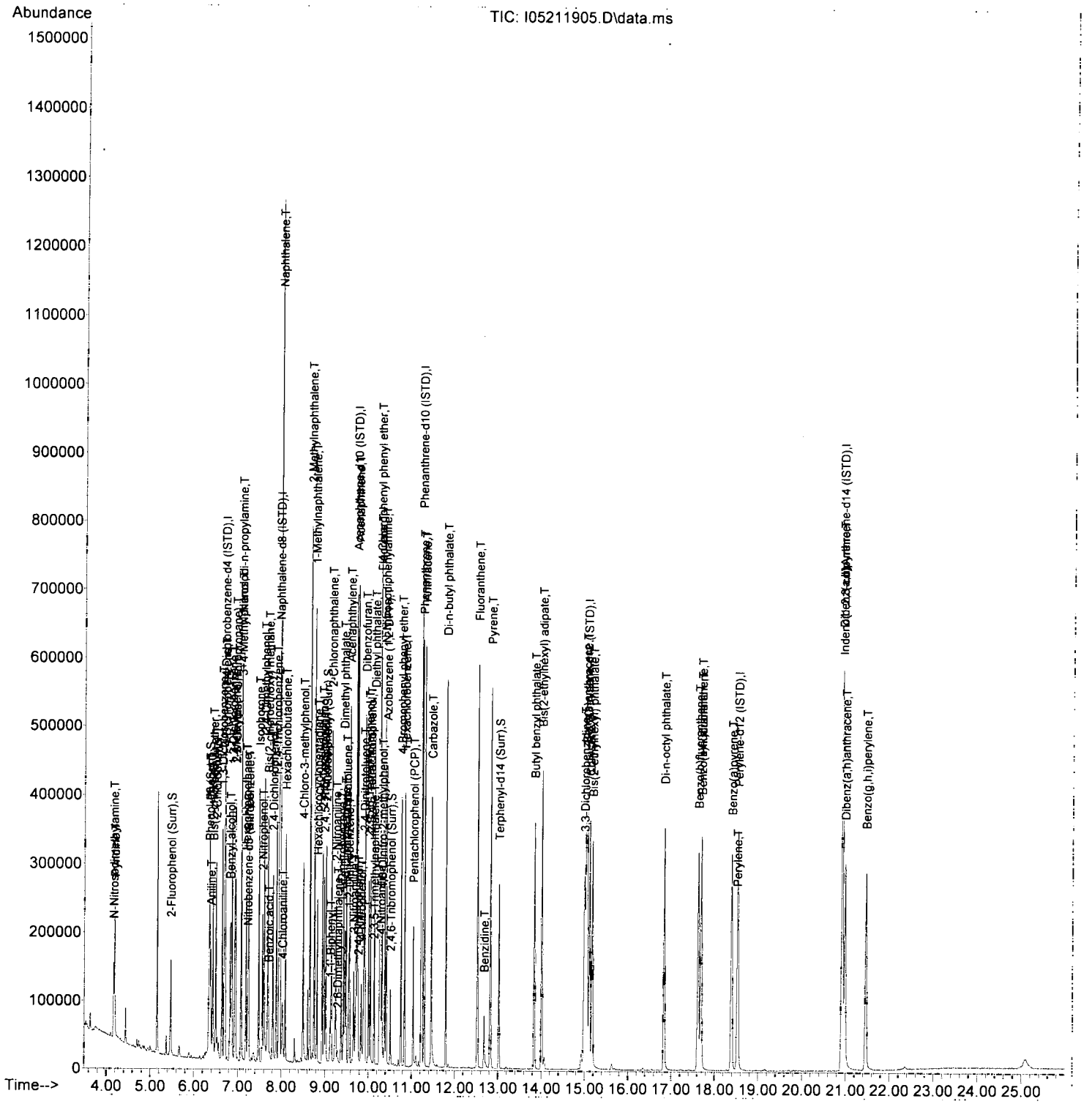
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.376	168	28482	1781.69	ng/ml	78
45) Dimethyl phthalate	9.424	163	187564	1711.53	ng/ml	99
46) 1,3-Dinitrobenzene	9.456	168	31201	1772.93	ng/ml	94
47) 2,6-Dinitrotoluene	9.488	165	44358	1810.18	ng/ml	81
48) 1,2-Dinitrobenzene	9.547	168	20397	1678.23	ng/ml	88
49) Acenaphthylene	9.568	152	263667	1701.52	ng/ml	99
50) 3-Nitroaniline	9.664	138	35370	1912.76	ng/ml	91
51) Acenaphthene	9.745	153	199858	2047.32	ng/ml	99
52) 2,4-Dinitrophenol	9.766	184	14901	1601.64	ng/ml	88
53) 4-Nitrophenol	9.836	139	28520	1559.65	ng/ml	92
54) 2,4-Dinitrotoluene	9.894	165	57829	1713.95	ng/ml	85
55) Dibenzofuran	9.921	168	241475	1817.73	ng/ml	94
56) 2,3,5,6-Tetrachlorophenol	10.001	232	39355	1666.37	ng/ml	90
57) 2,3,4,6-Tetrachlorophenol	10.044	232	40055	1636.07	ng/ml	90
58) Diethyl phthalate	10.135	149	182452	1718.18	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.124	170	378	3.97	ng/ml#	66
60) Fluorene	10.269	166	187414	1637.01	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.258	204	87157	1629.49	ng/ml	89
62) 4-Nitroaniline	10.285	138	41467	1767.71	ng/ml	97
63) 4,6-Dinitro-2-methylph...	10.312	198	28615	1934.20	ng/ml	81
65) N-Nitrosodiphenylamine	10.376	169	152611	1647.62	ng/ml	98
66) Azobenzene (1,2-DPH)	10.419	77	170007	1635.36	ng/ml	90
68) 4-Bromophenyl phenyl e...	10.756	248	54635	1657.05	ng/ml	87
69) Hexachlorobenzene	10.836	284	59239	1617.45	ng/ml	94
70) Pentachlorophenol (PCP)	11.034	266	27985	1680.37	ng/ml	97
71) Phenanthrene	11.248	178	269567	1682.74	ng/ml	98
72) Anthracene	11.296	178	264262	1649.82	ng/ml	99
73) Carbazole	11.456	167	234593	1671.17	ng/ml	98
74) Di-n-butyl phthalate	11.793	149	314146	1727.11	ng/ml	99
75) Fluoranthene	12.521	202	311205	1662.51	ng/ml	97
76) Benzidine	12.676	184	46305	1039.51	ng/ml	95
77) Pyrene	12.820	202	312151	1638.59	ng/ml	99
80) Butyl benzyl phthalate	13.836	149	145387	1769.60	ng/ml	92
81) Bis(2-ethylhexyl) adipate	14.008	129	126949	1676.27	ng/ml	99
82) 3,3-Dichlorobenzidine	14.992	252	136088	8869.20	ng/ml	95
83) Benz(a)anthracene	15.029	228	278872	1671.17	ng/ml	98
84) Chrysene	15.115	228	250348	1626.19	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.179	149	181257	1789.49	ng/ml	96
87) Di-n-octyl phthalate	16.837	149	335457	1708.51	ng/ml	98
88) Benzo(b)fluoranthene	17.623	252	286249	1635.00	ng/ml	94
89) Benzo(k)fluoranthene	17.693	252	273390	1618.42	ng/ml	93
90) Benzo(b+k)fluoranthene	17.693	252	580631	3280.98	ng/ml	93
91) Benzo(e)pyrene	18.276	252	101	N.D.		
92) Benzo(a)pyrene	18.393	252	276971	1775.94	ng/ml	96
93) Perylene	18.516	252	5389	38.51	ng/ml	74
95) Indeno(1,2,3-cd)pyrene	20.929	276	247459	1614.52	ng/ml	92
96) Dibenz(a,h)anthracene	20.987	278	226351	1672.79	ng/ml	92
97) Benzo(g,h,i)perylene	21.464	276	254057	1695.18	ng/ml	88

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211905.D
Acq On : 21 May 2019 10:28 am
Operator : JK /AMS /DTH
Sample : 9051065-BS1
Misc : 1x, 8270D LL Full List
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 10:58:58 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

AMS 5/21/19 MOS

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.685	152	86168	2000.00 ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.937	136	346392	2000.00 ng/ml	-0.01
35) Acenaphthene-d10 (ISTD)	9.707	162	159759	2000.00 ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.216	188	309904	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.040	240	316736	2000.00 ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.527	264	298634	2000.00 ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	20.907	292	283094	2000.00 ng/ml	-0.02
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)	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	6.375	94	101	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	7.204	77	89	N.D.	
22) Isophorone	7.509	82	54	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	7.958	128	38809	224.63 ng/ml	97
30) 4-Chloroaniline	7.958	127	5089	114.94 ng/ml#	28 MI-ND
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	0.000		0	N.D.	
33) 2-Methylnaphthalene	8.654	142	8705	66.79 ng/ml	89
34) 1-Methylnaphthalene	8.755	142	4331	35.28 ng/ml	97
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	9.124	154	3005	22.51 ng/ml	96
41) 2-Chloronaphthalene	0.000		0	N.D.	
42) 2-Nitroaniline	0.000		0	N.D.	
43) 2,6-Dimethylnaphthalene	9.290	156	671	6.82 ng/ml	80

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

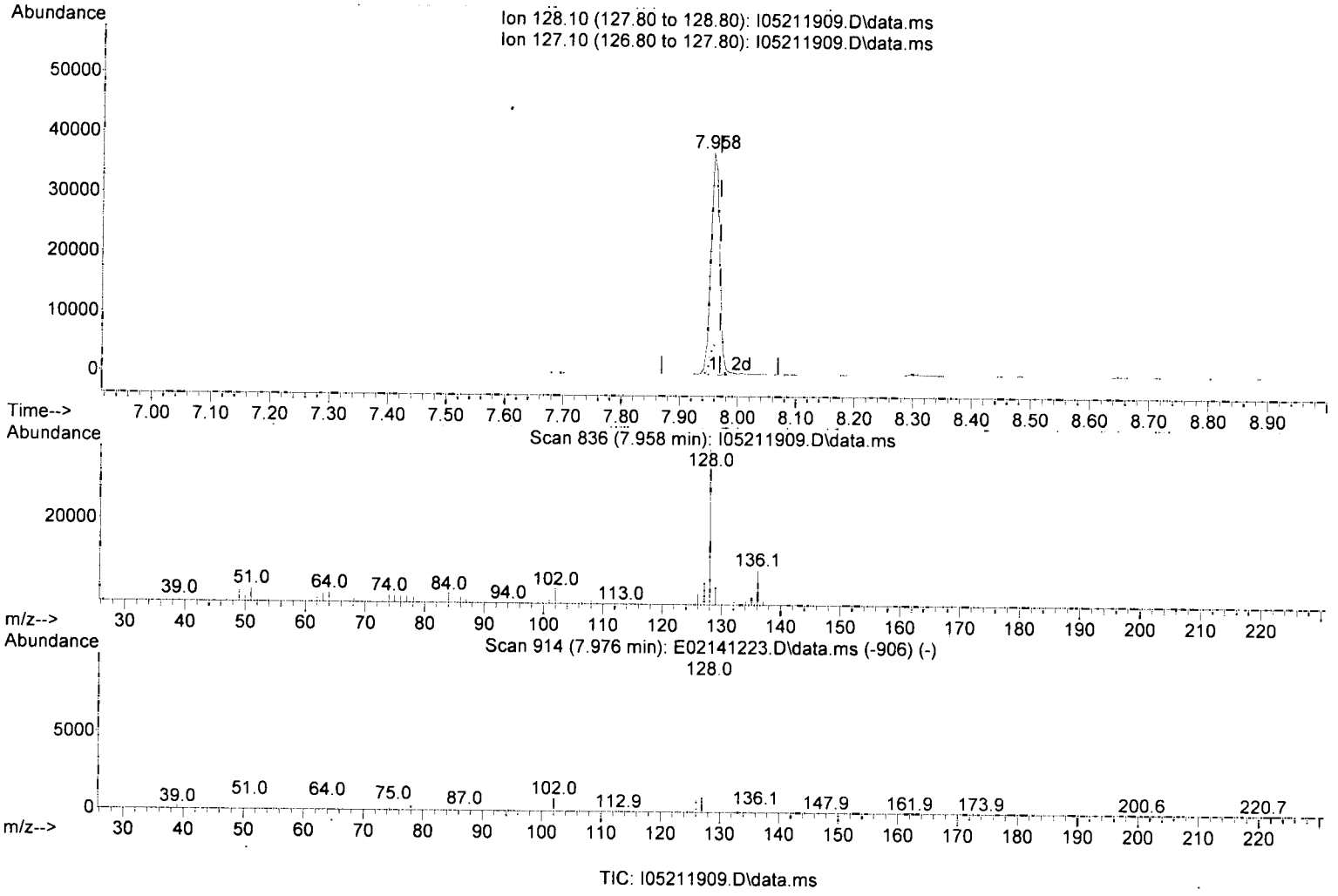
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	0.000		0	N.D.		
45) Dimethyl phthalate	0.000		0	N.D.		
46) 1,3-Dinitrobenzene	0.000		0	N.D.		
47) 2,6-Dinitrotoluene	0.000		0	N.D.		
48) 1,2-Dinitrobenzene	0.000		0	N.D.		
49) Acenaphthylene	9.568	152	274	N.D.		
50) 3-Nitroaniline	0.000		0	N.D.		
51) Acenaphthene	9.739	153	13931	139.93	ng/ml	99
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	0.000		0	N.D.		
54) 2,4-Dinitrotoluene	9.868	165	70	34.68	ng/ml#	17
55) Dibenzofuran	9.916	168	9083	67.04	ng/ml	87
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...	10.119	170	51	N.D.		
60) Fluorene	10.263	166	8304	71.12	ng/ml	96
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.		
62) 4-Nitroaniline	0.000		0	N.D.		
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.		
65) N-Nitrosodiphenylamine	10.344	169	97	N.D.		
66) Azobenzene (1,2-DPH)	0.000		0	N.D.		
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
69) Hexachlorobenzene	0.000		0	N.D.		
70) Pentachlorophenol (PCP)	0.000		0	N.D.		
71) Phenanthrene	11.237	178	63953	386.31	ng/ml	99
72) Anthracene	11.290	178	17186	103.83	ng/ml	98
73) Carbazole	11.451	167	9486	65.39	ng/ml	95
74) Di-n-butyl phthalate	11.788	149	58	N.D.		
75) Fluoranthene	12.515	202	85223	440.56	ng/ml	96
76) Benzidine	0.000		0	N.D.		
77) Pyrene	12.815	202	80636	409.60	ng/ml	99
80) Butyl benzyl phthalate	0.000		0	N.D.		
81) Bis(2-ethylhexyl) adipate	13.997	129	577	6.91	ng/ml	89
82) 3,3-Dichlorobenzidine	0.000		0	N.D.		
83) Benz(a)anthracene	15.018	228	26255	142.71	ng/ml	94
84) Chrysene	15.099	228	26746	157.58	ng/ml	92
85) Bis(2-ethylhexyl) phth...	0.000		0	N.D.		
87) Di-n-octyl phthalate	0.000		0	N.D.		
88) Benzo(b)fluoranthene	17.602	252	36139	195.64	ng/ml	93
89) Benzo(k)fluoranthene	~~17.741~~	~~252~~	~~85~~	~~5.48~~	~~ng/ml~~	~~67~~ MI-MOS
90) Benzo(b+k)fluoranthene	17.602	252	49236	258.85	ng/ml	91
91) Benzo(e)pyrene	18.254	252	18132	101.55	ng/ml	99
92) Benzo(a)pyrene	18.377	252	28780	170.82	ng/ml	95
93) Perylene	18.581	252	8765	57.97	ng/ml	94
95) Indeno(1,2,3-cd)pyrene	20.913	276	20154	129.65	ng/ml	93
96) Dibenz(a,h)anthracene	20.971	278	2262	16.48	ng/ml	86
97) Benzo(g,h,i)perylene	21.442	276	19673	129.42	ng/ml	88

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(29) Naphthalene (T)

7.958min (-0.012) 224.63 ng/ml

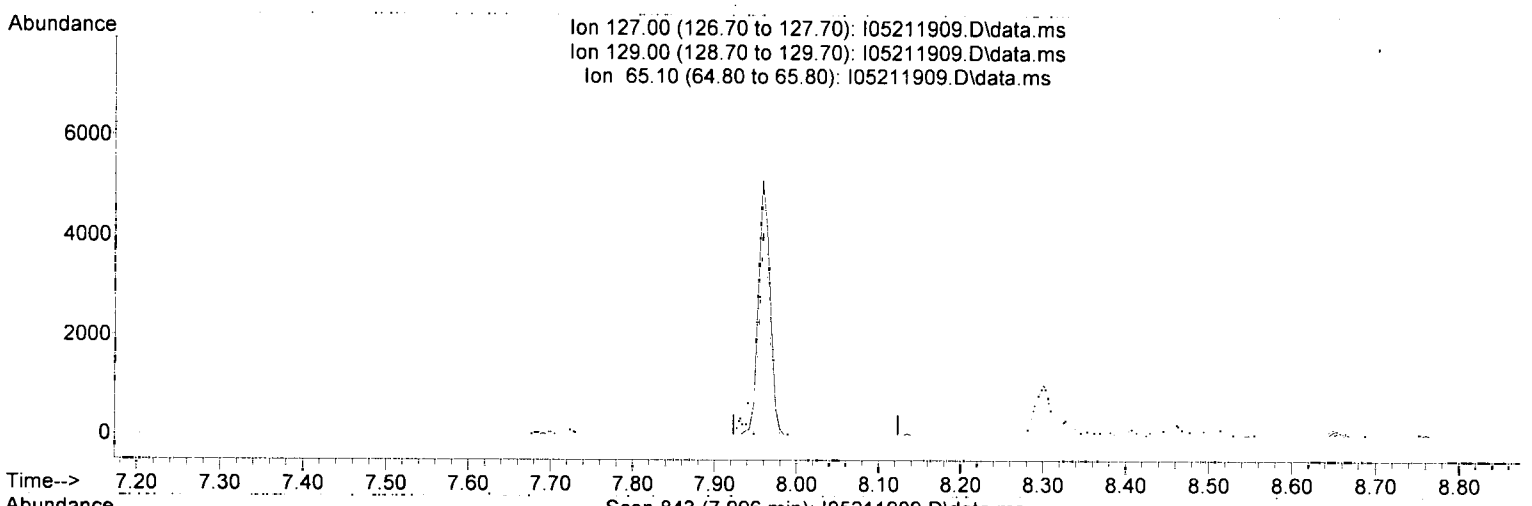
response 38809

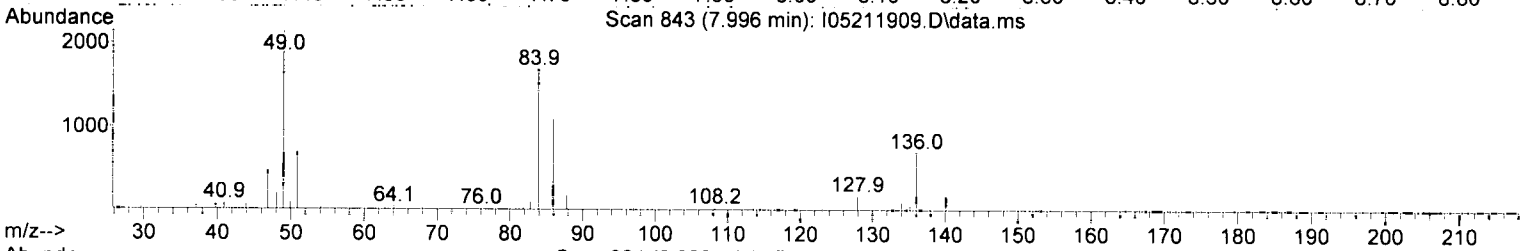
Ion	Exp%	Act%
128.10	100.00	100.00
127.10	12.70	13.77
0.00	0.00	0.00
0.00	0.00	0.00

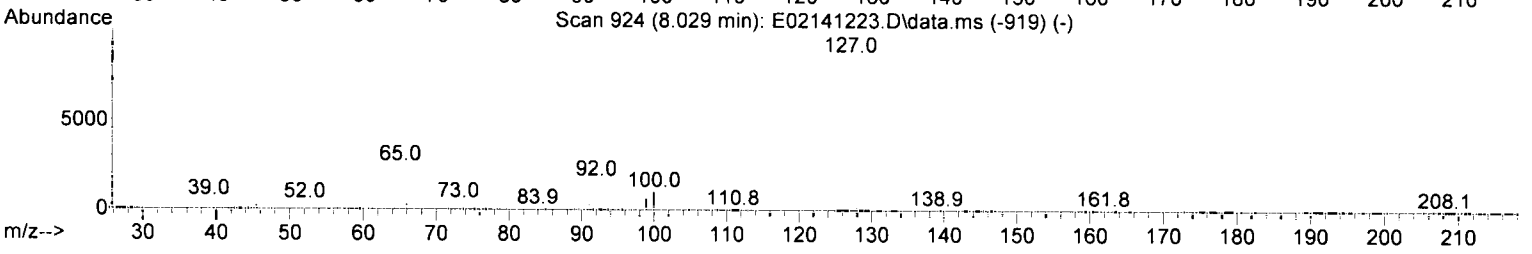
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05211909.D\data.ms

(30) 4-Chloroaniline (T)

7.996min (-0.028) 0.00 ng/ml m

response 0

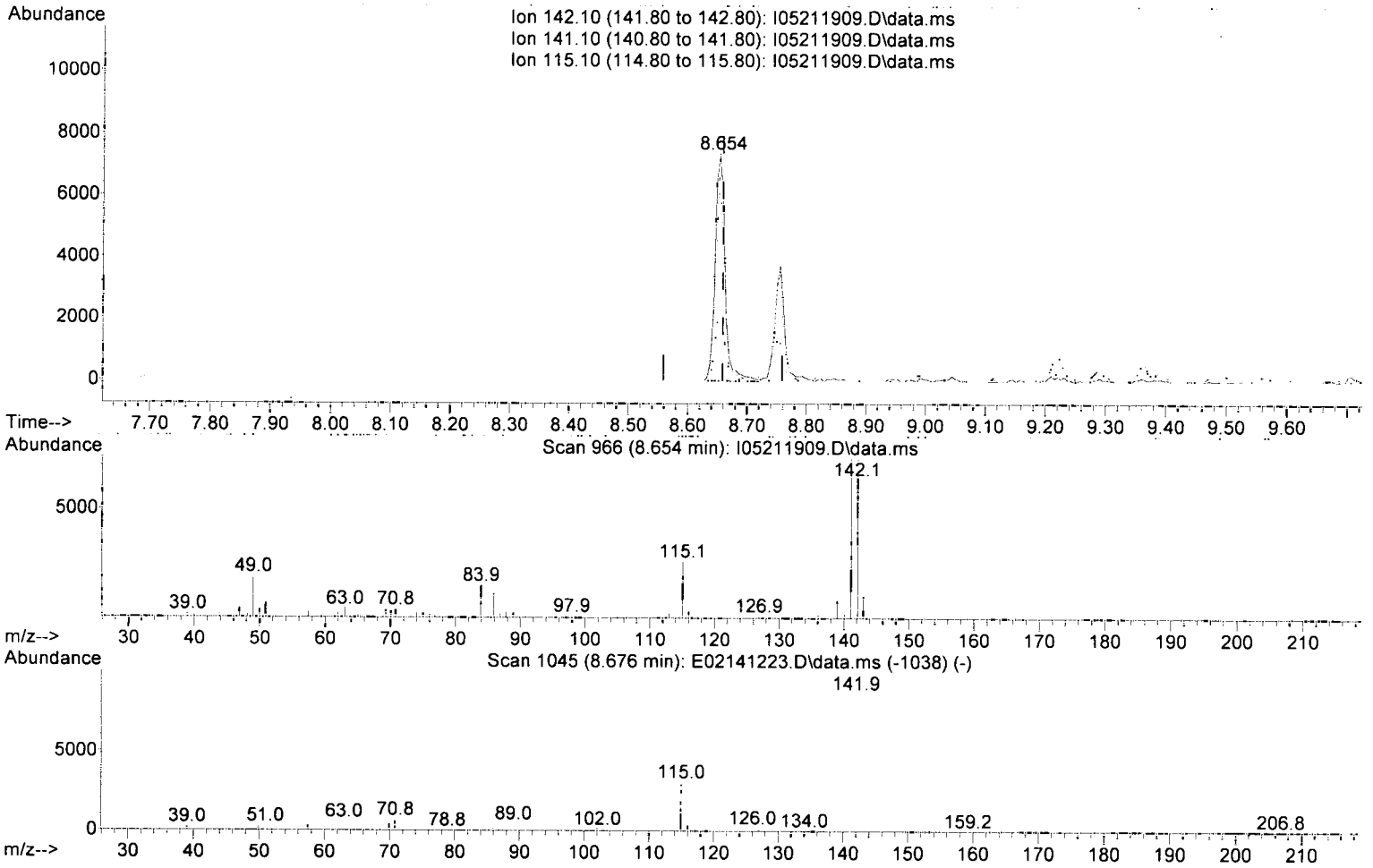
Ion	Exp%	Act%
127.00	100.00	0.00
129.00	31.20	0.00#
65.10	31.40	0.00#
0.00	0.00	0.00

OAMS 5/24/19 ✓

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(33) 2-Methylnaphthalene (T)

8.654min (-0.005) 66.79 ng/ml

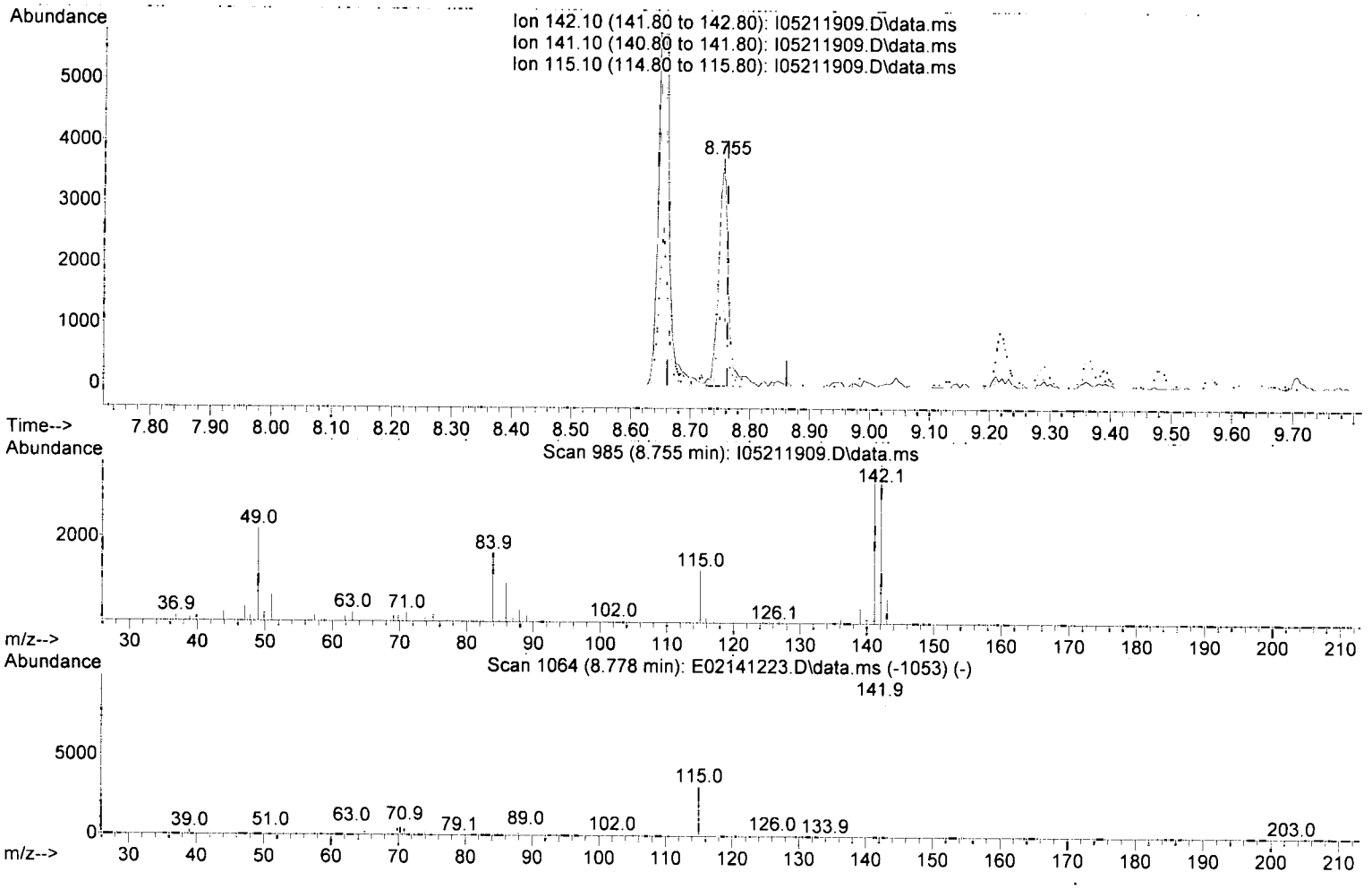
response 8705

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	86.30	99.51
115.10	33.70	35.15
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(34) 1-Methylnaphthalene (T)

8.755min (-0.006) 35.28 ng/ml

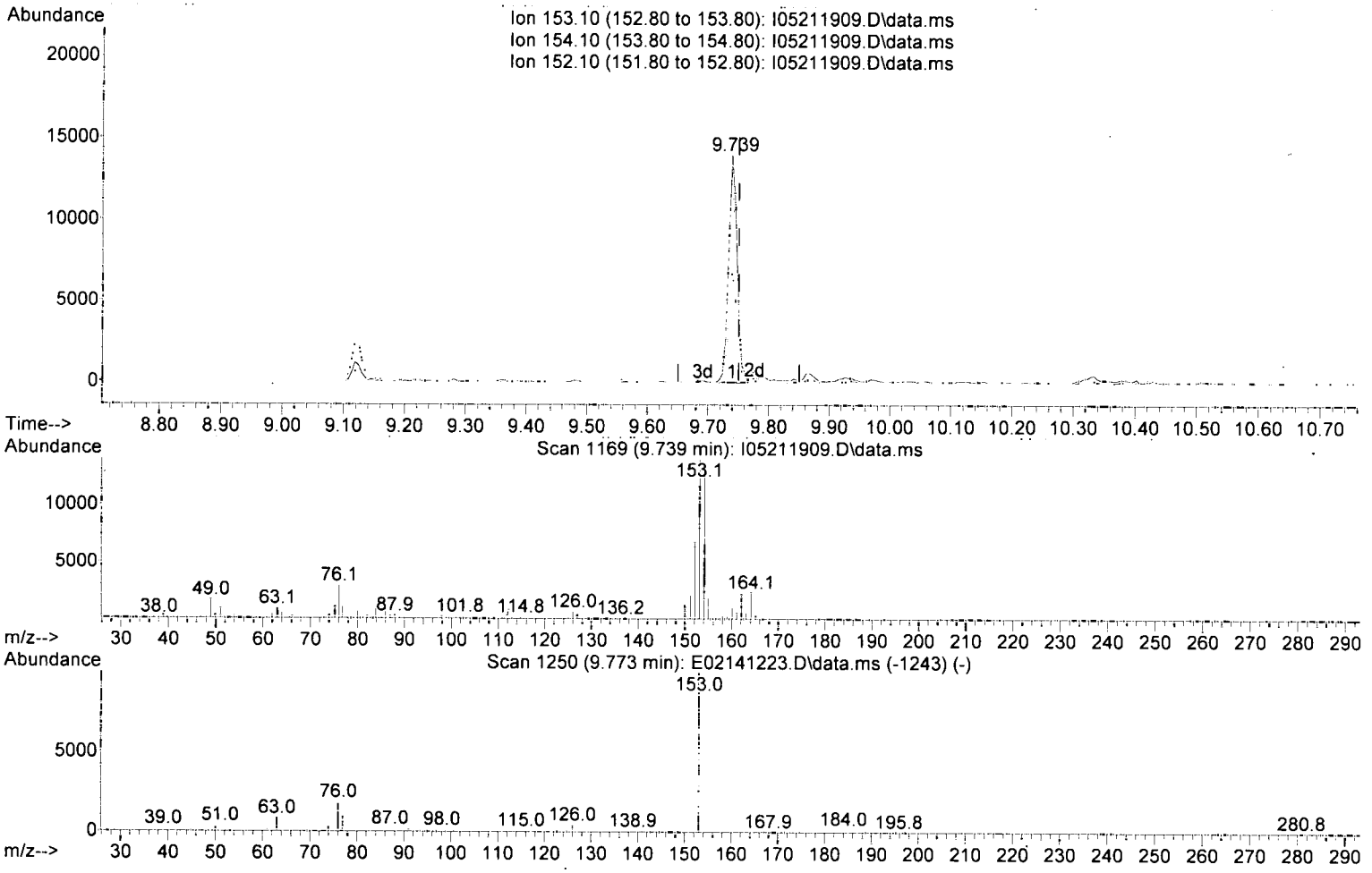
response 4331

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	89.20	92.62
115.10	34.90	33.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(51) Acenaphthene (T)

9.739min (-0.012) 139.93 ng/ml

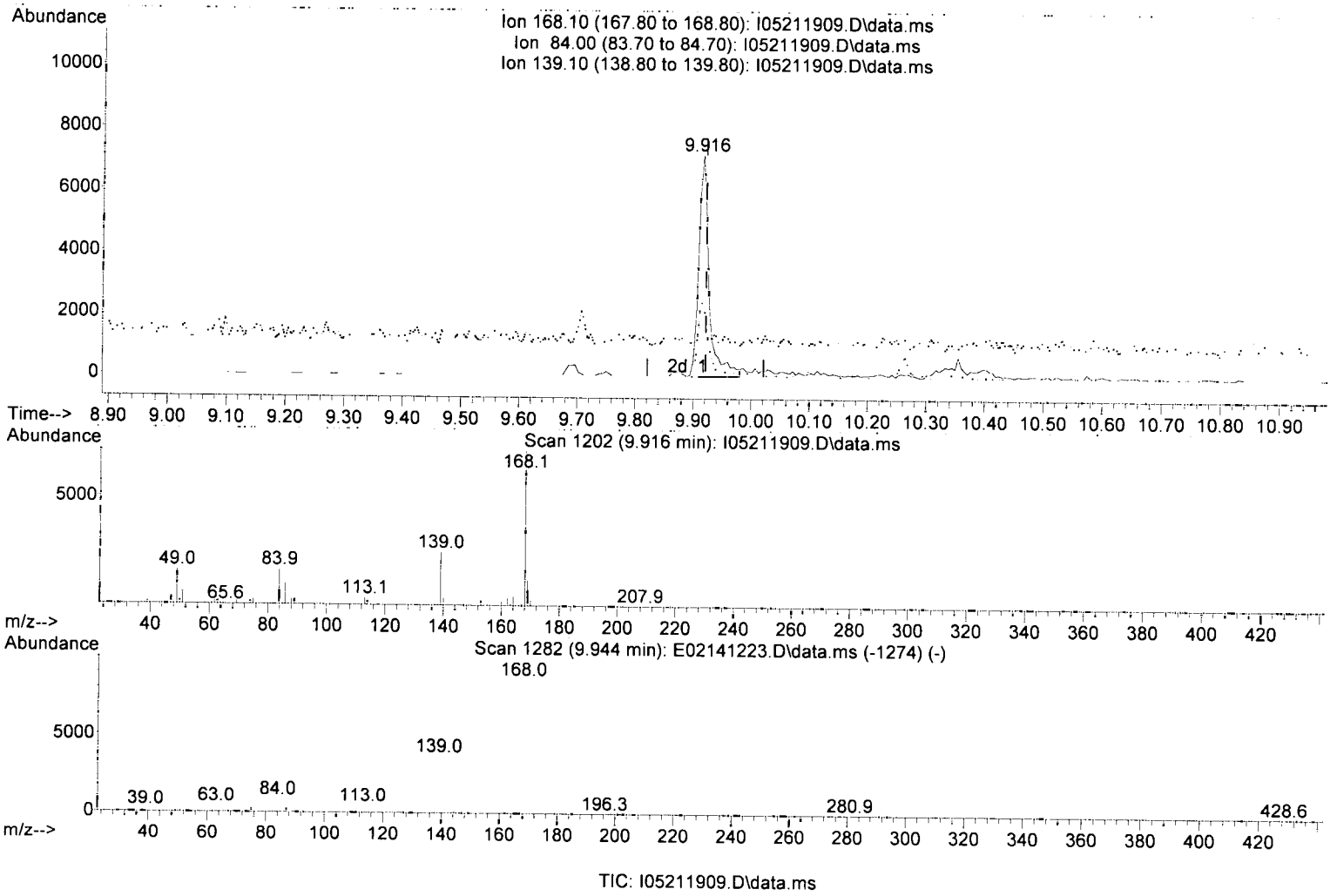
response 13931

Ion	Exp%	Act%
153.10	100.00	100.00
154.10	93.50	92.58
152.10	47.70	48.15
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(55) Dibenzofuran (T)

9.916min (-0.005) 67.04 ng/ml

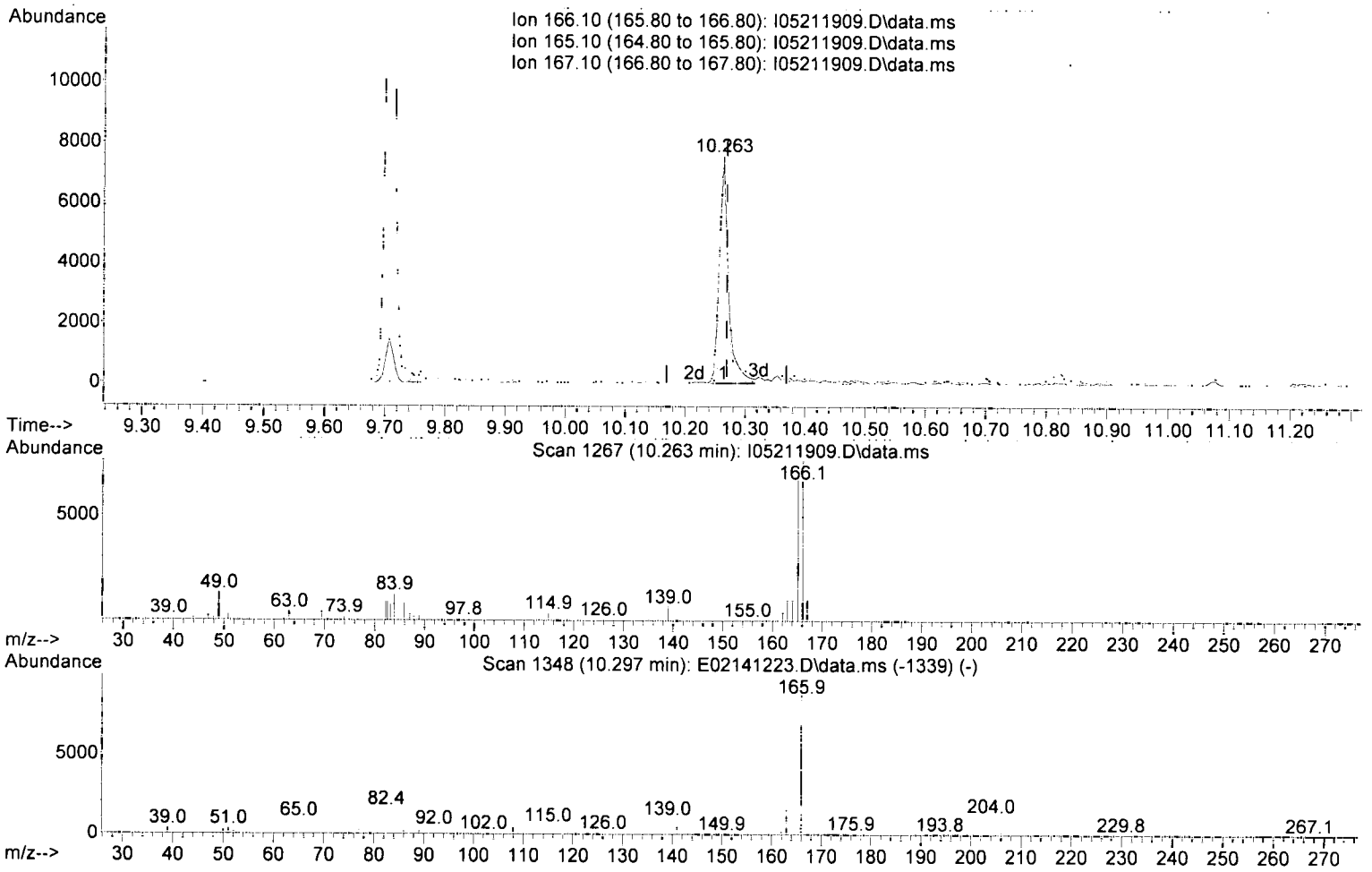
response 9083

Ion	Exp%	Act%
168.10	100.00	100.00
84.00	8.70	22.60
139.10	39.00	34.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(60) Fluorene (T)

10.263min (-0.006) 71.12 ng/ml

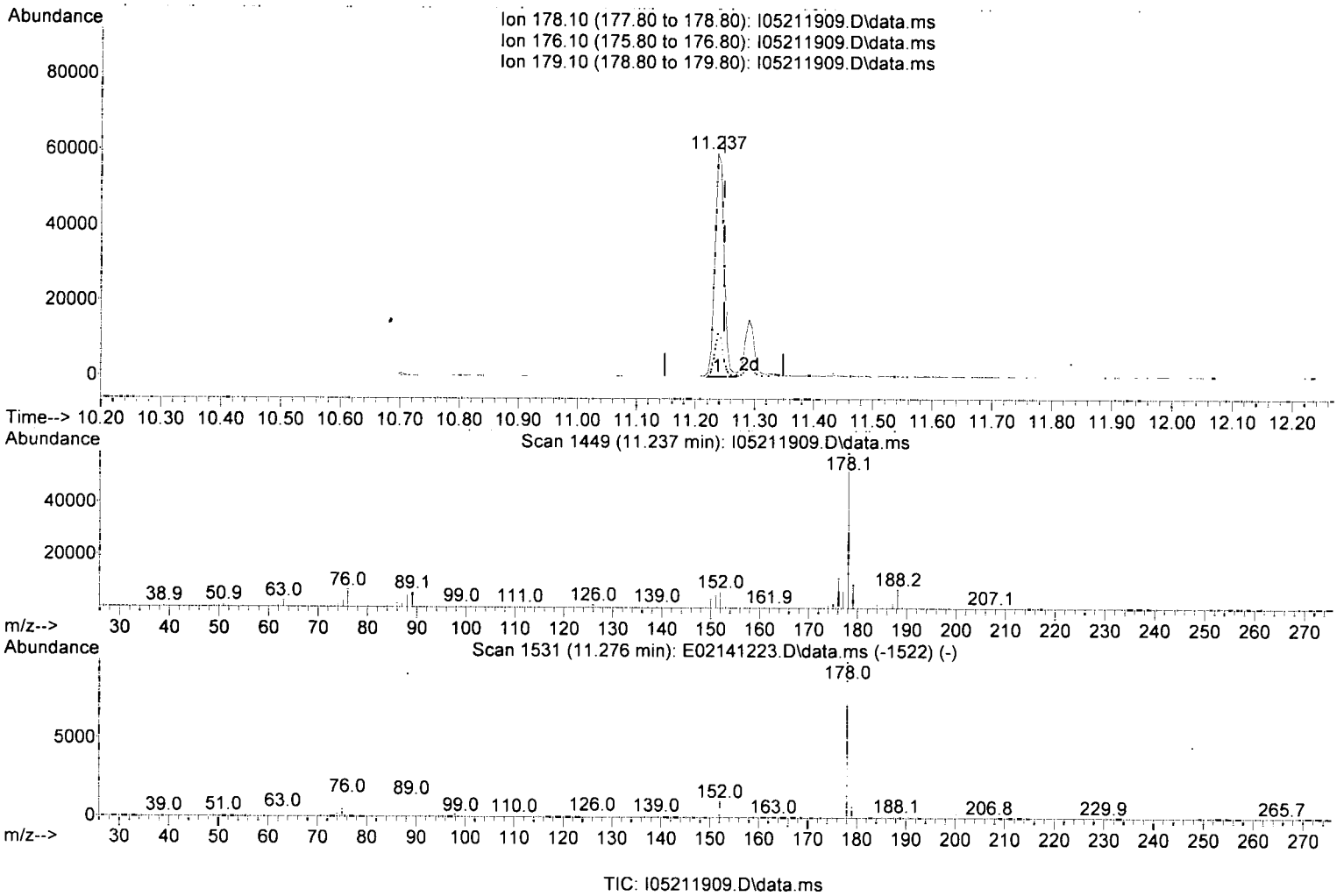
response 8304

Ion	Exp%	Act%
166.10	100.00	100.00
165.10	93.70	89.76
167.10	13.50	13.76
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(71) Phenanthrene (T)

11.237min (-0.011) 386.31 ng/ml

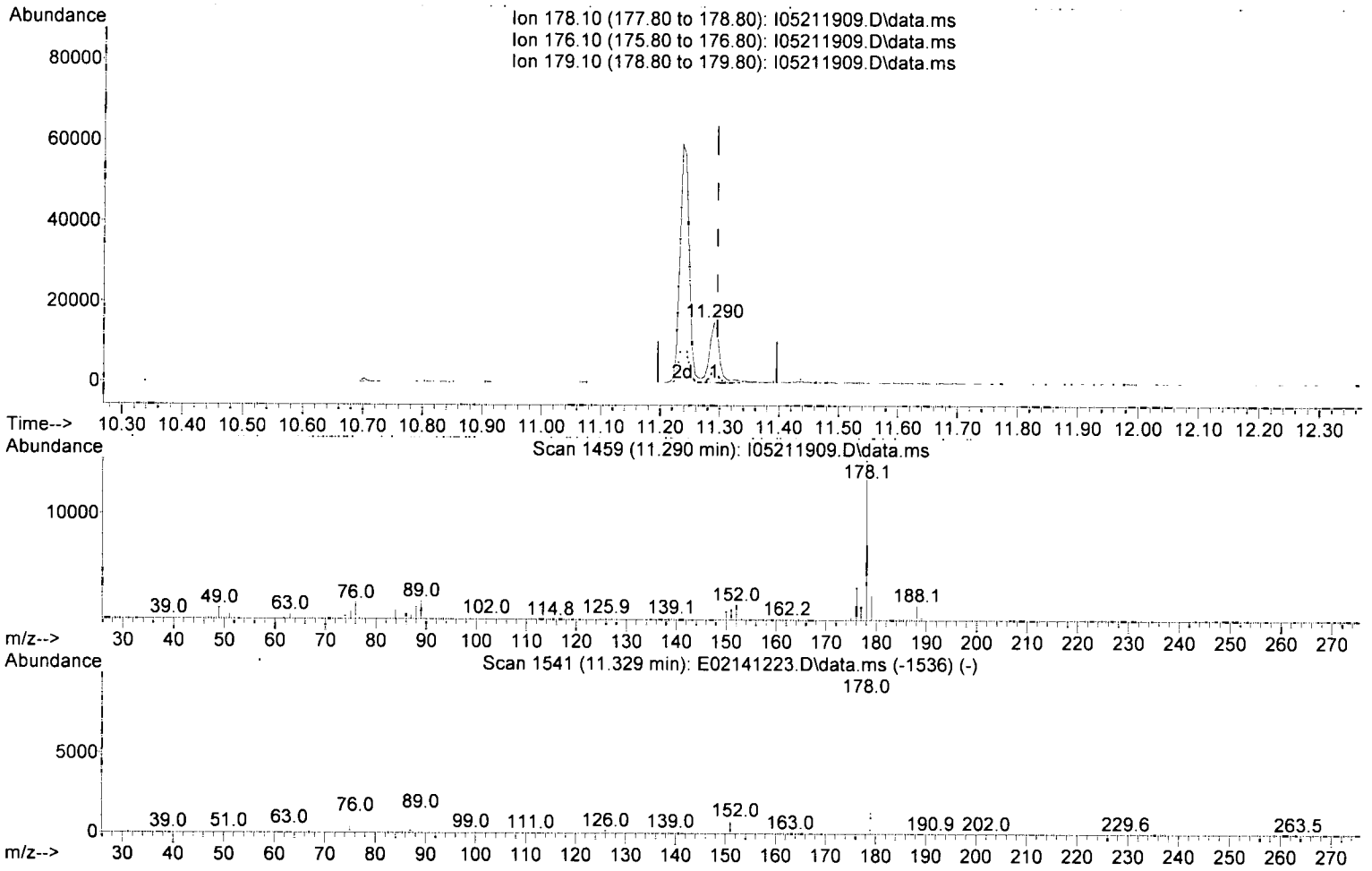
response 63953

Ion	Exp%	Act%
178.10	100.00	100.00
176.10	19.40	19.04
179.10	15.20	15.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(72) Anthracene (T)

11.290min (-0.006) 103.83 ng/ml

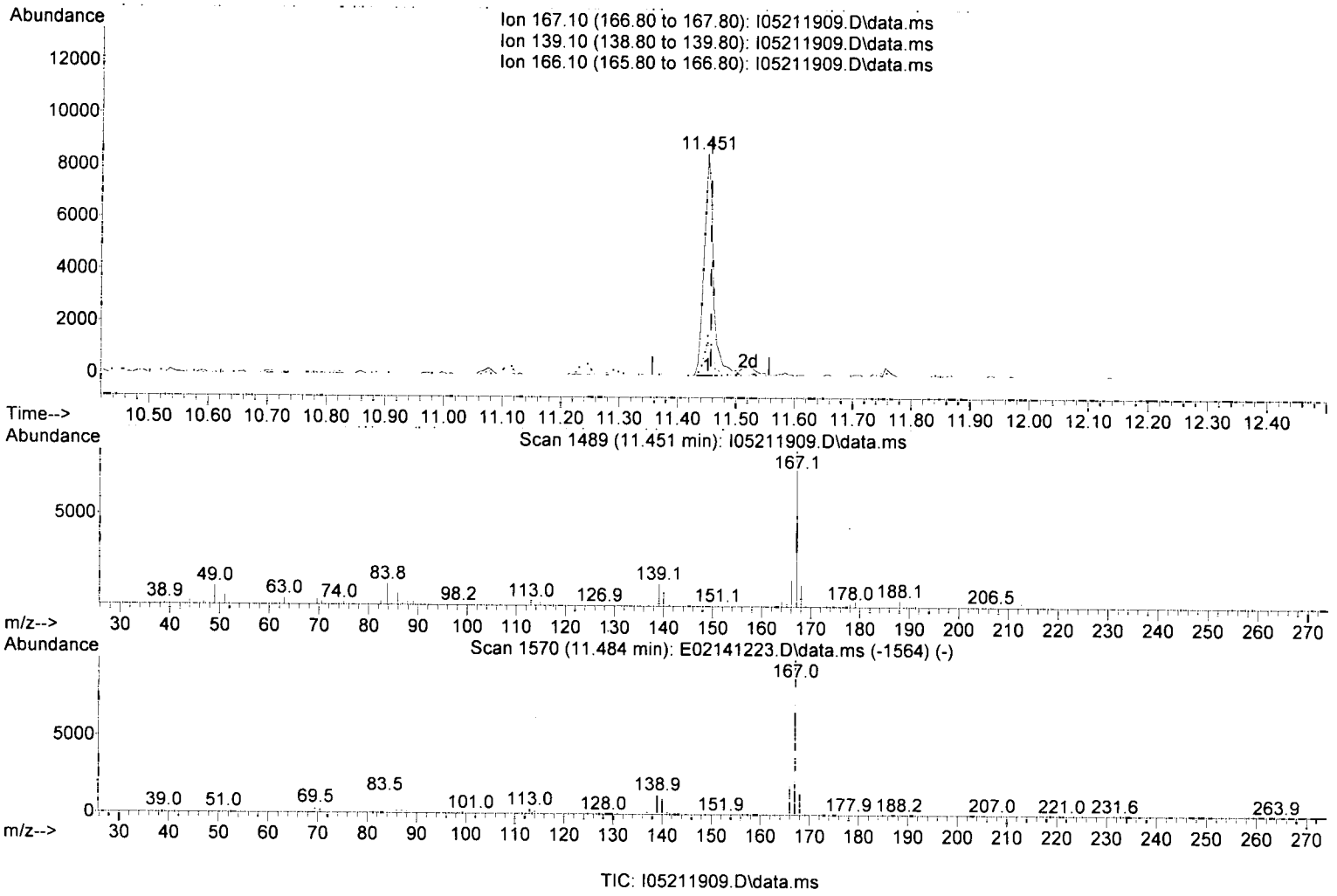
response 17186

Ion	Exp%	Act%
178.10	100.00	100.00
176.10	18.70	20.32
179.10	15.90	16.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(73) Carbazole (T)

11.451min (-0.006) 65.39 ng/ml

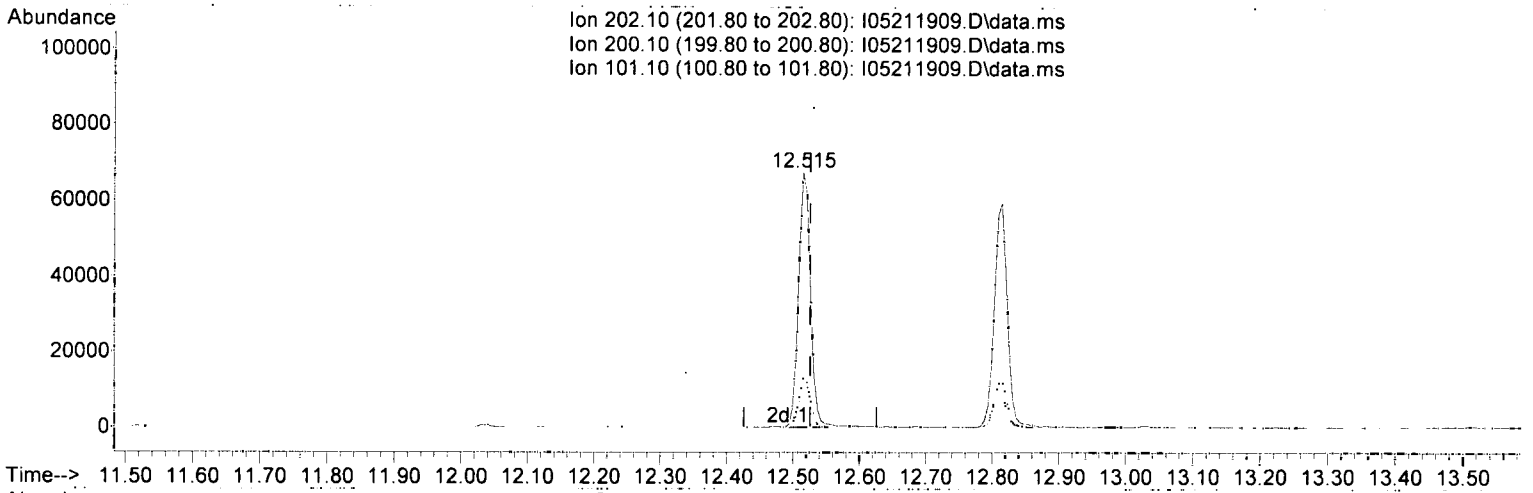
response 9486

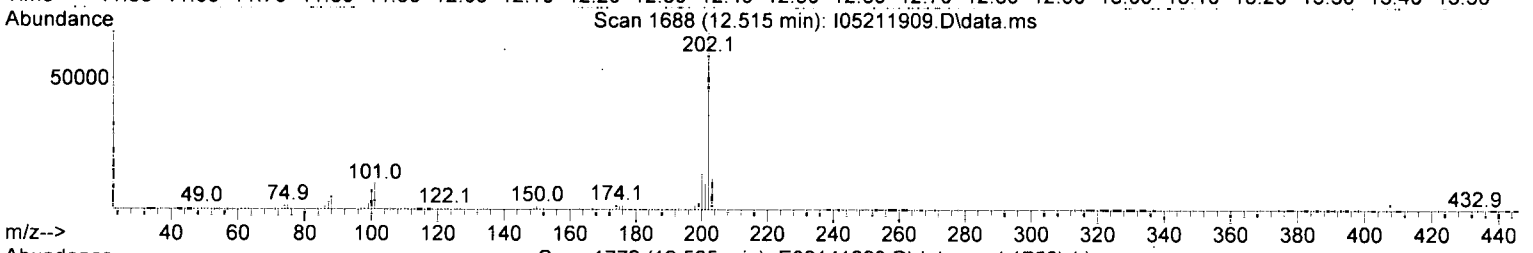
Ion	Exp%	Act%
167.10	100.00	100.00
139.10	13.50	14.73
166.10	21.10	17.90
0.00	0.00	0.00

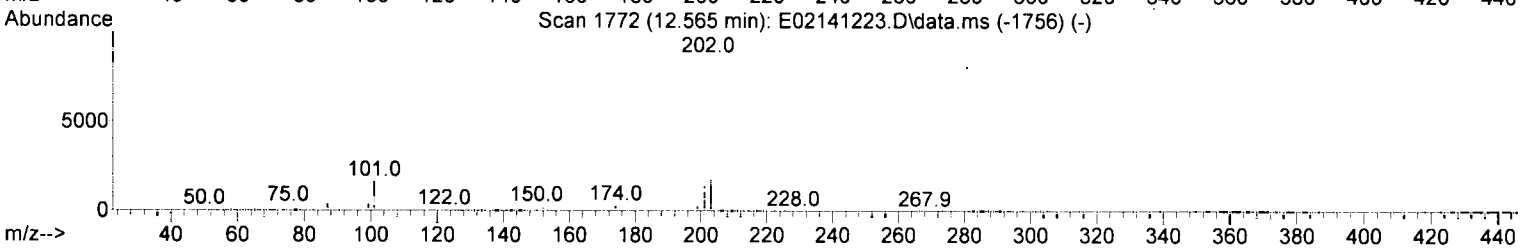
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05211909.D\data.ms

(75) Fluoranthene (T)

12.515min (-0.011) 440.56 ng/ml

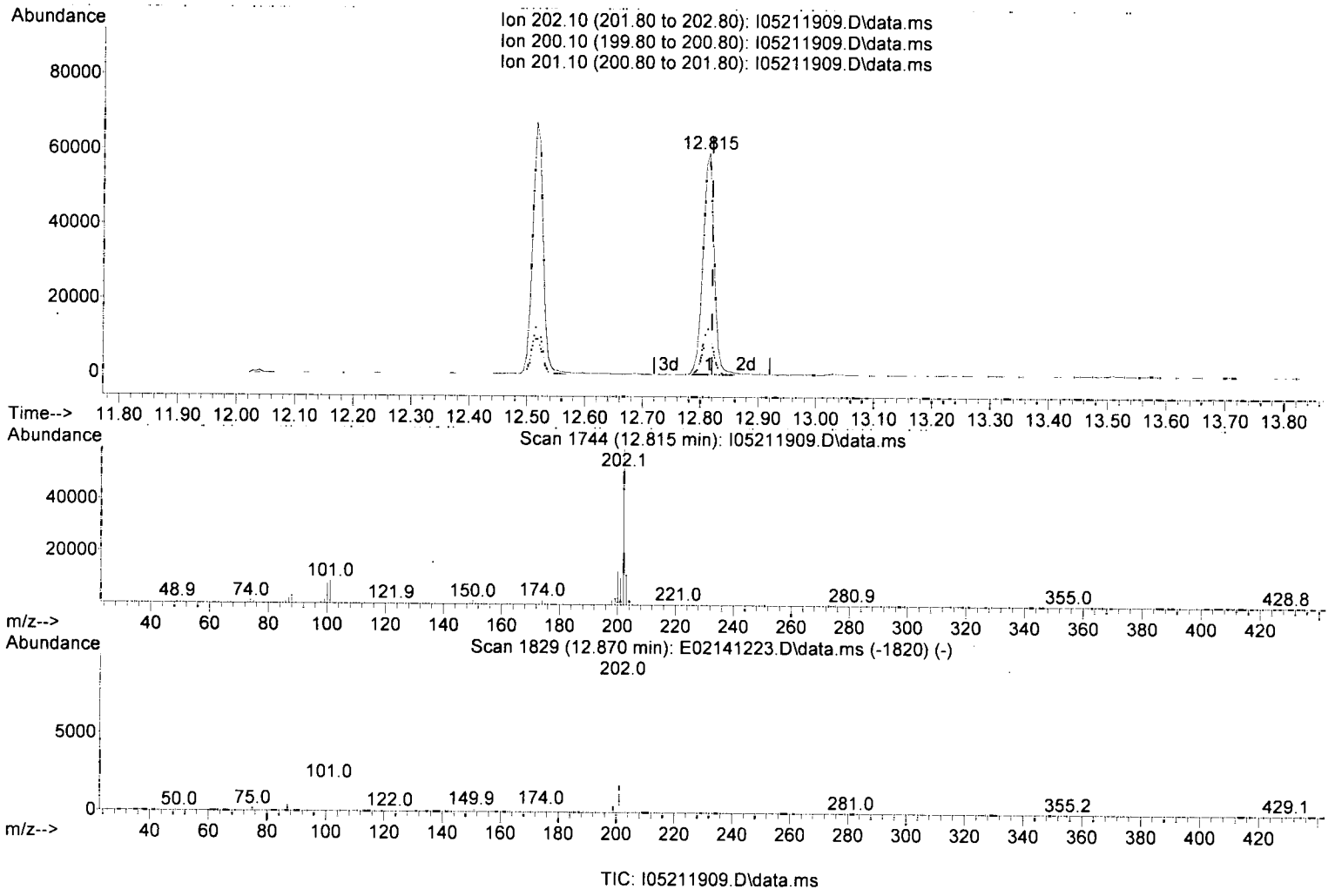
response 85223

Ion	Exp%	Act%
202.10	100.00	100.00
200.10	20.20	19.40
101.10	17.00	14.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(77) Pyrene (T)

12.815min (-0.005) 409.60 ng/ml

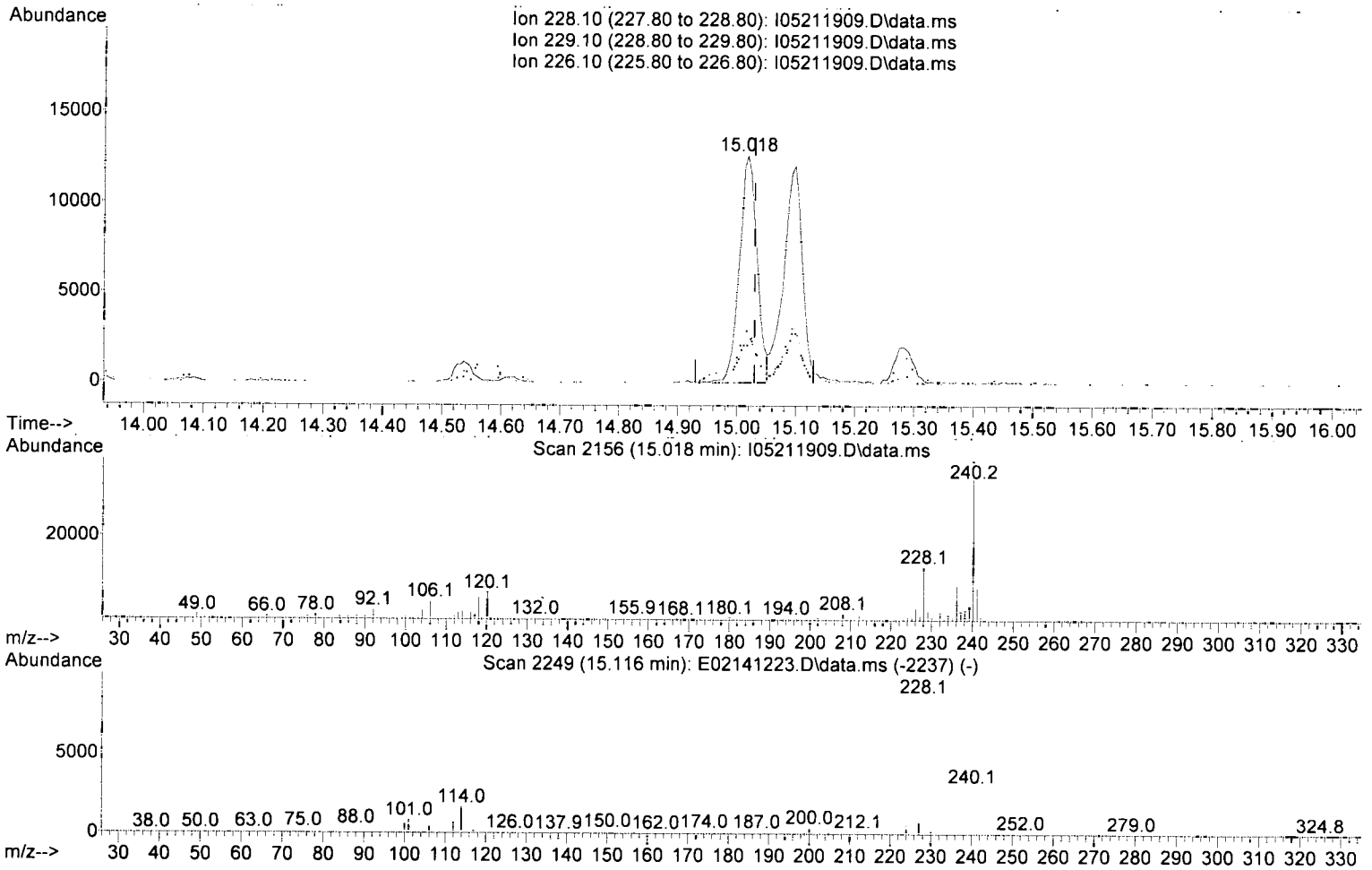
response 80636

Ion	Exp%	Act%
202.10	100.00	100.00
200.10	20.70	21.70
201.10	17.30	17.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(83) Benz(a)anthracene (T)

15.018min (-0.012) 142.71 ng/ml

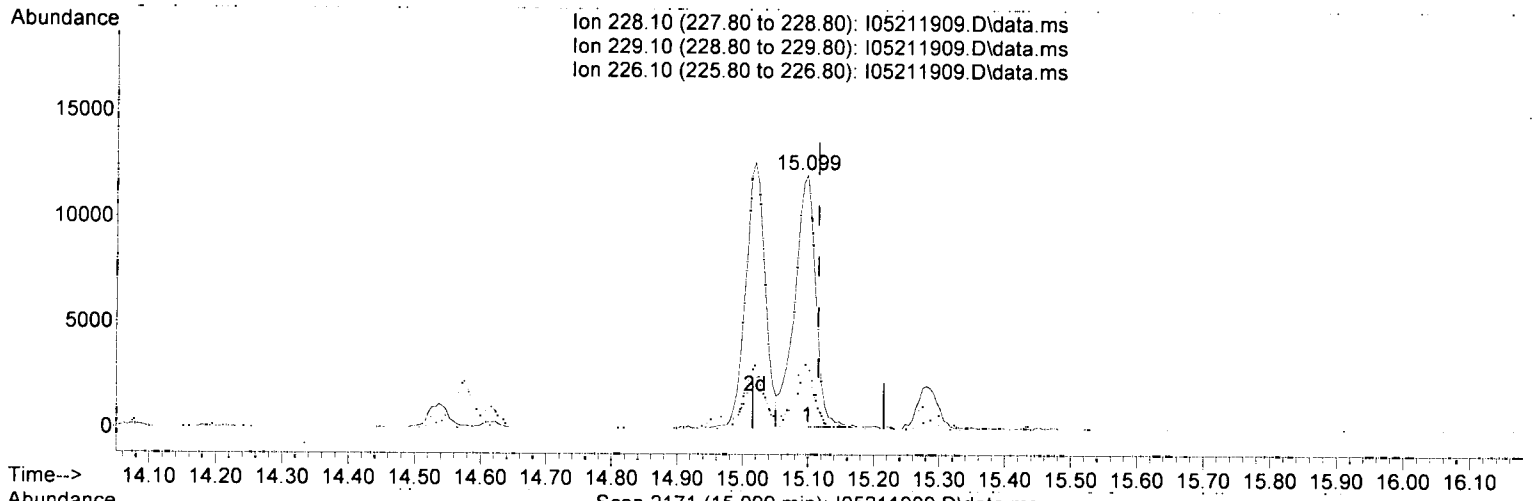
response 26255

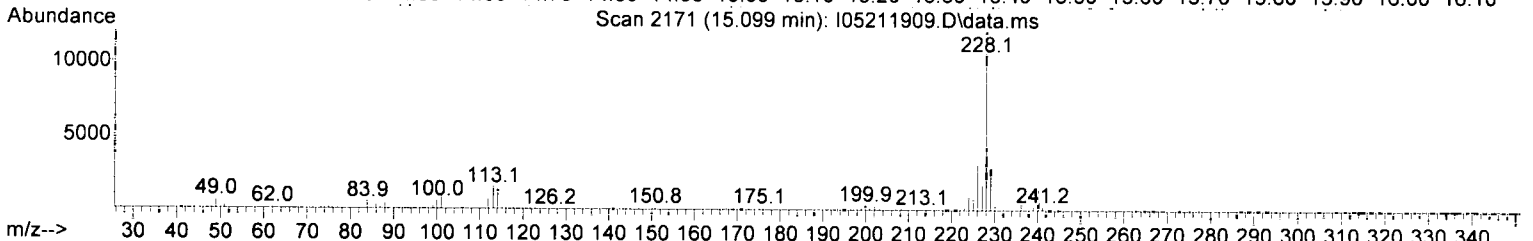
Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.60	16.34
226.10	26.50	24.04
0.00	0.00	0.00

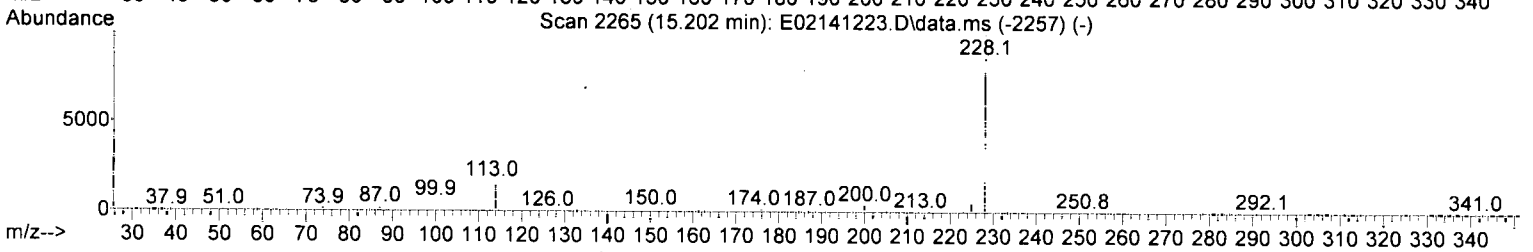
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05211909.D\data.ms

(84) Chrysene (T)

15.099min (-0.017) 157.58 ng/ml

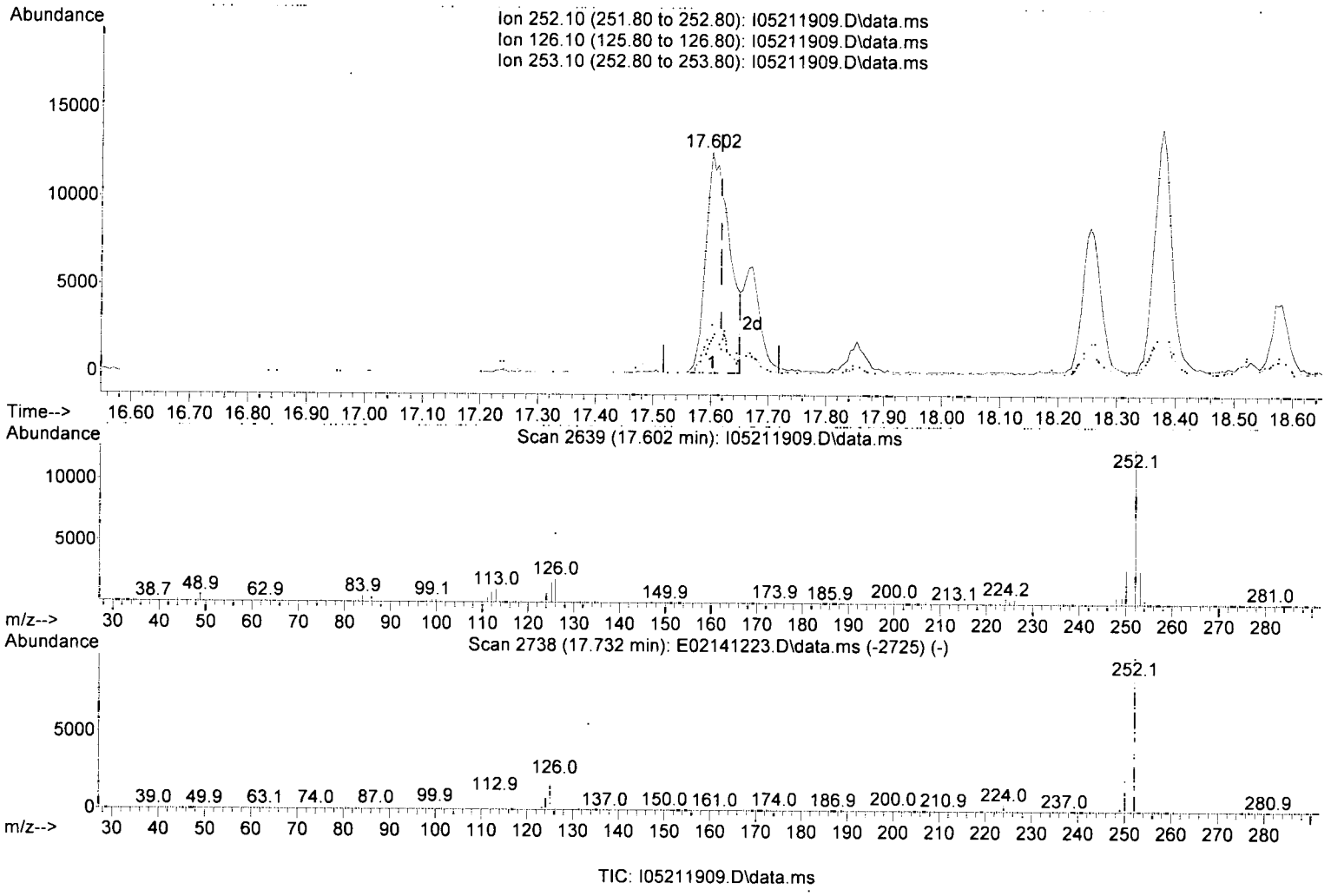
response 26746

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.50	23.36
226.10	29.30	25.56
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(88) Benzo(b)fluoranthene (T)

17.602min (-0.016) 195.64 ng/ml

response 36139

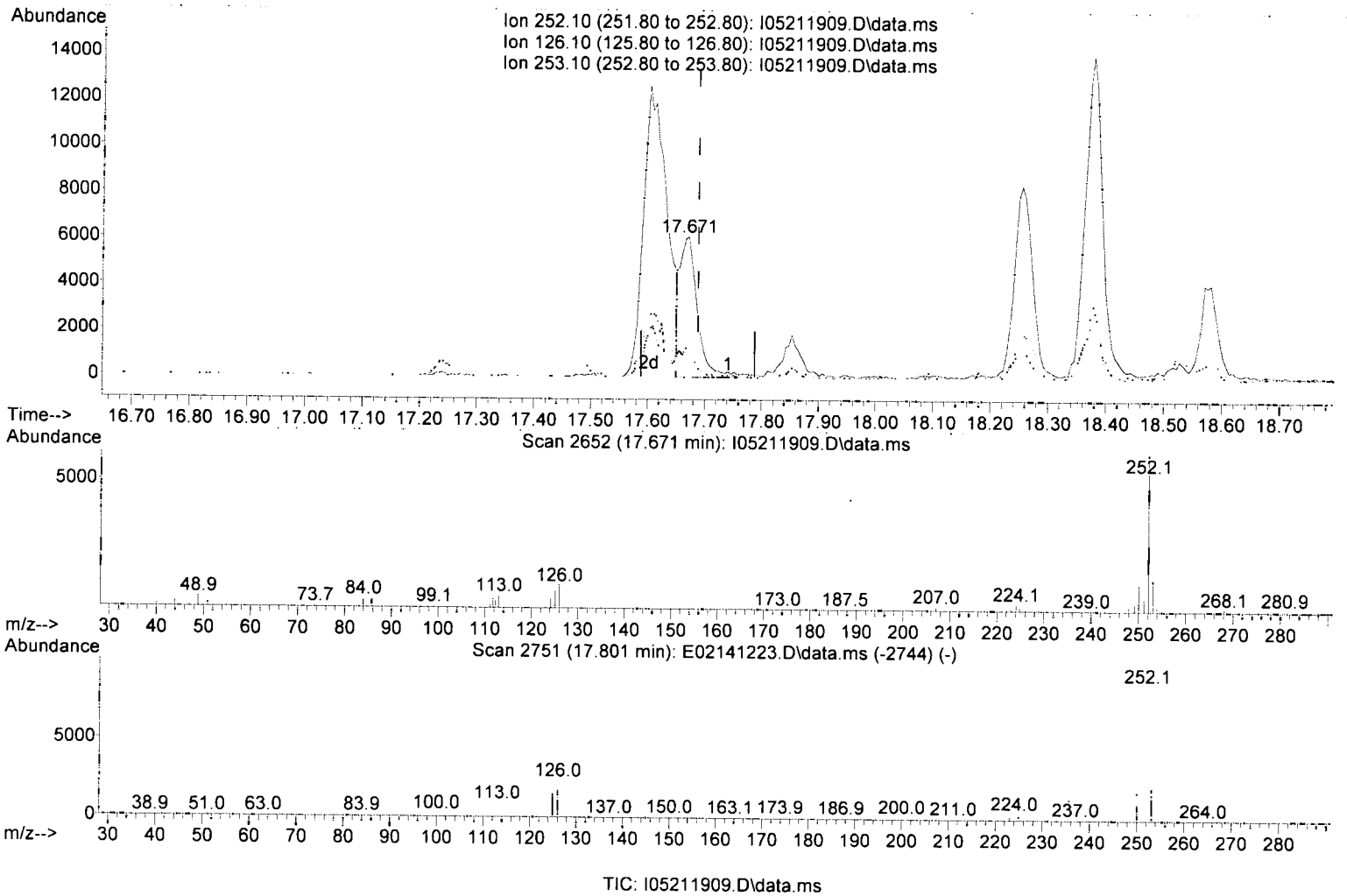
Ion	Exp%	Act%
252.10	100.00	100.00
126.10	21.90	15.34
253.10	22.00	22.05
0.00	0.00	0.00

MOS

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(89) Benzo(k)fluoranthene (T)

17.671min (-0.017) 72.14 ng/ml m

response 13080

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	14.59
253.10	21.70	19.82
0.00	0.00	0.00

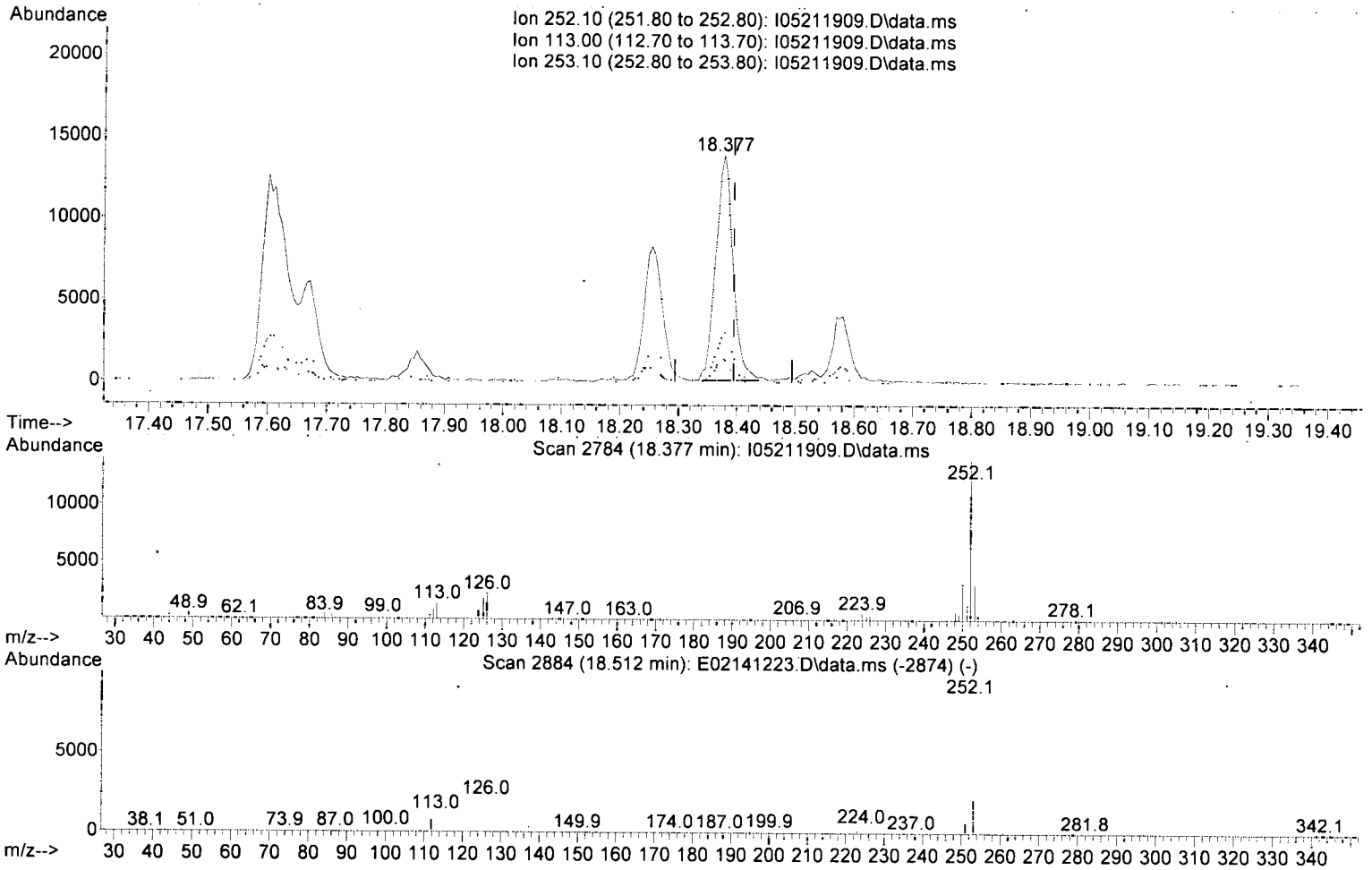
AMS 5/21/19

MAS ✓

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(92) Benzo(a)pyrene (T)

18.377min (-0.017) 170.82 ng/ml

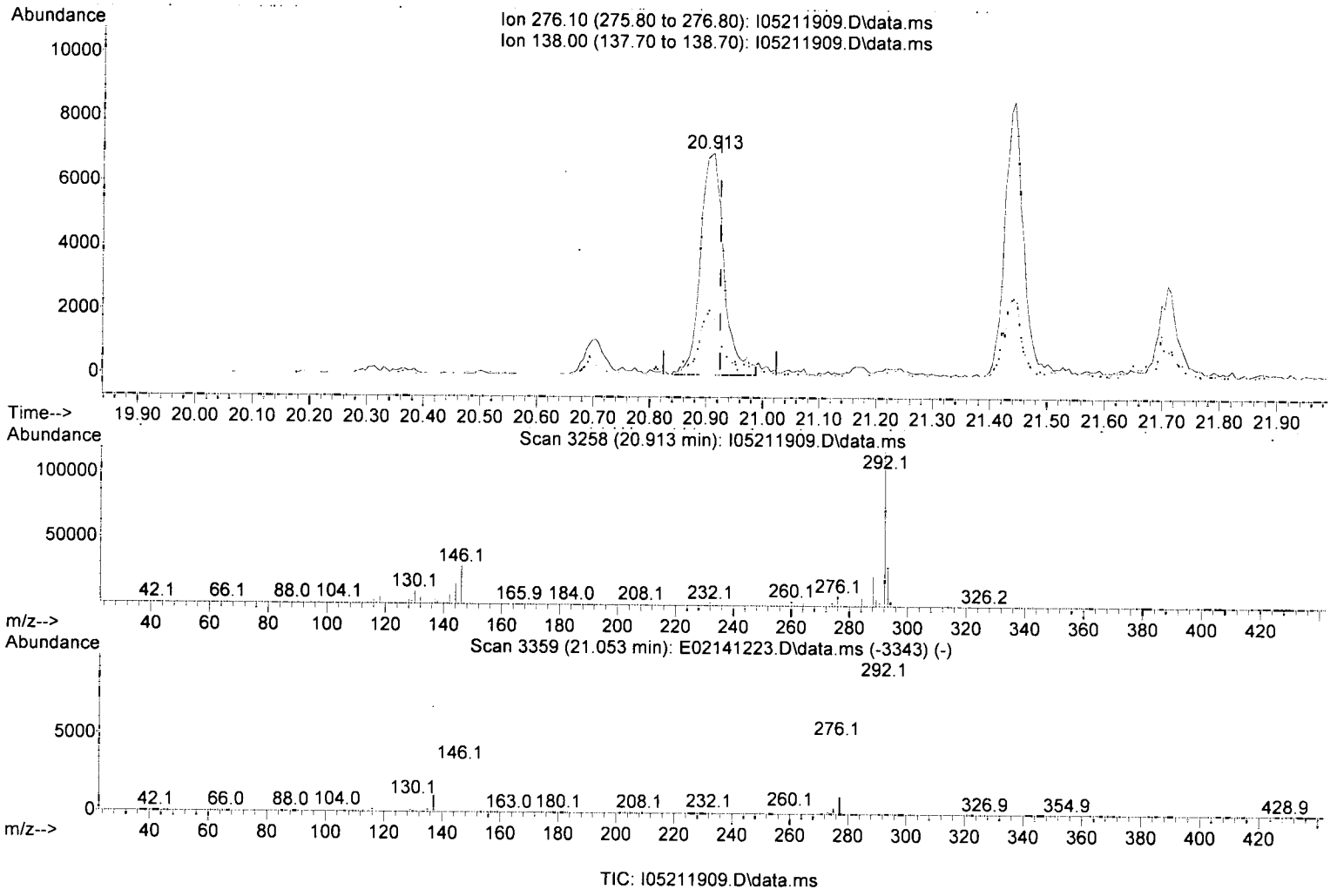
response 28780

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	13.40	10.15
253.10	21.60	22.84
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(95) Indeno(1,2,3-cd)pyrene (T)

20.913min (-0.012) 129.65 ng/ml

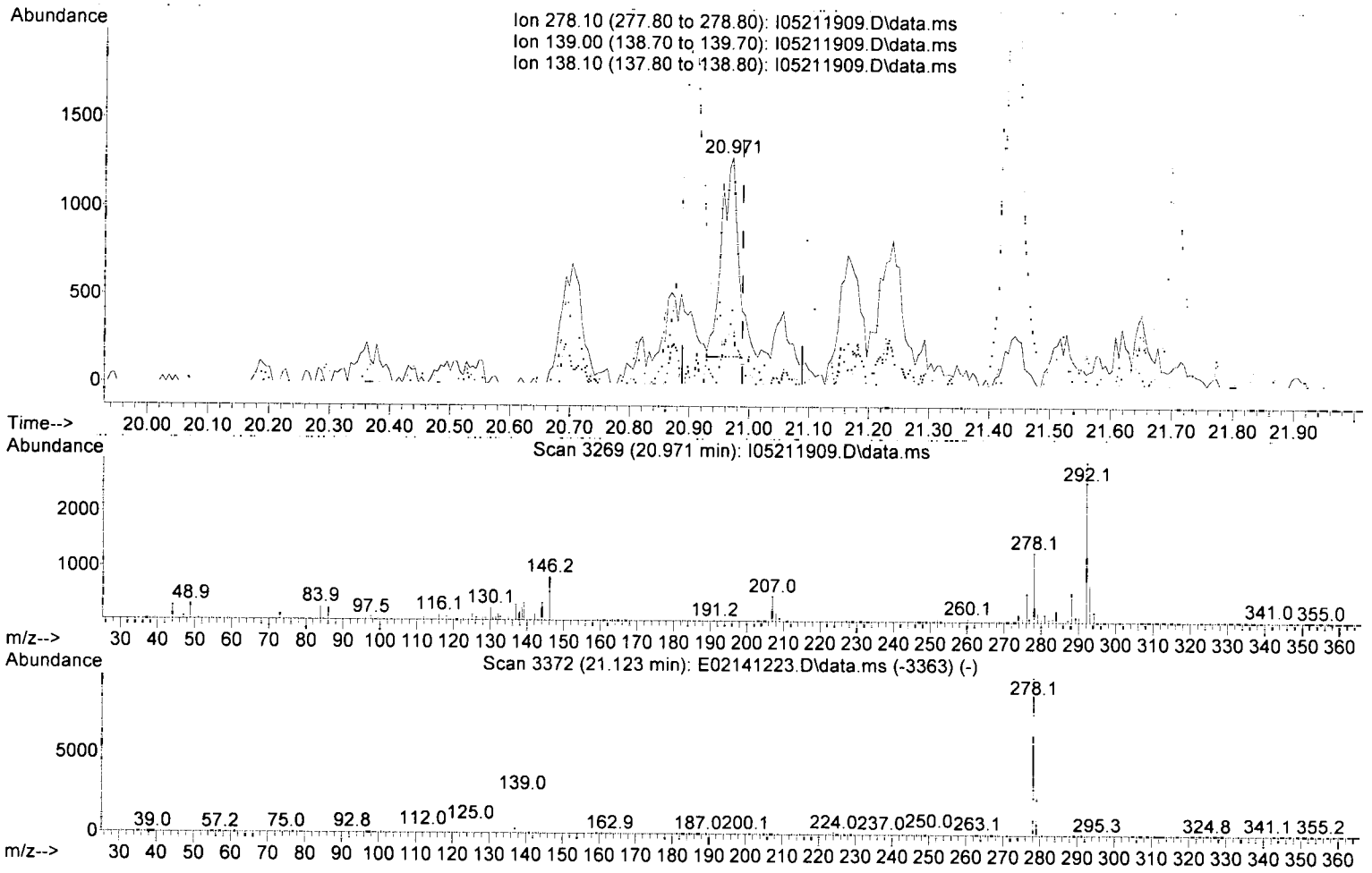
response 20154

Ion	Exp%	Act%
276.10	100.00	100.00
138.00	30.60	26.77
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(96) Dibenz(a,h)anthracene (T)

20.971min (-0.017) 16.48 ng/ml

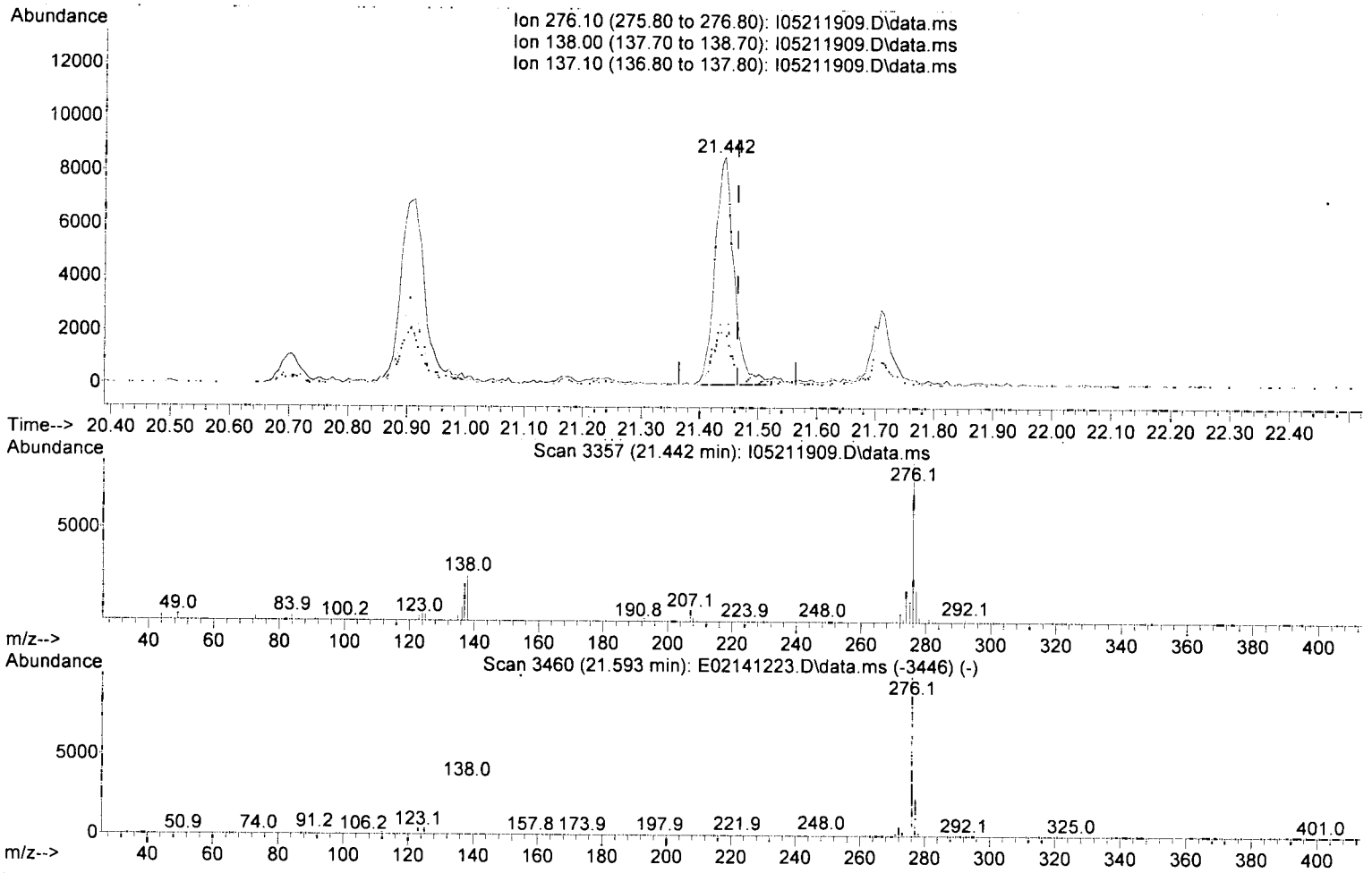
response 2262

Ion	Exp%	Act%
278.10	100.00	100.00
139.00	25.20	25.97
138.10	18.50	32.79
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05211909.D\data.ms

(97) Benzo(g,h,i)perylene (T)

21.442min (-0.022) 129.42 ng/ml

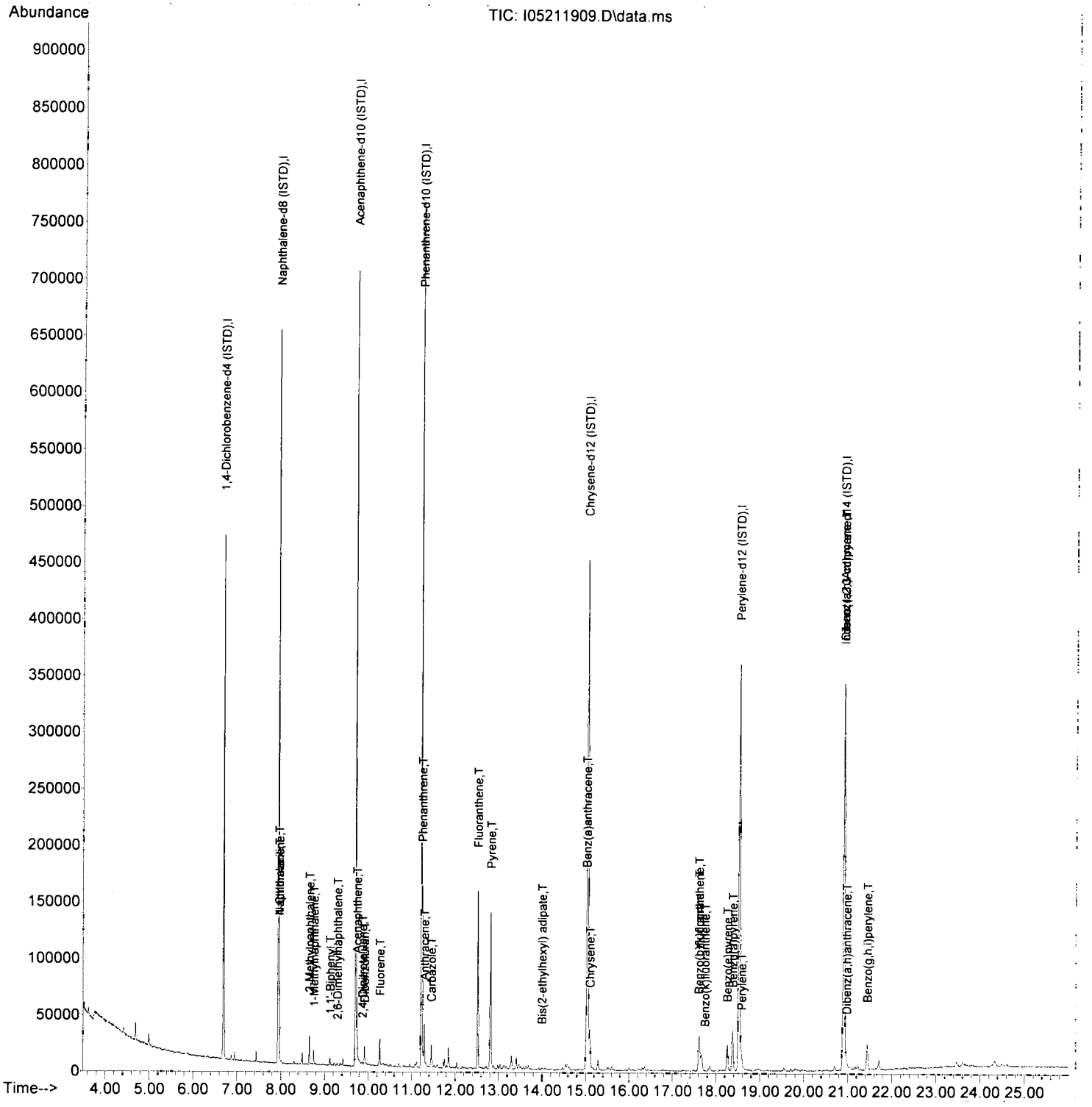
response 19673

Ion	Exp%	Act%
276.10	100.00	100.00
138.00	36.60	28.61
137.10	27.90	22.94
0.00	0.00	0.00

No Name Entered Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-05\9E21026\
Data File : I05211909.D
Acq On : 21 May 2019 12:56 pm
Operator : JK /AMS /DTH
Sample : A9E0582-01@5000
Misc : 5000x, 8270D LL Full List
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 21 13:22:27 2019
Quant Method : C:\msdchem\1\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



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

Semivolatile Organic Compunds By EPA 8270D

Calibration Data

Sequence 9E08056 (Cal ID A9E1009) SV-GCMS9

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9E08056**	Instrument:	**SV-GCMS9**
Date:	**05/08/19 18:26**	Calibration:	**A9E1009**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E08056-TUN1	Water	QC	QC			A19D031	A19D323
2	9E08056-ICB1	Water	QC	QC			A19D031	
3	9E08056-CAL1	Water	QC	QC			A19D031	A19D053
4	9E08056-CAL2	Water	QC	QC			A19D031	A19D054
5	9E08056-CAL3	Water	QC	QC			A19D031	A19D055
6	9E08056-CAL4	Water	QC	QC			A19D031	A19D056
7	9E08056-CAL5	Water	QC	QC			A19D031	A19D057
8	9E08056-CAL6	Water	QC	QC			A19D031	A19D058
9	9E08056-CAL7	Water	QC	QC			A19D031	A19D059
10	9E08056-CAL8	Water	QC	QC			A19D031	A19D060
11	9E08056-CAL9	Water	QC	QC			A19D031	A19D061
12	9E08056-CALA	Water	QC	QC			A19D031	A19D062
13	9E08056-IBL1	Water	QC	QC			A19D031	
14	9E08056-ICV1	Water	QC	QC			A19D031	A19C239
15	9E08056-IBL2	Water	QC	QC			A19D031	

Data Entered By: 5/10/19

Data Reviewed By: 5/14/19

Comments: Raise 3,3-Dichlorobenzidine to 200/400 for soils

Calibration Status Report SV-GCMS9

Method Path : T:\methods\
Method File : SV9_050819.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Thu May 09 12:25:58 2019
Response Via : Initial Calibration

A9E1009

5/9/19

#	ID	Conc	ISTD Conc	Path\File
1	20	20	2000	T:\data\2019-05\9E08056\I05081919.D
2	50	50	2000	T:\data\2019-05\9E08056\I05081920.D
3	100	100	2000	T:\data\2019-05\9E08056\I05081921.D
4	200	200	2000	T:\data\2019-05\9E08056\I05081922.D
5	500	500	2000	T:\data\2019-05\9E08056\I05081923.D
6	1000	1000	2000	T:\data\2019-05\9E08056\I05081924.D
7	2000	2000	2000	T:\data\2019-05\9E08056\I05081925.D
8	4000	4000	2000	T:\data\2019-05\9E08056\I05081926.D
9	6000	6000	2000	T:\data\2019-05\9E08056\I05081927.D
10	8000	8000	2000	T:\data\2019-05\9E08056\I05081928.D

#	ID	Update Time	Quant Time	Acquisition Time
1	20	May 09 12:25 2019	May 09 11:27 2019	8 May 2019 8:12 pm
2	50	May 09 12:25 2019	May 09 11:31 2019	8 May 2019 8:48 pm
3	100	May 09 12:25 2019	May 09 11:34 2019	8 May 2019 9:25 pm
4	200	May 09 12:25 2019	May 09 11:48 2019	8 May 2019 10:01 pm
5	500	May 09 12:25 2019	May 09 11:02 2019	8 May 2019 10:38 pm
6	1000	May 09 12:25 2019	May 09 11:02 2019	8 May 2019 11:14 pm
7	2000	May 09 12:25 2019	May 09 11:03 2019	8 May 2019 11:50 pm
8	4000	May 09 12:25 2019	May 09 11:03 2019	9 May 2019 12:26 am
9	6000	May 09 12:25 2019	May 09 11:53 2019	9 May 2019 1:01 am
10	8000	May 09 12:25 2019	May 09 11:55 2019	9 May 2019 1:37 am

SV9_050819.M Thu May 09 17:08:41 2019

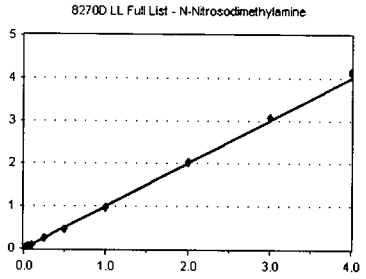
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

N-Nitrosodimethylamine

Curve Fit: **AVERAGE RF**

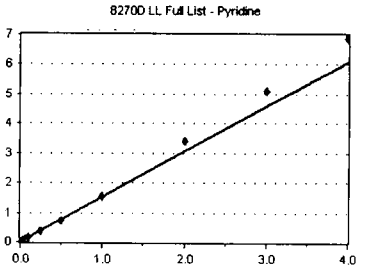


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1386	1.211	4.19
9E08056-CAL2	50	2851	0.973	4.18
9E08056-CAL3	100	5631	0.975	4.19
9E08056-CAL4	200	11200	0.931	4.17
9E08056-CAL5	500	27689	0.938	4.18
9E08056-CAL6	1000	53609	0.919	4.17
9E08056-CAL7	2000	104473	0.976	4.17
9E08056-CAL8	4000	199054	1.007	4.17
9E08056-CAL9	6000	300039	1.030	4.17
9E08056-CALA	8000	396249	1.035	4.16

AVE RF **0.999** RF RSD **8.42** AVE RT **4.17**

Pyridine

Curve Fit: **AVERAGE RF**

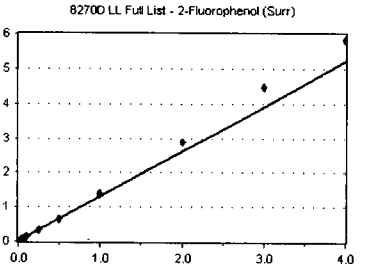


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1594	1.392	4.24
9E08056-CAL2	50	4118	1.406	4.22
9E08056-CAL3	100	7898	1.367	4.22
9E08056-CAL4	200	17242	1.433	4.19
9E08056-CAL5	500	44836	1.518	4.20
9E08056-CAL6	1000	85720	1.469	4.18
9E08056-CAL7	2000	164460	1.537	4.18
9E08056-CAL8	4000	337112	1.706	4.17
9E08056-CAL9	6000	496772	1.705	4.18
9E08056-CALA	8000	659225	1.722	4.16

AVE RF **1.526** RF RSD **9.08** AVE RT **4.19**

2-Fluorophenol (Surr)

Curve Fit: **AVERAGE RF**

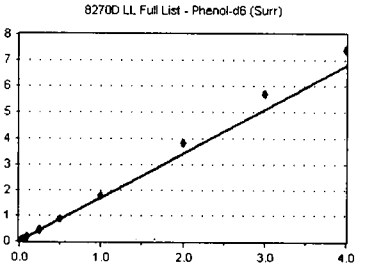


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1296	1.132	5.47
9E08056-CAL2	50	3106	1.060	5.47
9E08056-CAL3	100	7013	1.214	5.47
9E08056-CAL4	200	14997	1.247	5.47
9E08056-CAL5	500	39110	1.324	5.47
9E08056-CAL6	1000	76115	1.305	5.47
9E08056-CAL7	2000	148818	1.391	5.47
9E08056-CAL8	4000	284613	1.440	5.47
9E08056-CAL9	6000	435036	1.493	5.47
9E08056-CALA	8000	560056	1.463	5.47

AVE RF **1.307** RF RSD **11.06** AVE RT **5.47**

Phenol-d6 (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1675	1.463	6.35
9E08056-CAL2	50	4324	1.476	6.34
9E08056-CAL3	100	9148	1.583	6.34
9E08056-CAL4	200	19650	1.634	6.34
9E08056-CAL5	500	50799	1.720	6.34
9E08056-CAL6	1000	98894	1.695	6.34
9E08056-CAL7	2000	191806	1.792	6.34
9E08056-CAL8	4000	374178	1.894	6.35
9E08056-CAL9	6000	554225	1.902	6.35
9E08056-CALA	8000	706999	1.847	6.36

AVE RF **1.701** RF RSD **9.47** AVE RT **6.34**

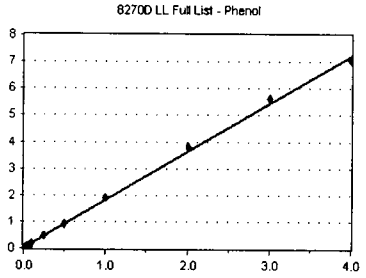
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Phenol

Curve Fit: **AVERAGE RF**

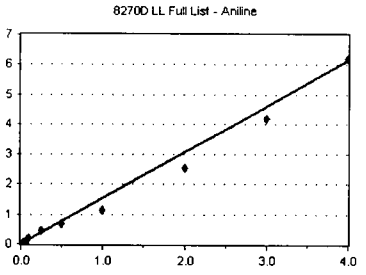


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1840	1.607	6.35
9E08056-CAL2	50	4928	1.682	6.35
9E08056-CAL3	100	10314	1.785	6.35
9E08056-CAL4	200	21991	1.828	6.35
9E08056-CAL5	500	56392	1.909	6.35
9E08056-CAL6	1000	107531	1.843	6.35
9E08056-CAL7	2000	203006	1.897	6.35
9E08056-CAL8	4000	375248	1.899	6.36
9E08056-CAL9	6000	546989	1.877	6.37
9E08056-CALA	8000	672921	1.758	6.38

AVE RF **1.809** RF RSD **5.59** AVE RT **6.36**

Aniline

Curve Fit: **AVERAGE RF**

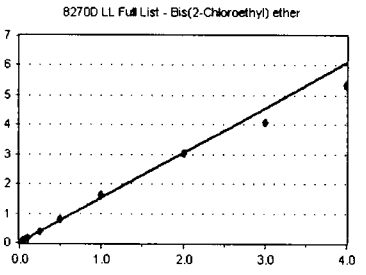


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~2217~~	~~1.936~~	~~6.39~~
9E08056-CAL2	50	5080	1.734	6.38
9E08056-CAL3	100	10637	1.841	6.38
9E08056-CAL4	200	21214	1.764	6.38
9E08056-CAL5	500	52964	1.793	6.38
9E08056-CAL6	1000	81018	1.389	6.38
9E08056-CAL7	2000	119883	1.120	6.38
9E08056-CAL8	4000	249012	1.260	6.39
9E08056-CAL9	6000	406652	1.396	6.39
9E08056-CALA	8000	595081	1.555	6.39

AVE RF **1.539** RF RSD **16.90** AVE RT **6.38**

Bis(2-Chloroethyl) ether

Curve Fit: **AVERAGE RF**

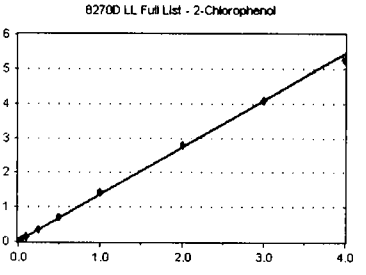


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1922	1.679	6.43
9E08056-CAL2	50	4474	1.527	6.43
9E08056-CAL3	100	8939	1.547	6.43
9E08056-CAL4	200	18736	1.558	6.43
9E08056-CAL5	500	45269	1.533	6.43
9E08056-CAL6	1000	91455	1.567	6.44
9E08056-CAL7	2000	172619	1.613	6.44
9E08056-CAL8	4000	297917	1.508	6.44
9E08056-CAL9	6000	395115	1.356	6.45
9E08056-CALA	8000	510517	1.334	6.45

AVE RF **1.522** RF RSD **6.93** AVE RT **6.44**

2-Chlorophenol

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1505	1.315	6.50
9E08056-CAL2	50	3771	1.287	6.50
9E08056-CAL3	100	7863	1.361	6.50
9E08056-CAL4	200	16450	1.368	6.50
9E08056-CAL5	500	42307	1.433	6.50
9E08056-CAL6	1000	81650	1.399	6.50
9E08056-CAL7	2000	152301	1.423	6.50
9E08056-CAL8	4000	275296	1.393	6.50
9E08056-CAL9	6000	397555	1.364	6.50
9E08056-CALA	8000	503387	1.315	6.50

AVE RF **1.366** RF RSD **3.54** AVE RT **6.50**

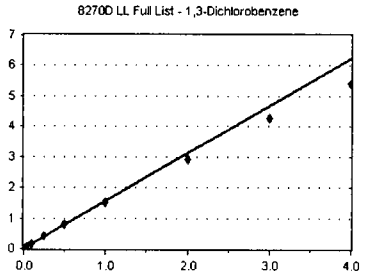
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

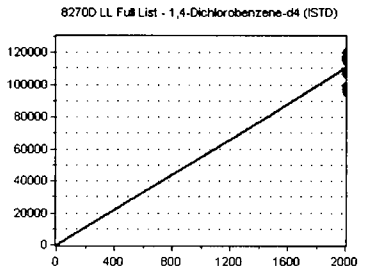


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2020	1.764	6.64
9E08056-CAL2	50	4617	1.576	6.64
9E08056-CAL3	100	9757	1.689	6.64
9E08056-CAL4	200	19525	1.623	6.64
9E08056-CAL5	500	48498	1.642	6.64
9E08056-CAL6	1000	91509	1.568	6.64
9E08056-CAL7	2000	163909	1.532	6.64
9E08056-CAL8	4000	287179	1.453	6.65
9E08056-CAL9	6000	414202	1.421	6.65
9E08056-CALA	8000	517626	1.352	6.65

AVE RF **1.562** RF RSD **8.09** AVE RT **6.64**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**

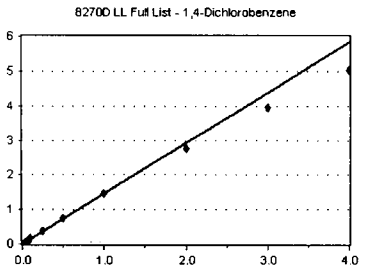


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	2000	114486	57.243	6.70
9E08056-CAL2	2000	117186	58.593	6.69
9E08056-CAL3	2000	115550	57.775	6.69
9E08056-CAL4	2000	120284	60.142	6.69
9E08056-CAL5	2000	118130	59.065	6.70
9E08056-CAL6	2000	116694	58.347	6.70
9E08056-CAL7	2000	107016	53.508	6.70
9E08056-CAL8	2000	98792	49.396	6.70
9E08056-CAL9	2000	97132	48.566	6.70
9E08056-CALA	2000	95689	47.844	6.70

AVE RF **55.048** RF RSD **8.69** AVE RT **6.70**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

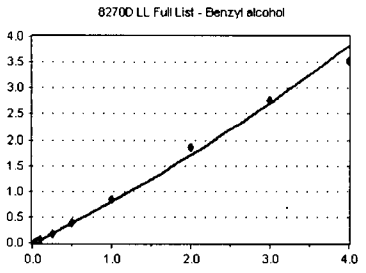


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1733	1.514	6.71
9E08056-CAL2	50	4532	1.547	6.71
9E08056-CAL3	100	8776	1.519	6.71
9E08056-CAL4	200	18751	1.559	6.71
9E08056-CAL5	500	45970	1.557	6.71
9E08056-CAL6	1000	87432	1.498	6.71
9E08056-CAL7	2000	154653	1.445	6.71
9E08056-CAL8	4000	272704	1.380	6.72
9E08056-CAL9	6000	384033	1.318	6.72
9E08056-CALA	8000	480345	1.255	6.72

AVE RF **1.459** RF RSD **7.34** AVE RT **6.71**

Benzyl alcohol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~394~~	~~0.344~~	~~6.83~~
9E08056-CAL2	50	1234	0.421	6.83
9E08056-CAL3	100	2898	0.502	6.83
9E08056-CAL4	200	6970	0.579	6.82
9E08056-CAL5	500	21295	0.721	6.83
9E08056-CAL6	1000	45805	0.785	6.83
9E08056-CAL7	2000	91265	0.853	6.83
9E08056-CAL8	4000	184713	0.935	6.84
9E08056-CAL9	6000	269444	0.925	6.84
9E08056-CALA	8000	337977	0.883	6.85

AVE RF **0.734** RF RSD **26.02** AVE RT **6.83**

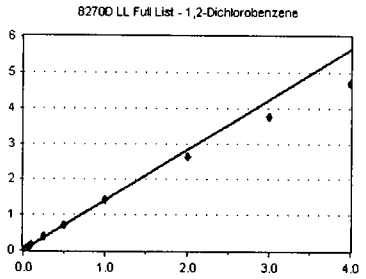
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

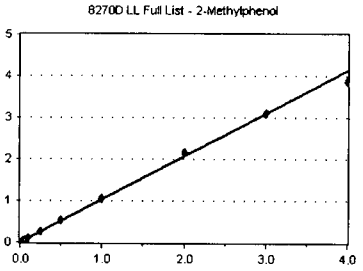


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1593	1.391	6.86
9E08056-CAL2	50	4338	1.481	6.86
9E08056-CAL3	100	8854	1.532	6.86
9E08056-CAL4	200	18424	1.532	6.86
9E08056-CAL5	500	45584	1.544	6.86
9E08056-CAL6	1000	84135	1.442	6.86
9E08056-CAL7	2000	151209	1.413	6.86
9E08056-CAL8	4000	259626	1.314	6.87
9E08056-CAL9	6000	366398	1.257	6.87
9E08056-CALA	8000	448803	1.173	6.87

AVE RF **1.408** RF RSD **8.95** AVE RT **6.86**

2-Methylphenol

Curve Fit: **AVERAGE RF**

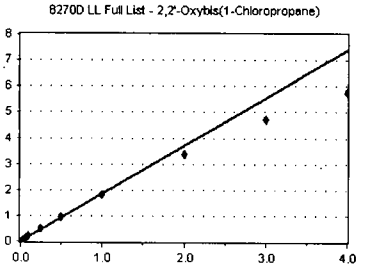


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1153	1.007	6.94
9E08056-CAL2	50	2679	0.914	6.93
9E08056-CAL3	100	6386	1.105	6.93
9E08056-CAL4	200	12165	1.011	6.93
9E08056-CAL5	500	33013	1.118	6.93
9E08056-CAL6	1000	61935	1.061	6.93
9E08056-CAL7	2000	113843	1.064	6.93
9E08056-CAL8	4000	213032	1.078	6.94
9E08056-CAL9	6000	301798	1.036	6.94
9E08056-CALA	8000	369236	0.965	6.94

AVE RF **1.036** RF RSD **6.11** AVE RT **6.93**

2,2'-Oxybis(1-Chloropropane)

Curve Fit: **AVERAGE RF**

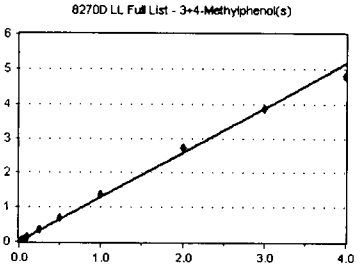


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2282	1.993	6.95
9E08056-CAL2	50	5842	1.994	6.95
9E08056-CAL3	100	12268	2.123	6.95
9E08056-CAL4	200	24389	2.028	6.95
9E08056-CAL5	500	59332	2.009	6.95
9E08056-CAL6	1000	109743	1.881	6.95
9E08056-CAL7	2000	195754	1.829	6.95
9E08056-CAL8	4000	331551	1.678	6.96
9E08056-CAL9	6000	456599	1.567	6.96
9E08056-CALA	8000	549922	1.437	6.96

AVE RF **1.854** RF RSD **12.12** AVE RT **6.95**

3+4-Methylphenol(s)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1360	1.188	7.08
9E08056-CAL2	50	3346	1.142	7.08
9E08056-CAL3	100	7451	1.290	7.08
9E08056-CAL4	200	15823	1.315	7.08
9E08056-CAL5	500	41496	1.405	7.08
9E08056-CAL6	1000	78741	1.350	7.08
9E08056-CAL7	2000	144919	1.354	7.08
9E08056-CAL8	4000	268146	1.357	7.09
9E08056-CAL9	6000	373641	1.282	7.10
9E08056-CALA	8000	458606	1.198	7.10

AVE RF **1.288** RF RSD **6.69** AVE RT **7.08**

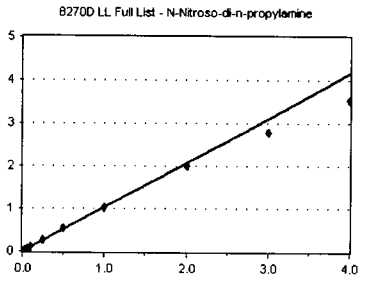
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

N-Nitroso-di-n-propylamine

Curve Fit: **AVERAGE RF**

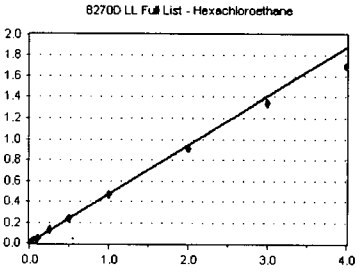


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1232	1.076	7.08
9E08056-CAL2	50	3144	1.073	7.08
9E08056-CAL3	100	6313	1.093	7.08
9E08056-CAL4	200	13250	1.102	7.08
9E08056-CAL5	500	33065	1.120	7.08
9E08056-CAL6	1000	62234	1.067	7.08
9E08056-CAL7	2000	111051	1.038	7.08
9E08056-CAL8	4000	197390	0.999	7.09
9E08056-CAL9	6000	270883	0.930	7.10
9E08056-CALA	8000	339637	0.887	7.11

AVE RF **1.038** RF RSD **7.40** AVE RT **7.09**

Hexachloroethane

Curve Fit: **AVERAGE RF**

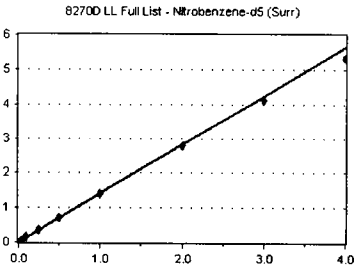


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	565	0.494	7.19
9E08056-CAL2	50	1408	0.481	7.19
9E08056-CAL3	100	2779	0.481	7.19
9E08056-CAL4	200	5764	0.479	7.19
9E08056-CAL5	500	14906	0.505	7.19
9E08056-CAL6	1000	27533	0.472	7.19
9E08056-CAL7	2000	49920	0.466	7.19
9E08056-CAL8	4000	89376	0.452	7.20
9E08056-CAL9	6000	130625	0.448	7.20
9E08056-CALA	8000	161926	0.423	7.20

AVE RF **0.470** RF RSD **5.05** AVE RT **7.20**

Nitrobenzene-d5 (Surr)

Curve Fit: **AVERAGE RF**

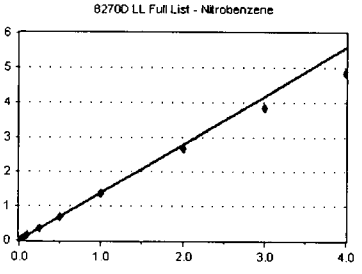


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1778	1.553	7.23
9E08056-CAL2	50	4032	1.376	7.23
9E08056-CAL3	100	8175	1.415	7.23
9E08056-CAL4	200	17627	1.465	7.23
9E08056-CAL5	500	42745	1.447	7.23
9E08056-CAL6	1000	81436	1.396	7.23
9E08056-CAL7	2000	149113	1.393	7.23
9E08056-CAL8	4000	275454	1.394	7.24
9E08056-CAL9	6000	400998	1.376	7.24
9E08056-CALA	8000	507577	1.326	7.25

AVE RF **1.414** RF RSD **4.40** AVE RT **7.23**

Nitrobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1693	1.479	7.25
9E08056-CAL2	50	4129	1.409	7.25
9E08056-CAL3	100	8591	1.487	7.25
9E08056-CAL4	200	18273	1.519	7.25
9E08056-CAL5	500	43153	1.461	7.25
9E08056-CAL6	1000	81129	1.390	7.25
9E08056-CAL7	2000	144892	1.354	7.25
9E08056-CAL8	4000	262312	1.328	7.26
9E08056-CAL9	6000	371635	1.275	7.26
9E08056-CALA	8000	462505	1.208	7.27

AVE RF **1.391** RF RSD **7.22** AVE RT **7.25**

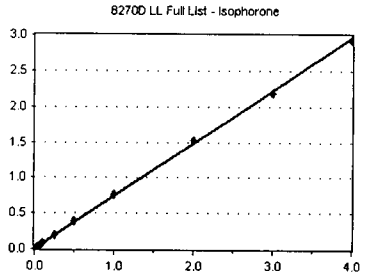
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Isophorone

Curve Fit: **AVERAGE RF**

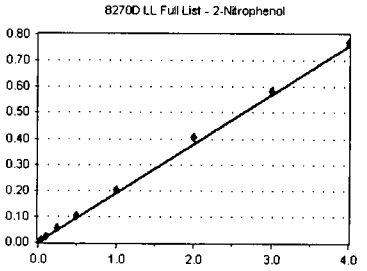


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3108	0.673	7.48
9E08056-CAL2	50	8299	0.711	7.48
9E08056-CAL3	100	16536	0.716	7.48
9E08056-CAL4	200	35486	0.756	7.48
9E08056-CAL5	500	89488	0.796	7.48
9E08056-CAL6	1000	169224	0.778	7.48
9E08056-CAL7	2000	306230	0.757	7.48
9E08056-CAL8	4000	573921	0.759	7.49
9E08056-CAL9	6000	838709	0.728	7.50
9E08056-CALA	8000	1078748	0.732	7.51

AVE RF **0.741** RF RSD **4.84** AVE RT **7.49**

2-Nitrophenol

Curve Fit: **AVERAGE RF**

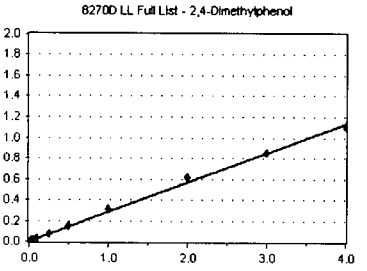


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	652	0.141	7.56
9E08056-CAL2	50	1851	0.159	7.56
9E08056-CAL3	100	3972	0.172	7.56
9E08056-CAL4	200	9275	0.198	7.56
9E08056-CAL5	500	25491	0.227	7.56
9E08056-CAL6	1000	44264	0.203	7.56
9E08056-CAL7	2000	81543	0.201	7.56
9E08056-CAL8	4000	153577	0.203	7.57
9E08056-CAL9	6000	224039	0.195	7.57
9E08056-CALA	8000	283482	0.192	7.57

AVE RF **0.189** RF RSD **13.19** AVE RT **7.57**

2,4-Dimethylphenol

Curve Fit: **AVERAGE RF**

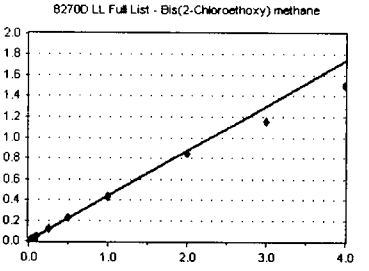


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~1035~~	~~0.224~~	~~7.60~~
9E08056-CAL2	50	2552	0.219	7.60
9E08056-CAL3	100	6013	0.260	7.60
9E08056-CAL4	200	13165	0.280	7.60
9E08056-CAL5	500	33821	0.301	7.60
9E08056-CAL6	1000	67530	0.310	7.60
9E08056-CAL7	2000	125958	0.311	7.60
9E08056-CAL8	4000	231859	0.307	7.61
9E08056-CAL9	6000	328729	0.286	7.62
9E08056-CALA	8000	412108	0.280	7.62

AVE RF **0.284** RF RSD **10.49** AVE RT **7.60**

Bis(2-Chloroethoxy) methane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1890	0.409	7.69
9E08056-CAL2	50	5405	0.463	7.68
9E08056-CAL3	100	11079	0.480	7.69
9E08056-CAL4	200	21622	0.460	7.68
9E08056-CAL5	500	53158	0.473	7.69
9E08056-CAL6	1000	98157	0.451	7.69
9E08056-CAL7	2000	173377	0.428	7.69
9E08056-CAL8	4000	317226	0.419	7.70
9E08056-CAL9	6000	444685	0.386	7.70
9E08056-CALA	8000	553975	0.376	7.70

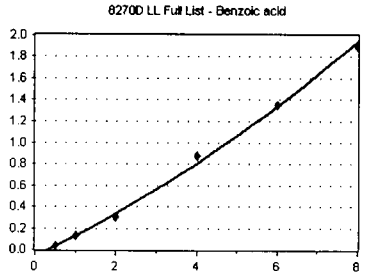
AVE RF **0.435** RF RSD **8.40** AVE RT **7.69**

Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Benzoic acid

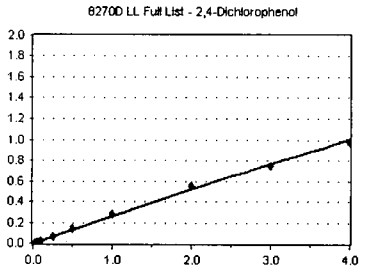


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~40~~	~~0~~	~~0.000~~	~~0.00~~
~~9E08056-CAL2~~	~~100~~	~~157~~	~~6.729~~	~~7.68~~
~~9E08056-CAL3~~	~~200~~	~~570~~	~~1.234~~	~~7.65~~
~~9E08056-CAL4~~	~~400~~	~~1808~~	~~1.925~~	~~7.65~~
9E08056-CAL5	1000	12609	5.611	7.67
9E08056-CAL6	2000	57591	0.132	7.70
9E08056-CAL7	4000	120684	0.149	7.72
9E08056-CAL8	8000	329662	0.218	7.78
9E08056-CAL9	12000	520098	0.226	7.80
9E08056-CALA	16000	699436	0.237	7.85

AVE RF **0.170** RF RSD **41.46** AVE RT **7.76**

2,4-Dichlorophenol

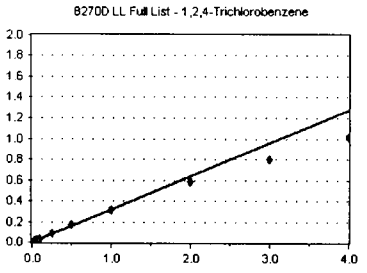


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~685~~	~~0.148~~	~~7.81~~
9E08056-CAL2	50	1767	0.151	7.80
9E08056-CAL3	100	4504	0.195	7.80
9E08056-CAL4	200	10432	0.222	7.80
9E08056-CAL5	500	28435	0.253	7.80
9E08056-CAL6	1000	59077	0.272	7.80
9E08056-CAL7	2000	112156	0.277	7.81
9E08056-CAL8	4000	210069	0.278	7.82
9E08056-CAL9	6000	285851	0.248	7.82
9E08056-CALA	8000	358983	0.244	7.83

AVE RF **0.238** RF RSD **17.71** AVE RT **7.81**

1,2,4-Trichlorobenzene

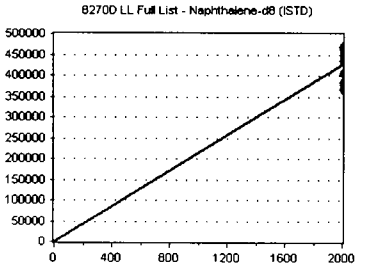


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1529	0.331	7.89
9E08056-CAL2	50	3994	0.342	7.89
9E08056-CAL3	100	8177	0.354	7.89
9E08056-CAL4	200	16423	0.350	7.89
9E08056-CAL5	500	39463	0.351	7.89
9E08056-CAL6	1000	73101	0.336	7.89
9E08056-CAL7	2000	127703	0.315	7.89
9E08056-CAL8	4000	222596	0.294	7.90
9E08056-CAL9	6000	308537	0.268	7.90
9E08056-CALA	8000	375837	0.255	7.90

AVE RF **0.320** RF RSD **11.19** AVE RT **7.89**

Naphthalene-d8 (ISTD)



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	2000	461650	230.825	7.95
9E08056-CAL2	2000	466642	233.321	7.94
9E08056-CAL3	2000	461862	230.931	7.94
9E08056-CAL4	2000	469577	234.788	7.94
9E08056-CAL5	2000	449407	224.703	7.95
9E08056-CAL6	2000	435111	217.555	7.95
9E08056-CAL7	2000	404790	202.395	7.95
9E08056-CAL8	2000	378186	189.093	7.95
9E08056-CAL9	2000	383773	191.887	7.95
9E08056-CALA	2000	368532	184.266	7.95

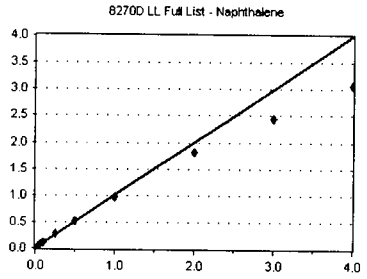
AVE RF **213.977** RF RSD **9.39** AVE RT **7.95**

Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Naphthalene

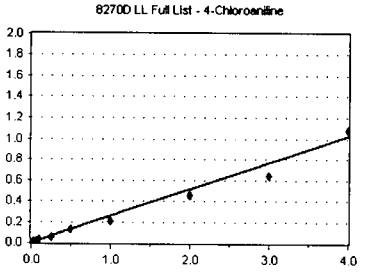


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4931	1.068	7.97
9E08056-CAL2	50	12776	1.095	7.96
9E08056-CAL3	100	25557	1.107	7.96
9E08056-CAL4	200	51599	1.099	7.96
9E08056-CAL5	500	121753	1.084	7.96
9E08056-CAL6	1000	228023	1.048	7.97
9E08056-CAL7	2000	397624	0.982	7.97
9E08056-CAL8	4000	687088	0.908	7.98
9E08056-CAL9	6000	939298	0.816	7.98
9E08056-CALA	8000	1132611	0.768	7.98

AVE RF **0.998** RF RSD **12.52** AVE RT **7.97**

4-Chloroaniline

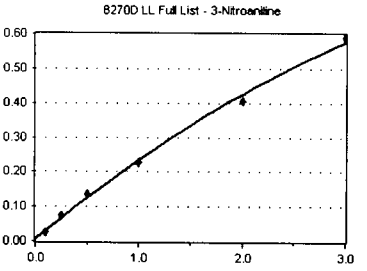


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1367	0.296	8.01
9E08056-CAL2	50	3426	0.294	8.01
9E08056-CAL3	100	6574	0.285	8.01
9E08056-CAL4	200	12811	0.273	8.01
9E08056-CAL5	500	25718	0.229	8.02
9E08056-CAL6	1000	57359	0.264	8.02
9E08056-CAL7	2000	84586	0.209	8.03
9E08056-CAL8	4000	170567	0.226	8.05
9E08056-CAL9	6000	243860	0.212	8.05
9E08056-CALA	8000	398347	0.270	8.04

AVE RF **0.256** RF RSD **13.18** AVE RT **8.03**

3-Nitroaniline

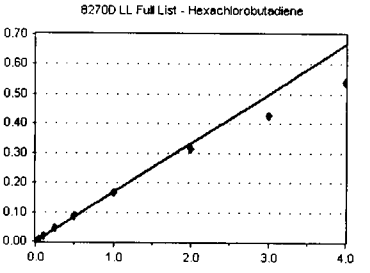


Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~279~~	~~0.121~~	~~9.67~~
~~9E08056-CAL2~~	~~50~~	~~912~~	~~0.155~~	~~9.66~~
~~9E08056-CAL3~~	~~100~~	~~2267~~	~~0.190~~	~~9.65~~
9E08056-CAL4	200	6297	0.257	9.66
9E08056-CAL5	500	17372	0.298	9.66
9E08056-CAL6	1000	30789	0.274	9.67
9E08056-CAL7	2000	46893	0.225	9.67
9E08056-CAL8	4000	82018	0.202	9.68
9E08056-CAL9	6000	118898	0.197	0.00
~~9E08056-CALA~~	~~8000~~	~~173485~~	~~0.223~~	~~0.00~~

AVE RF **0.242** RF RSD **16.76** AVE RT **8.05**

Hexachlorobutadiene



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	856	0.185	8.09
9E08056-CAL2	50	2007	0.172	8.09
9E08056-CAL3	100	4053	0.176	8.09
9E08056-CAL4	200	8220	0.175	8.09
9E08056-CAL5	500	20186	0.180	8.09
9E08056-CAL6	1000	37131	0.171	8.10
9E08056-CAL7	2000	67587	0.167	8.10
9E08056-CAL8	4000	118434	0.157	8.10
9E08056-CAL9	6000	164363	0.143	8.10
9E08056-CALA	8000	199760	0.136	8.10

AVE RF **0.166** RF RSD **9.74** AVE RT **8.10**

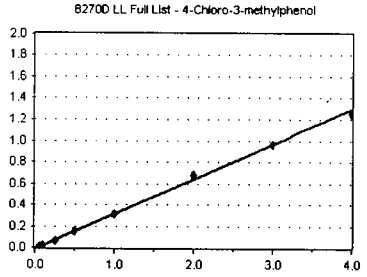
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

4-Chloro-3-methylphenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

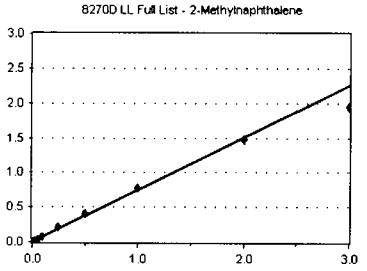


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~518~~	~~0.112~~	~~8.50~~
~~9E08056-CAL2~~	~~50~~	~~1435~~	~~0.123~~	~~8.50~~
9E08056-CAL3	100	2916	0.126	8.50
9E08056-CAL4	200	9012	0.192	8.49
9E08056-CAL5	500	29879	0.266	8.49
9E08056-CAL6	1000	67094	0.308	8.49
9E08056-CAL7	2000	128769	0.318	8.50
9E08056-CAL8	4000	257664	0.341	8.51
9E08056-CAL9	6000	368355	0.320	8.51
9E08056-CALA	8000	462055	0.313	8.51

AVE RF **0.273** RF RSD **27.63** AVE RT **8.50**

2-Methylnaphthalene

Curve Fit: **AVERAGE RF**

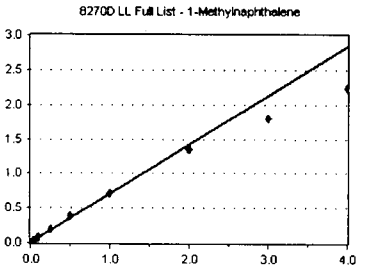


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3206	0.694	8.66
9E08056-CAL2	50	8403	0.720	8.66
9E08056-CAL3	100	17636	0.764	8.66
9E08056-CAL4	200	36961	0.787	8.66
9E08056-CAL5	500	94207	0.839	8.66
9E08056-CAL6	1000	177224	0.815	8.66
9E08056-CAL7	2000	312815	0.773	8.66
9E08056-CAL8	4000	555825	0.735	8.67
9E08056-CAL9	6000	744774	0.647	8.67
~~9E08056-CALA~~	~~8000~~	~~907754~~	~~0.616~~	~~8.67~~

AVE RF **0.753** RF RSD **7.98** AVE RT **8.66**

1-Methylnaphthalene

Curve Fit: **AVERAGE RF**

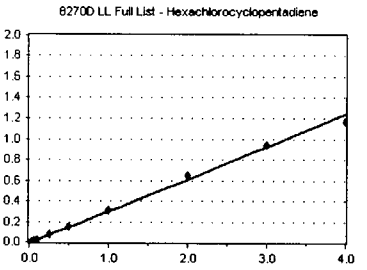


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3306	0.716	8.76
9E08056-CAL2	50	8435	0.723	8.76
9E08056-CAL3	100	17565	0.761	8.76
9E08056-CAL4	200	36346	0.774	8.76
9E08056-CAL5	500	90038	0.801	8.76
9E08056-CAL6	1000	166590	0.766	8.76
9E08056-CAL7	2000	290157	0.717	8.76
9E08056-CAL8	4000	506152	0.669	8.77
9E08056-CAL9	6000	691750	0.601	8.77
9E08056-CALA	8000	826000	0.560	8.77

AVE RF **0.709** RF RSD **10.96** AVE RT **8.76**

Hexachlorocyclopentadiene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~56~~	~~2.429~~	~~8.83~~
9E08056-CAL2	50	592	0.101	8.83
9E08056-CAL3	100	1795	0.150	8.83
9E08056-CAL4	200	5324	0.217	8.83
9E08056-CAL5	500	16399	0.281	8.83
9E08056-CAL6	1000	34750	0.309	8.83
9E08056-CAL7	2000	65488	0.315	8.83
9E08056-CAL8	4000	130554	0.322	8.83
9E08056-CAL9	6000	188663	0.313	8.83
9E08056-CALA	8000	228123	0.293	8.83

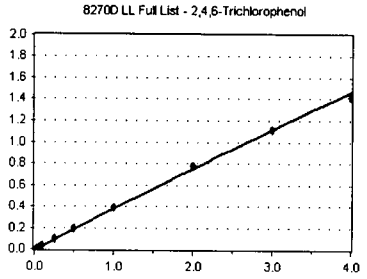
AVE RF **0.256** RF RSD **31.74** AVE RT **8.83**

Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

2,4,6-Trichlorophenol

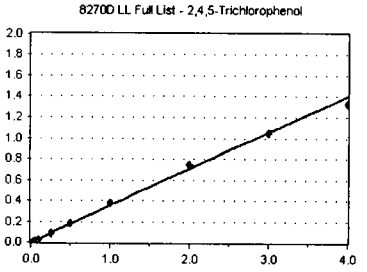


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~344~~	~~0.149~~	~~8.95~~
9E08056-CAL2	50	987	0.168	8.94
9E08056-CAL3	100	2595	0.217	8.94
9E08056-CAL4	200	7125	0.291	8.94
9E08056-CAL5	500	21591	0.370	8.94
9E08056-CAL6	1000	44351	0.395	8.94
9E08056-CAL7	2000	81849	0.393	8.94
9E08056-CAL8	4000	157742	0.389	8.95
9E08056-CAL9	6000	223754	0.371	8.95
9E08056-CALA	8000	275262	0.354	8.95

AVE RF **0.327** RF RSD **25.56** AVE RT **8.95**

2,4,5-Trichlorophenol

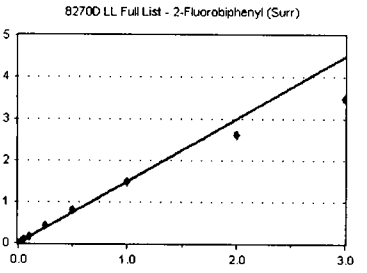


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~415~~	~~0.180~~	~~8.99~~
9E08056-CAL2	50	1083	0.184	8.99
9E08056-CAL3	100	2692	0.225	8.99
9E08056-CAL4	200	6364	0.260	8.99
9E08056-CAL5	500	19810	0.340	8.98
9E08056-CAL6	1000	42377	0.377	8.98
9E08056-CAL7	2000	78891	0.379	8.98
9E08056-CAL8	4000	152327	0.375	8.99
9E08056-CAL9	6000	209851	0.348	8.99
9E08056-CALA	8000	259729	0.334	9.00

AVE RF **0.314** RF RSD **23.08** AVE RT **8.99**

2-Fluorobiphenyl (Surr)

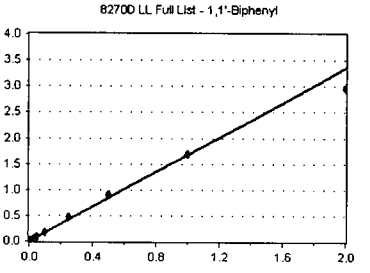


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3096	1.343	9.02
9E08056-CAL2	50	8836	1.502	9.02
9E08056-CAL3	100	19505	1.633	9.02
9E08056-CAL4	200	41740	1.702	9.02
9E08056-CAL5	500	100779	1.729	9.02
9E08056-CAL6	1000	182200	1.621	9.02
9E08056-CAL7	2000	311047	1.495	9.02
9E08056-CAL8	4000	532909	1.313	9.03
9E08056-CAL9	6000	698194	1.158	9.03
~~9E08056-CALA~~	~~8000~~	~~835510~~	~~1.073~~	~~9.03~~

AVE RF **1.500** RF RSD **12.96** AVE RT **9.02**

1,1'-Biphenyl



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3301	1.432	9.13
9E08056-CAL2	50	9087	1.545	9.13
9E08056-CAL3	100	20138	1.686	9.13
9E08056-CAL4	200	44415	1.812	9.13
9E08056-CAL5	500	111947	1.920	9.13
9E08056-CAL6	1000	204461	1.819	9.13
9E08056-CAL7	2000	349335	1.679	9.13
9E08056-CAL8	4000	599715	1.478	9.14
~~9E08056-CAL9~~	~~6000~~	~~789288~~	~~1.309~~	~~9.14~~
~~9E08056-CALA~~	~~8000~~	~~939145~~	~~1.207~~	~~9.14~~

AVE RF **1.671** RF RSD **10.48** AVE RT **9.13**

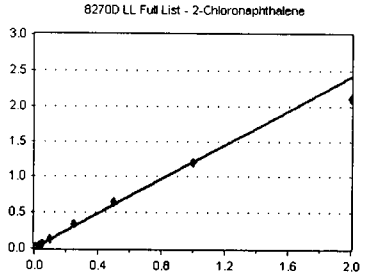
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

2-Chloronaphthalene

Curve Fit: **AVERAGE RF**

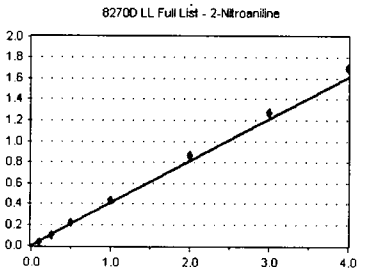


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2457	1.066	9.15
9E08056-CAL2	50	6592	1.120	9.15
9E08056-CAL3	100	14570	1.220	9.15
9E08056-CAL4	200	32196	1.313	9.15
9E08056-CAL5	500	80038	1.373	9.15
9E08056-CAL6	1000	145871	1.298	9.15
9E08056-CAL7	2000	248276	1.193	9.15
9E08056-CAL8	4000	426263	1.050	9.16
~~9E08056-CAL9~~	~~6000~~	~~576153~~	~~0.956~~	~~9.16~~
~~9E08056-CALA~~	~~8000~~	~~683312~~	~~0.878~~	~~9.16~~

AVE RF **1.204** RF RSD **9.89** AVE RT **9.15**

2-Nitroaniline

Curve Fit: **AVERAGE RF**

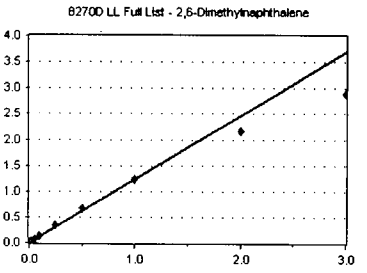


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~198~~	~~8.587~~	~~9.25~~
~~9E08056-CAL2~~	~~50~~	~~759~~	~~0.129~~	~~9.25~~
~~9E08056-CAL3~~	~~100~~	~~1934~~	~~0.162~~	~~9.25~~
9E08056-CAL4	200	7039	0.287	9.25
9E08056-CAL5	500	22855	0.392	9.24
9E08056-CAL6	1000	48960	0.436	9.25
9E08056-CAL7	2000	89274	0.429	9.25
9E08056-CAL8	4000	175844	0.433	9.26
9E08056-CAL9	6000	257132	0.427	9.26
9E08056-CALA	8000	330555	0.425	9.27

AVE RF **0.404** RF RSD **13.26** AVE RT **9.25**

2,6-Dimethylnaphthalene

Curve Fit: **AVERAGE RF**

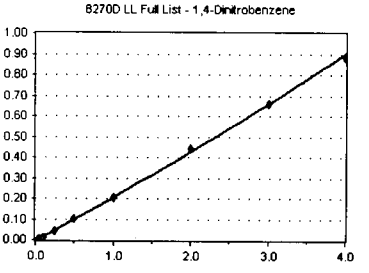


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2570	1.115	9.29
9E08056-CAL2	50	7150	1.215	9.29
9E08056-CAL3	100	15688	1.314	9.29
9E08056-CAL4	200	34391	1.403	9.29
9E08056-CAL5	500	82179	1.410	9.29
9E08056-CAL6	1000	150715	1.341	9.29
9E08056-CAL7	2000	257201	1.236	9.29
9E08056-CAL8	4000	440208	1.085	9.30
9E08056-CAL9	6000	582020	0.966	9.30
~~9E08056-CALA~~	~~8000~~	~~693134~~	~~0.890~~	~~9.30~~

AVE RF **1.231** RF RSD **12.38** AVE RT **9.29**

1,4-Dinitrobenzene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~116~~	~~5.031~~	~~9.38~~
~~9E08056-CAL2~~	~~50~~	~~303~~	~~5.150~~	~~9.38~~
9E08056-CAL3	100	955	7.996	9.37
9E08056-CAL4	200	3037	0.124	9.37
9E08056-CAL5	500	10337	0.177	9.37
9E08056-CAL6	1000	23019	0.205	9.38
9E08056-CAL7	2000	42957	0.206	9.38
9E08056-CAL8	4000	89593	0.221	9.39
9E08056-CAL9	6000	132868	0.220	9.39
9E08056-CALA	8000	171694	0.221	9.40

AVE RF **0.182** RF RSD **28.96** AVE RT **9.38**

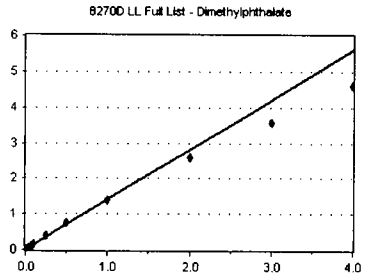
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Dimethylphthalate

Curve Fit: **AVERAGE RF**

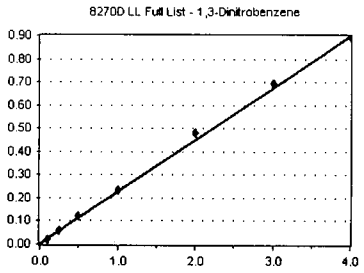


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3008	1.305	9.42
9E08056-CAL2	50	8669	1.473	9.42
9E08056-CAL3	100	18418	1.542	9.42
9E08056-CAL4	200	38348	1.564	9.42
9E08056-CAL5	500	91807	1.575	9.42
9E08056-CAL6	1000	167550	1.490	9.43
9E08056-CAL7	2000	291628	1.402	9.43
9E08056-CAL8	4000	526270	1.297	9.44
9E08056-CAL9	6000	719060	1.193	9.45
9E08056-CALA	8000	895747	1.151	9.46

AVE RF **1.399** RF RSD **11.07** AVE RT **9.43**

1,3-Dinitrobenzene

Curve Fit: **AVERAGE RF**

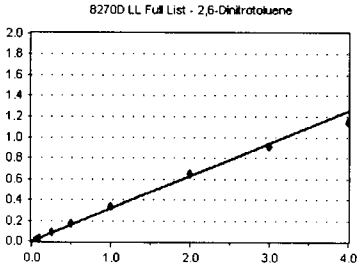


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~110~~	~~0.048~~	~~9.46~~
~~9E08056-CAL2~~	~~50~~	~~617~~	~~0.105~~	~~9.45~~
~~9E08056-CAL3~~	~~100~~	~~1664~~	~~0.139~~	~~9.45~~
9E08056-CAL4	200	4229	0.172	9.45
9E08056-CAL5	500	13273	0.228	9.45
9E08056-CAL6	1000	27406	0.244	9.46
9E08056-CAL7	2000	48772	0.234	9.46
9E08056-CAL8	4000	97308	0.240	9.47
9E08056-CAL9	6000	139435	0.231	9.48
9E08056-CALA	8000	173847	0.223	9.49

AVE RF **0.225** RF RSD **10.70** AVE RT **9.47**

2,6-Dinitrotoluene

Curve Fit: **AVERAGE RF**

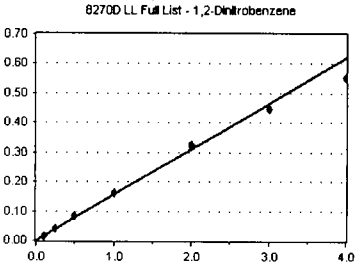


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~309~~	~~0.134~~	~~9.48~~
~~9E08056-CAL2~~	~~50~~	~~1045~~	~~0.178~~	~~9.48~~
9E08056-CAL3	100	2837	0.238	9.48
9E08056-CAL4	200	7570	0.309	9.48
9E08056-CAL5	500	20865	0.358	9.48
9E08056-CAL6	1000	39367	0.350	9.49
9E08056-CAL7	2000	70090	0.337	9.49
9E08056-CAL8	4000	131486	0.324	9.50
9E08056-CAL9	6000	182024	0.302	9.51
9E08056-CALA	8000	222349	0.286	9.51

AVE RF **0.313** RF RSD **12.48** AVE RT **9.49**

1,2-Dinitrobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~108~~	~~4.684~~	~~9.54~~
~~9E08056-CAL2~~	~~50~~	~~519~~	~~0.088~~	~~9.54~~
~~9E08056-CAL3~~	~~100~~	~~1261~~	~~0.106~~	~~9.54~~
9E08056-CAL4	200	3477	0.142	9.54
9E08056-CAL5	500	9375	0.161	9.54
9E08056-CAL6	1000	19142	0.170	9.55
9E08056-CAL7	2000	34100	0.164	9.55
9E08056-CAL8	4000	65816	0.162	9.56
9E08056-CAL9	6000	89987	0.149	9.57
9E08056-CALA	8000	107372	0.138	9.58

AVE RF **0.155** RF RSD **7.87** AVE RT **9.56**

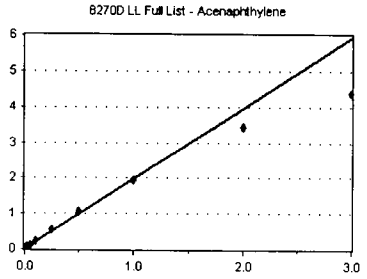
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Acenaphthylene

Curve Fit: **AVERAGE RF**

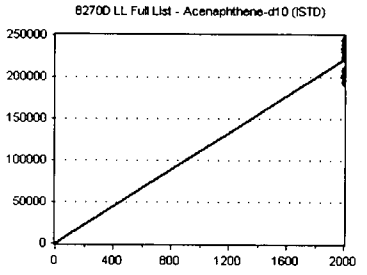


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4296	1.863	9.57
9E08056-CAL2	50	11830	2.011	9.57
9E08056-CAL3	100	26148	2.189	9.57
9E08056-CAL4	200	54704	2.231	9.57
9E08056-CAL5	500	129518	2.222	9.57
9E08056-CAL6	1000	242796	2.160	9.57
9E08056-CAL7	2000	407881	1.961	9.57
9E08056-CAL8	4000	694303	1.711	9.58
9E08056-CAL9	6000	879320	1.459	9.59
~~9E08056-CALA~~	~~8000~~	~~984732~~	~~1.265~~	~~9.59~~

AVE RF **1.978** RF RSD **13.33** AVE RT **9.57**

Acenaphthene-d10 (ISTD)

Curve Fit: **AVERAGE RF**

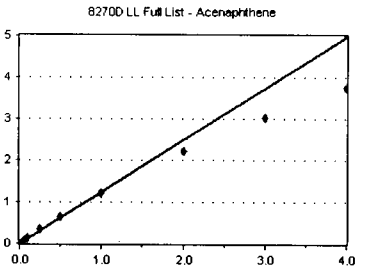


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	2000	230578	115.289	9.71
9E08056-CAL2	2000	235336	117.668	9.71
9E08056-CAL3	2000	238866	119.433	9.71
9E08056-CAL4	2000	245169	122.585	9.71
9E08056-CAL5	2000	233204	116.602	9.71
9E08056-CAL6	2000	224844	112.422	9.72
9E08056-CAL7	2000	208028	104.014	9.72
9E08056-CAL8	2000	202901	101.450	9.72
9E08056-CAL9	2000	200935	100.468	9.72
9E08056-CALA	2000	194593	97.296	9.72

AVE RF **110.723** RF RSD **8.19** AVE RT **9.72**

Acenaphthene

Curve Fit: **AVERAGE RF**

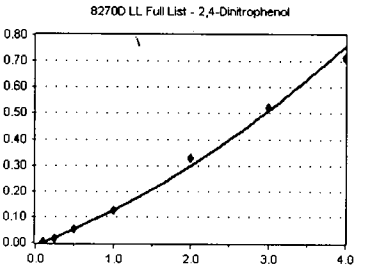


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2971	1.289	9.75
9E08056-CAL2	50	8352	1.420	9.75
9E08056-CAL3	100	16799	1.407	9.75
9E08056-CAL4	200	34142	1.393	9.75
9E08056-CAL5	500	79978	1.372	9.75
9E08056-CAL6	1000	146889	1.307	9.75
9E08056-CAL7	2000	254388	1.223	9.75
9E08056-CAL8	4000	449192	1.107	9.76
9E08056-CAL9	6000	608926	1.010	9.76
9E08056-CALA	8000	730149	0.938	9.76

AVE RF **1.246** RF RSD **13.87** AVE RT **9.75**

2,4-Dinitrophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
~~9E08056-CAL2~~	~~50~~	~~0~~	~~0.000~~	~~0.00~~
~~9E08056-CAL3~~	~~100~~	~~124~~	~~1.038~~	~~9.77~~
9E08056-CAL4	200	725	2.957	9.77
9E08056-CAL5	500	3835	6.578	9.76
9E08056-CAL6	1000	12133	0.108	9.77
9E08056-CAL7	2000	25811	0.124	9.77
9E08056-CAL8	4000	66685	0.164	9.78
9E08056-CAL9	6000	105311	0.175	9.78
9E08056-CALA	8000	138854	0.178	9.79

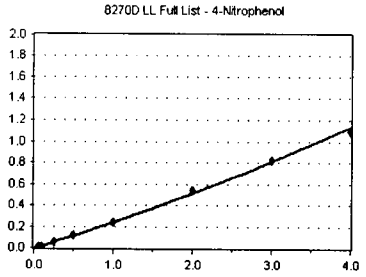
AVE RF **0.121** RF RSD **47.41** AVE RT **9.77**

Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

4-Nitrophenol

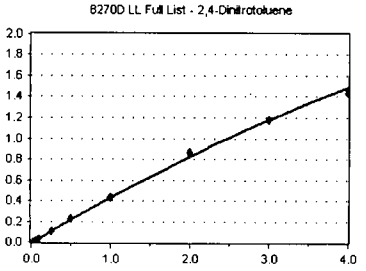


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~173~~	~~7.503~~	~~9.85~~
~~9E08056-CAL2~~	~~50~~	~~405~~	~~6.884~~	~~9.84~~
9E08056-CAL3	100	1299	0.109	9.84
9E08056-CAL4	200	3537	0.144	9.84
9E08056-CAL5	500	11649	0.200	9.83
9E08056-CAL6	1000	26763	0.238	9.83
9E08056-CAL7	2000	48681	0.234	9.84
9E08056-CAL8	4000	110480	0.272	9.85
9E08056-CAL9	6000	165172	0.274	9.85
9E08056-CALA	8000	212171	0.273	9.86

AVE RF **0.218** RF RSD **28.71** AVE RT **9.84**

2,4-Dinitrotoluene

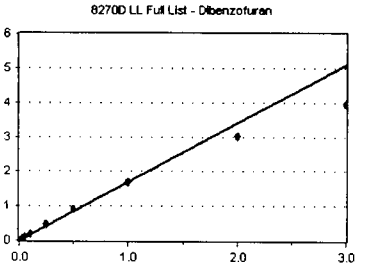


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~414~~	~~0.180~~	~~9.90~~
9E08056-CAL2	50	1084	0.184	9.89
9E08056-CAL3	100	3069	0.257	9.89
9E08056-CAL4	200	8883	0.362	9.90
9E08056-CAL5	500	25345	0.435	9.90
9E08056-CAL6	1000	50363	0.448	9.90
9E08056-CAL7	2000	90563	0.435	9.90
9E08056-CAL8	4000	174398	0.430	9.91
9E08056-CAL9	6000	237610	0.394	9.92
9E08056-CALA	8000	279820	0.359	9.93

AVE RF **0.367** RF RSD **24.75** AVE RT **9.90**

Dibenzofuran

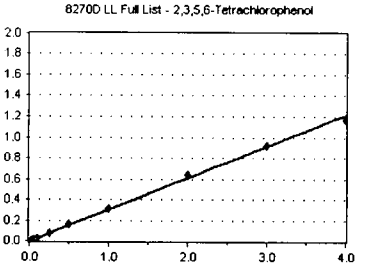


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3412	1.480	9.92
9E08056-CAL2	50	10231	1.739	9.92
9E08056-CAL3	100	21911	1.835	9.92
9E08056-CAL4	200	47089	1.921	9.92
9E08056-CAL5	500	113330	1.944	9.92
9E08056-CAL6	1000	206307	1.835	9.92
9E08056-CAL7	2000	351544	1.690	9.92
9E08056-CAL8	4000	609207	1.501	9.93
9E08056-CAL9	6000	796168	1.321	9.93
~~9E08056-CALA~~	~~8000~~	~~933154~~	~~1.199~~	~~9.94~~

AVE RF **1.696** RF RSD **12.81** AVE RT **9.92**

2,3,5,6-Tetrachlorophenol



Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~213~~	~~9.238~~	~~10.01~~
9E08056-CAL2	50	720	0.122	10.01
9E08056-CAL3	100	1956	0.164	10.00
9E08056-CAL4	200	5912	0.241	10.00
9E08056-CAL5	500	17017	0.292	10.00
9E08056-CAL6	1000	35452	0.315	10.01
9E08056-CAL7	2000	64681	0.311	10.01
9E08056-CAL8	4000	128540	0.317	10.01
9E08056-CAL9	6000	183781	0.305	10.02
9E08056-CALA	8000	227276	0.292	10.02

AVE RF **0.262** RF RSD **27.46** AVE RT **10.01**

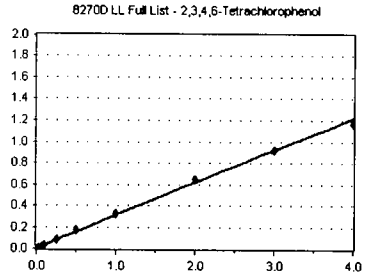
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

2,3,4,6-Tetrachlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

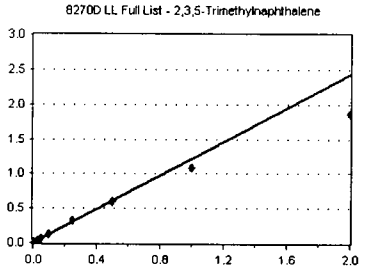


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	352	0.153	10.05
9E08056-CAL2	50	1085	0.184	10.05
9E08056-CAL3	100	3032	0.254	10.05
9E08056-CAL4	200	7180	0.293	10.05
9E08056-CAL5	500	19079	0.327	10.05
9E08056-CAL6	1000	38150	0.339	10.05
9E08056-CAL7	2000	68233	0.328	10.05
9E08056-CAL8	4000	131983	0.325	10.06
9E08056-CAL9	6000	183789	0.305	10.06
9E08056-CALA	8000	226177	0.291	10.07

AVE RF **0.280** RF RSD **22.92** AVE RT **10.05**

2,3,5-Trimethylnaphthalene

Curve Fit: **AVERAGE RF**

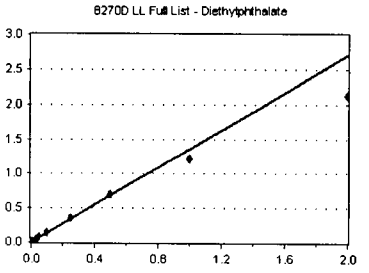


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2925	1.269	10.13
9E08056-CAL2	50	7475	1.271	10.13
9E08056-CAL3	100	15984	1.338	10.13
9E08056-CAL4	200	31957	1.303	10.13
9E08056-CAL5	500	76253	1.308	10.13
9E08056-CAL6	1000	135724	1.207	10.13
9E08056-CAL7	2000	226222	1.087	10.14
9E08056-CAL8	4000	377414	0.930	10.14
~~9E08056-CAL9~~	~~6000~~	~~492303~~	~~0.817~~	~~10.15~~
~~9E08056-CALA~~	~~8000~~	~~595050~~	~~0.764~~	~~10.15~~

AVE RF **1.214** RF RSD **11.44** AVE RT **10.13**

Diethylphthalate

Curve Fit: **AVERAGE RF**

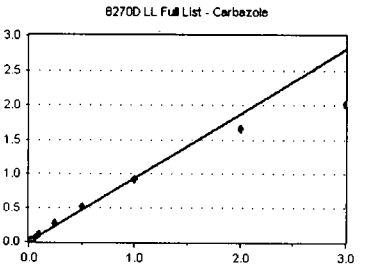


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3091	1.341	10.13
9E08056-CAL2	50	8249	1.402	10.13
9E08056-CAL3	100	17729	1.484	10.13
9E08056-CAL4	200	36994	1.509	10.13
9E08056-CAL5	500	84929	1.457	10.14
9E08056-CAL6	1000	154986	1.379	10.14
9E08056-CAL7	2000	252775	1.215	10.14
9E08056-CAL8	4000	430062	1.060	10.15
~~9E08056-CAL9~~	~~6000~~	~~560826~~	~~0.930~~	~~10.16~~
~~9E08056-CALA~~	~~8000~~	~~666758~~	~~0.857~~	~~10.16~~

AVE RF **1.356** RF RSD **11.17** AVE RT **10.14**

Carbazole

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3928	0.881	11.46
9E08056-CAL2	50	10615	0.949	11.45
9E08056-CAL3	100	22432	1.015	11.45
9E08056-CAL4	200	48320	1.061	11.45
9E08056-CAL5	500	116650	1.074	11.45
9E08056-CAL6	1000	218760	1.029	11.46
9E08056-CAL7	2000	364563	0.920	11.46
9E08056-CAL8	4000	666936	0.824	11.46
9E08056-CAL9	6000	822554	0.671	0.00
~~9E08056-CALA~~	~~8000~~	~~892838~~	~~0.563~~	~~0.00~~

AVE RF **0.936** RF RSD **13.91** AVE RT **10.18**

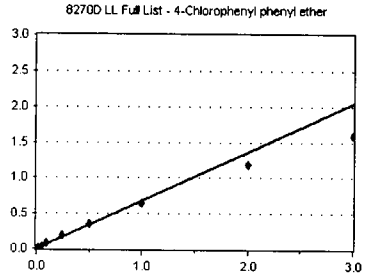
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

4-Chlorophenyl phenyl ether

Curve Fit: **AVERAGE RF**

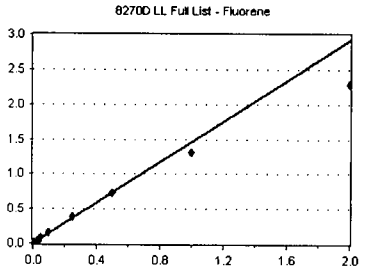


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1452	0.630	10.26
9E08056-CAL2	50	4291	0.729	10.26
9E08056-CAL3	100	9040	0.757	10.26
9E08056-CAL4	200	19218	0.784	10.26
9E08056-CAL5	500	44439	0.762	10.26
9E08056-CAL6	1000	79614	0.708	10.26
9E08056-CAL7	2000	136404	0.656	10.26
9E08056-CAL8	4000	239379	0.590	10.27
9E08056-CAL9	6000	319658	0.530	10.27
~~9E08056-CALA~~	~~8000~~	~~378804~~	~~0.487~~	~~10.28~~

AVE RF **0.683** RF RSD **12.71** AVE RT **10.26**

Fluorene

Curve Fit: **AVERAGE RF**

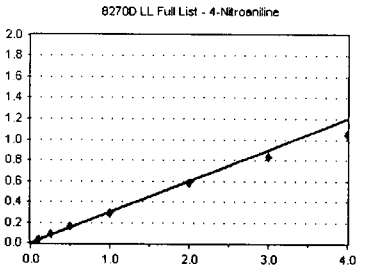


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3504	1.520	10.27
9E08056-CAL2	50	8897	1.512	10.26
9E08056-CAL3	100	19156	1.604	10.26
9E08056-CAL4	200	38831	1.584	10.27
9E08056-CAL5	500	91858	1.576	10.27
9E08056-CAL6	1000	163031	1.450	10.27
9E08056-CAL7	2000	271787	1.306	10.28
9E08056-CAL8	4000	463326	1.142	10.28
~~9E08056-CAL9~~	~~6000~~	~~605832~~	~~1.005~~	~~10.29~~
~~9E08056-CALA~~	~~8000~~	~~722035~~	~~0.928~~	~~10.29~~

AVE RF **1.462** RF RSD **10.99** AVE RT **10.27**

4-Nitroaniline

Curve Fit: **AVERAGE RF**

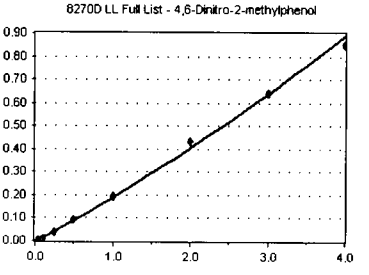


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~396~~	~~0.172~~	~~10.28~~
~~9E08056-CAL2~~	~~50~~	~~1270~~	~~0.216~~	~~10.28~~
~~9E08056-CAL3~~	~~100~~	~~2732~~	~~0.229~~	~~10.28~~
9E08056-CAL4	200	7673	0.313	10.28
9E08056-CAL5	500	19675	0.337	10.28
9E08056-CAL6	1000	36743	0.327	10.28
9E08056-CAL7	2000	59807	0.287	10.29
9E08056-CAL8	4000	119176	0.294	10.30
9E08056-CAL9	6000	166859	0.277	10.31
9E08056-CALA	8000	203360	0.261	10.32

AVE RF **0.300** RF RSD **9.17** AVE RT **10.29**

4,6-Dinitro-2-methylphenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
~~9E08056-CAL2~~	~~50~~	~~217~~	~~3.688~~	~~10.31~~
9E08056-CAL3	100	760	0.064	10.31
9E08056-CAL4	200	2514	0.103	10.31
9E08056-CAL5	500	8901	0.153	10.31
9E08056-CAL6	1000	21051	0.187	10.31
9E08056-CAL7	2000	40019	0.192	10.32
9E08056-CAL8	4000	87463	0.216	10.33
9E08056-CAL9	6000	129071	0.214	10.34
9E08056-CALA	8000	165731	0.213	10.35

AVE RF **0.168** RF RSD **34.03** AVE RT **10.32**

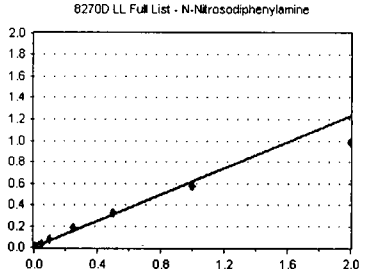
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

N-Nitrosodiphenylamine

Curve Fit: **AVERAGE RF**

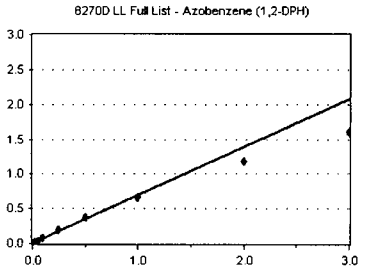


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2436	0.546	10.38
9E08056-CAL2	50	6367	0.569	10.38
9E08056-CAL3	100	14816	0.671	10.38
9E08056-CAL4	200	32443	0.713	10.38
9E08056-CAL5	500	78301	0.721	10.38
9E08056-CAL6	1000	139124	0.654	10.38
9E08056-CAL7	2000	227824	0.575	10.38
9E08056-CAL8	4000	398485	0.493	10.39
~~9E08056-CAL9~~	~~6000~~	~~527740~~	~~0.431~~	~~10.40~~
~~9E08056-CALA~~	~~8000~~	~~645120~~	~~0.407~~	~~10.40~~

AVE RF **0.618** RF RSD **13.51** AVE RT **10.38**

Azobenzene (1,2-DPH)

Curve Fit: **AVERAGE RF**

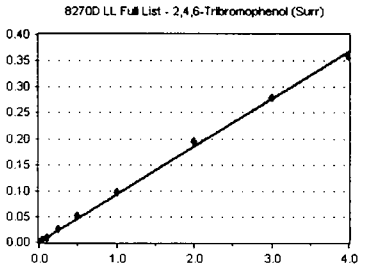


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2808	0.630	10.42
9E08056-CAL2	50	7675	0.686	10.42
9E08056-CAL3	100	17330	0.784	10.42
9E08056-CAL4	200	36434	0.800	10.42
9E08056-CAL5	500	87002	0.801	10.42
9E08056-CAL6	1000	156991	0.738	10.42
9E08056-CAL7	2000	264872	0.668	10.43
9E08056-CAL8	4000	481159	0.595	10.43
9E08056-CAL9	6000	656969	0.536	10.44
~~9E08056-CALA~~	~~8000~~	~~801688~~	~~0.506~~	~~10.44~~

AVE RF **0.693** RF RSD **13.73** AVE RT **10.42**

2,4,6-Tribromophenol (Surr)

Curve Fit: **AVERAGE RF**

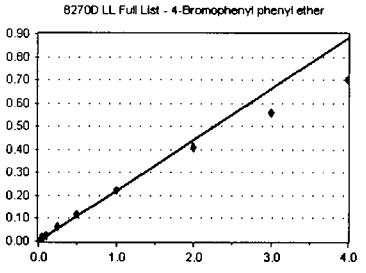


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~296~~	~~6.639~~	~~10.52~~
9E08056-CAL2	50	790	7.066	10.52
9E08056-CAL3	100	1794	8.120	10.51
9E08056-CAL4	200	4189	9.201	10.51
9E08056-CAL5	500	11050	0.102	10.52
9E08056-CAL6	1000	22087	0.104	10.52
9E08056-CAL7	2000	38932	9.822	10.52
9E08056-CAL8	4000	78802	9.740	10.52
9E08056-CAL9	6000	114295	9.328	10.53
9E08056-CALA	8000	142560	8.992	10.53

AVE RF **9.204** RF RSD **11.41** AVE RT **10.52**

4-Bromophenyl phenyl ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	976	0.219	10.76
9E08056-CAL2	50	2481	0.222	10.76
9E08056-CAL3	100	5435	0.246	10.76
9E08056-CAL4	200	10934	0.240	10.76
9E08056-CAL5	500	27078	0.249	10.76
9E08056-CAL6	1000	49801	0.234	10.76
9E08056-CAL7	2000	88111	0.222	10.76
9E08056-CAL8	4000	164575	0.203	10.77
9E08056-CAL9	6000	229006	0.187	10.77
9E08056-CALA	8000	278562	0.176	10.77

AVE RF **0.220** RF RSD **11.23** AVE RT **10.76**

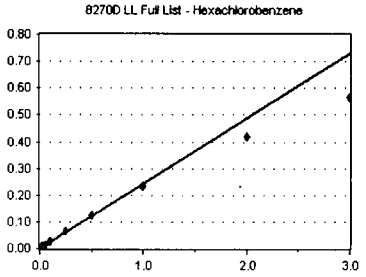
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Hexachlorobenzene

Curve Fit: **AVERAGE RF**

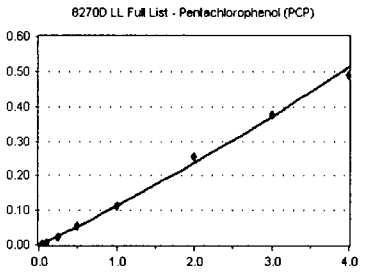


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1039	0.233	10.84
9E08056-CAL2	50	3112	0.278	10.84
9E08056-CAL3	100	6195	0.280	10.84
9E08056-CAL4	200	11859	0.260	10.84
9E08056-CAL5	500	28884	0.266	10.84
9E08056-CAL6	1000	52902	0.249	10.84
9E08056-CAL7	2000	92531	0.233	10.84
9E08056-CAL8	4000	169055	0.209	10.85
9E08056-CAL9	6000	231353	0.189	10.85
~~9E08056-CALA~~	~~8000~~	~~281208~~	~~0.177~~	~~10.85~~

AVE RF **0.244** RF RSD **12.77** AVE RT **10.84**

Pentachlorophenol (PCP)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

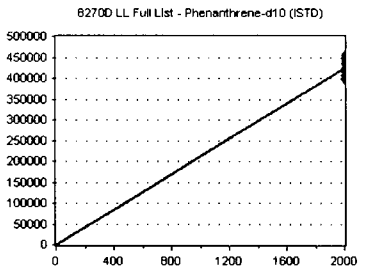


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~515~~	~~0.116~~	~~11.03~~
~~9E08056-CAL2~~	~~50~~	~~782~~	~~6.994~~	~~11.04~~
9E08056-CAL3	100	1222	5.531	11.03
9E08056-CAL4	200	3055	6.710	11.04
9E08056-CAL5	500	10538	9.704	11.03
9E08056-CAL6	1000	23287	0.110	11.04
9E08056-CAL7	2000	45320	0.114	11.03
9E08056-CAL8	4000	103356	0.128	11.04
9E08056-CAL9	6000	153485	0.125	11.05
9E08056-CALA	8000	193595	0.122	11.05

AVE RF **0.102** RF RSD **26.74** AVE RT **11.04**

Phenanthrene-d10 (ISTD)

Curve Fit: **AVERAGE RF**

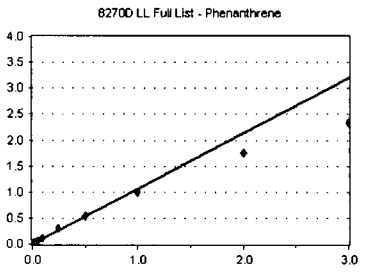


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	2000	445843	222.922	11.22
9E08056-CAL2	2000	447217	223.608	11.22
9E08056-CAL3	2000	441856	220.928	11.22
9E08056-CAL4	2000	455298	227.649	11.22
9E08056-CAL5	2000	434358	217.179	11.22
9E08056-CAL6	2000	425173	212.587	11.22
9E08056-CAL7	2000	396363	198.182	11.22
9E08056-CAL8	2000	404511	202.255	11.23
9E08056-CAL9	2000	408419	204.210	11.23
9E08056-CALA	2000	396349	198.175	11.23

AVE RF **212.769** RF RSD **5.28** AVE RT **11.22**

Phenanthrene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	5060	1.135	11.25
9E08056-CAL2	50	13230	1.183	11.24
9E08056-CAL3	100	26210	1.186	11.24
9E08056-CAL4	200	53865	1.183	11.24
9E08056-CAL5	500	127029	1.170	11.24
9E08056-CAL6	1000	232143	1.092	11.25
9E08056-CAL7	2000	398028	1.004	11.25
9E08056-CAL8	4000	712691	0.881	11.25
9E08056-CAL9	6000	956642	0.781	11.26
~~9E08056-CALA~~	~~8000~~	~~1153195~~	~~0.727~~	~~11.26~~

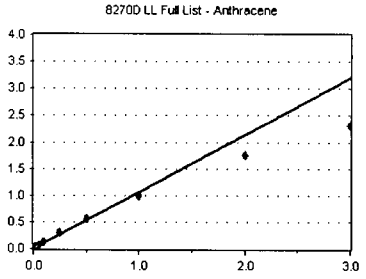
AVE RF **1.068** RF RSD **13.94** AVE RT **11.25**

Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Anthracene

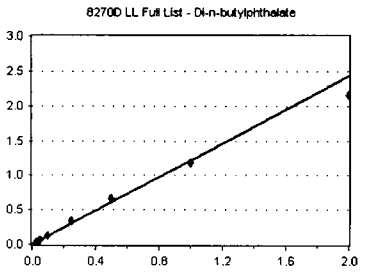


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	5028	1.128	11.30
9E08056-CAL2	50	12760	1.141	11.30
9E08056-CAL3	100	26491	1.199	11.30
9E08056-CAL4	200	54658	1.200	11.30
9E08056-CAL5	500	128961	1.188	11.30
9E08056-CAL6	1000	235356	1.107	11.30
9E08056-CAL7	2000	397681	1.003	11.30
9E08056-CAL8	4000	710857	0.879	11.31
9E08056-CAL9	6000	942171	0.769	11.31
~~9E08056-CALA~~	~~8000~~	~~1111218~~	~~0.701~~	~~11.31~~

AVE RF **1.068** RF RSD **14.39** AVE RT **11.30**

Di-n-butylphthalate

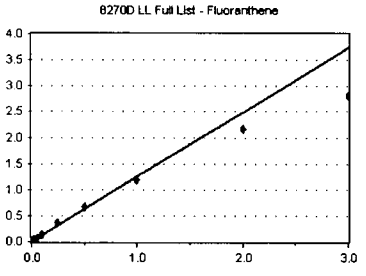


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~4702~~	~~1.055~~	~~11.79~~
9E08056-CAL2	50	11962	1.070	11.79
9E08056-CAL3	100	26562	1.202	11.79
9E08056-CAL4	200	58030	1.275	11.79
9E08056-CAL5	500	147202	1.356	11.79
9E08056-CAL6	1000	281730	1.325	11.79
9E08056-CAL7	2000	471443	1.189	11.79
9E08056-CAL8	4000	869303	1.075	11.80
~~9E08056-CAL9~~	~~6000~~	~~1162762~~	~~0.949~~	~~11.80~~
~~9E08056-CALA~~	~~8000~~	~~1386560~~	~~0.875~~	~~11.80~~

AVE RF **1.213** RF RSD **9.34** AVE RT **11.79**

Fluoranthene

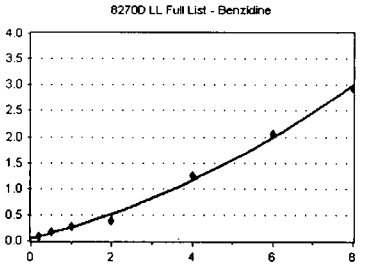


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	5484	1.230	12.52
9E08056-CAL2	50	14115	1.262	12.52
9E08056-CAL3	100	29669	1.343	12.52
9E08056-CAL4	200	63551	1.396	12.52
9E08056-CAL5	500	155537	1.432	12.52
9E08056-CAL6	1000	287574	1.353	12.53
9E08056-CAL7	2000	475094	1.199	12.53
9E08056-CAL8	4000	874011	1.080	12.53
9E08056-CAL9	6000	1152260	0.940	12.54
~~9E08056-CALA~~	~~8000~~	~~1406107~~	~~0.887~~	~~12.54~~

AVE RF **1.248** RF RSD **12.71** AVE RT **12.53**

Benzidine



Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~40~~	~~5337~~	~~0.599~~	~~12.68~~
~~9E08056-CAL2~~	~~100~~	~~6670~~	~~0.298~~	~~12.68~~
~~9E08056-CAL3~~	~~200~~	~~14400~~	~~0.326~~	~~12.68~~
9E08056-CAL4	400	37553	0.412	12.68
9E08056-CAL5	1000	76984	0.354	12.68
9E08056-CAL6	2000	119397	0.281	12.68
9E08056-CAL7	4000	153390	0.193	12.68
9E08056-CAL8	8000	507935	0.314	12.69
9E08056-CAL9	12000	835608	0.341	12.70
9E08056-CALA	16000	1165482	0.368	12.70

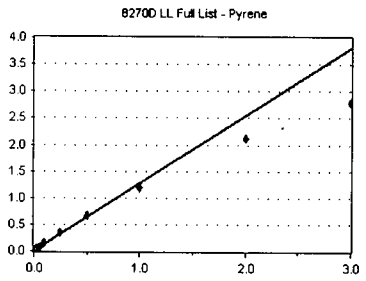
AVE RF **0.323** RF RSD **21.84** AVE RT **12.69**

Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Pyrene

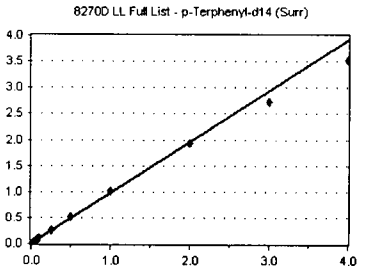


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	5874	1.318	12.82
9E08056-CAL2	50	14957	1.338	12.82
9E08056-CAL3	100	31027	1.404	12.82
9E08056-CAL4	200	65571	1.440	12.82
9E08056-CAL5	500	154311	1.421	12.82
9E08056-CAL6	1000	286850	1.349	12.82
9E08056-CAL7	2000	468721	1.183	12.82
9E08056-CAL8	4000	853568	1.055	12.83
9E08056-CAL9	6000	1135183	0.926	12.84
~~9E08056-CALA~~	~~8000~~	~~1376701~~	~~0.868~~	~~12.84~~

AVE RF **1.270** RF RSD **14.05** AVE RT **12.82**

p-Terphenyl-d14 (Surr)

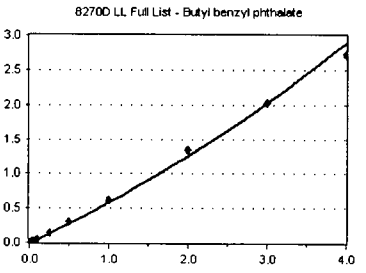


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4571	0.975	13.02
9E08056-CAL2	50	10935	0.930	13.02
9E08056-CAL3	100	23610	1.015	13.02
9E08056-CAL4	200	49759	1.037	13.02
9E08056-CAL5	500	118955	1.060	13.02
9E08056-CAL6	1000	219562	1.024	13.02
9E08056-CAL7	2000	356113	1.008	13.02
9E08056-CAL8	4000	667601	0.965	13.03
9E08056-CAL9	6000	884802	0.906	13.04
9E08056-CALA	8000	1074072	0.880	13.04

AVE RF **0.980** RF RSD **6.07** AVE RT **13.03**

Butyl benzyl phthalate

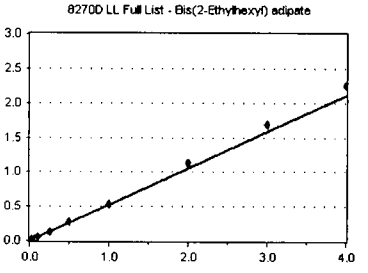


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	1472	0.314	13.84
9E08056-CAL2	50	4377	0.372	13.84
9E08056-CAL3	100	9184	0.395	13.84
9E08056-CAL4	200	23562	0.491	13.84
9E08056-CAL5	500	63002	0.562	13.84
9E08056-CAL6	1000	128733	0.600	13.84
9E08056-CAL7	2000	219372	0.621	13.85
9E08056-CAL8	4000	466198	0.674	13.85
9E08056-CAL9	6000	660330	0.676	13.86
9E08056-CALA	8000	830873	0.681	13.86

AVE RF **0.539** RF RSD **25.48** AVE RT **13.85**

Bis(2-Ethylhexyl) adipate



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	2977	0.635	14.01
9E08056-CAL2	50	5191	0.442	14.01
9E08056-CAL3	100	10197	0.439	14.01
9E08056-CAL4	200	22694	0.473	14.01
9E08056-CAL5	500	56949	0.508	14.01
9E08056-CAL6	1000	114896	0.536	14.01
9E08056-CAL7	2000	191848	0.543	14.01
9E08056-CAL8	4000	395039	0.571	14.02
9E08056-CAL9	6000	550853	0.564	14.03
9E08056-CALA	8000	686647	0.563	14.03

AVE RF **0.527** RF RSD **11.82** AVE RT **14.02**

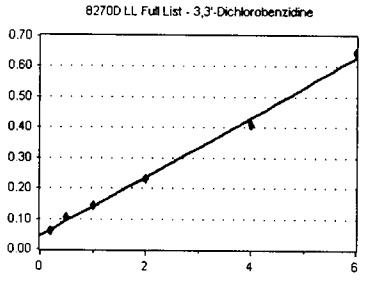
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

3,3'-Dichlorobenzidine

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

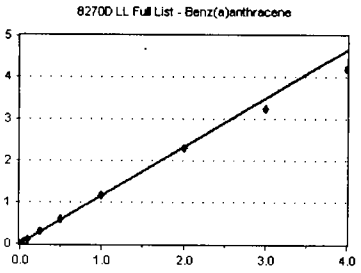


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~40~~	~~2583~~	~~0.275~~	~~0.00~~
~~9E08056-CAL2~~	~~100~~	~~6262~~	~~0.266~~	~~0.00~~
~~9E08056-CAL3~~	~~200~~	~~13834~~	~~0.298~~	~~14.98~~
9E08056-CAL4	400	28902	0.301	14.99
9E08056-CAL5	1000	47477	0.212	14.99
9E08056-CAL6	2000	62412	0.145	14.99
9E08056-CAL7	4000	81995	0.116	15.00
9E08056-CAL8	8000	140872	0.102	15.01
9E08056-CAL9	12000	210131	0.108	15.02
~~9E08056-CALA~~	~~16000~~	~~287387~~	~~0.118~~	~~15.03~~

AVE RF **0.164** RF RSD **47.85** AVE RT **15.00**

Benz(a)anthracene

Curve Fit: **AVERAGE RF**

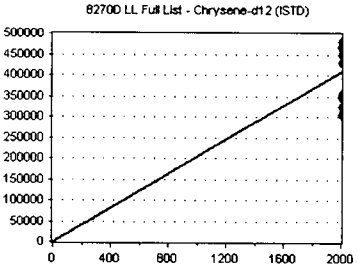


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	5805	1.238	15.03
9E08056-CAL2	50	13479	1.147	15.03
9E08056-CAL3	100	26892	1.157	15.02
9E08056-CAL4	200	58075	1.210	15.03
9E08056-CAL5	500	138304	1.233	15.02
9E08056-CAL6	1000	257723	1.202	15.03
9E08056-CAL7	2000	409861	1.161	15.03
9E08056-CAL8	4000	790890	1.143	15.05
9E08056-CAL9	6000	1056377	1.081	15.06
9E08056-CALA	8000	1276068	1.046	15.06

AVE RF **1.162** RF RSD **5.39** AVE RT **15.04**

Chrysene-d12 (ISTD)

Curve Fit: **AVERAGE RF**

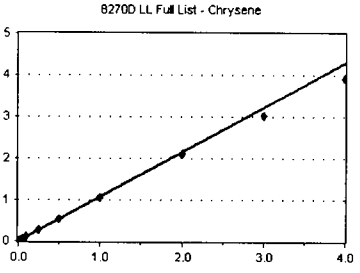


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	2000	468796	234.398	15.05
9E08056-CAL2	2000	470097	235.048	15.05
9E08056-CAL3	2000	464995	232.498	15.05
9E08056-CAL4	2000	479919	239.960	15.05
9E08056-CAL5	2000	448745	224.373	15.05
9E08056-CAL6	2000	428978	214.489	15.06
9E08056-CAL7	2000	353171	176.585	15.06
9E08056-CAL8	2000	346046	173.023	15.07
9E08056-CAL9	2000	325607	162.804	15.08
9E08056-CALA	2000	305019	152.510	15.09

AVE RF **204.569** RF RSD **16.76** AVE RT **15.06**

Chrysene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	5174	1.104	15.11
9E08056-CAL2	50	12647	1.076	15.11
9E08056-CAL3	100	25625	1.102	15.11
9E08056-CAL4	200	53969	1.125	15.11
9E08056-CAL5	500	126427	1.127	15.11
9E08056-CAL6	1000	231498	1.079	15.12
9E08056-CAL7	2000	375111	1.062	15.12
9E08056-CAL8	4000	726806	1.050	15.13
9E08056-CAL9	6000	987765	1.011	15.15
9E08056-CALA	8000	1196829	0.981	15.16

AVE RF **1.072** RF RSD **4.43** AVE RT **15.12**

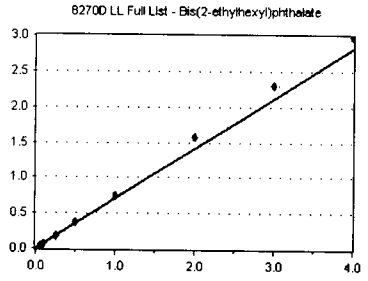
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Bis(2-ethylhexyl)phthalate

Curve Fit: **AVERAGE RF**

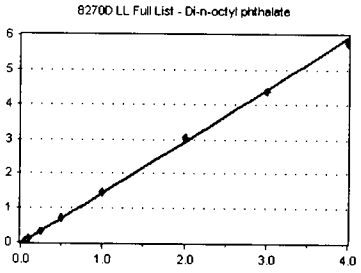


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~1776~~	~~0.379~~	~~15.18~~
~~9E08056-CAL2~~	~~50~~	~~5059~~	~~0.430~~	~~15.18~~
9E08056-CAL3	100	11680	0.502	15.18
9E08056-CAL4	200	29512	0.615	15.18
9E08056-CAL5	500	81848	0.730	15.18
9E08056-CAL6	1000	159937	0.746	15.18
9E08056-CAL7	2000	265428	0.752	15.19
9E08056-CAL8	4000	541901	0.783	15.19
9E08056-CAL9	6000	749108	0.767	15.20
9E08056-CALA	8000	911551	0.747	15.20

AVE RF **0.705** RF RSD **13.70** AVE RT **15.19**

Di-n-octyl phthalate

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

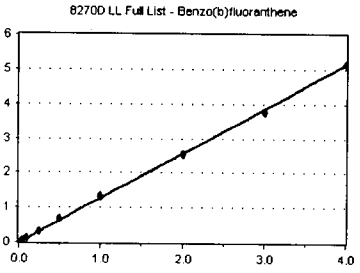


Standard	Concentration	Response	Response Factor	RT
~~9E08056-CAL1~~	~~20~~	~~2233~~	~~0.516~~	~~16.84~~
~~9E08056-CAL2~~	~~50~~	~~6475~~	~~0.593~~	~~16.84~~
9E08056-CAL3	100	14915	0.686	16.84
9E08056-CAL4	200	42140	0.939	16.84
9E08056-CAL5	500	132449	1.250	16.84
9E08056-CAL6	1000	284170	1.419	16.84
9E08056-CAL7	2000	490249	1.468	16.85
9E08056-CAL8	4000	1106017	1.530	16.86
9E08056-CAL9	6000	1544982	1.462	16.87
9E08056-CALA	8000	1949268	1.443	16.88

AVE RF **1.275** RF RSD **23.85** AVE RT **16.85**

Benzo(b)fluoranthene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

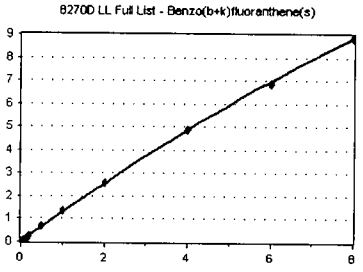


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4502	1.041	17.61
9E08056-CAL2	50	11686	1.070	17.61
9E08056-CAL3	100	23806	1.095	17.61
9E08056-CAL4	200	54791	1.221	17.61
9E08056-CAL5	500	139653	1.318	17.61
9E08056-CAL6	1000	268390	1.340	17.62
9E08056-CAL7	2000	444019	1.330	17.62
9E08056-CAL8	4000	916793	1.268	17.65
9E08056-CAL9	6000	1322262	1.251	17.67
9E08056-CALA	8000	1745814	1.292	17.67

AVE RF **1.223** RF RSD **9.23** AVE RT **17.63**

Benzo(b+k)fluoranthene(s)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	40	8905	1.029	17.61
9E08056-CAL2	100	24677	1.130	17.68
9E08056-CAL3	200	50907	1.171	17.61
9E08056-CAL4	400	114689	1.278	17.61
9E08056-CAL5	1000	289741	1.367	17.68
9E08056-CAL6	2000	543058	1.356	17.69
9E08056-CAL7	4000	864585	1.294	17.69
9E08056-CAL8	8000	1749715	1.210	17.72
9E08056-CAL9	12000	2421312	1.146	17.74
9E08056-CALA	16000	2997124	1.109	17.75

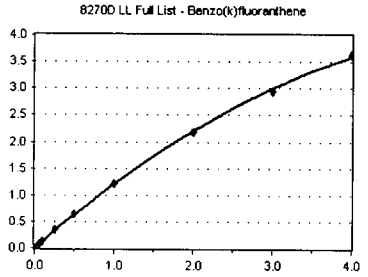
AVE RF **1.209** RF RSD **9.25** AVE RT **17.68**

Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Benzo(k)fluoranthene

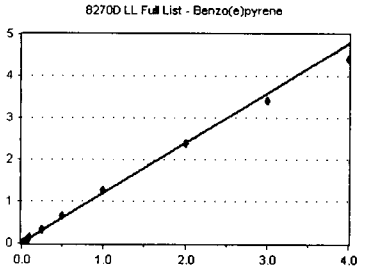


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4403	1.018	17.68
9E08056-CAL2	50	12101	1.108	17.68
9E08056-CAL3	100	25069	1.153	17.68
9E08056-CAL4	200	56932	1.268	17.68
9E08056-CAL5	500	142423	1.344	17.68
9E08056-CAL6	1000	262537	1.311	17.69
9E08056-CAL7	2000	401664	1.203	17.69
9E08056-CAL8	4000	788525	1.091	17.72
9E08056-CAL9	6000	1035740	0.980	17.74
9E08056-CALA	8000	1226693	0.908	17.75

AVE RF **1.138** RF RSD **12.73** AVE RT **17.70**

Benzo(e)pyrene

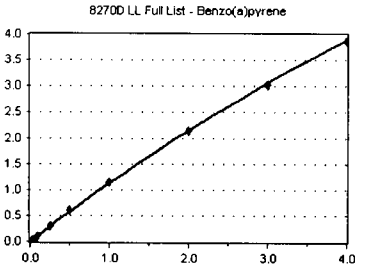


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4695	1.085	18.27
9E08056-CAL2	50	12373	1.133	18.27
9E08056-CAL3	100	25730	1.184	18.27
9E08056-CAL4	200	55890	1.245	18.27
9E08056-CAL5	500	140018	1.321	18.27
9E08056-CAL6	1000	259798	1.297	18.28
9E08056-CAL7	2000	421328	1.262	18.28
9E08056-CAL8	4000	863719	1.195	18.30
9E08056-CAL9	6000	1199867	1.135	18.32
9E08056-CALA	8000	1487060	1.101	18.34

AVE RF **1.196** RF RSD **6.93** AVE RT **18.29**

Benzo(a)pyrene

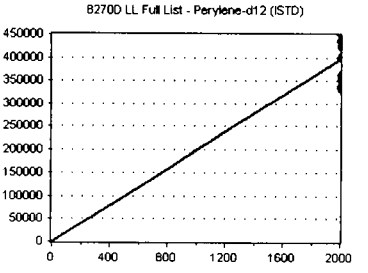


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3596	0.831	18.38
9E08056-CAL2	50	10371	0.950	18.39
9E08056-CAL3	100	21986	1.011	18.38
9E08056-CAL4	200	49339	1.099	18.38
9E08056-CAL5	500	129040	1.218	18.39
9E08056-CAL6	1000	245703	1.227	18.39
9E08056-CAL7	2000	383125	1.147	18.41
9E08056-CAL8	4000	770441	1.066	18.43
9E08056-CAL9	6000	1066798	1.009	18.45
9E08056-CALA	8000	1307681	0.968	18.46

AVE RF **1.053** RF RSD **11.81** AVE RT **18.41**

Perylene-d12 (ISTD)



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	2000	432537	216.268	18.54
9E08056-CAL2	2000	436889	218.445	18.54
9E08056-CAL3	2000	434795	217.398	18.53
9E08056-CAL4	2000	448879	224.440	18.54
9E08056-CAL5	2000	423882	211.941	18.54
9E08056-CAL6	2000	400554	200.277	18.54
9E08056-CAL7	2000	333963	166.982	18.54
9E08056-CAL8	2000	361418	180.709	18.56
9E08056-CAL9	2000	352282	176.141	18.57
9E08056-CALA	2000	337687	168.843	18.57

AVE RF **198.144** RF RSD **11.43** AVE RT **18.55**

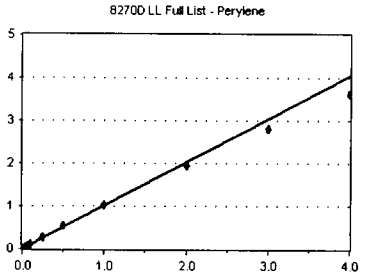
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Perylene

Curve Fit: **AVERAGE RF**

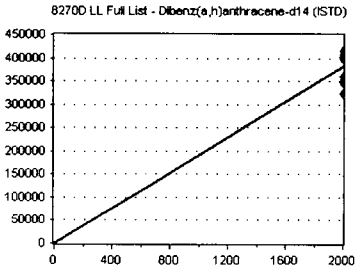


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4452	1.029	18.59
9E08056-CAL2	50	10773	0.986	18.59
9E08056-CAL3	100	22641	1.041	18.59
9E08056-CAL4	200	46507	1.036	18.59
9E08056-CAL5	500	116376	1.098	18.59
9E08056-CAL6	1000	216265	1.080	18.60
9E08056-CAL7	2000	344990	1.033	18.61
9E08056-CAL8	4000	705720	0.976	18.63
9E08056-CAL9	6000	989986	0.937	18.65
9E08056-CALA	8000	1226461	0.908	18.66

AVE RF **1.013** RF RSD **5.95** AVE RT **18.61**

Dibenz(a,h)anthracene-d14 (ISTD

Curve Fit: **AVERAGE RF**

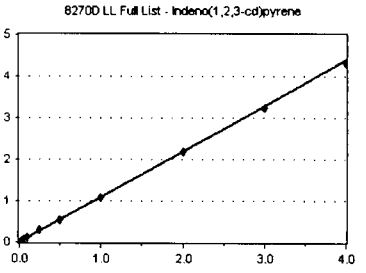


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	2000	400350	200.175	20.92
9E08056-CAL2	2000	403848	201.924	20.92
9E08056-CAL3	2000	409849	204.925	20.92
9E08056-CAL4	2000	416516	208.258	20.92
9E08056-CAL5	2000	408680	204.340	20.92
9E08056-CAL6	2000	399119	199.560	20.92
9E08056-CAL7	2000	322705	161.353	20.93
9E08056-CAL8	2000	360190	180.095	20.95
9E08056-CAL9	2000	359354	179.677	20.96
9E08056-CALA	2000	348077	174.038	20.96

AVE RF **191.434** RF RSD **8.46** AVE RT **20.93**

Indeno(1,2,3-cd)pyrene

Curve Fit: **AVERAGE RF**

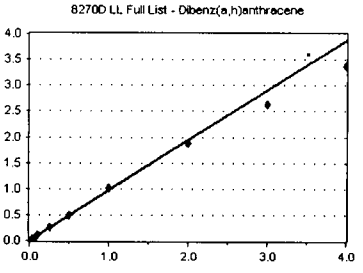


Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4515	1.128	20.91
9E08056-CAL2	50	10988	1.088	20.91
9E08056-CAL3	100	22712	1.108	20.91
9E08056-CAL4	200	45199	1.085	20.91
9E08056-CAL5	500	116104	1.136	20.92
9E08056-CAL6	1000	217807	1.091	20.92
9E08056-CAL7	2000	348943	1.081	20.94
9E08056-CAL8	4000	792468	1.100	20.96
9E08056-CAL9	6000	1164266	1.080	20.98
9E08056-CALA	8000	1508870	1.084	21.00

AVE RF **1.098** RF RSD **1.82** AVE RT **20.94**

Dibenz(a,h)anthracene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	3890	0.972	20.97
9E08056-CAL2	50	9885	0.979	20.99
9E08056-CAL3	100	20562	1.003	20.98
9E08056-CAL4	200	43093	1.035	20.98
9E08056-CAL5	500	106785	1.045	20.98
9E08056-CAL6	1000	199329	0.999	20.99
9E08056-CAL7	2000	325096	1.007	20.99
9E08056-CAL8	4000	675316	0.937	21.02
9E08056-CAL9	6000	945959	0.877	21.04
9E08056-CALA	8000	1170463	0.841	21.06

AVE RF **0.970** RF RSD **6.84** AVE RT **21.00**

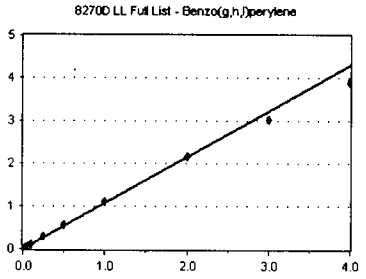
Element Calibration Review Sheet

Calibration ID: **A9E1009** Instrument: **SV-GCMS9** Calibration Date: **05/10/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9E1009**

Benzo(g,h,i)perylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9E08056-CAL1	20	4035	1.008	21.45
9E08056-CAL2	50	10510	1.041	21.45
9E08056-CAL3	100	22018	1.074	21.45
9E08056-CAL4	200	46913	1.126	21.45
9E08056-CAL5	500	120043	1.175	21.45
9E08056-CAL6	1000	226164	1.133	21.46
9E08056-CAL7	2000	360991	1.119	21.47
9E08056-CAL8	4000	777615	1.079	21.50
9E08056-CAL9	6000	1089470	1.011	21.52
9E08056-CALA	8000	1353653	0.972	21.53

AVE RF **1.074** RF RSD **6.08** AVE RT **21.47**

Compound List Report SV-GCMS9

Method Path : T:\methods\
Method File : SV9_050819.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Thu May 09 12:25:58 2019
Response Via : Initial Calibration

JR 5/9/19

Total Cpnds : 97

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-Dichlorobenzene-d4 (ISTD)	152	6.697	1.000	A	2	A	R
2	T	N-Nitrosodimethylamine	74	4.172	0.623	A	2	A	R
3	T	Pyridine	79	4.183	0.625	A	2	A	R
4	S	2-Fluorophenol (Surr)	112	5.467	0.816	A	1	A	R
5	S	Phenol-d6 (Surr)	99	6.338	0.946	A	2	A	R
6	T	Phenol	94	6.354	0.949	A	2	A	R
7	T	Aniline	93	6.381	0.953	A	2	A	R
8	T	Bis(2-chloroethyl) ether	93	6.435	0.961	A	2	A	R
9	T	2-Chlorophenol	128	6.499	0.970	A	2	A	R
10	T	1,3-Dichlorobenzene	146	6.643	0.992	A	2	A	R
11	T	1,4-Dichlorobenzene	146	6.713	1.002	A	2	A	R
12	T	Benzyl alcohol	108	6.825	1.019	Q	2	A	R
13	T	1,2-Dichlorobenzene	146	6.863	1.025	A	2	A	R
14	T	2-Methylphenol	107	6.932	1.035	A	2	A	R
15	T	2,2'-Oxybis(1-Chloropropane)	45	6.954	1.038	A	2	A	R
16	T	N-Nitrosodi-n-propylamine	70	7.077	1.057	A	2	A	R
17	T	3+4-Methylphenol	107	7.077	1.057	A	3	A	R
18	T	Hexachloroethane	201	7.194	1.074	A	2	A	R
19	S	Nitrobenzene-d5 (Surr)	82	7.232	1.080	A	2	A	R
20	T	Nitrobenzene	77	7.248	1.082	A	2	A	R
21	I	Naphthalene-d8 (ISTD)	136	7.948	1.000	A	1	A	R
22	T	Isophorone	82	7.483	0.941	A	2	A	R
23	T	2-Nitrophenol	139	7.563	0.952	A	2	A	R
24	T	2,4-Dimethylphenol	122	7.600	0.956	A	2	A	R
25	T	Bis(2-chloroethoxy) methane	93	7.686	0.967	A	2	A	R
26	T	Benzoic acid	105	7.696	0.968	Q	2	A	R
27	T	2,4-Dichlorophenol	162	7.803	0.982	Q	2	A	R
28	T	1,2,4-Trichlorobenzene	180	7.890	0.993	A	2	A	R
29	T	Naphthalene	128	7.970	1.003	A	1	A	R
30	T	4-Chloroaniline	127	8.023	1.009	A	2	A	R
31	T	Hexachlorobutadiene	225	8.098	1.019	A	2	A	R
32	T	4-Chloro-3-methylphenol	107	8.493	1.069	Q	2	A	R
33	T	2-Methylnaphthalene	142	8.659	1.089	A	2	A	R
34	T	1-Methylnaphthalene	142	8.761	1.102	A	2	A	R
35	I	Acenaphthene-d10 (ISTD)	162	9.719	1.000	A	2	A	R
36	T	Hexachlorocyclopentadiene	237	8.825	0.908	Q	2	A	R
37	T	2,4,6-Trichlorophenol	196	8.943	0.920	Q	2	A	R
38	T	2,4,5-Trichlorophenol	198	8.980	0.924	Q	2	A	R
39	T	1,1'-Biphenyl	154	9.125	0.939	A	2	A	R
40	S	2-Fluorobiphenyl (Surr)	172	9.023	0.928	A	2	A	R
41	T	2-Chloronaphthalene	162	9.151	0.942	A	2	A	R
42	T	2-Nitroaniline	138	9.248	0.952	A	2	A	R
43	T	2,6-Dimethylnaphthalene	156	9.285	0.955	A	2	A	R
44	T	1,4-Dinitrobenzene	168	9.376	0.965	Q	2	A	R
45	T	Dimethyl phthalate	163	9.425	0.970	A	2	A	R
46	T	1,3-Dinitrobenzene	168	9.456	0.973	A	2	A	R
47	T	2,6-Dinitrotoluene	165	9.488	0.976	A	2	A	R
48	T	1,2-Dinitrobenzene	168	9.547	0.982	A	2	A	R
49	T	Acenaphthylene	152	9.574	0.985	A	2	A	R
50	T	3-Nitroaniline	138	9.665	0.994	Q	2	A	R
51	T	Acenaphthene	153	9.751	1.003	A	2	A	R
52	T	2,4-Dinitrophenol	184	9.766	1.005	Q	2	A	R
53	T	4-Nitrophenol	139	9.831	1.012	Q	2	A	R
54	T	2,4-Dinitrotoluene	165	9.895	1.018	Q	2	A	R

55	T	Dibenzofuran	168	9.921	1.021	A	2	A	R
56	T	2,3,5,6-Tetrachlorophenol	232	10.007	1.030	Q	2	A	R
57	T	2,3,4,6-Tetrachlorophenol	232	10.050	1.034	Q	2	A	R
58	T	Diethyl phthalate	149	10.135	1.043	A	2	A	R
59	T	2,3,5-Trimethylnaphthalene	170	10.130	1.042	A	2	A	R
60	T	Fluorene	166	10.269	1.057	A	2	A	R
61	T	4-Chlorophenyl phenyl ether	204	10.258	1.055	A	2	A	R
62	T	4-Nitroaniline	138	10.280	1.058	A	2	A	R
63	T	4,6-Dinitro-2-methylphenol	198	10.312	1.061	Q	2	A	R
64	I	Phenanthrene-d10 (ISTD)	188	11.222	1.000	A	2	A	R
65	T	N-Nitrosodiphenylamine	169	10.376	0.925	A	2	A	R
66	T	Azobenzene (1,2-DPH)	77	10.419	0.928	A	2	A	R
67	S	2,4,6-Tribromophenol (Surr)	330	10.515	0.937	A	2	A	R
68	T	4-Bromophenyl phenyl ether	248	10.756	0.959	A	2	A	R
69	T	Hexachlorobenzene	284	10.841	0.966	A	2	A	R
70	T	Pentachlorophenol (PCP)	266	11.034	0.983	Q	2	A	R
71	T	Phenanthrene	178	11.248	1.002	A	2	A	R
72	T	Anthracene	178	11.296	1.007	A	2	A	R
73	T	Carbazole	167	11.457	1.021	A	2	A	R
74	T	Di-n-butyl phthalate	149	11.794	1.051	A	2	A	R
75	T	Fluoranthene	202	12.526	1.116	A	2	A	R
76	T	Benzidine	184	12.676	1.130	Q	2	A	R
77	T	Pyrene	202	12.820	1.142	A	2	A	R
78	I	Chrysene-d12 (ISTD)	240	15.057	1.000	A	2	A	R
79	S	Terphenyl-d14 (Surr)	244	13.024	0.865	A	2	A	R
80	T	Butyl benzyl phthalate	149	13.842	0.919	Q	2	A	R
81	T	Bis(2-ethylhexyl) adipate	129	14.014	0.931	A	2	A	R
82	T	3,3-Dichlorobenzidine	252	14.992	0.996	Q	2	A	R
83	T	Benz(a)anthracene	228	15.030	0.998	A	2	A	R
84	T	Chrysene	228	15.116	1.004	A	2	A	R
85	T	Bis(2-ethylhexyl) phthalate	149	15.179	1.008	A	2	A	R
86	I	Perylene-d12 (ISTD)	264	18.539	1.000	A	2	A	R
87	T	Di-n-octyl phthalate	149	16.843	0.909	Q	2	A	R
88	T	Benzo(b)fluoranthene	252	17.618	0.950	Q	2	A	R
89	T	Benzo(k)fluoranthene	252	17.688	0.954	Q	2	A	R
90	T	Benzo(b+k)fluoranthene	252	17.688	0.954	Q	2	A	R
91	T	Benzo(e)pyrene	252	18.277	0.986	A	2	A	R
92	T	Benzo(a)pyrene	252	18.394	0.992	Q	2	A	R
93	T	Perylene	252	18.597	1.003	A	2	A	B
94	I	Dibenz(a,h)Anthrcene-d14 (I...	292	20.924	1.000	A	1	A	B
95	T	Indeno(1,2,3-cd)pyrene	276	20.924	1.000	A	1	A	R
96	T	Dibenz(a,h)anthracene	278	20.988	1.003	A	2	A	R
97	T	Benzo(g,h,i)perylene	276	21.464	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

SV9_050819.M Thu May 09 13:09:14 2019

Response Factor Report SV-GCMS9

Method Path : T:\methods\
Method File : SV9_050819.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Thu May 09 12:25:58 2019
Response Via : Initial Calibration

5/9/19

Calibration Files
20 =I05081919.D 50 =I05081920.D 100 =I05081921.D 200 =I05081922.D 500 =I05081923.D 1000=I05081924.D 2000=I05081925.D
4000=I05081926.D 6000=I05081927.D 8000=I05081928.D

		Compound	20	50	100	200	500	1000	2000	4000	6000	8000	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------				ISTD							8.69
2)	T	N-Nitrosodimet...	1.211	0.973	0.975	0.931	0.938	0.919	0.976	1.007	1.030	1.035	0.999	8.42
3)	T	Pyridine	1.392	1.406	1.367	1.433	1.518	1.469	1.537	1.706	1.705	1.722	1.526	9.08
4)	S	2-Fluorophenol...	1.132	1.060	1.214	1.247	1.324	1.305	1.391	1.440	1.493	1.463	1.307	11.06
5)	S	Phenol-d6 (Surr)	1.463	1.476	1.583	1.634	1.720	1.695	1.792	1.894	1.902	1.847	1.701	9.47
6)	T	Phenol	1.607	1.682	1.785	1.828	1.909	1.843	1.897	1.899	1.877	1.758	1.809	5.59
7)	T	Aniline	[illegible]	1.734	1.841	1.764	1.793	1.389	1.120	1.260	1.396	1.555	1.539	16.90
8)	T	Bis(2-chloroet...	1.679	1.527	1.547	1.558	1.533	1.567	1.613	1.508	1.356	1.334	1.522	6.93
9)	T	2-Chlorophenol	1.315	1.287	1.361	1.368	1.433	1.399	1.423	1.393	1.364	1.315	1.366	3.54
10)	T	1,3-Dichlorobe...	1.764	1.576	1.689	1.623	1.642	1.568	1.532	1.453	1.421	1.352	1.562	8.09
11)	T	1,4-Dichlorobe...	1.514	1.547	1.519	1.559	1.557	1.498	1.445	1.380	1.318	1.255	1.459	7.34
12)	T	Benzyl alcohol	[illegible]	0.421	0.502	0.579	0.721	0.785	0.853	0.935	0.925	0.883	0.734	26.02
13)	T	1,2-Dichlorobe...	1.391	1.481	1.532	1.532	1.544	1.442	1.413	1.314	1.257	1.173	1.408	8.95
14)	T	2-Methylphenol	1.007	0.914	1.105	1.011	1.118	1.061	1.064	1.078	1.036	0.965	1.036	6.11
15)	T	2,2'-Oxybis(1-...	1.993	1.994	2.123	2.028	2.009	1.881	1.829	1.678	1.567	1.437	1.854	12.12
16)	T	N-Nitrosodi-n-...	1.076	1.073	1.093	1.102	1.120	1.067	1.038	0.999	0.930	0.887	1.038	7.40
17)	T	3+4-Methylphenol	1.188	1.142	1.290	1.315	1.405	1.350	1.354	1.357	1.282	1.198	1.288	6.69
18)	T	Hexachloroethane	0.494	0.481	0.481	0.479	0.505	0.472	0.466	0.452	0.448	0.423	0.470	5.05
19)	S	Nitrobenzene-d...	1.553	1.376	1.415	1.465	1.447	1.396	1.393	1.394	1.376	1.326	1.414	4.40
20)	T	Nitrobenzene	1.479	1.409	1.487	1.519	1.461	1.390	1.354	1.328	1.275	1.208	1.391	7.22
21)	I	Naphthalene-d8 (ISTD)	----------				ISTD							9.39
22)	T	Isophorone	0.673	0.711	0.716	0.756	0.796	0.778	0.757	0.759	0.728	0.732	0.741	4.84
23)	T	2-Nitrophenol	0.141	0.159	0.172	0.198	0.227	0.203	0.201	0.203	0.195	0.192	0.189	13.19
24)	T	2,4-Dimethylph...	[illegible]	0.219	0.260	0.280	0.301	0.310	0.311	0.307	0.286	0.280	0.284	10.49
25)	T	Bis(2-chloroet...	0.409	0.463	0.480	0.460	0.473	0.451	0.428	0.419	0.386	0.376	0.435	8.40
26)	T	Benzoic acid	[illegible]	[illegible]	[illegible]	[illegible]	0.056	0.132	0.149	0.218	0.226	0.237	0.170	41.46
27)	T	2,4-Dichloroph...	[illegible]	0.151	0.195	0.222	0.253	0.272	0.277	0.278	0.248	0.244	0.238	17.71
28)	T	1,2,4-Trichlor...	0.331	0.342	0.354	0.350	0.351	0.336	0.315	0.294	0.268	0.255	0.320	11.19
29)	T	Naphthalene	1.068	1.095	1.107	1.099	1.084	1.048	0.982	0.908	0.816	0.768	0.998	12.52
30)	T	4-Chloroaniline	0.296	0.294	0.285	0.273	0.229	0.264	0.209	0.226	0.212	0.270	0.256	13.18
31)	T	Hexachlorobuta...	0.185	0.172	0.176	0.175	0.180	0.171	0.167	0.157	0.143	0.136	0.166	9.74
32)	T	4-Chloro-3-met...	[illegible]	[illegible]	0.126	0.192	0.266	0.308	0.318	0.341	0.320	0.313	0.273	27.63
33)	T	2-Methylnaphth...	0.694	0.720	0.764	0.787	0.839	0.815	0.773	0.735	0.647	[illegible]	0.753	7.98
34)	T	1-Methylnaphth...	0.716	0.723	0.761	0.774	0.801	0.766	0.717	0.669	0.601	0.560	0.709	10.96
35)	I	Acenaphthene-d10 (...	----------				ISTD							8.19
36)	T	Hexachlorocycl...	[illegible]	0.101	0.150	0.217	0.281	0.309	0.315	0.322	0.313	0.293	0.256	31.74
37)	T	2,4,6-Trichlor...	[illegible]	0.168	0.217	0.291	0.370	0.395	0.393	0.389	0.371	0.354	0.327	25.56
38)	T	2,4,5-Trichlor...	[illegible]	0.184	0.225	0.260	0.340	0.377	0.379	0.375	0.348	0.334	0.314	23.08
39)	T	1,1'-Biphenyl	1.432	1.545	1.686	1.812	1.920	1.819	1.679	1.478	[illegible]	[illegible]	1.671	10.48

Method Path : T:\methods\
Method File : SV9_050819.M
Title : EPA 8270D: Semivolatile Organics

40)	S	2-Fluorobiphen...	1.343	1.502	1.633	1.702	1.729	1.621	1.495	1.313	1.158		1.500	12.96
41)	T	2-Chloronaphth...	1.066	1.120	1.220	1.313	1.373	1.298	1.193	1.050			1.204	9.89
42)	T	2-Nitroaniline				0.287	0.392	0.436	0.429	0.433	0.427	0.425	0.404	13.26
43)	T	2,6-Dimethylna...	1.115	1.215	1.314	1.403	1.410	1.341	1.236	1.085	0.966		1.231	12.38
44)	T	1,4-Dinitroben...			0.080	0.124	0.177	0.205	0.206	0.221	0.220	0.221	0.182	28.96
45)	T	Dimethyl phtha...	1.305	1.473	1.542	1.564	1.575	1.490	1.402	1.297	1.193	1.151	1.399	11.07
46)	T	1,3-Dinitroben...				0.172	0.228	0.244	0.234	0.240	0.231	0.223	0.225	10.70
47)	T	2,6-Dinitrotol...			0.238	0.309	0.358	0.350	0.337	0.324	0.302	0.286	0.313	12.48
48)	T	1,2-Dinitroben...				0.142	0.161	0.170	0.164	0.162	0.149	0.138	0.155	7.87
49)	T	Acenaphthylene	1.863	2.011	2.189	2.231	2.222	2.160	1.961	1.711	1.459		1.978	13.33
50)	T	3-Nitroaniline				0.257	0.298	0.274	0.225	0.202	0.197		0.242	16.76
51)	T	Acenaphthene	1.289	1.420	1.407	1.393	1.372	1.307	1.223	1.107	1.010	0.938	1.246	13.87
52)	T	2,4-Dinitrophenol				0.030	0.066	0.108	0.124	0.164	0.175	0.178	0.121	47.41
53)	T	4-Nitrophenol			0.109	0.144	0.200	0.238	0.234	0.272	0.274	0.273	0.218	28.71
54)	T	2,4-Dinitrotol...		0.184	0.257	0.362	0.435	0.448	0.435	0.430	0.394	0.359	0.367	24.75
55)	T	Dibenzofuran	1.480	1.739	1.835	1.921	1.944	1.835	1.690	1.501	1.321		1.696	12.81
56)	T	2,3,5,6-Tetrac...		0.122	0.164	0.241	0.292	0.315	0.311	0.317	0.305	0.292	0.262	27.46
57)	T	2,3,4,6-Tetrac...	0.153	0.184	0.254	0.293	0.327	0.339	0.328	0.325	0.305	0.291	0.280	22.92
58)	T	Diethyl phthalate	1.341	1.402	1.484	1.509	1.457	1.379	1.215	1.060			1.356	11.17
59)	T	2,3,5-Trimethy...	1.269	1.271	1.338	1.303	1.308	1.207	1.087	0.930			1.214	11.44
60)	T	Fluorene	1.520	1.512	1.604	1.584	1.576	1.450	1.306	1.142			1.462	10.99
61)	T	4-Chlorophenyl...	0.630	0.729	0.757	0.784	0.762	0.708	0.656	0.590	0.530		0.683	12.71
62)	T	4-Nitroaniline				0.313	0.337	0.327	0.287	0.294	0.277	0.261	0.300	9.17
63)	T	4,6-Dinitro-2-...			0.064	0.103	0.153	0.187	0.192	0.216	0.214	0.213	0.168	34.03
64)	I	Phenanthrene-d10 (...	----------ISTD----------											5.28
65)	T	N-Nitrosodiphe...	0.546	0.569	0.671	0.713	0.721	0.654	0.575	0.493			0.618	13.51
66)	T	Azobenzene (1,...	0.630	0.686	0.784	0.800	0.801	0.738	0.668	0.595	0.536		0.693	13.73
67)	S	2,4,6-Tribromo...		0.071	0.081	0.092	0.102	0.104	0.098	0.097	0.093	0.090	0.092	11.41
68)	T	4-Bromophenyl ...	0.219	0.222	0.246	0.240	0.249	0.234	0.222	0.203	0.187	0.176	0.220	11.23
69)	T	Hexachlorobenzene	0.233	0.278	0.280	0.260	0.266	0.249	0.233	0.209	0.189		0.244	12.77
70)	T	Pentachlorophe...			0.055	0.067	0.097	0.110	0.114	0.128	0.125	0.122	0.102	26.74
71)	T	Phenanthrene	1.135	1.183	1.186	1.183	1.170	1.092	1.004	0.881	0.781		1.068	13.94
72)	T	Anthracene	1.128	1.141	1.199	1.200	1.188	1.107	1.003	0.879	0.769		1.068	14.39
73)	T	Carbazole	0.881	0.949	1.015	1.061	1.074	1.029	0.920	0.824	0.671		0.936	13.91
74)	T	Di-n-butyl pht...		1.070	1.202	1.275	1.356	1.325	1.189	1.075			1.213	9.34
75)	T	Fluoranthene	1.230	1.262	1.343	1.396	1.432	1.353	1.199	1.080	0.940		1.248	12.71
76)	T	Benzidine				0.412	0.354	0.281	0.193	0.314	0.341	0.368	0.323	21.84
77)	T	Pyrene	1.318	1.338	1.404	1.440	1.421	1.349	1.183	1.055	0.926		1.270	14.05
78)	I	Chrysene-d12 (ISTD)	----------ISTD----------											16.76
79)	S	Terphenyl-d14 ...	0.975	0.930	1.015	1.037	1.060	1.024	1.008	0.965	0.906	0.880	0.980	6.07
80)	T	Butyl benzyl p...	0.314	0.372	0.395	0.491	0.562	0.600	0.621	0.674	0.676	0.681	0.539	25.48
81)	T	Bis(2-ethylhex...	0.635	0.442	0.439	0.473	0.508	0.536	0.543	0.571	0.564	0.563	0.527	11.82
82)	T	3,3-Dichlorobe...				0.301	0.212	0.145	0.116	0.102	0.108		0.164	47.85
83)	T	Benz(a)anthracene	1.238	1.147	1.157	1.210	1.233	1.202	1.161	1.143	1.081	1.046	1.162	5.39
84)	T	Chrysene	1.104	1.076	1.102	1.125	1.127	1.079	1.062	1.050	1.011	0.981	1.072	4.43
85)	T	Bis(2-ethylhex...			0.502	0.615	0.730	0.746	0.752	0.783	0.767	0.747	0.705	13.70
86)	I	Perylene-d12 (ISTD)	----------ISTD----------											11.43
87)	T	Di-n-octyl pht...			0.686	0.939	1.250	1.419	1.468	1.530	1.462	1.443	1.275	23.85

Method Path : T:\methods\
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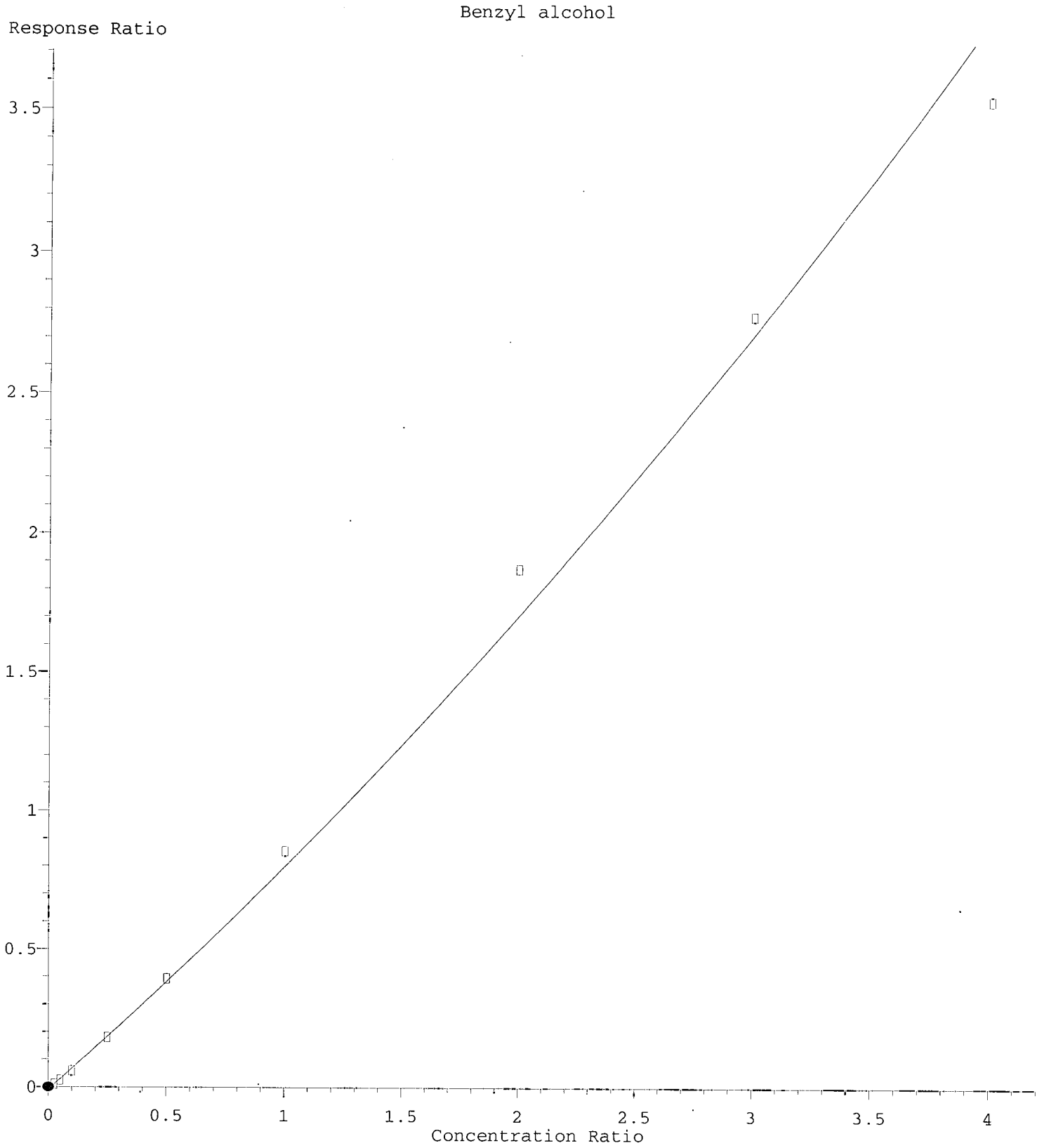
88)	T	Benzo(b)fluora...	1.041	1.070	1.095	1.221	1.318	1.340	1.330	1.268	1.251	1.292	1.223	9.23
89)	T	Benzo(k)fluora...	1.018	1.108	1.153	1.268	1.344	1.311	1.203	1.091	0.980	0.908	1.138	12.73
90)	T	Benzo(b+k)fluo...	1.029	1.130	1.171	1.278	1.367	1.356	1.294	1.210	1.146	1.109	1.209	9.25
91)	T	Benzo(e)pyrene	1.085	1.133	1.184	1.245	1.321	1.297	1.262	1.195	1.135	1.101	1.196	6.93
92)	T	Benzo(a)pyrene	0.831	0.950	1.011	1.099	1.218	1.227	1.147	1.066	1.009	0.968	1.053	11.81
93)	T	Perylene	1.029	0.986	1.041	1.036	1.098	1.080	1.033	0.976	0.937	0.908	1.013	5.95
94)	I	Dibenz(a,h)Anthrce...	----------ISTD----------											8.46
95)	T	Indeno(1,2,3-c...	1.128	1.088	1.108	1.085	1.136	1.091	1.081	1.100	1.080	1.084	1.098	1.82
96)	T	Dibenz(a,h)ant...	0.972	0.979	1.003	1.035	1.045	0.999	1.007	0.937	0.877	0.841	0.970	6.84
97)	T	Benzo(g,h,i)pe...	1.008	1.041	1.074	1.126	1.175	1.133	1.119	1.079	1.011	0.972	1.074	6.08

(#) = Out of Range

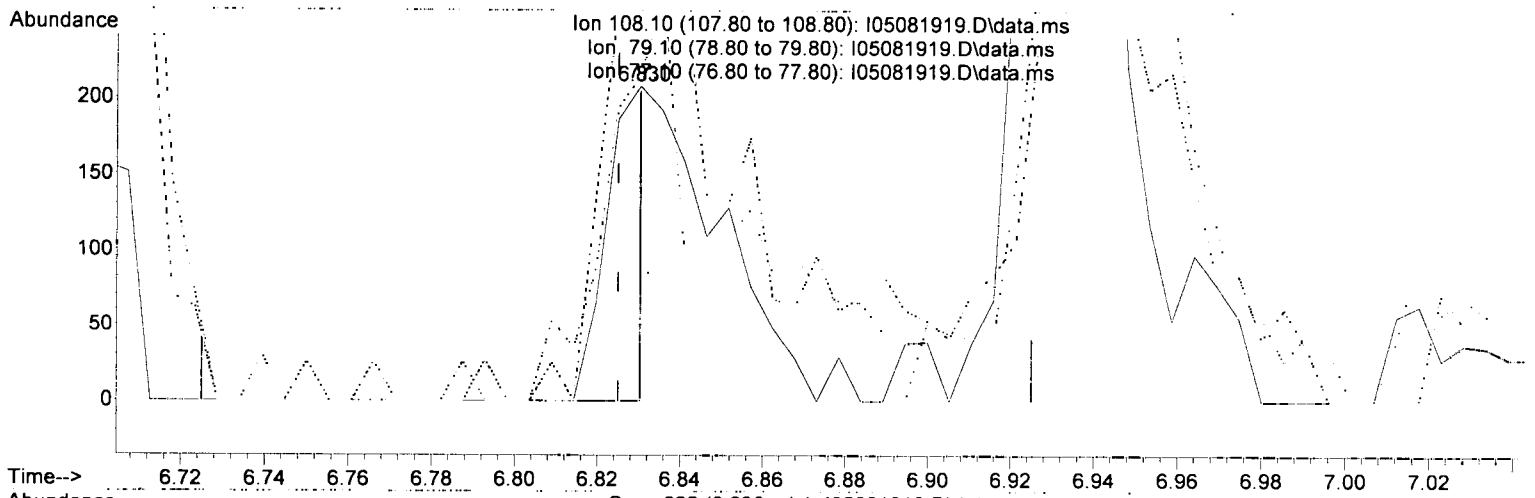


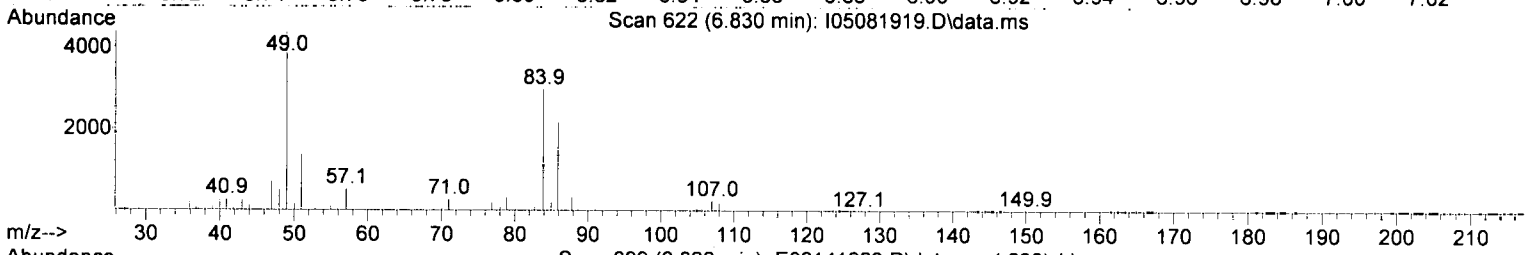
R = 4.94e-002 A*A + 7.58e-001 A - 9.75e-003
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

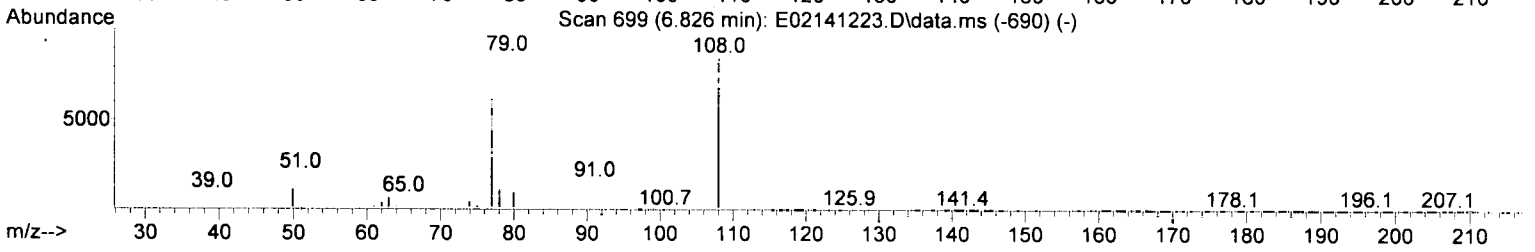
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







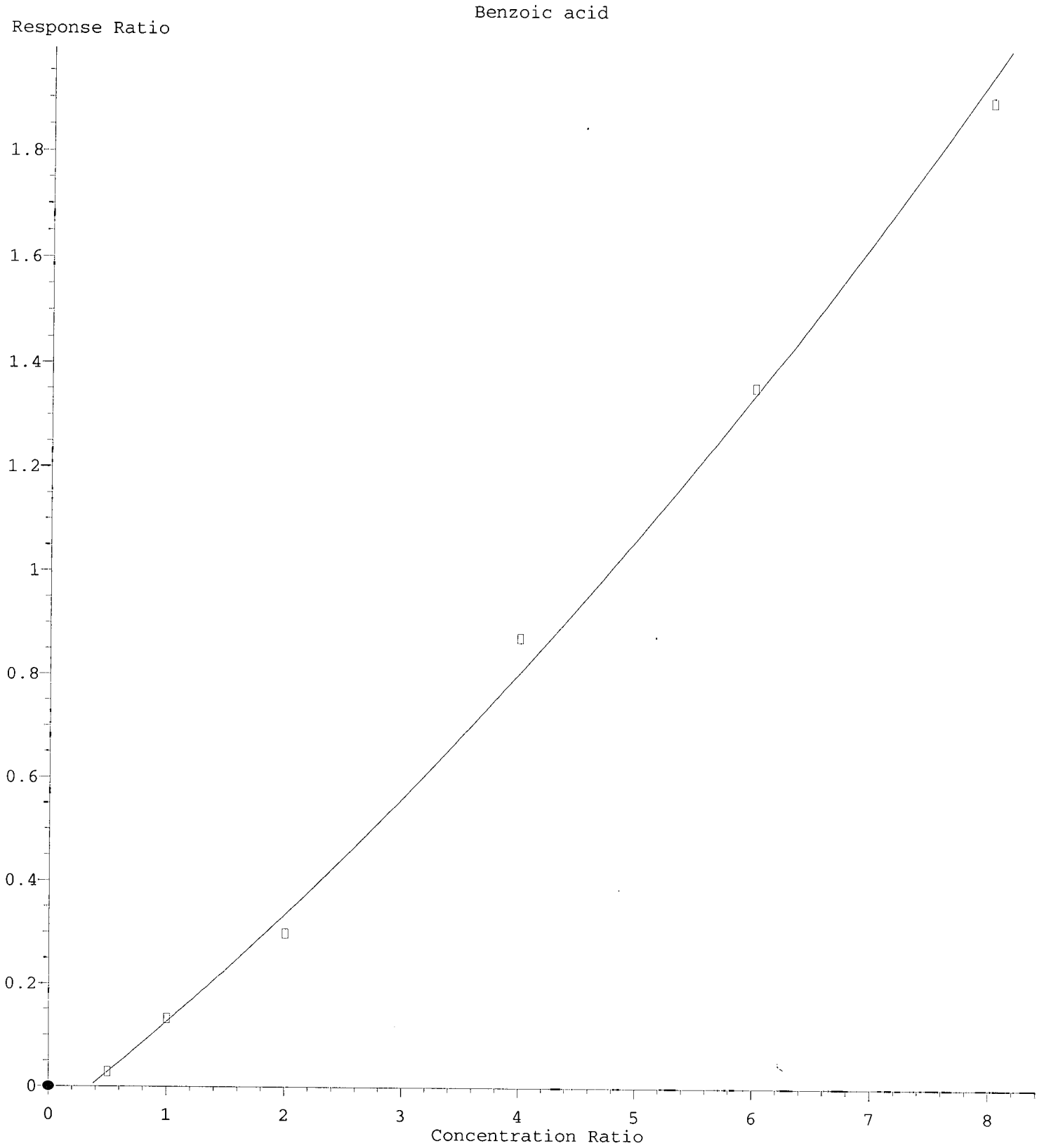
TIC: I05081919.D\data.ms

(12) Benzyl alcohol (T)

6.830min (+ 0.005) 29.07 ng/ml m

response 147

Ion	Exp%	Act%
108.10	100.00	100.00
79.10	130.20	173.56#
77.10	80.10	103.37
0.00	0.00	0.00

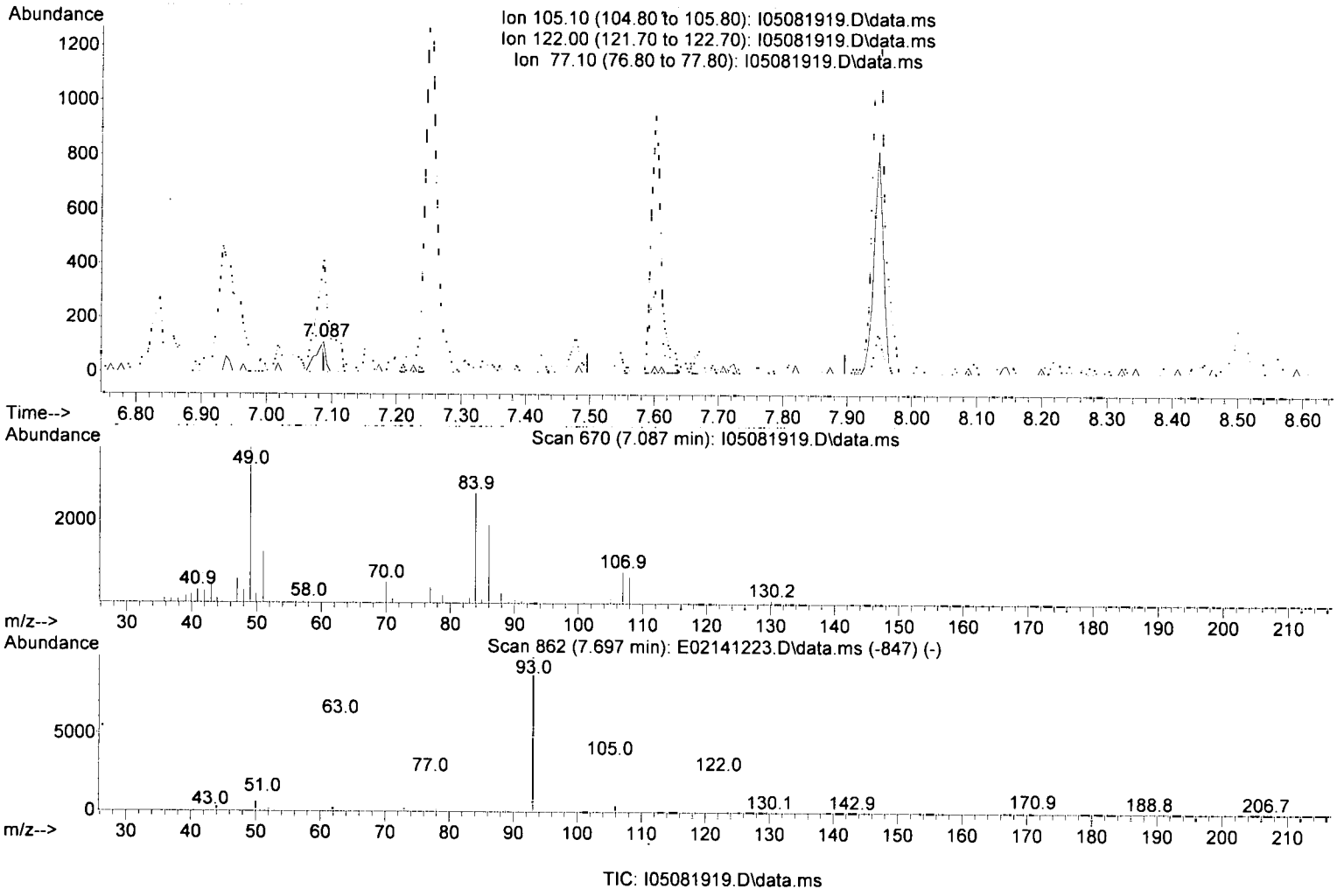


R = 8.50e-003 A*A + 1.84e-001 A - 6.57e-002
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



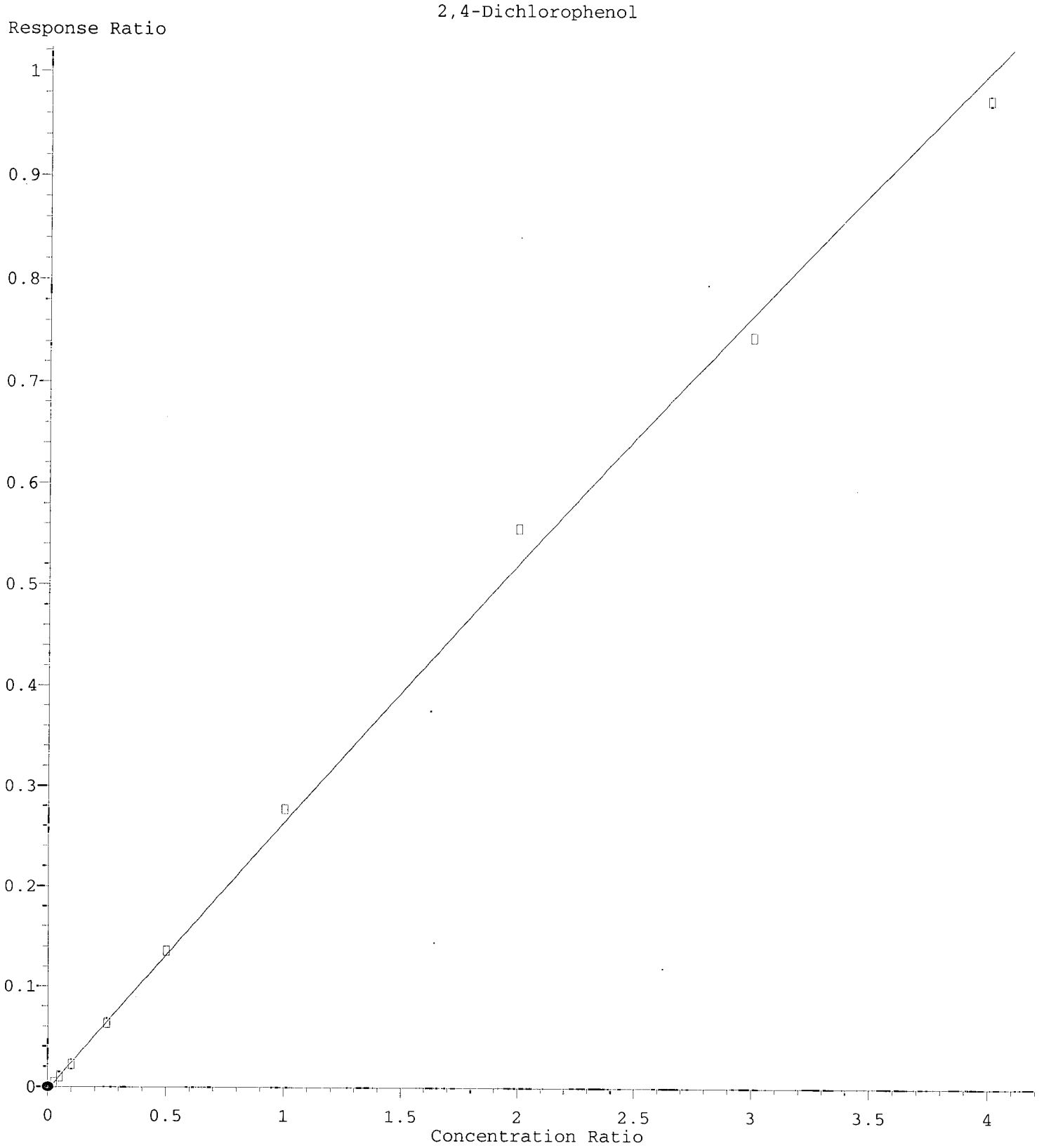
TIC: I05081919.D\data.ms

(26) Benzoic acid (T)

7.087min (-0.609) 707.06 ng/ml m

response 107

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	0.00#
77.10	76.00	371.17#
0.00	0.00	0.00

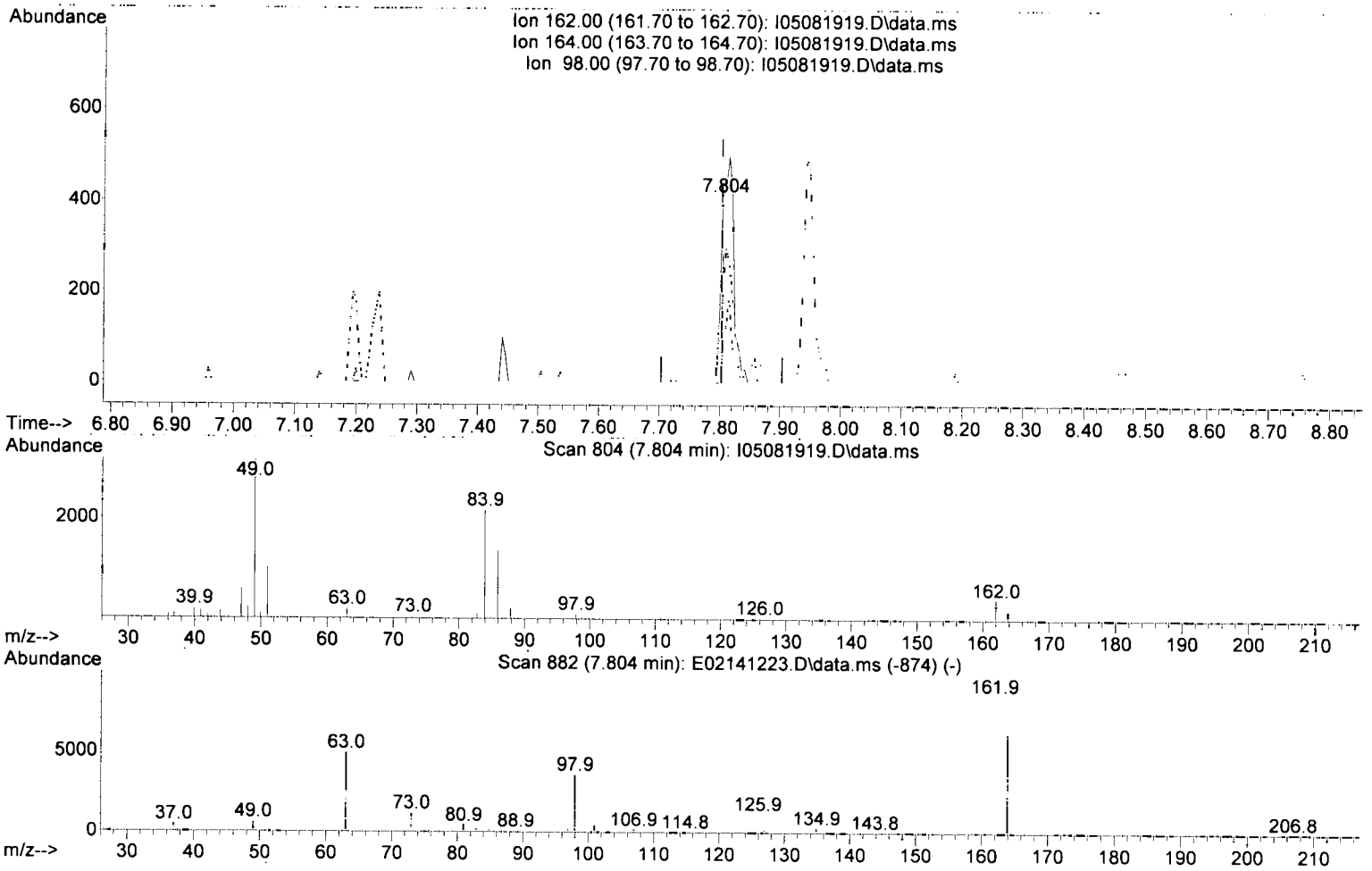


R = -5.43e-003 A*A + 2.73e-001 A - 3.28e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



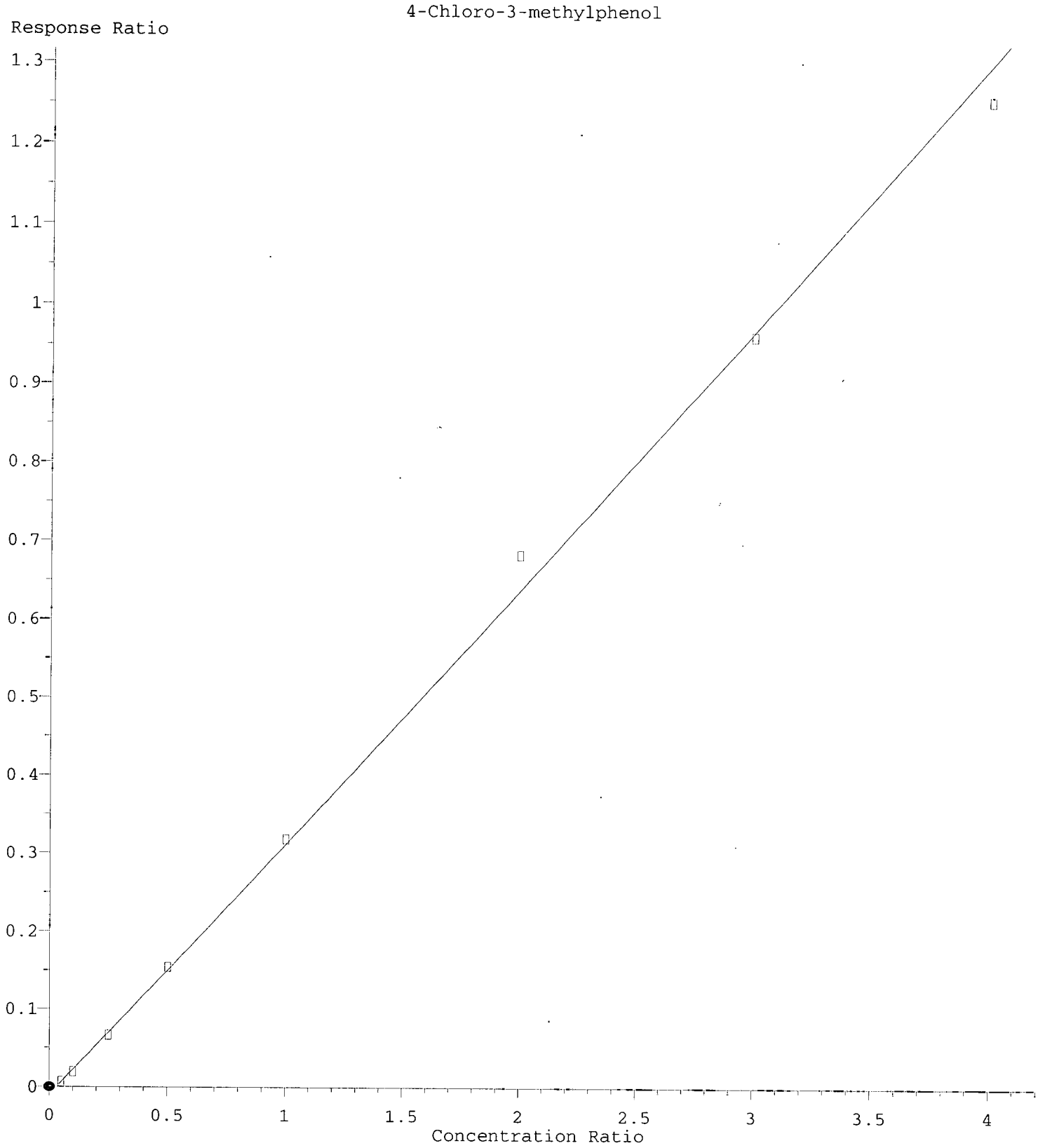
TIC: I05081919.D\data.ms

(27) 2,4-Dichlorophenol (T)

7.804min (+ 0.001) 26.83 ng/ml m

response 175

Ion	Exp%	Act%
162.00	100.00	100.00
164.00	63.60	43.20
98.00	37.40	28.40
0.00	0.00	0.00

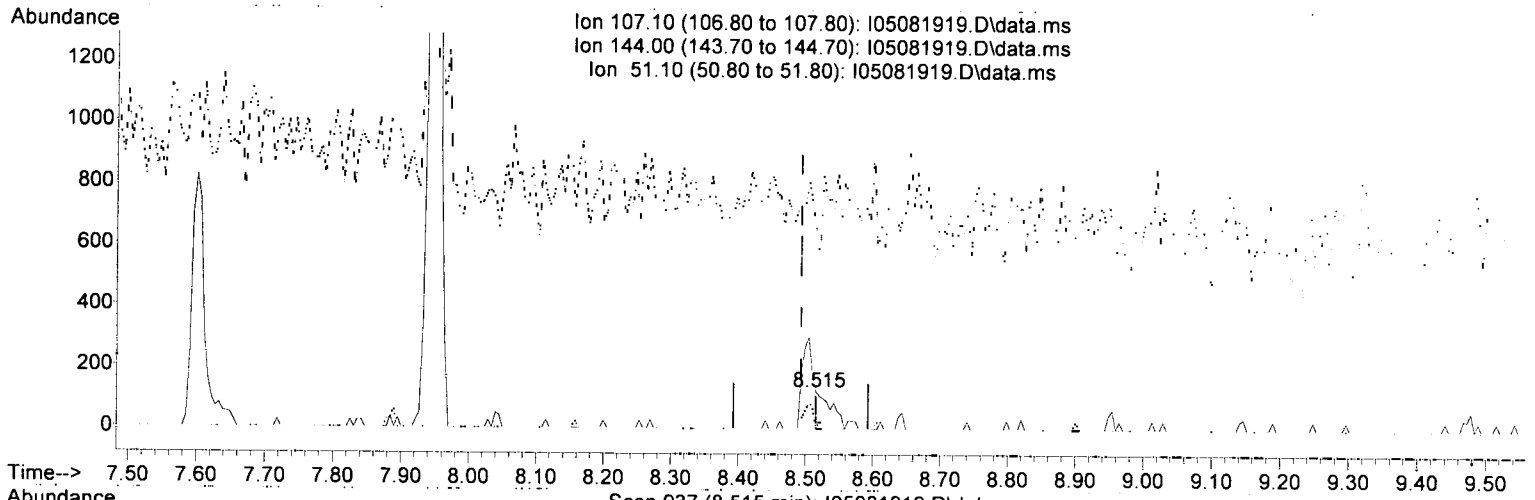


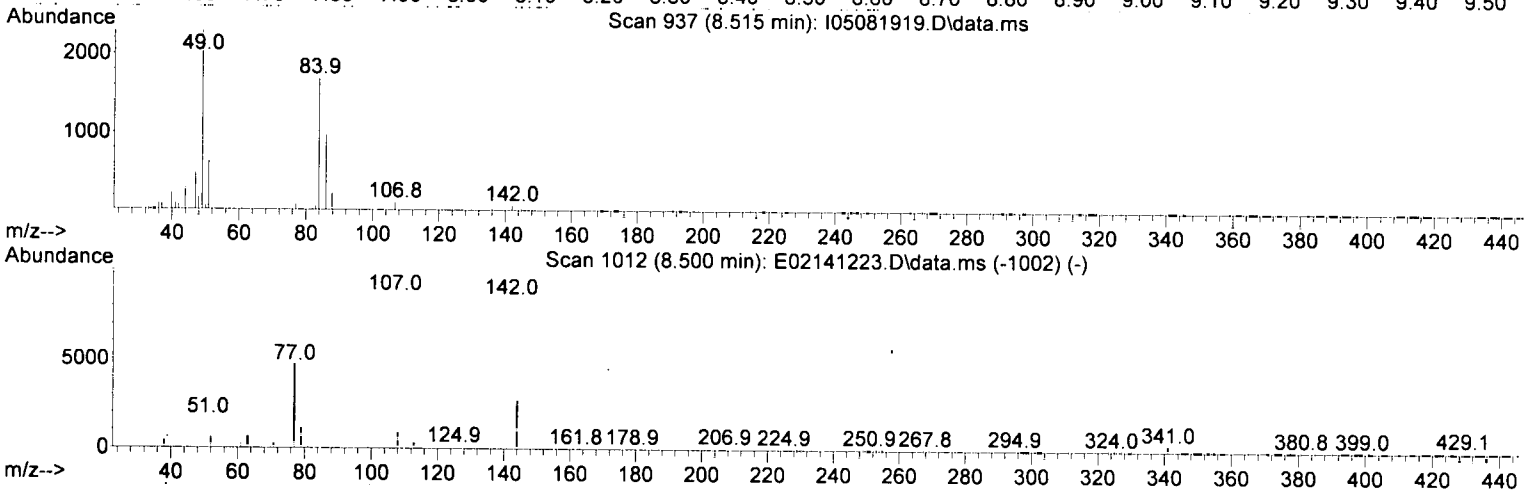
R = 1.82e-003 A*A + 3.20e-001 A - 1.04e-002
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9





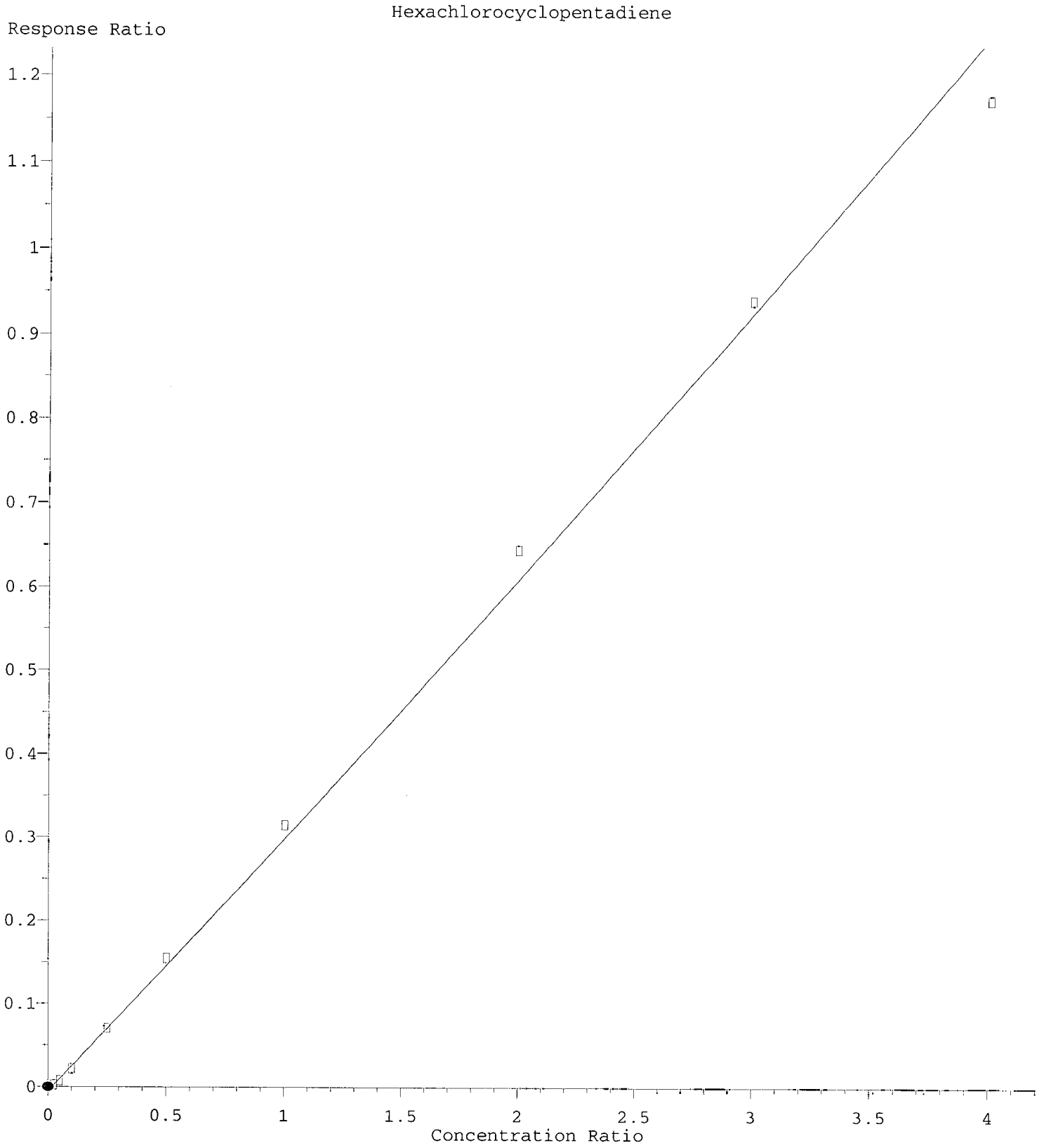
TIC: I05081919.D\data.ms

(32) 4-Chloro-3-methylphenol (T)

8.515min (+ 0.022) 67.07 ng/ml m

response 174

Ion	Exp%	Act%
107.10	100.00	100.00
144.00	26.00	0.00
51.10	19.80	529.75#
0.00	0.00	0.00

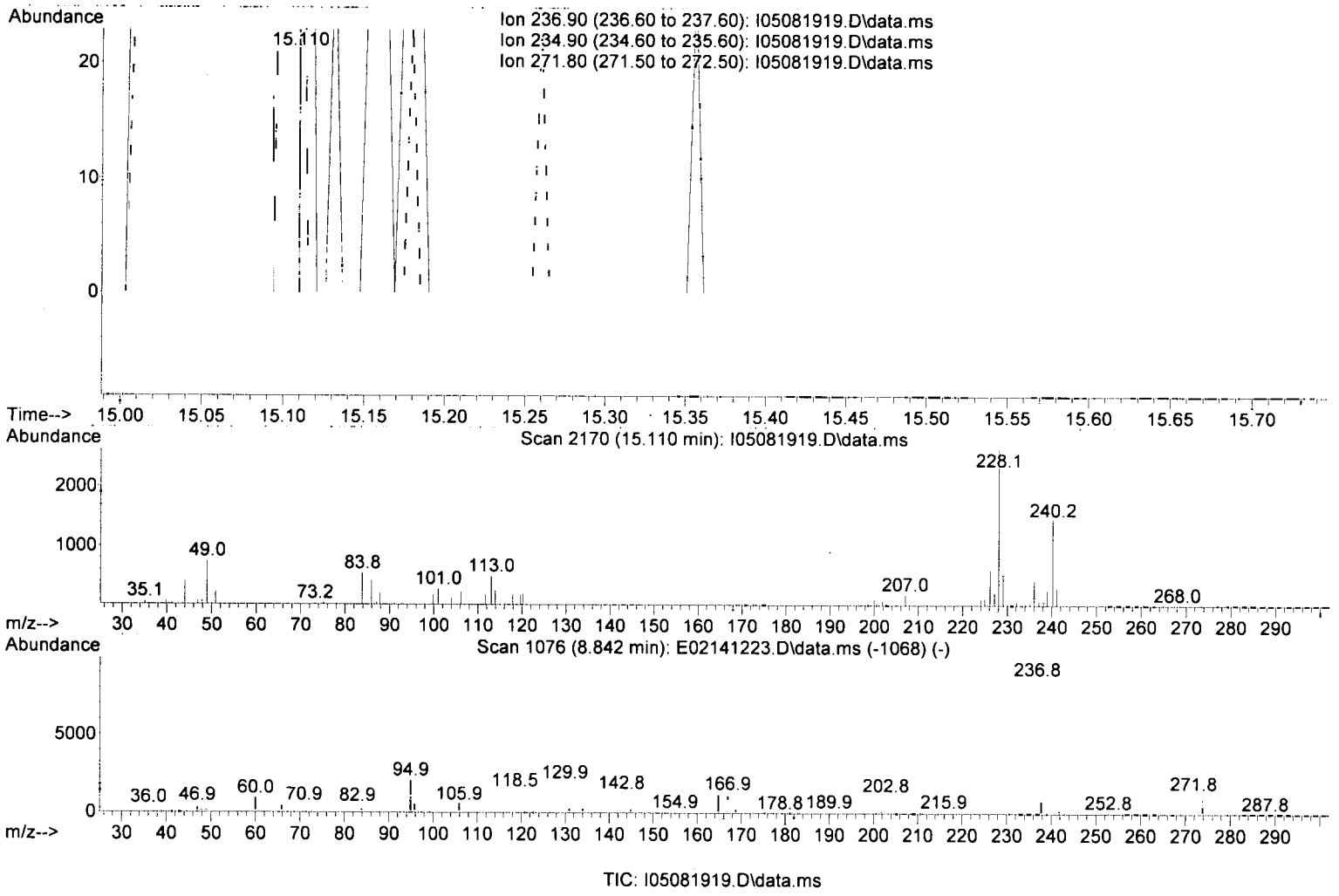


R = 3.01e-003 A*A + 3.01e-001 A - 5.61e-003
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



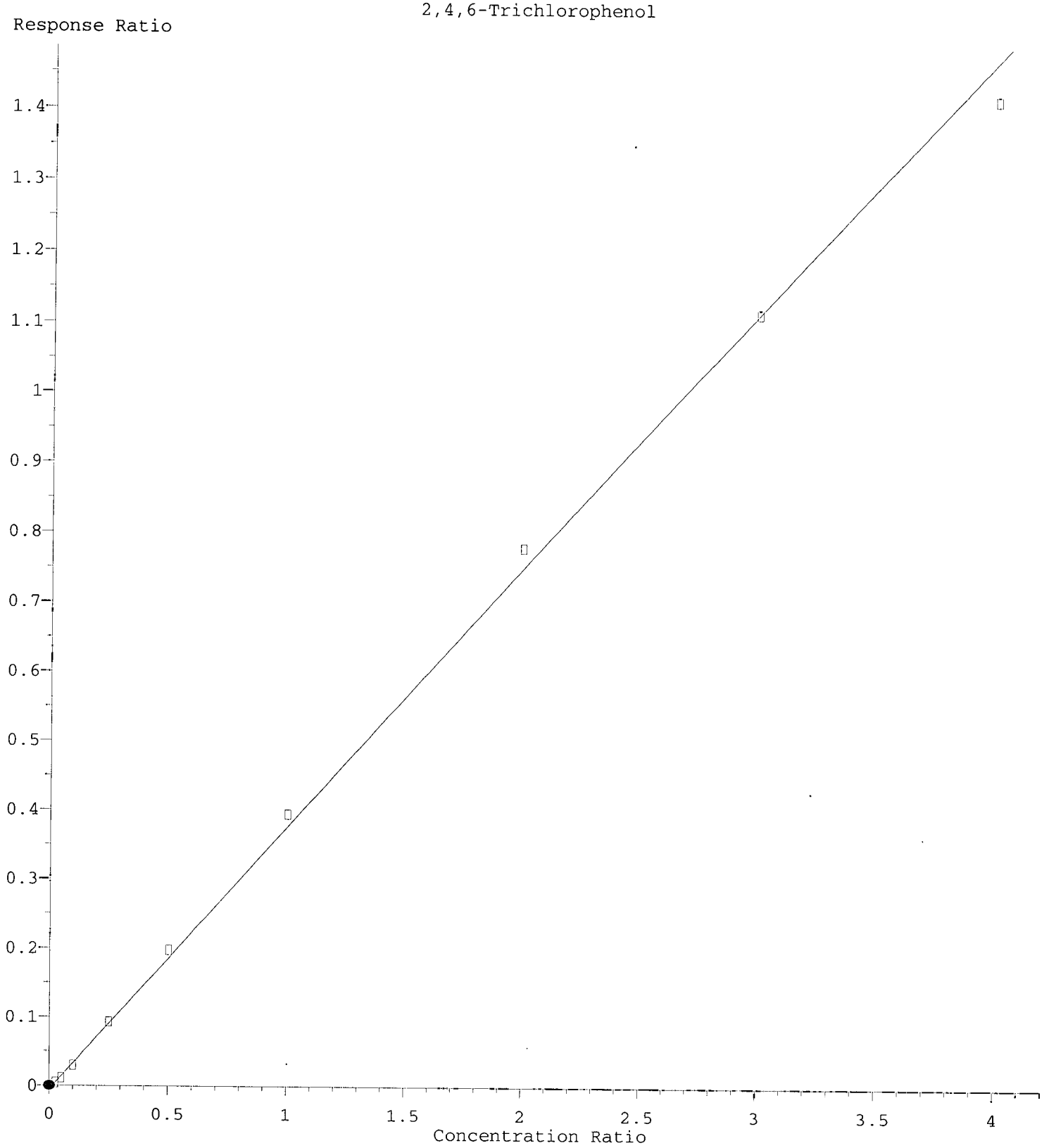
TIC: I05081919.D\data.ms

(36) Hexachlorocyclopentadiene (T)

15.110min (+ 6.285) 40.65 ng/ml m

response 115

Ion	Exp%	Act%
236.90	100.00	100.00
234.90	62.80	64.00
271.80	12.50	0.00
0.00	0.00	0.00

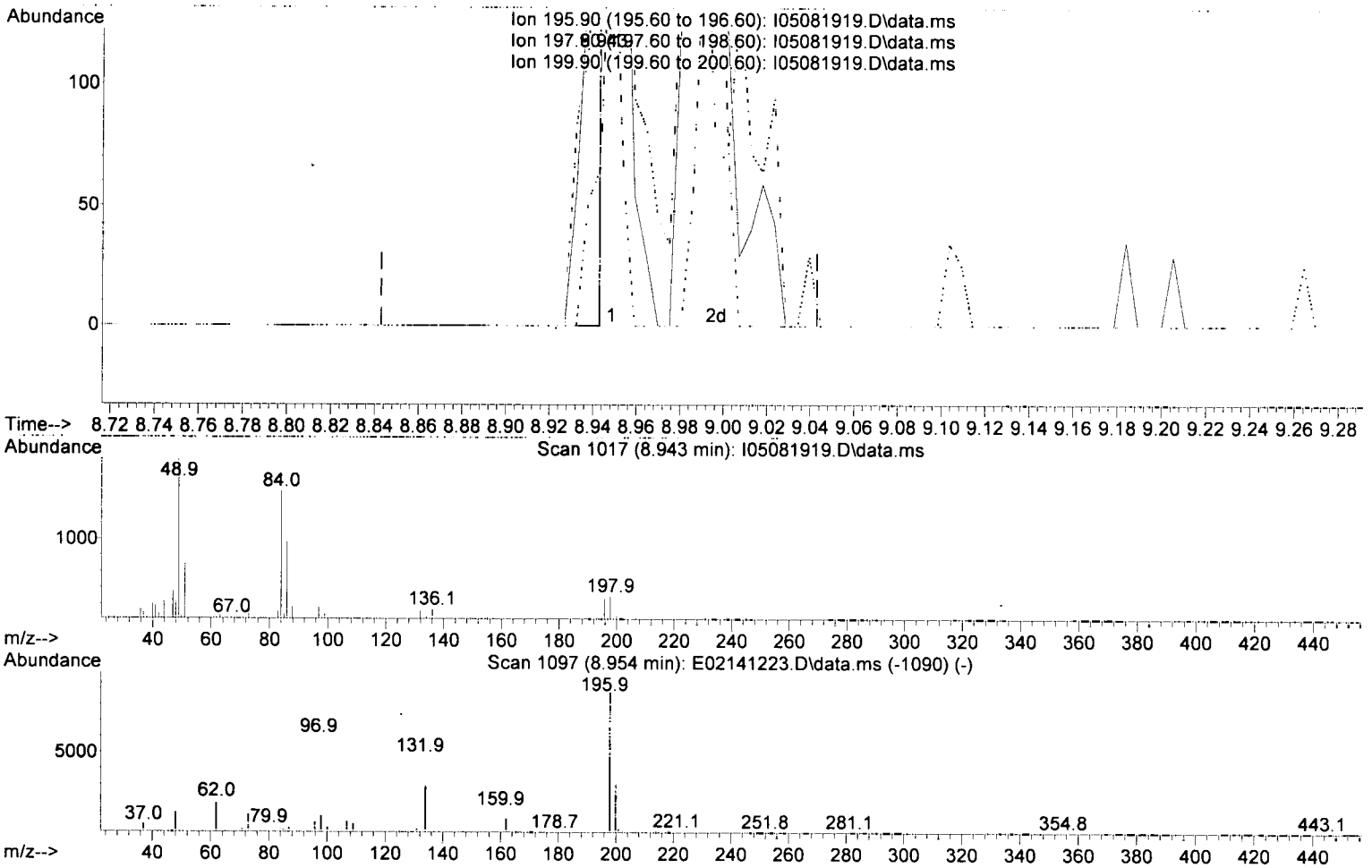


R = -4.37e-003 A*A + 3.86e-001 A - 6.17e-003
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



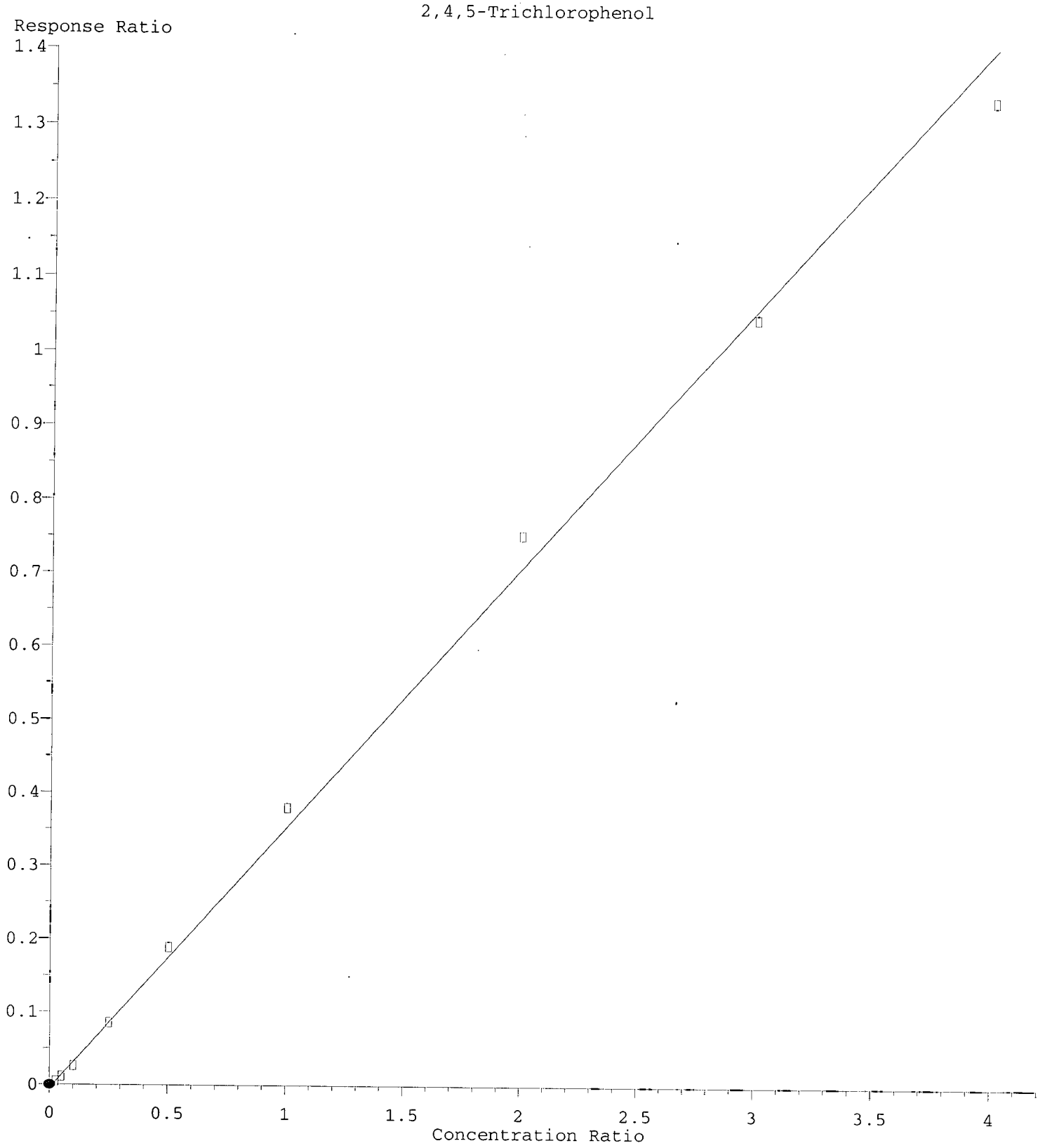
TIC: I05081919.D\data.ms

(37) 2,4,6-Trichlorophenol (T)

8.943min (+ 0.000) 35.47 ng/ml m

response 156

Ion	Exp%	Act%
195.90	100.00	100.00
197.90	97.50	110.11
199.90	30.40	23.47
0.00	0.00	0.00

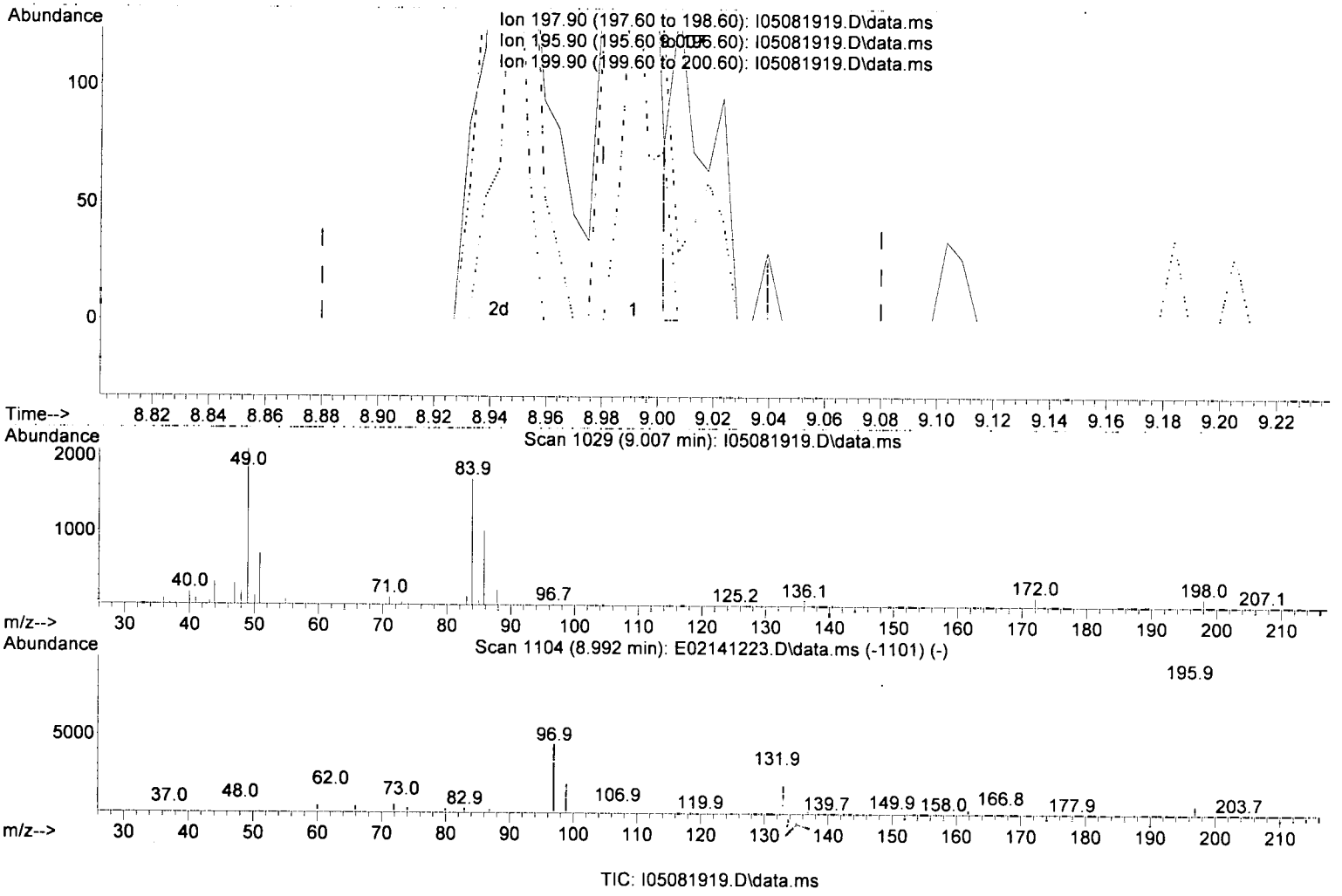


R = -2.14e-003 A*A + 3.60e-001 A - 5.07e-003
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



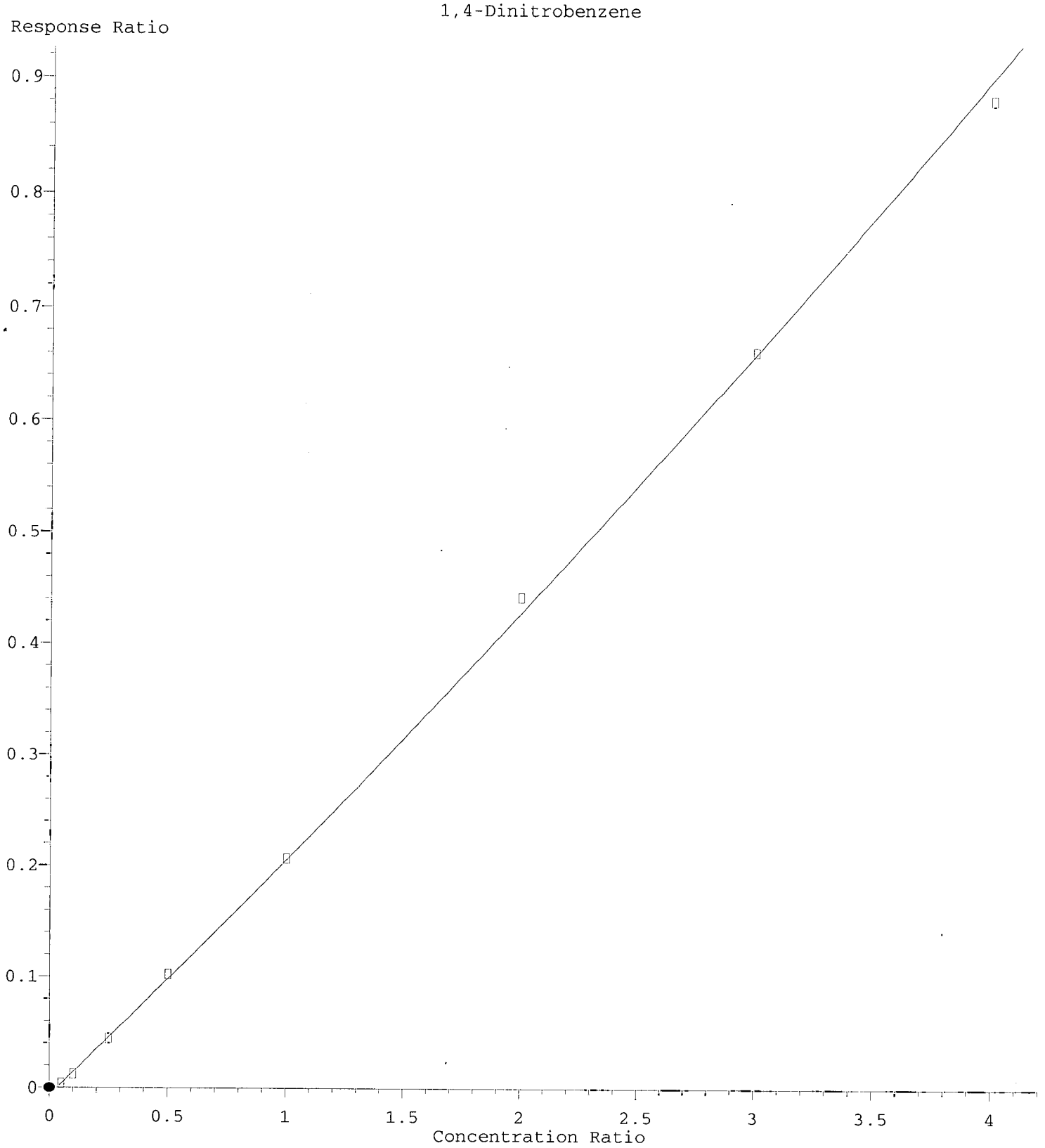
TIC: I05081919.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.007min (+ 0.027) 31.20 ng/ml m

response 126

Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	21.64#
199.90	31.10	0.00#
0.00	0.00	0.00

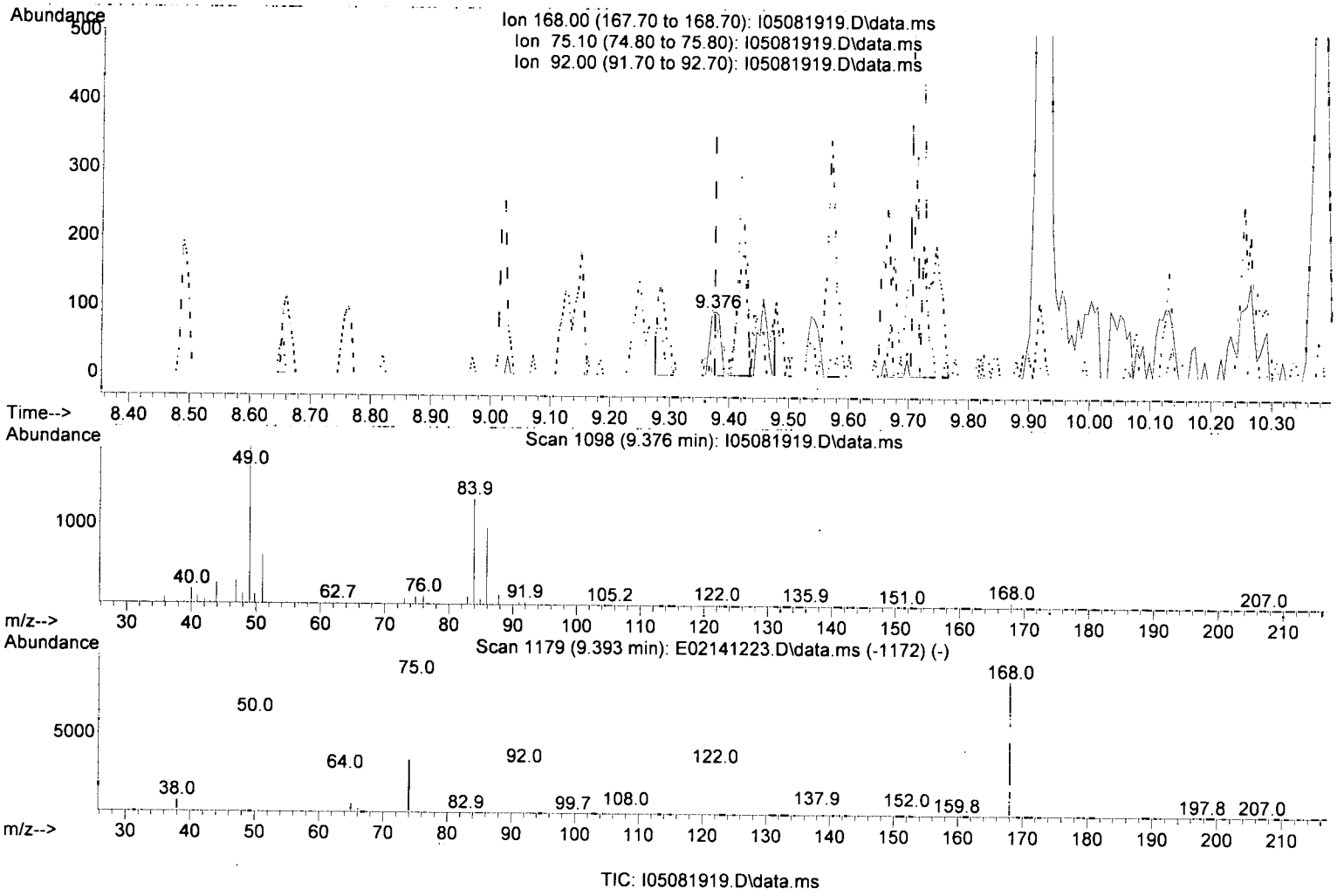


R = 4.91e-003 A*A + 2.07e-001 A - 6.78e-003
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



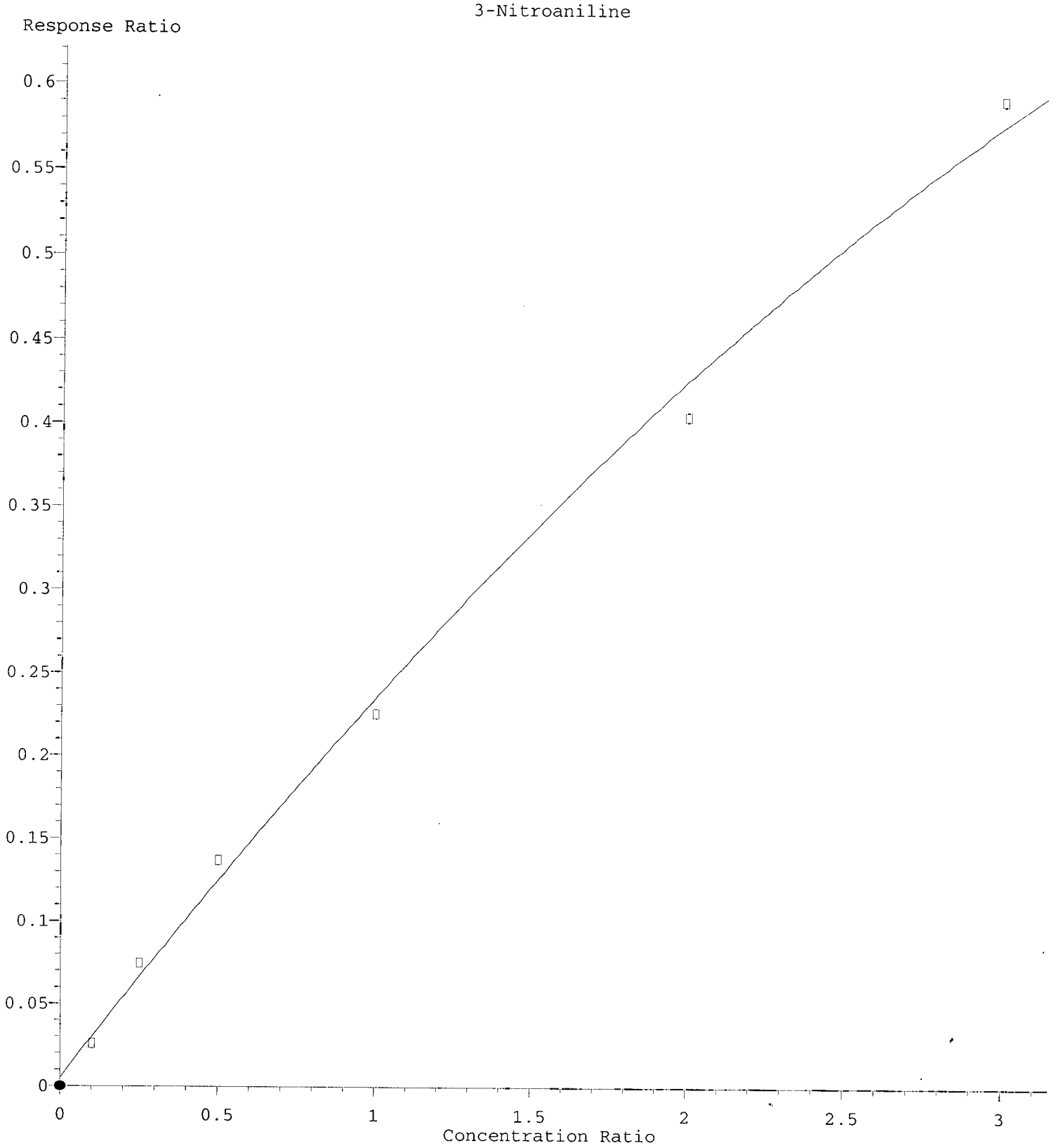
TIC: I05081919.D\data.ms

(44) 1,4-Dinitrobenzene (T)

9.376min (+ 0.000) 70.15 ng/ml

response 116

Ion	Exp%	Act%
168.00	100.00	100.00
75.10	134.30	124.73
92.00	43.50	65.59
0.00	0.00	0.00

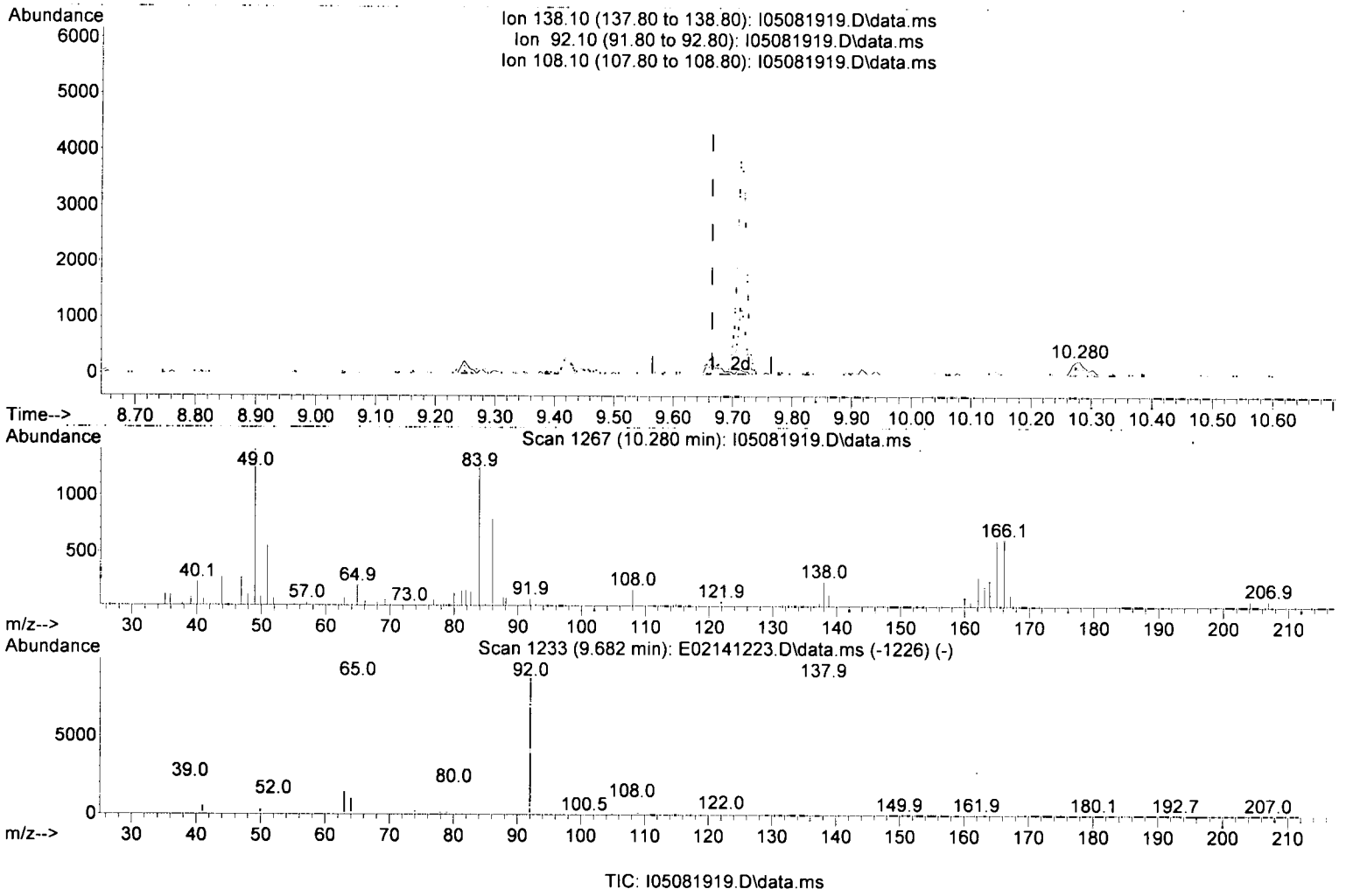


R = -1.97e-002 A*A + 2.50e-001 A + 5.08e-003
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



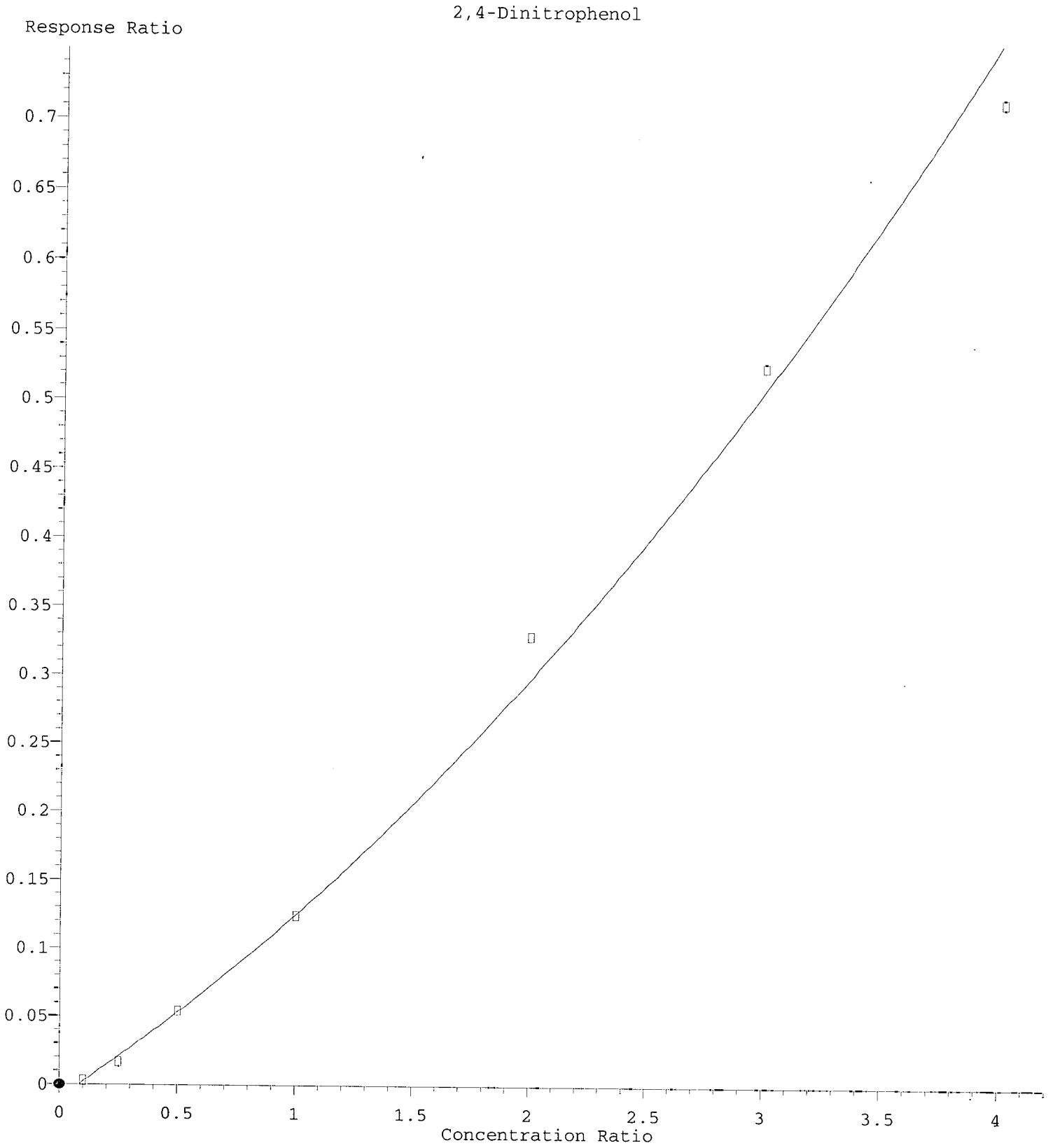
TIC: I05081919.D\data.ms

(50) 3-Nitroaniline (T)

10.280min (+ 0.615) -1.00 ng/ml m

response 1143

Ion	Exp%	Act%
138.10	100.00	100.00
92.10	114.60	35.66#
108.10	11.10	70.08#
0.00	0.00	0.00

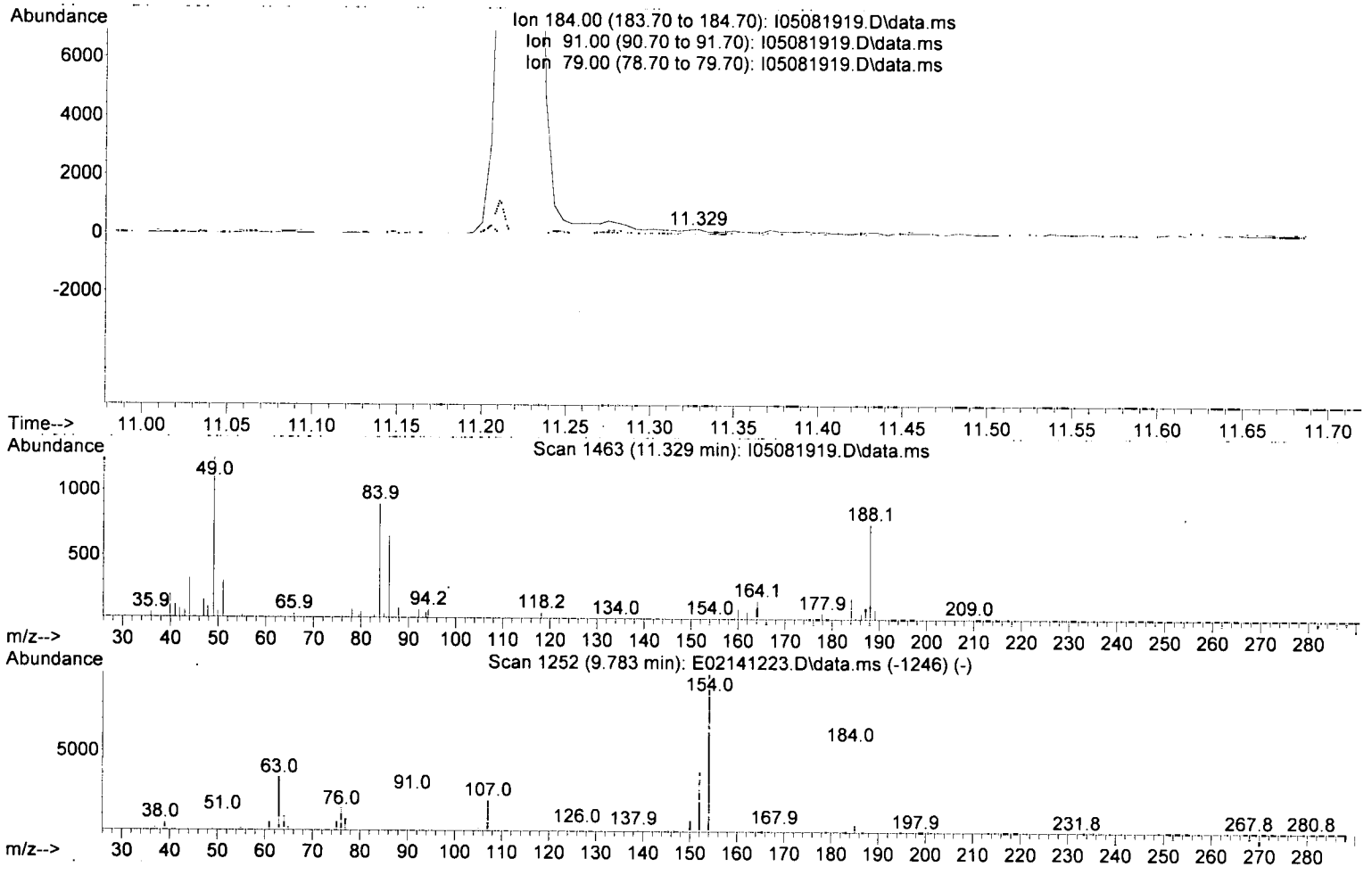


R = 1.91e-002 A*A + 1.15e-001 A - 9.32e-003
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



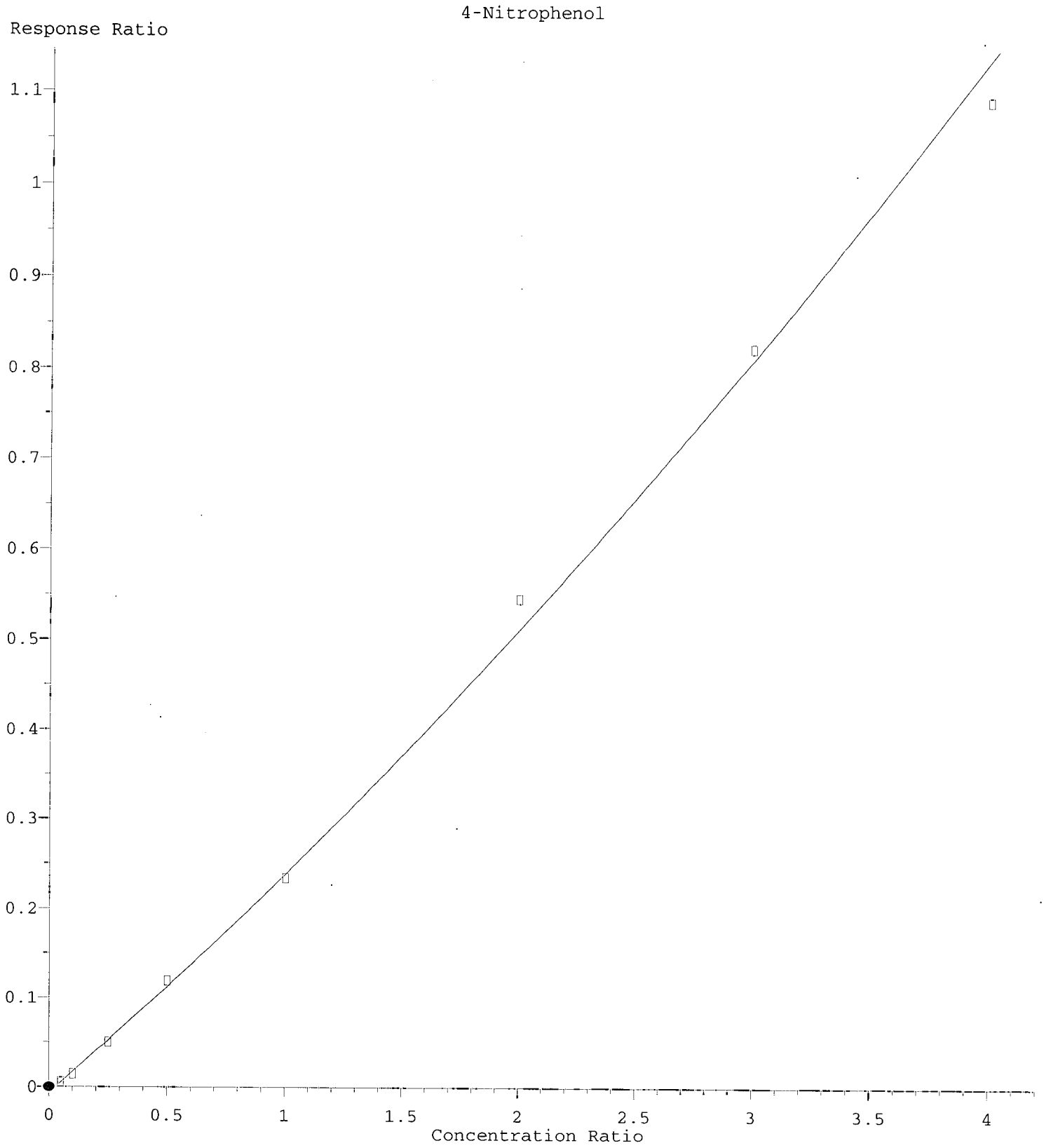
TIC: I05081919.D\data.ms

(52) 2,4-Dinitrophenol (T)

11.329min (+ 1.563) 173.74 ng/ml m

response 190

Ion	Exp%	Act%
184.00	100.00	100.00
91.00	53.50	0.00#
79.00	32.30	25.00
0.00	0.00	0.00

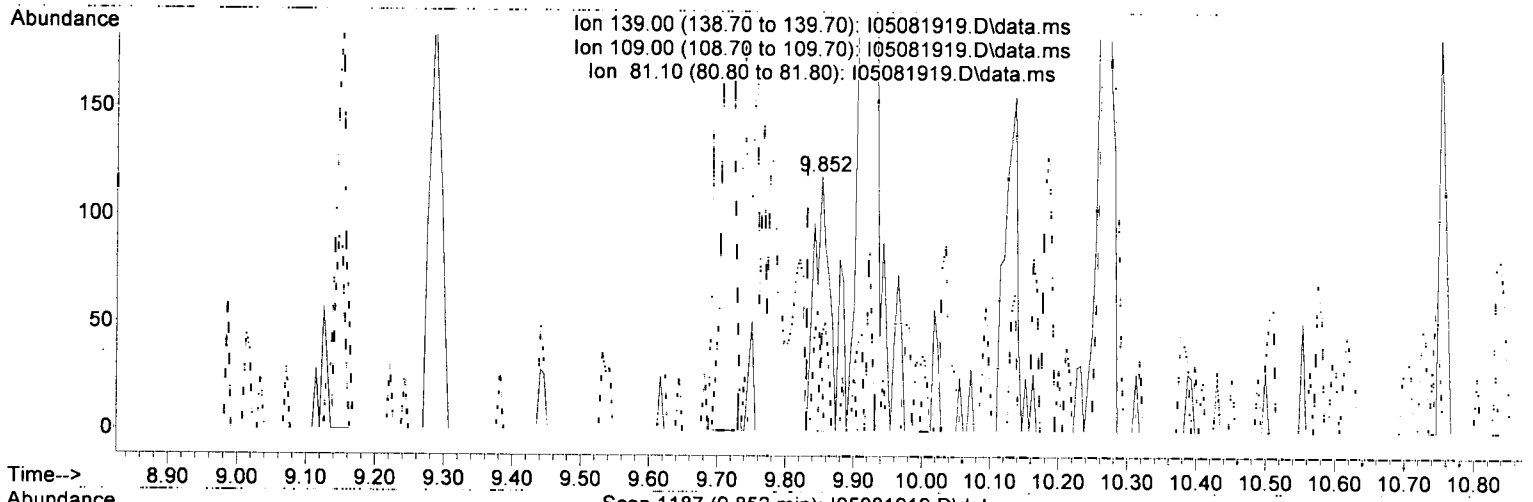


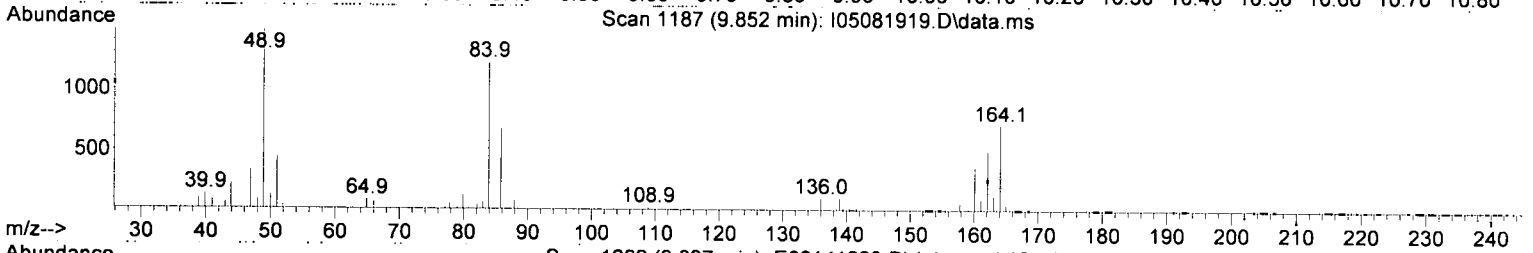
R = 1.35e-002 A*A + 2.32e-001 A - 6.72e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

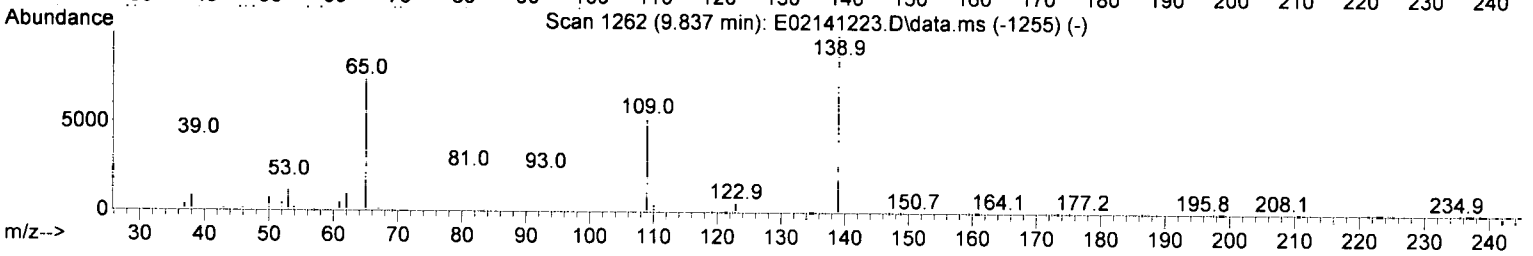
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







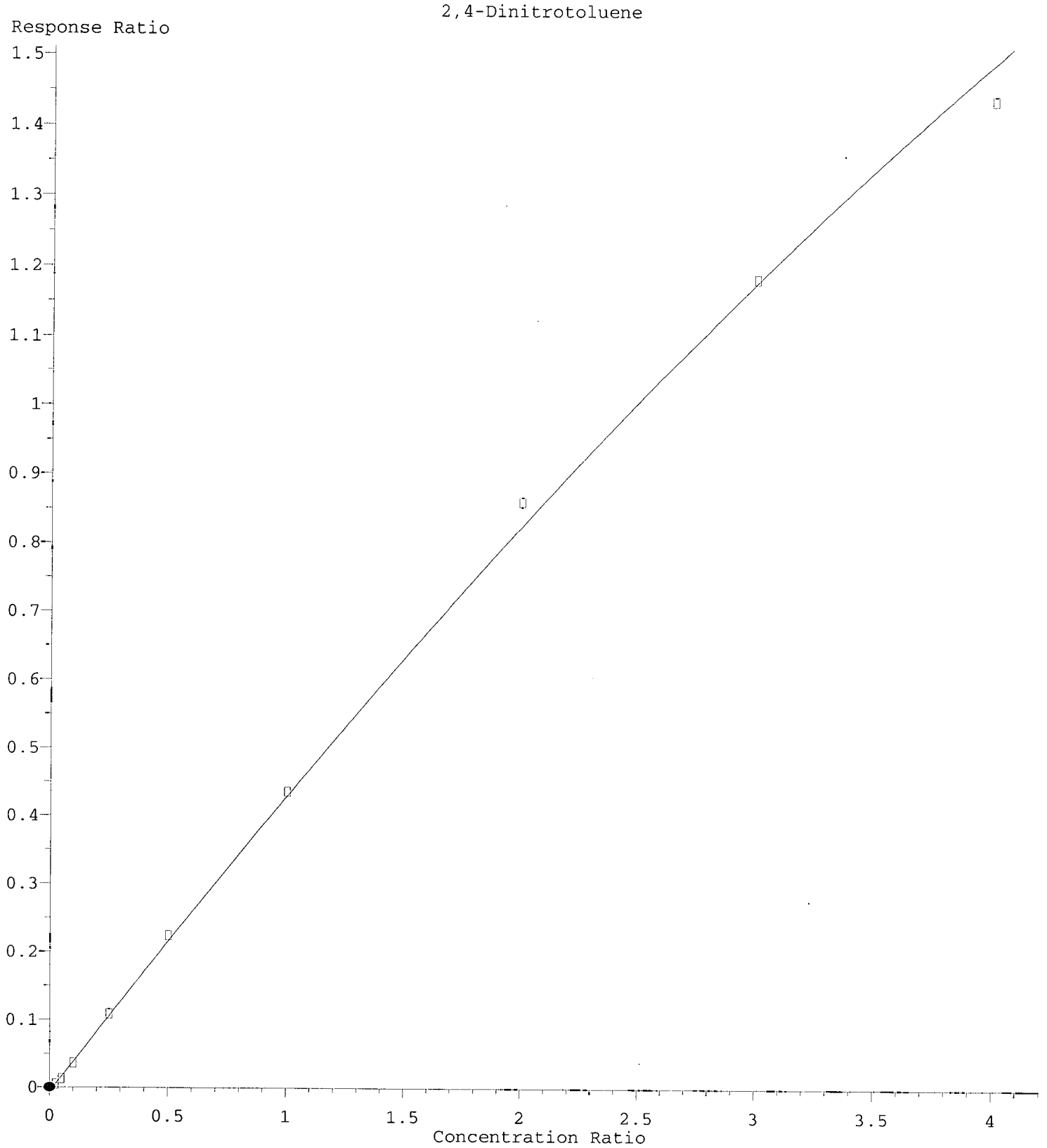
TIC: I05081919.D\data.ms

(53) 4-Nitrophenol (T)

9.852min (+ 0.021) 64.39 ng/ml

response 173

Ion	Exp%	Act%
139.00	100.00	100.00
109.00	64.20	36.97
81.10	30.90	26.89
0.00	0.00	0.00

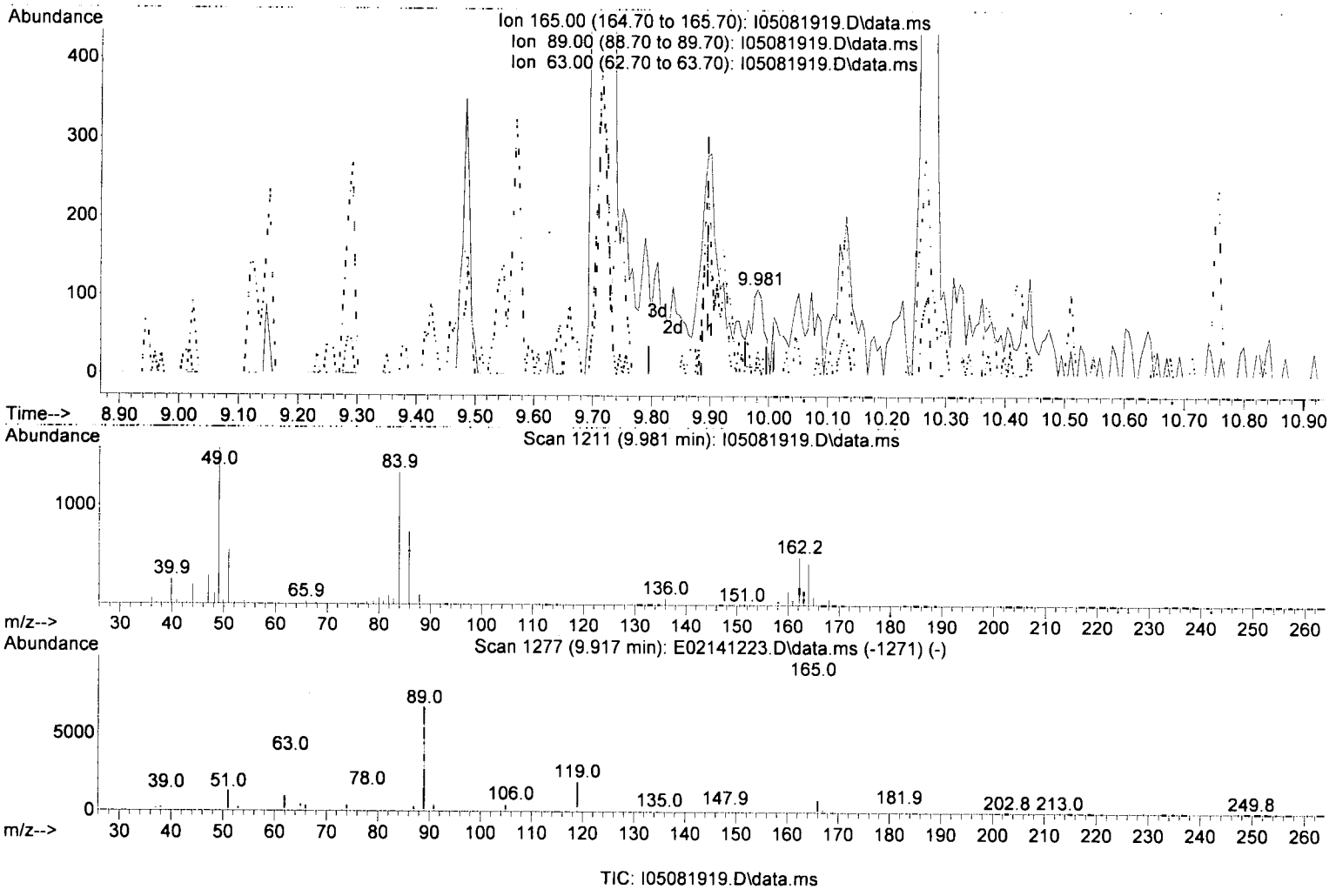


R = -2.06e-002 A*A + 4.57e-001 A - 7.48e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05081919.D\data.ms

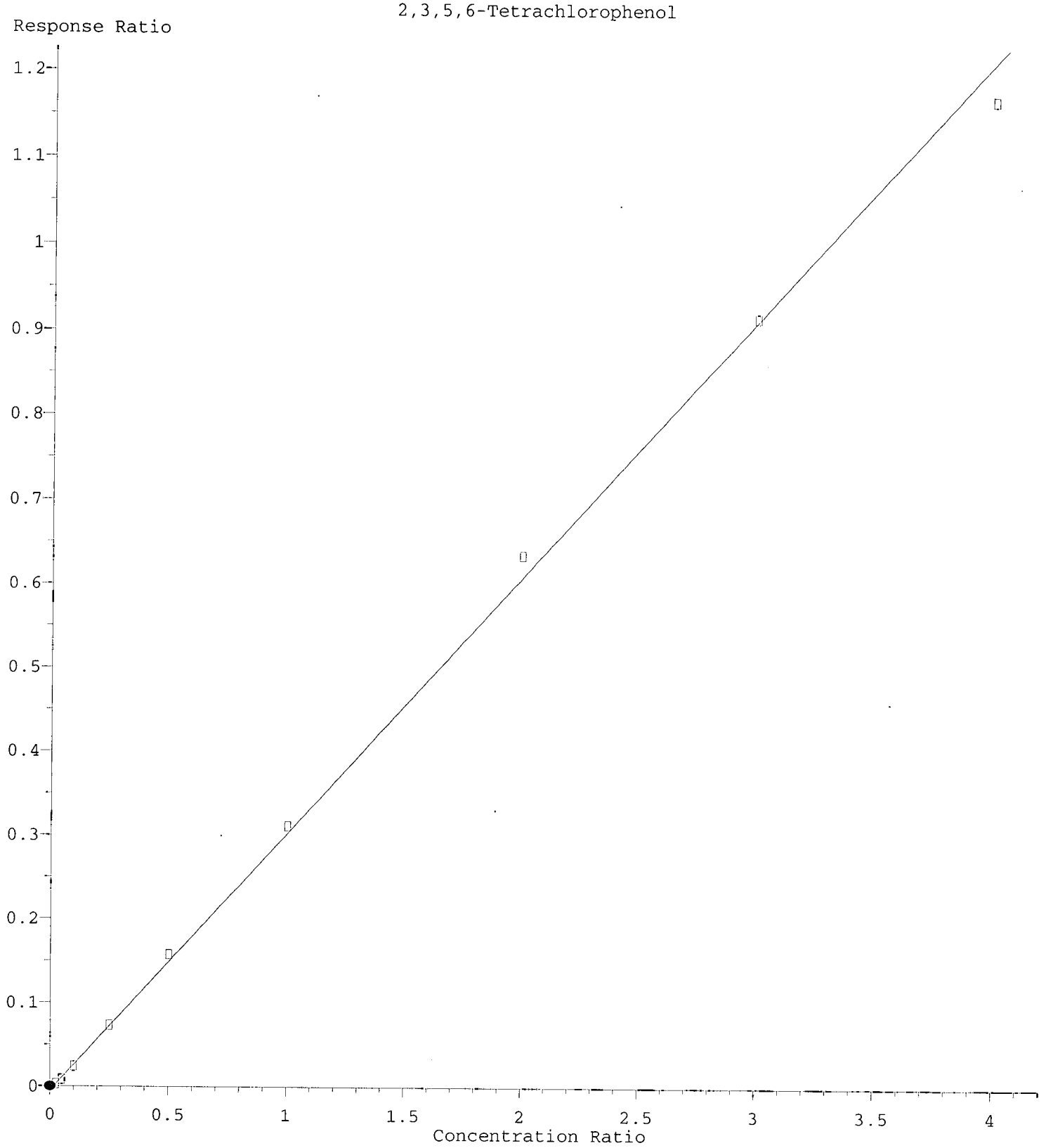
(54) 2,4-Dinitrotoluene (T)

9.981min (+ 0.086) 35.93 ng/ml m

response 167

Ion	Exp%	Act%
165.00	100.00	100.00
89.00	80.10	26.61#
63.00	47.20	0.00#
0.00	0.00	0.00

J

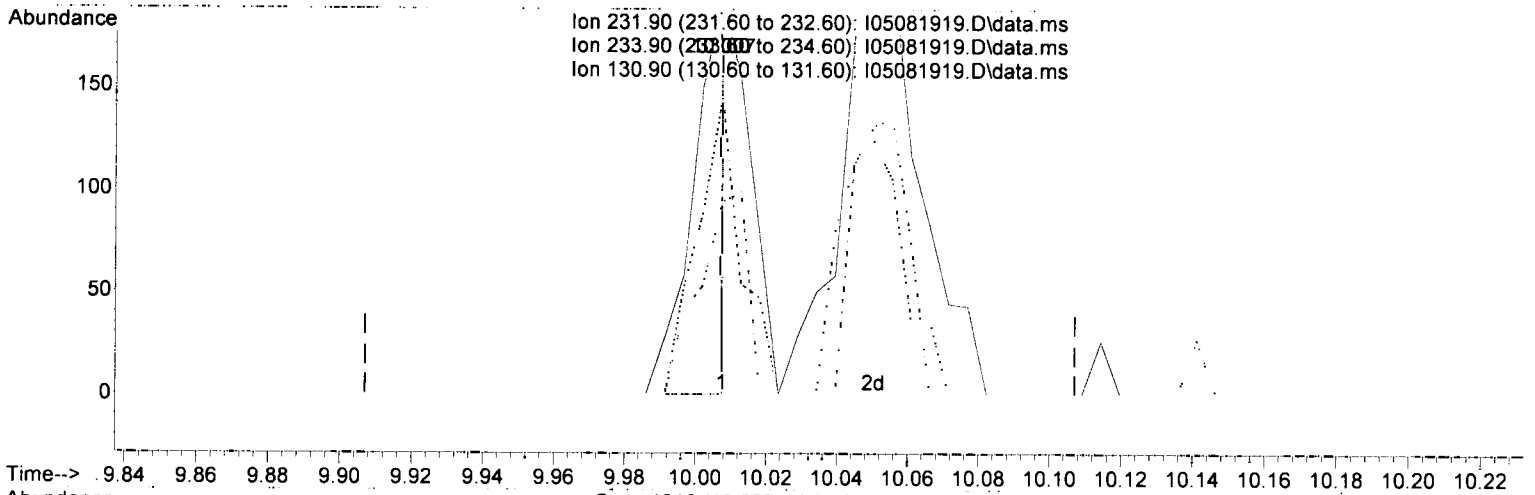


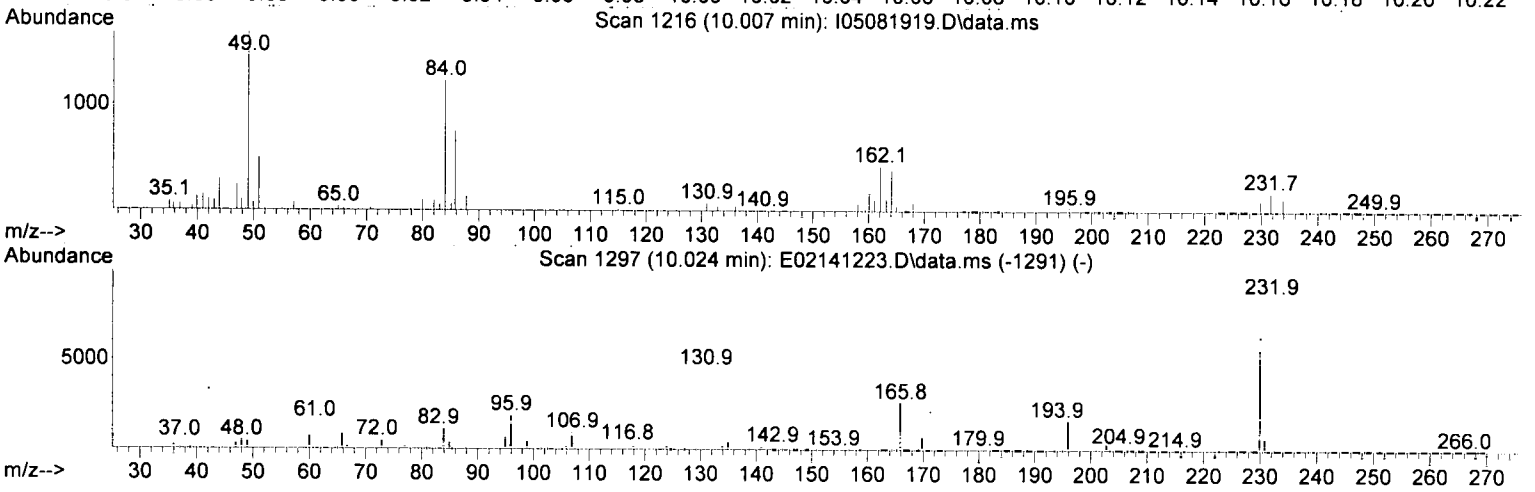
R = -1.07e-003 A*A + 3.09e-001 A - 5.22e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9





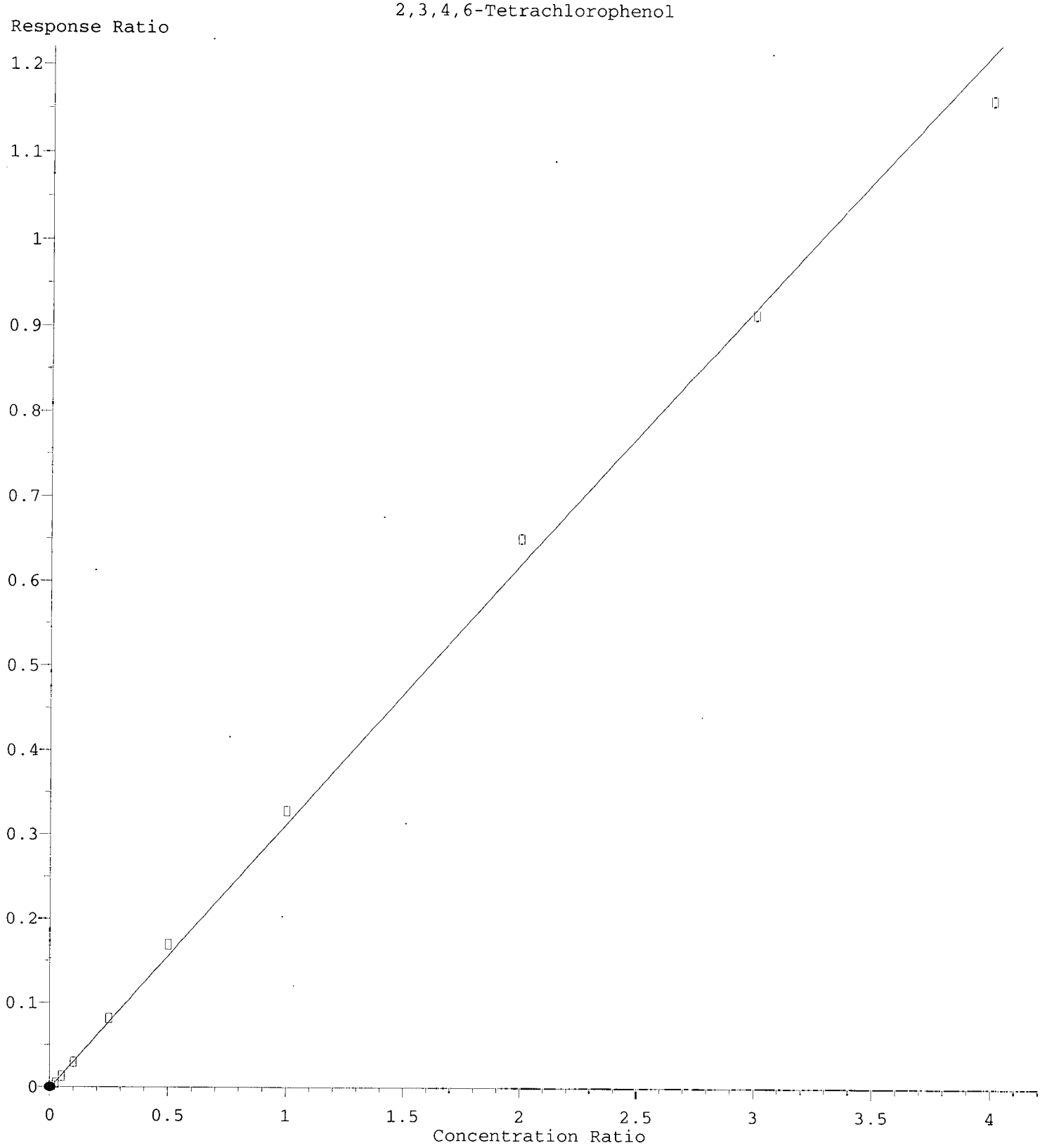
TIC: I05081919.D\data.ms

(56) 2,3,5,6-Tetrachlorophenol (T)

10.007min (+ 0.000) 37.74 ng/ml m

response 140

Ion	Exp%	Act%
231.90	100.00	100.00
233.90	49.20	72.86
130.90	53.00	47.24
0.00	0.00	0.00

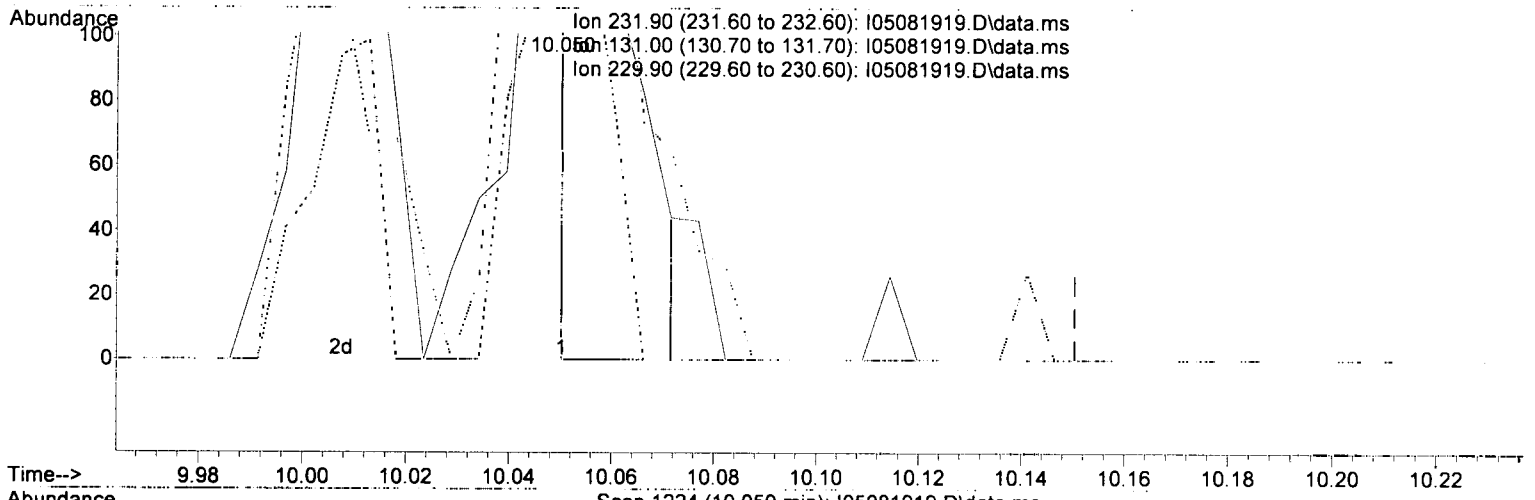


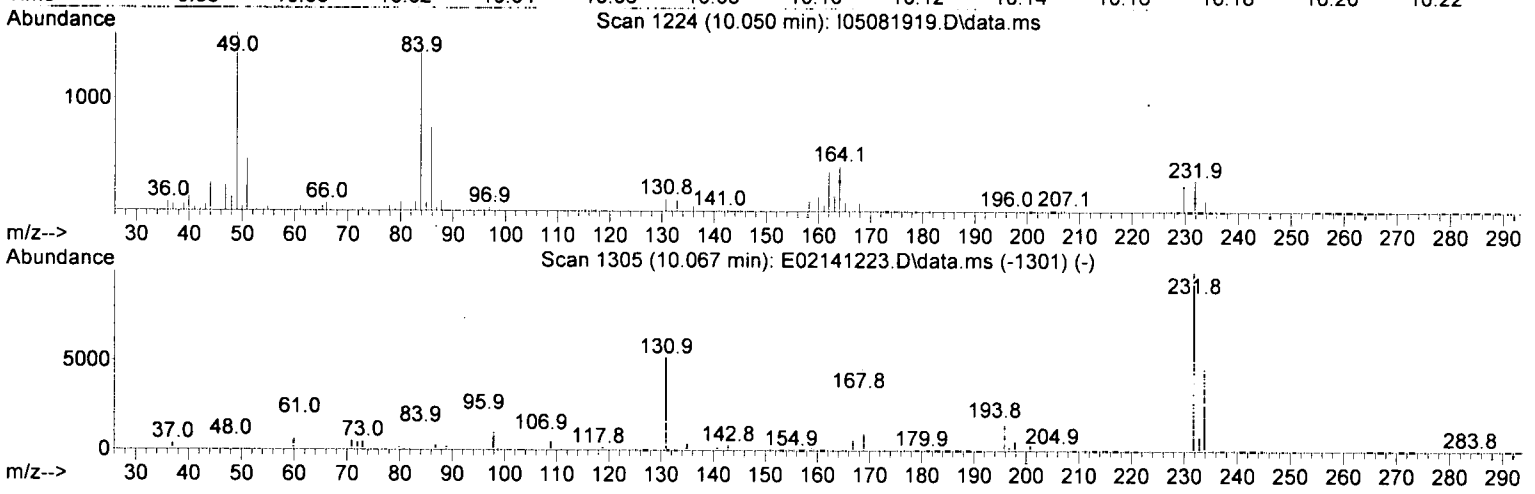
R = -3.25e-003 A*A + 3.18e-001 A - 1.92e-003
Coef of Det (r^2) = 0.991 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9





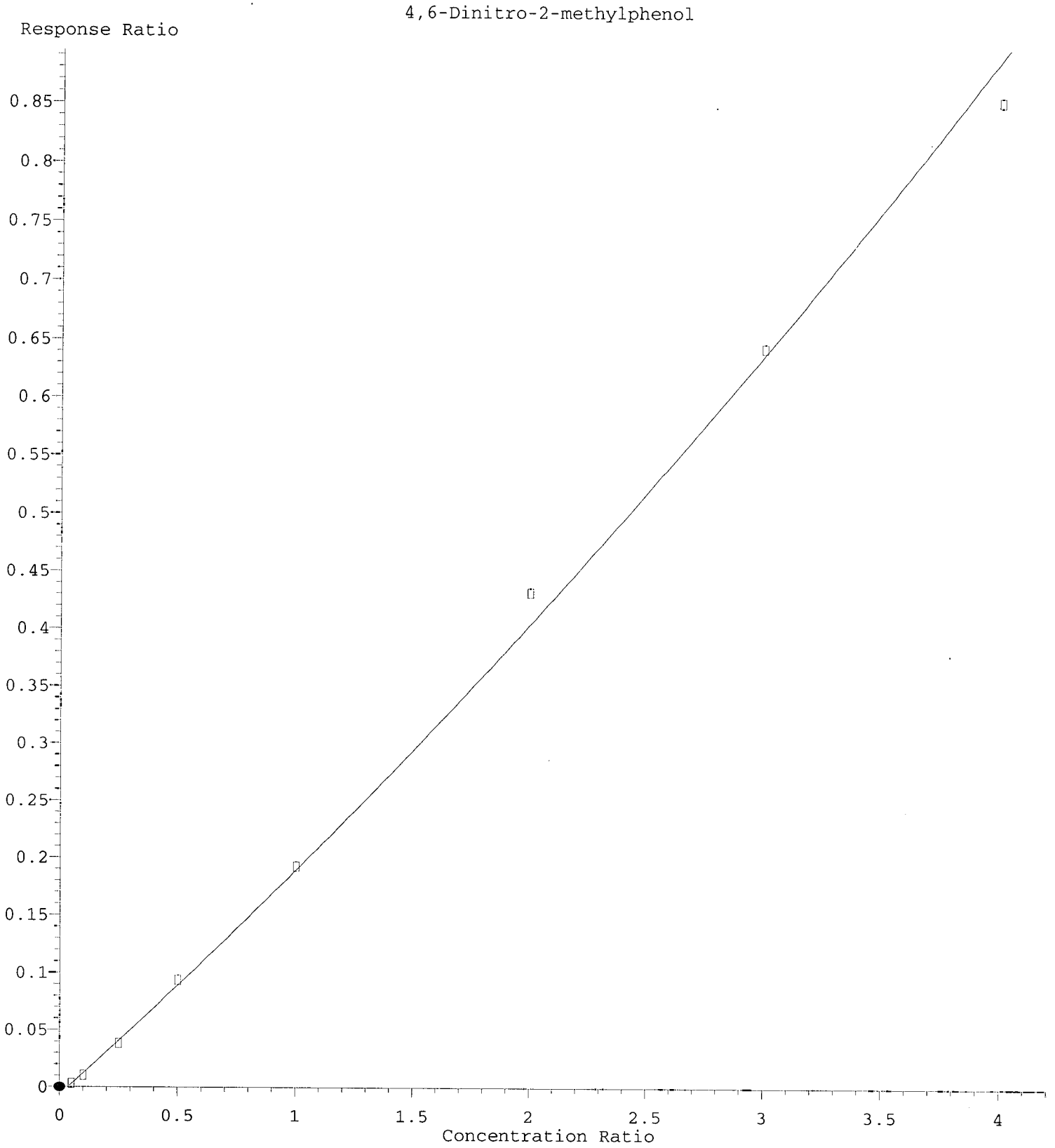
TIC: I05081919.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.050min (-0.000) 16.03 ng/ml m

response 145

Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	45.33
229.90	78.40	85.47
0.00	0.00	0.00

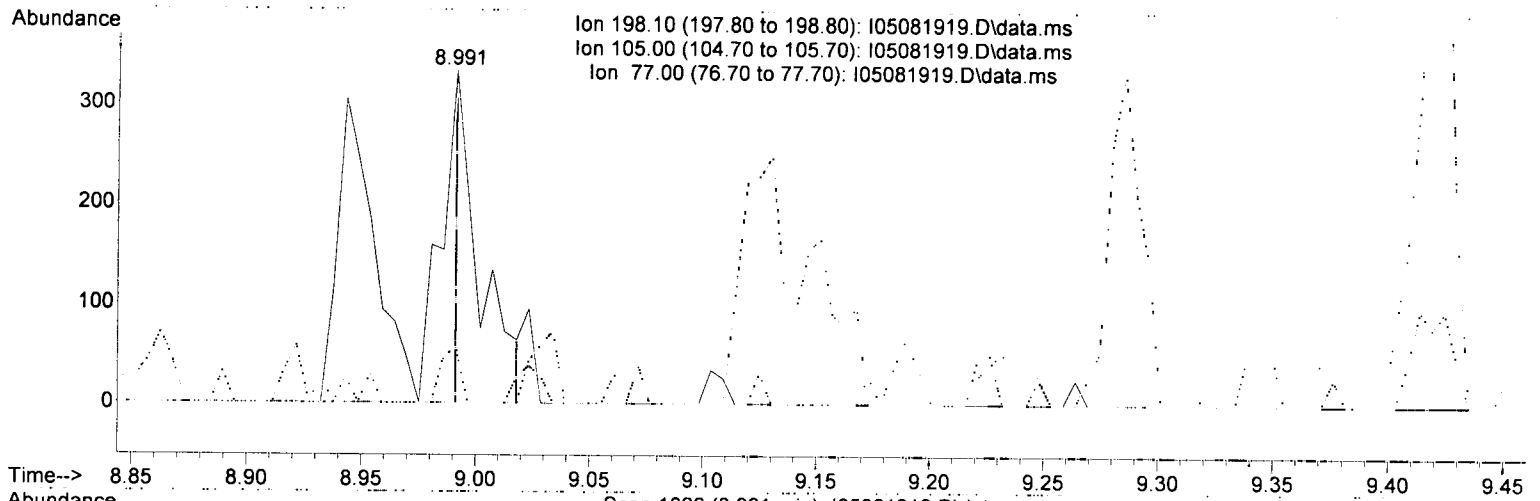


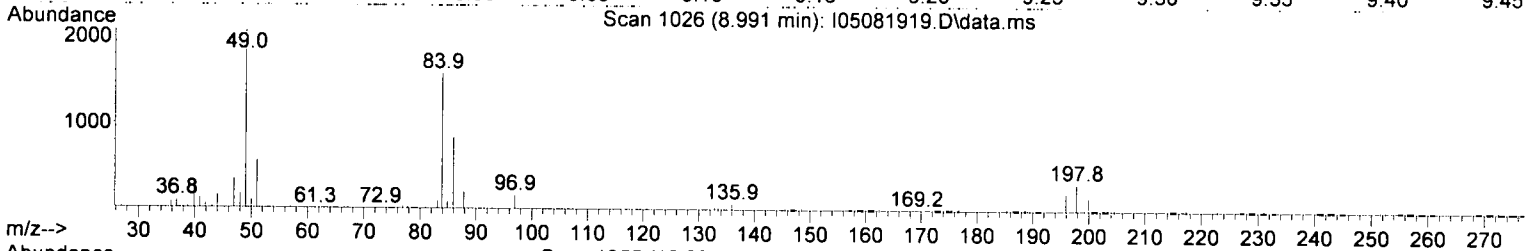
R = 9.20e-003 A*A + 1.87e-001 A - 6.68e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

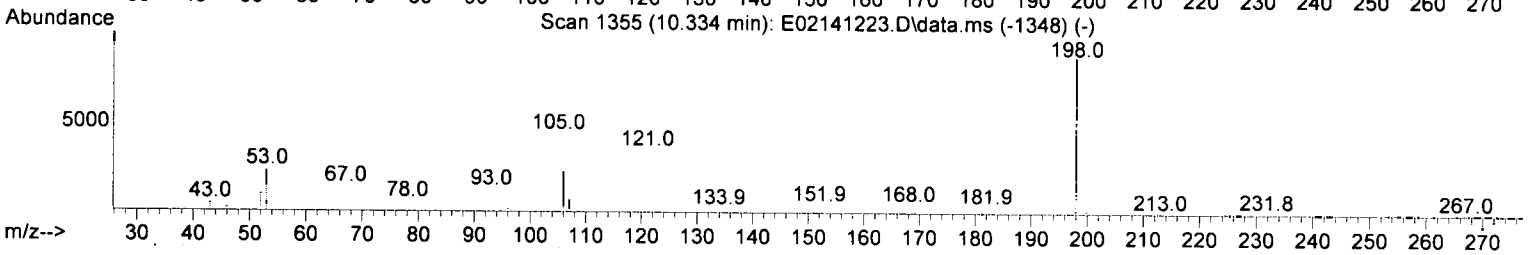
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







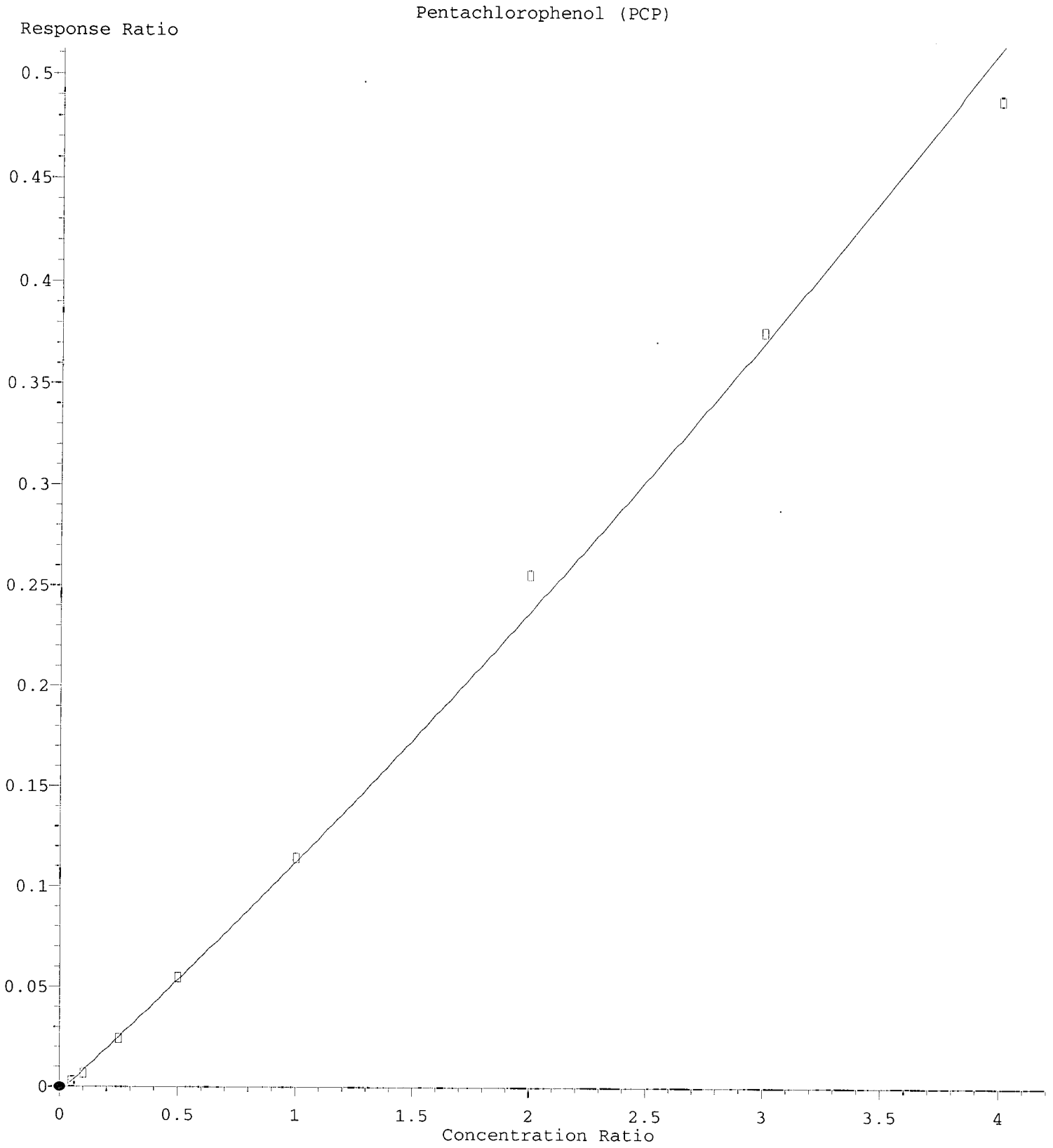
TIC: I05081919.D\data.ms

(63) 4,6-Dinitro-2-methylphenol (T)

8.991min (-1.321) 79.54 ng/ml m

response 177

Ion	Exp%	Act%
198.10	100.00	100.00
105.00	58.40	0.00#
77.00	31.80	16.77
0.00	0.00	0.00

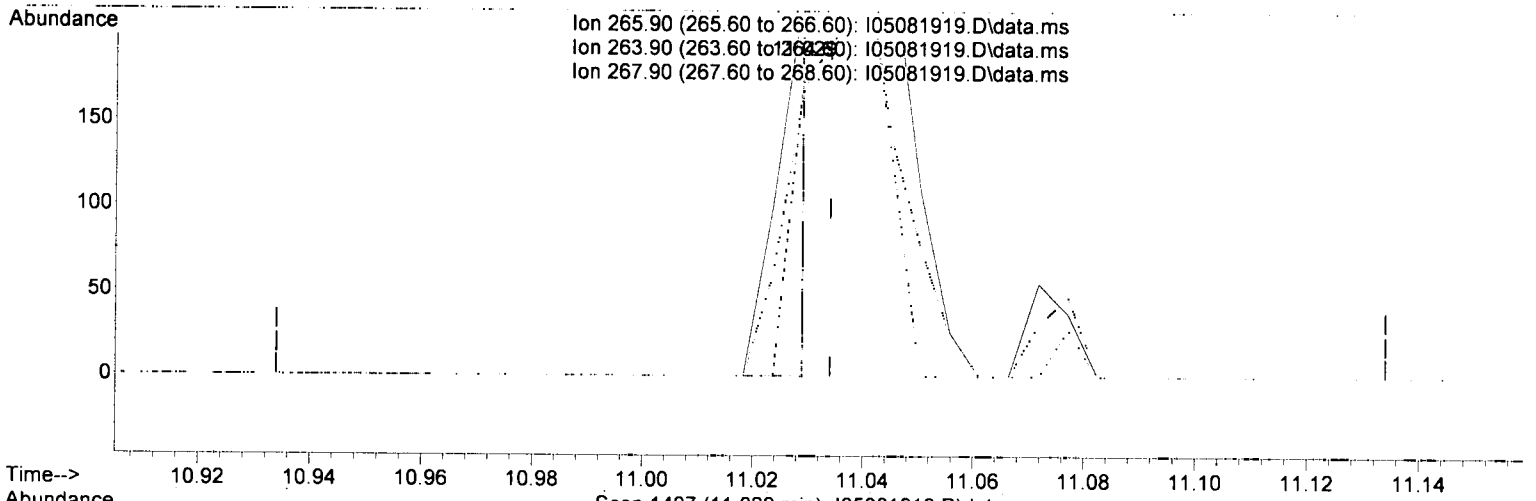


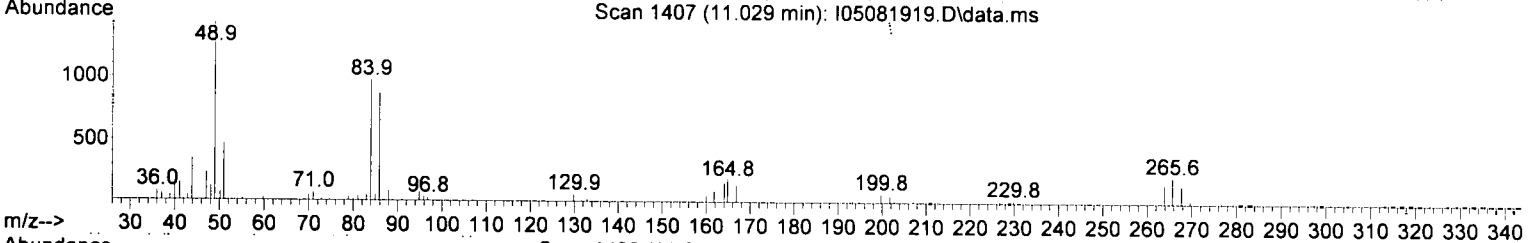
R = 4.56e-003 A*A + 1.11e-001 A - 3.12e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

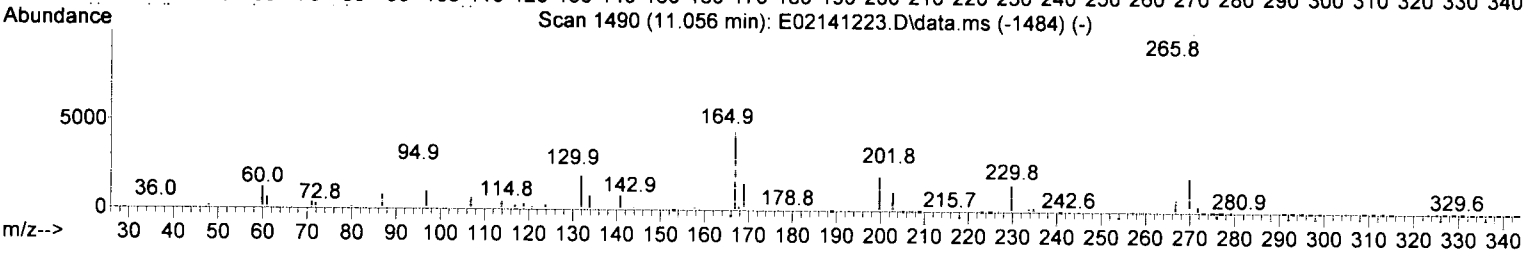
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







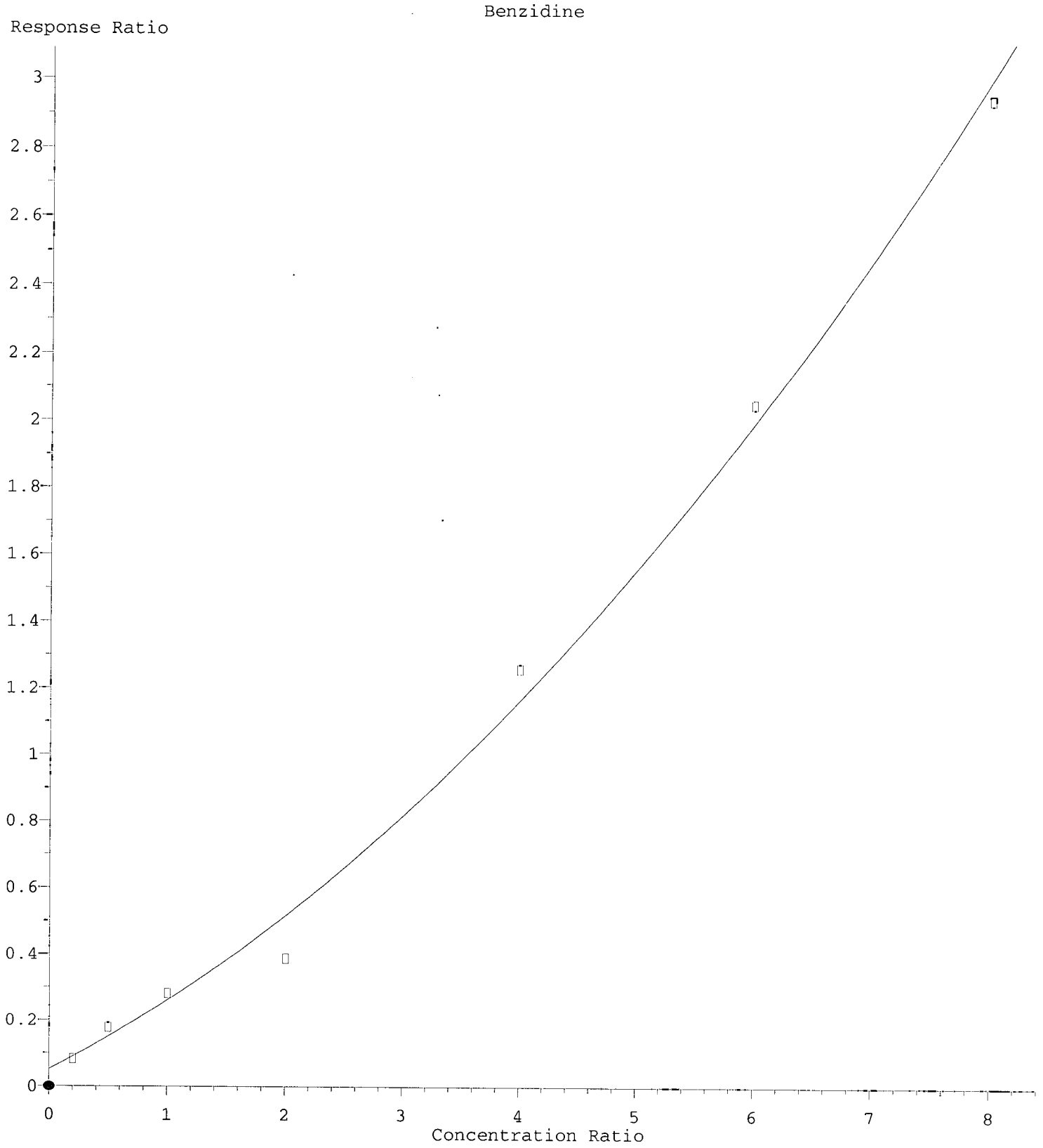
TIC: I05081919.D\data.ms

(70) Pentachlorophenol (PCP) (T)

11.029min (-0.005) 60.50 ng/ml m

response 107

Ion	Exp%	Act%
265.90	100.00	100.00
263.90	65.20	74.89
267.90	61.20	72.29
0.00	0.00	0.00

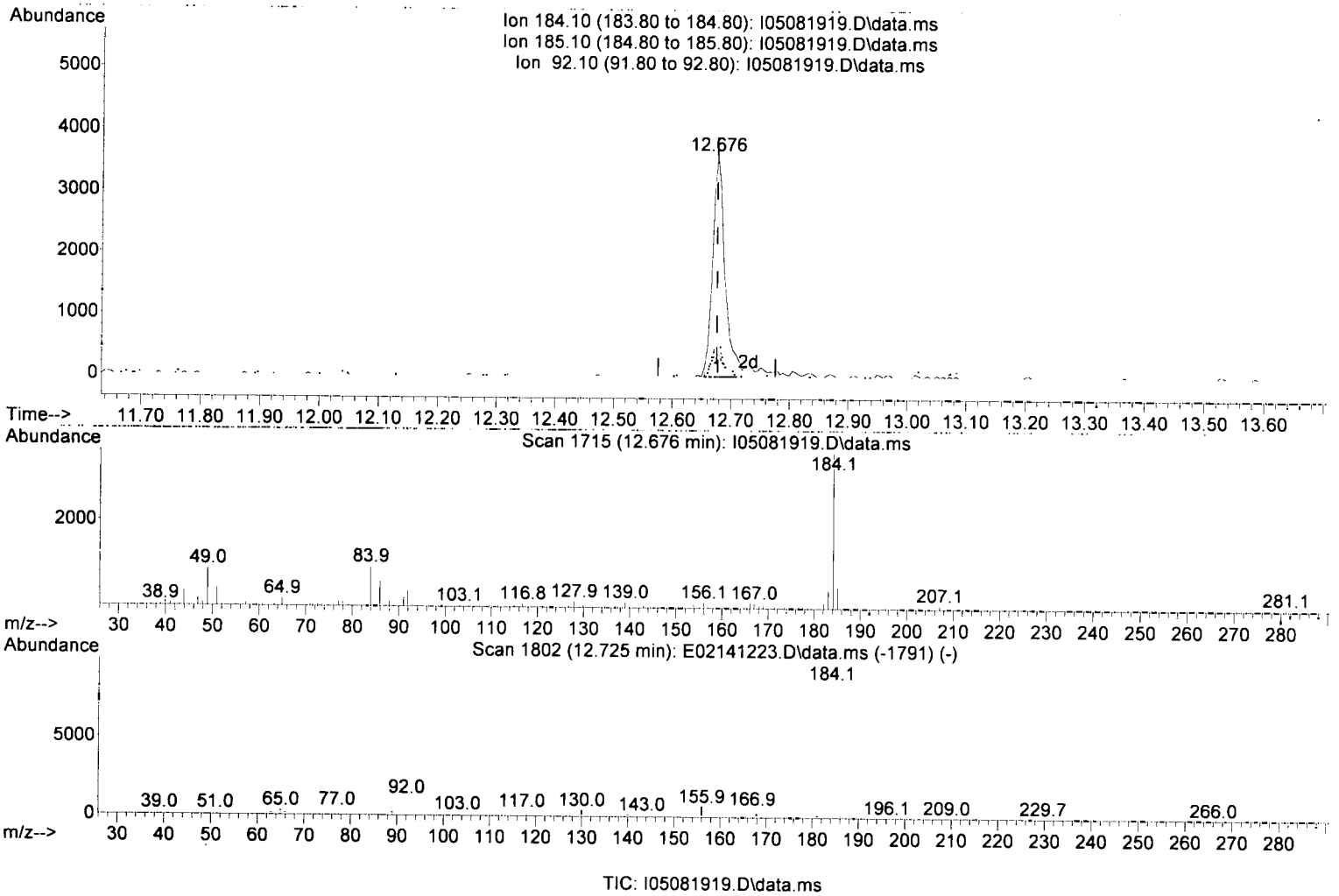


R = 2.27e-002 A*A + 1.87e-001 A + 5.11e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



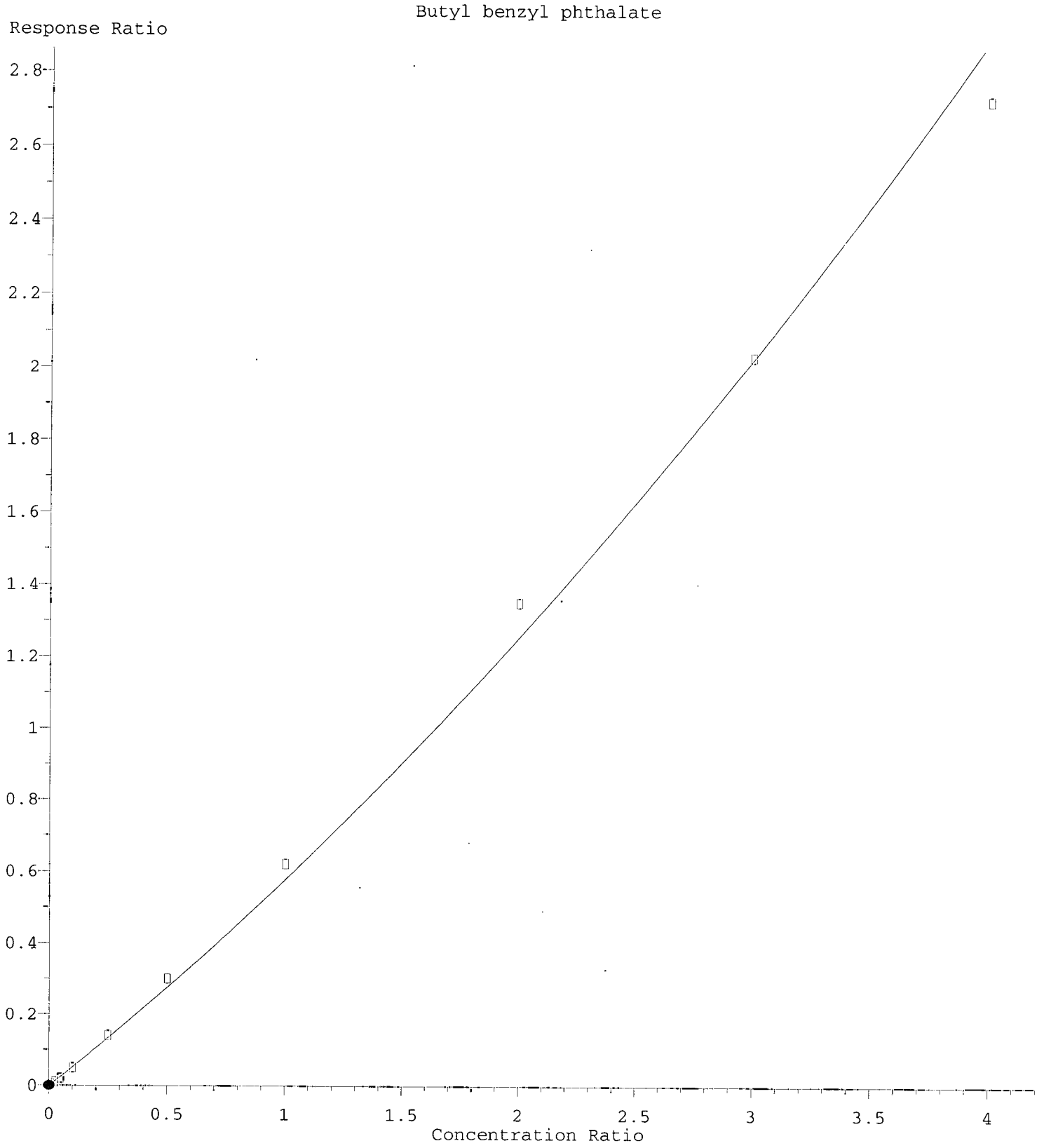
TIC: I05081919.D\data.ms

(76) Benzidine (T)

12.676min (+ 0.000) -1.00 ng/ml m

response 6349

Ion	Exp%	Act%
184.10	100.00	100.00
185.10	15.10	14.46
92.10	11.90	10.75
0.00	0.00	0.00

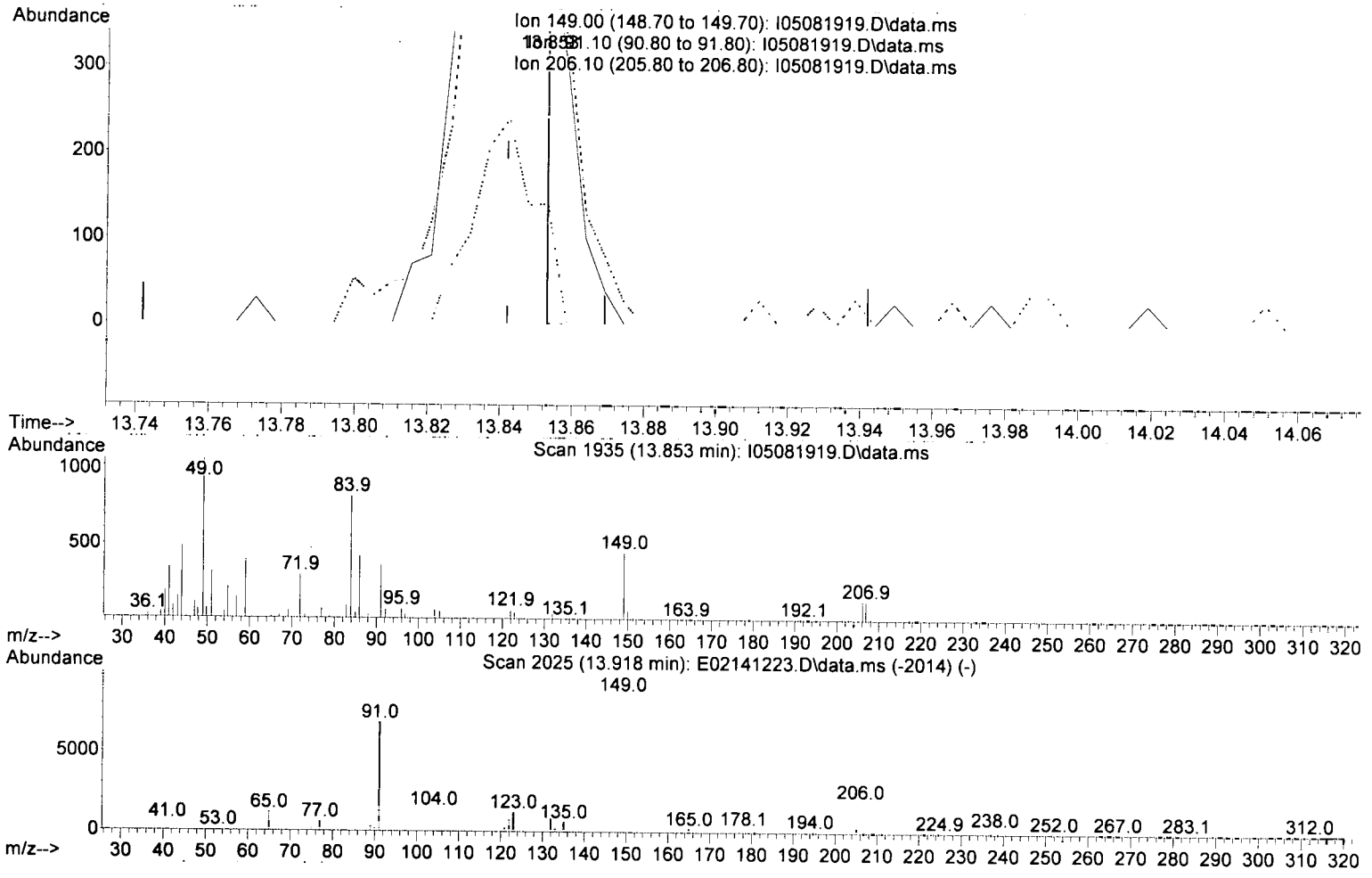


R = 4.75e-002 A*A + 5.33e-001 A - 2.59e-003
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



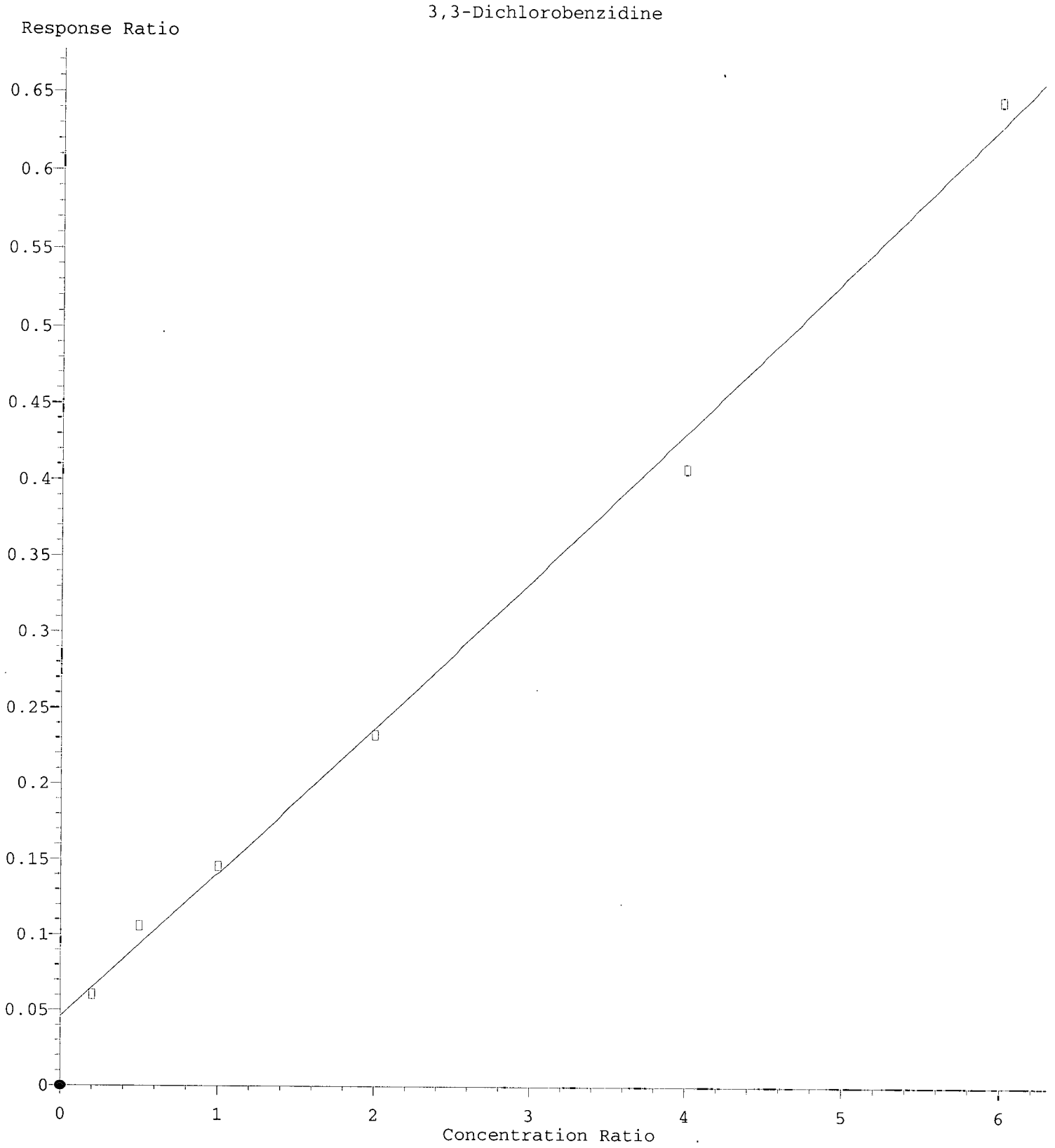
TIC: I05081919.D\data.ms

(80) Butyl benzyl phthalate (T)

13.853min (+ 0.011) 10.86 ng/ml m

response 141

Ion	Exp%	Act%
149.00	100.00	100.00
91.10	76.30	80.79
206.10	18.00	31.13
0.00	0.00	0.00

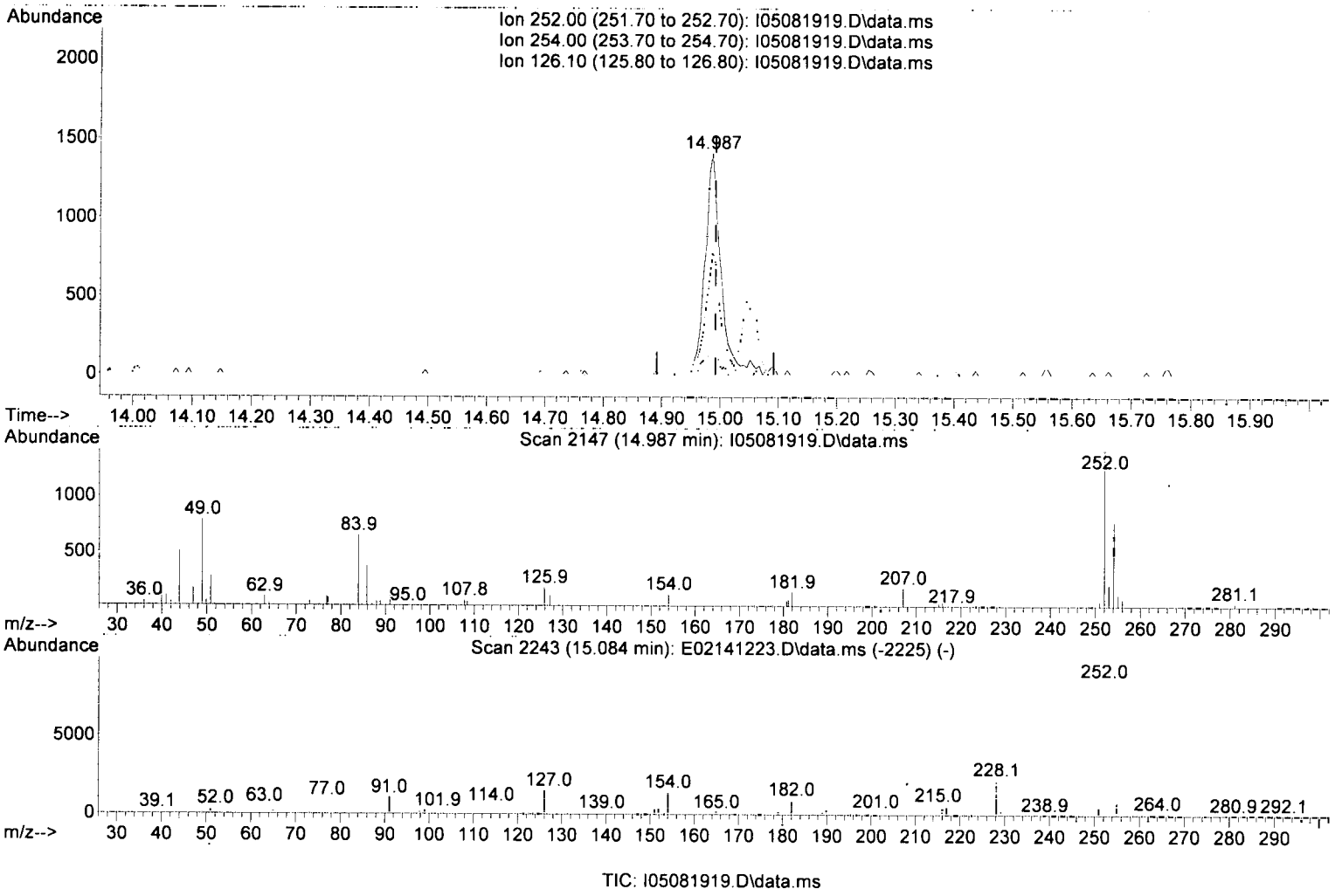


R = 5.56e-004 A*A + 9.39e-002 A + 4.63e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



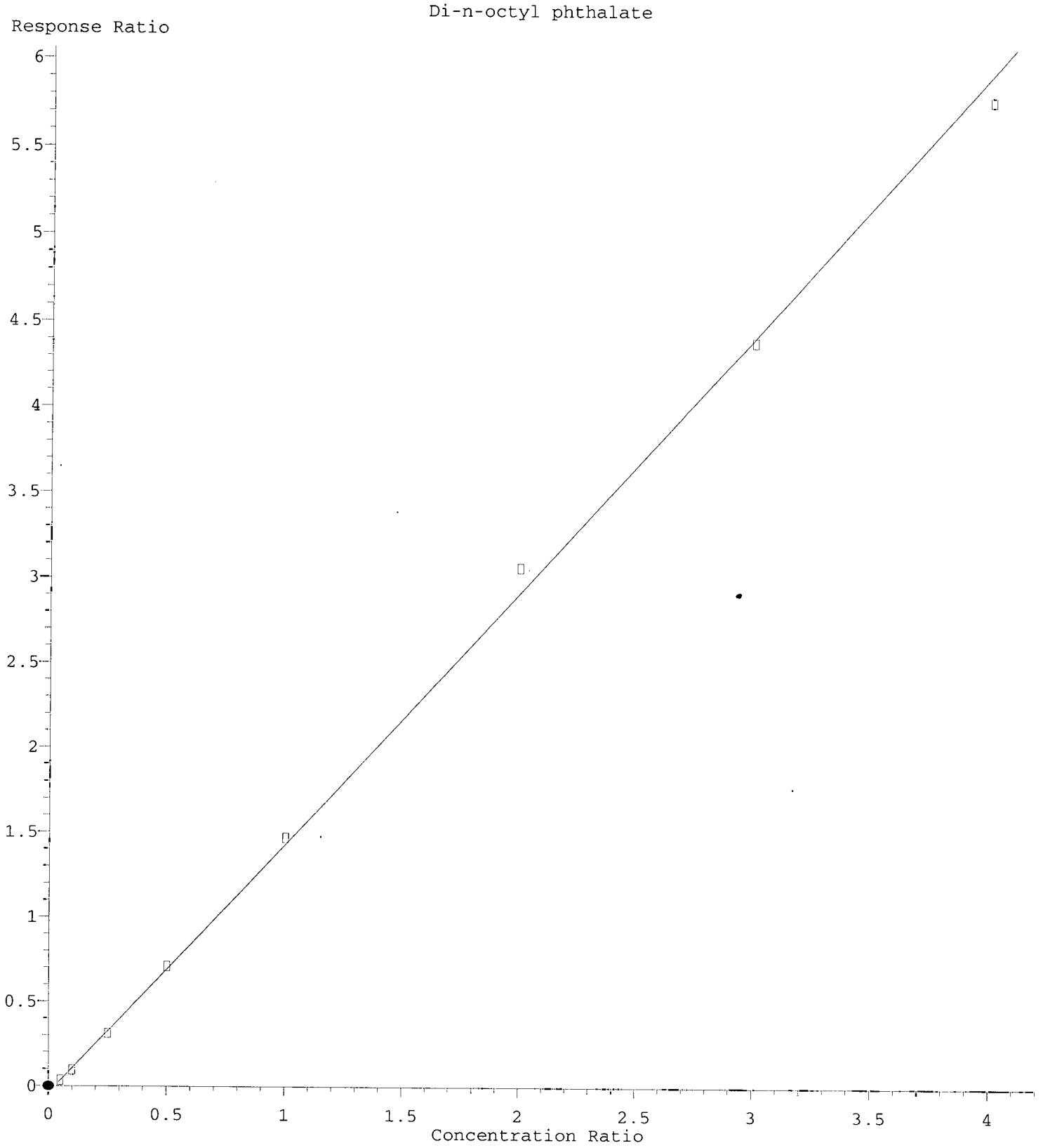
TIC: I05081919.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

14.987min (-0.005) -1.00 ng/ml m

response 2973

Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	55.05
126.10	16.90	13.29
0.00	0.00	0.00

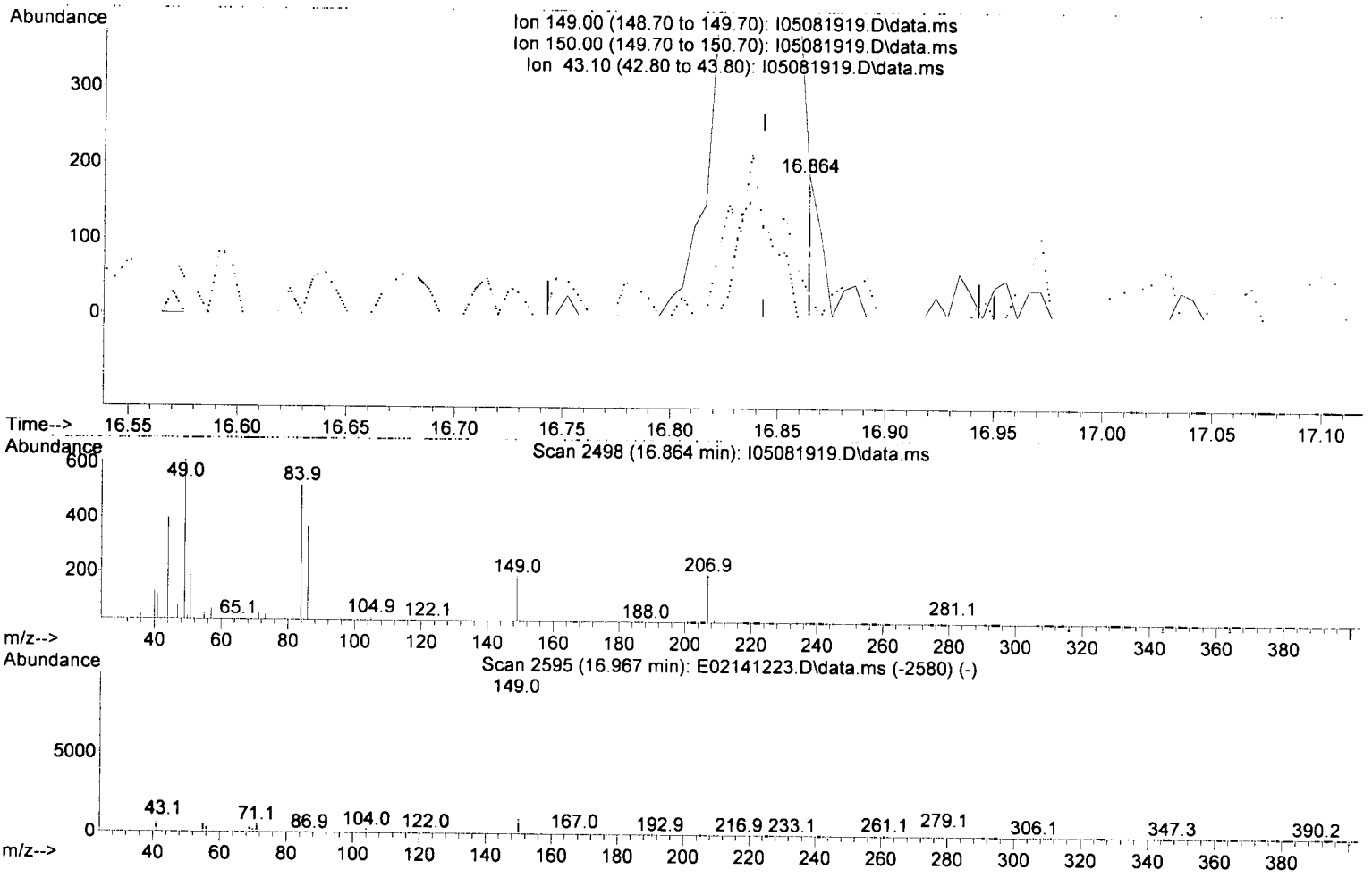


R = 7.21e-003 A*A + 1.46e+000 A - 4.17e-002
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



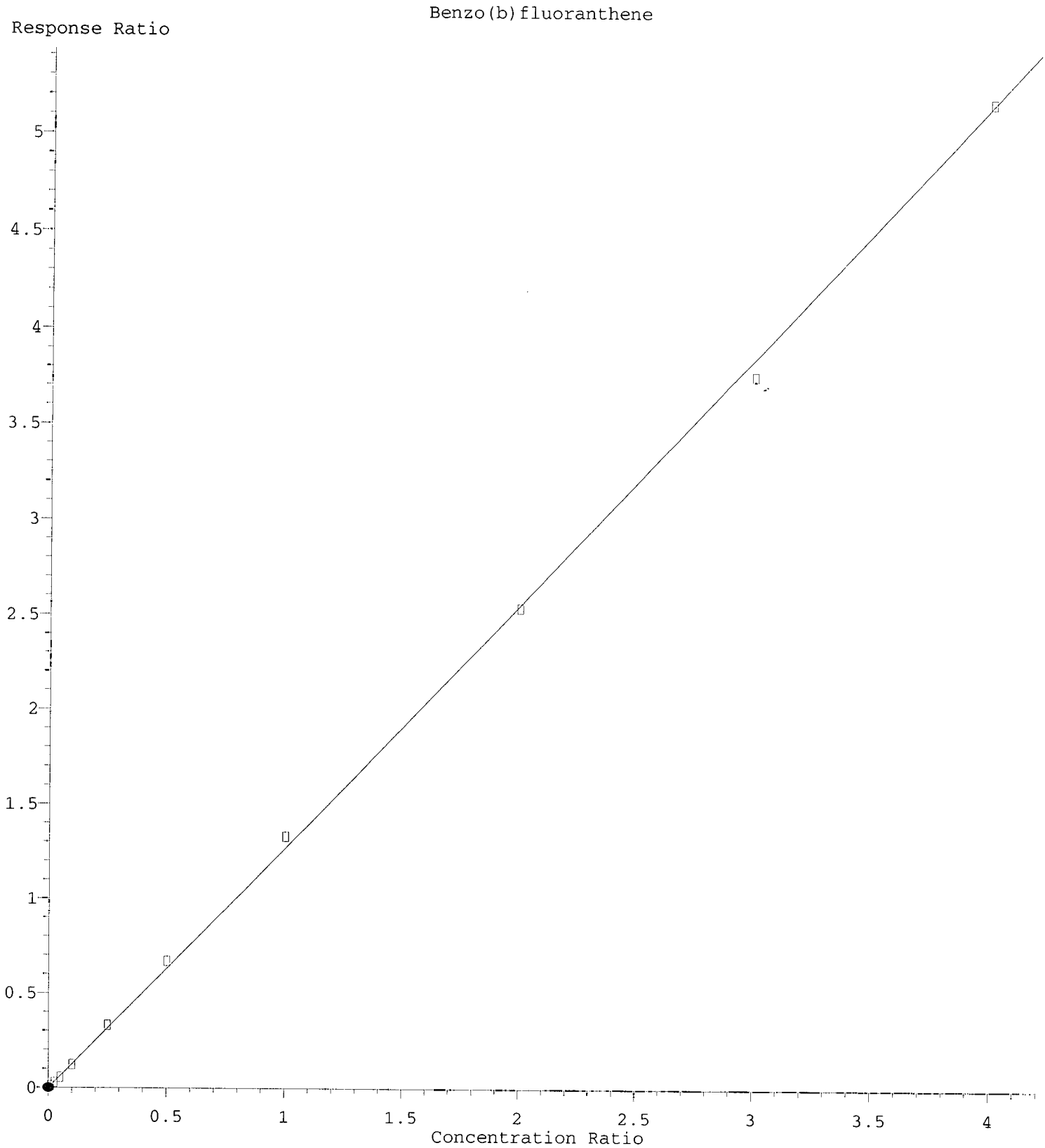
TIC: I05081919.D\data.ms

(87) Di-n-octyl phthalate (T)

16.864min (+ 0.021) 57.38 ng/ml m

response 110

Ion	Exp%	Act%
149.00	100.00	100.00
150.00	9.60	0.00
43.10	10.40	16.04
0.00	0.00	0.00

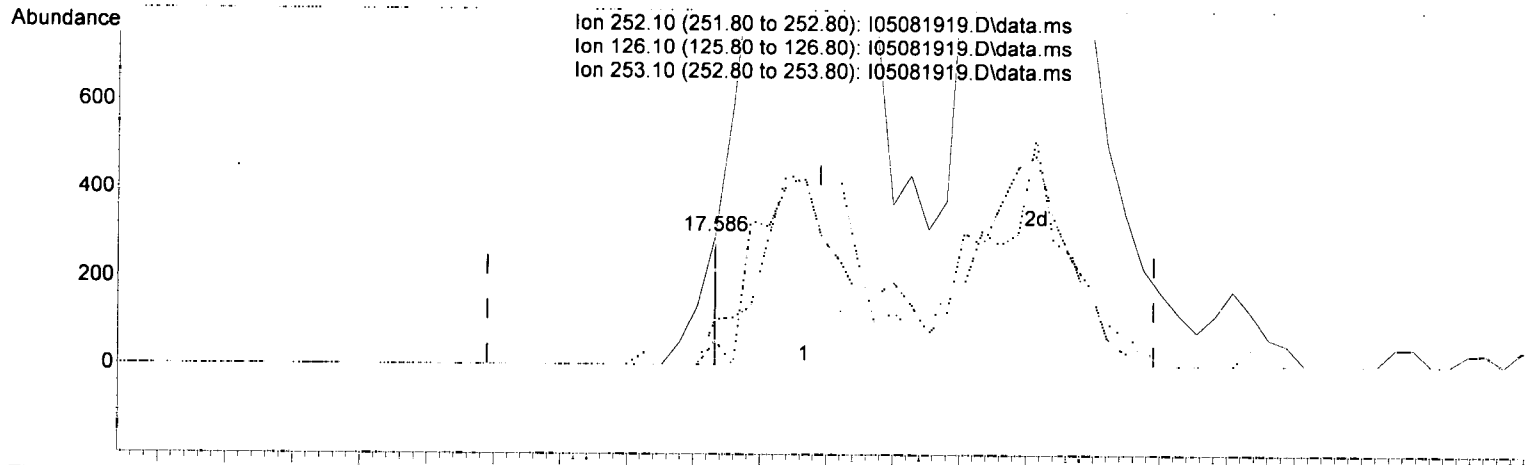


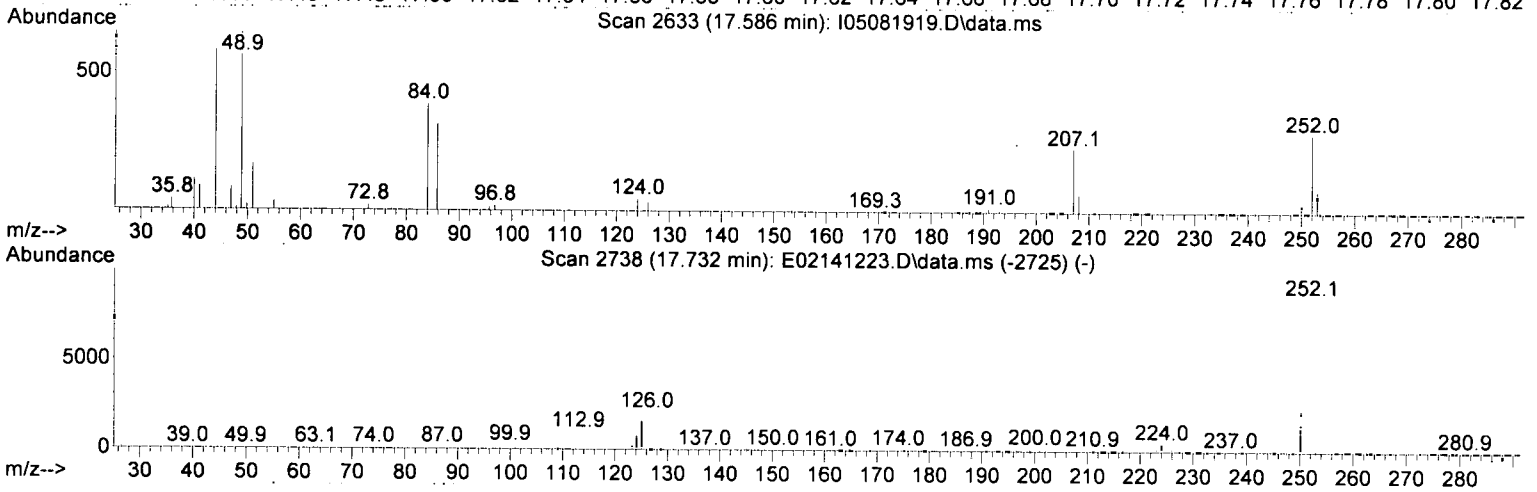
R = 6.58e-003 A*A + 1.26e+000 A - 2.78e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9





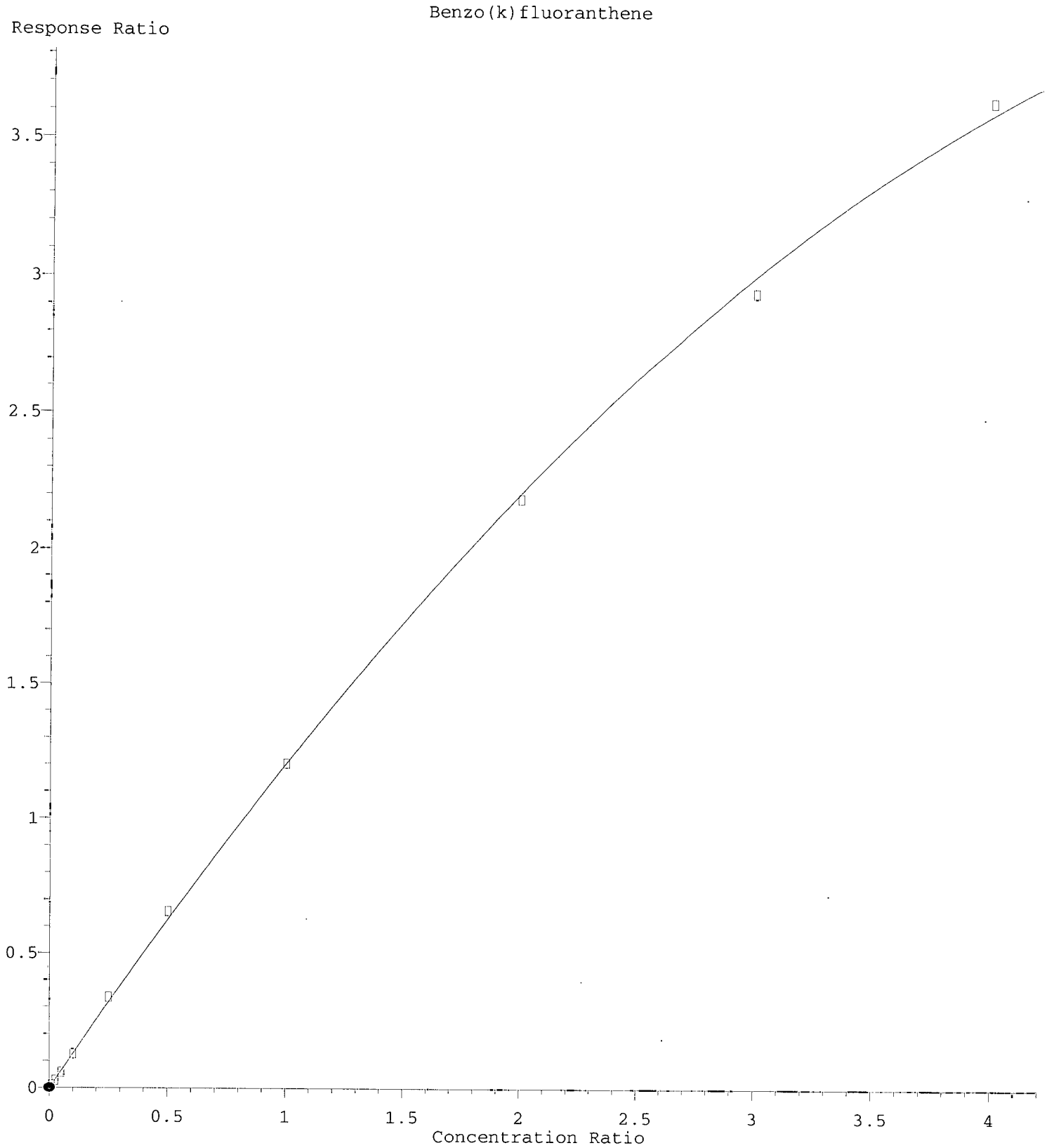
TIC: I05081919.D\data.ms

(88) Benzo(b)fluoranthene (T)

17.586min (-0.032) 4.95 ng/ml m

response 153

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	21.90	18.71
253.10	22.00	35.03
0.00	0.00	0.00

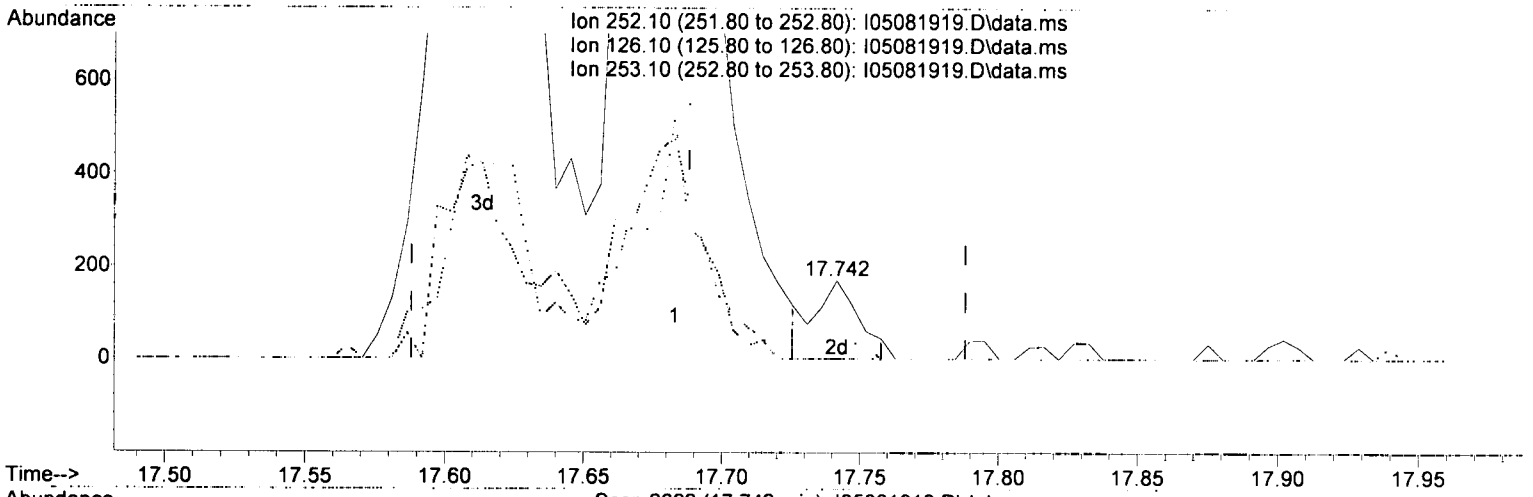


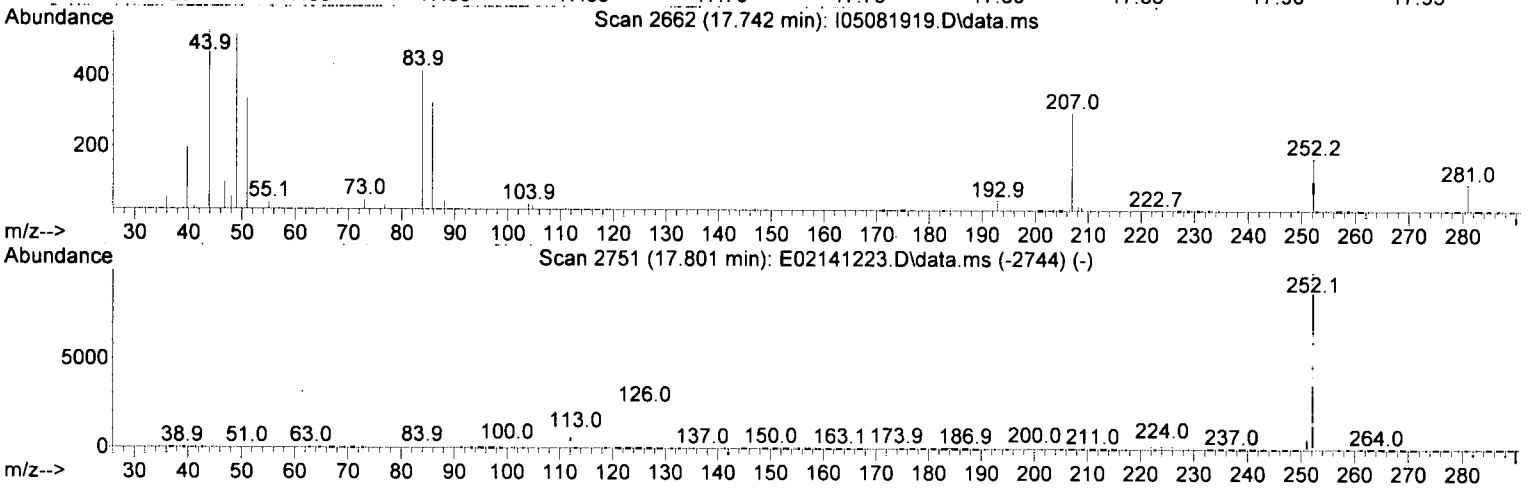
R = -1.03e-001 A*A + 1.31e+000 A - 3.30e-003
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9





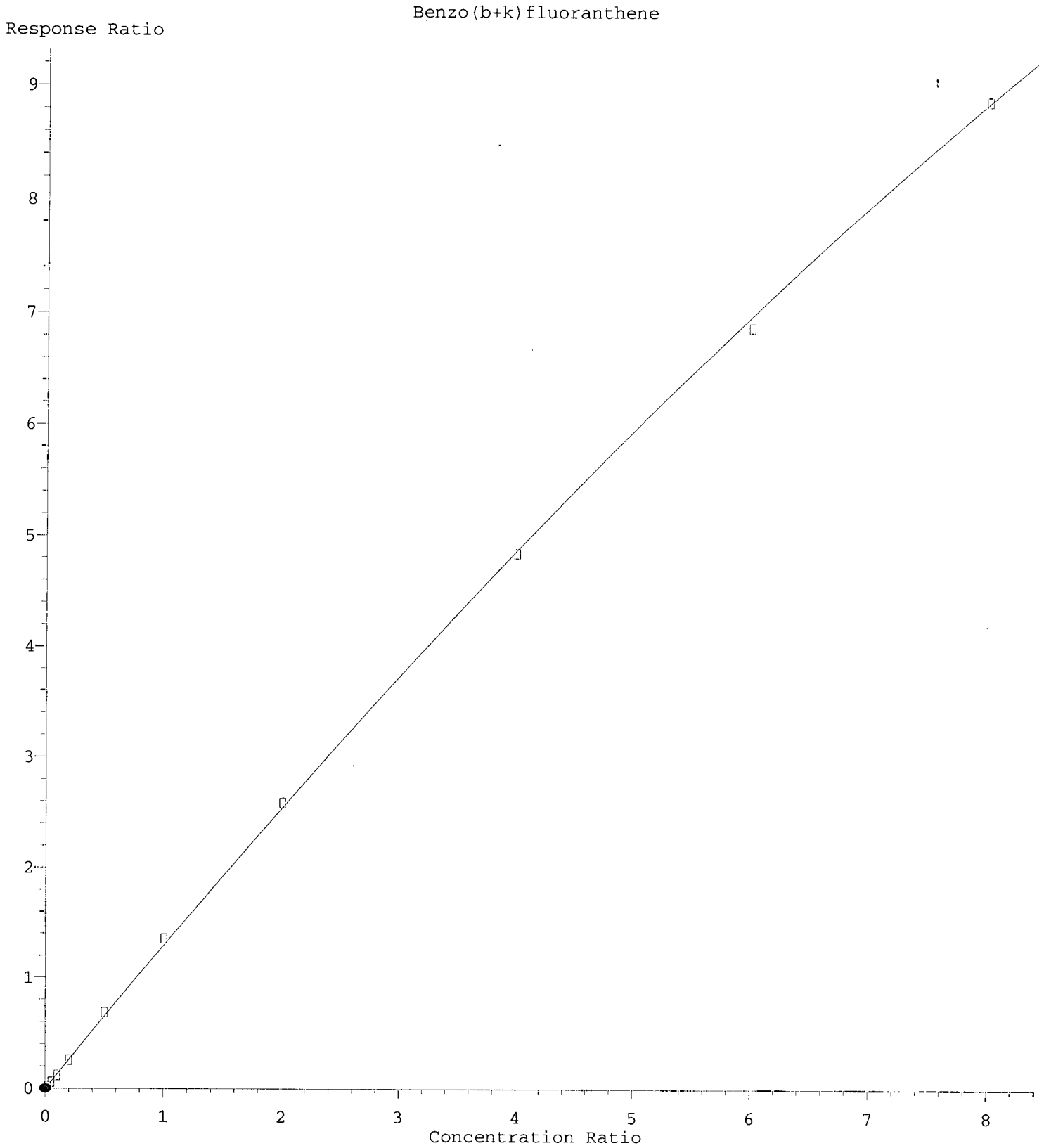
TIC: I05081919.D\data.ms

(89) Benzo(k)fluoranthene (T)

17.742min (+ 0.054) 5.70 ng/ml m

response 187

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

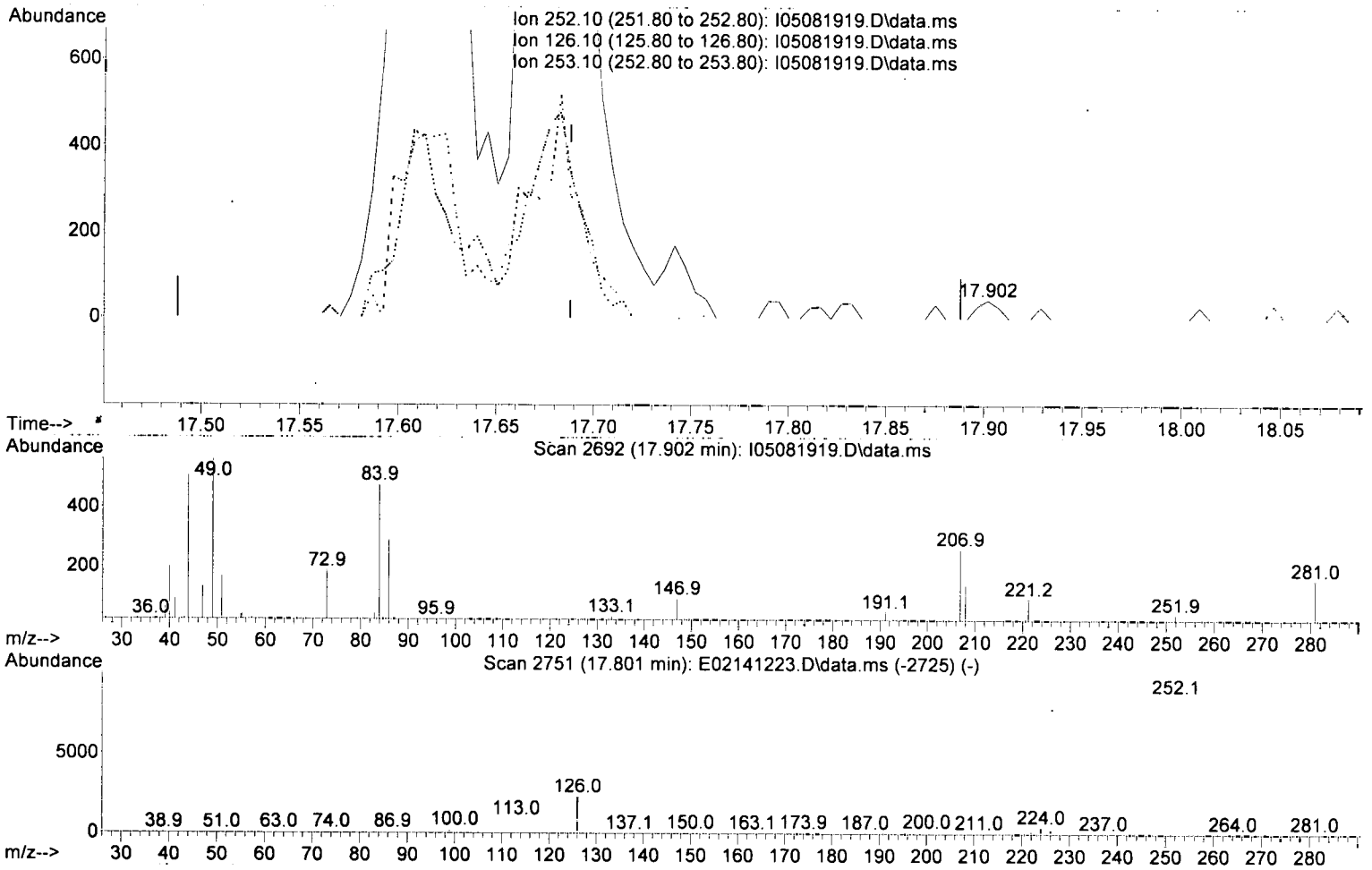


R = -2.76e-002 A*A + 1.33e+000 A - 6.81e-003
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



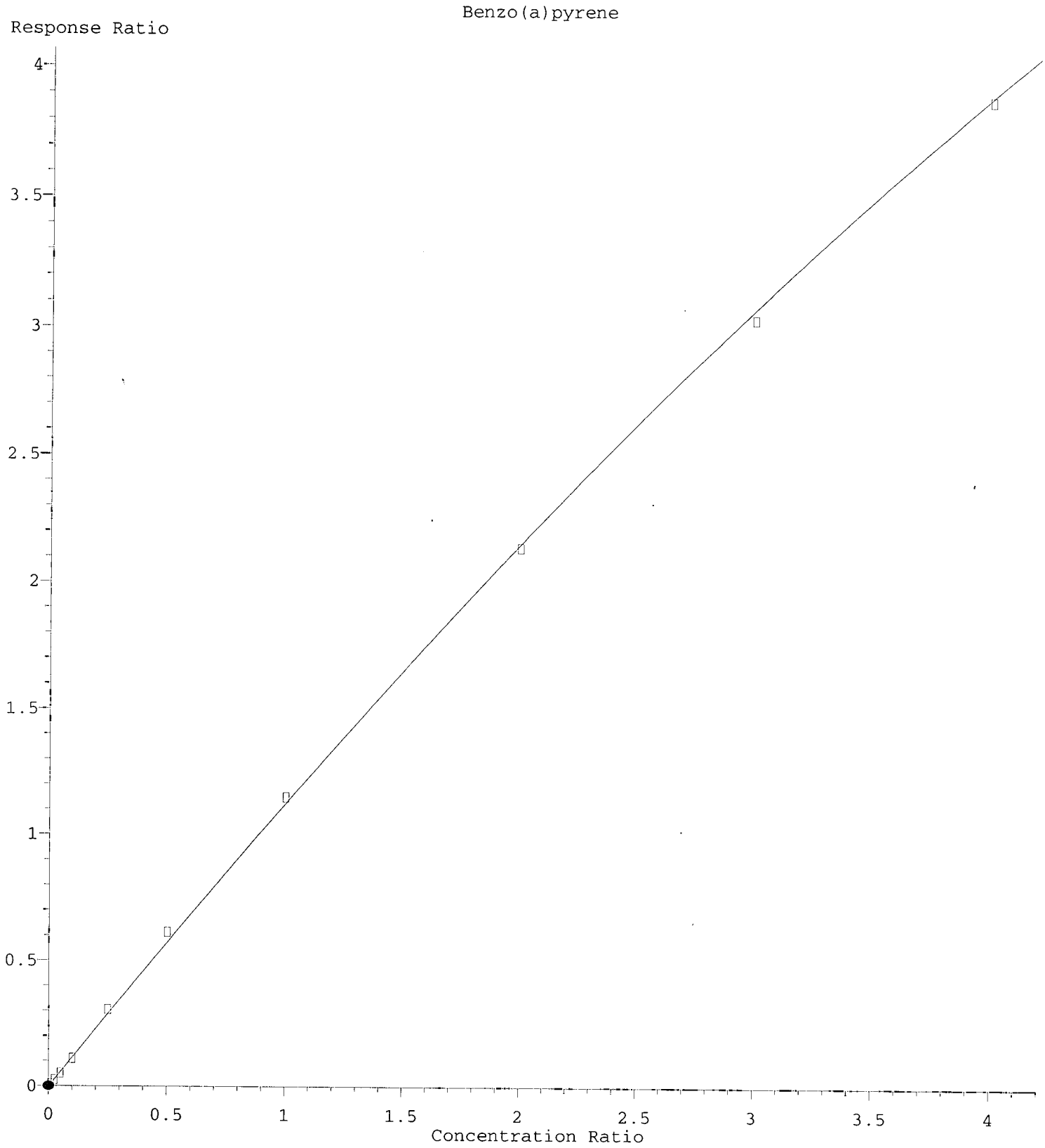
TIC: I05081919.D\data.ms

(90) Benzo(b+k)fluoranthene (T)

17.902min (+ 0.214) 10.63 ng/ml m

response 115

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

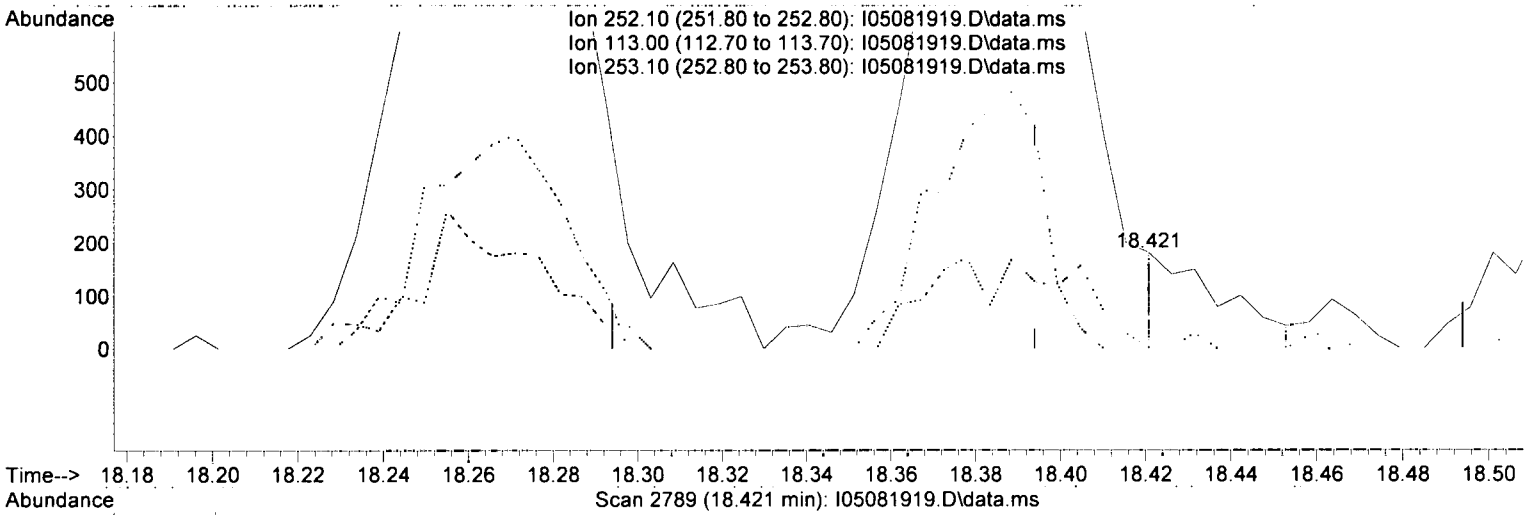


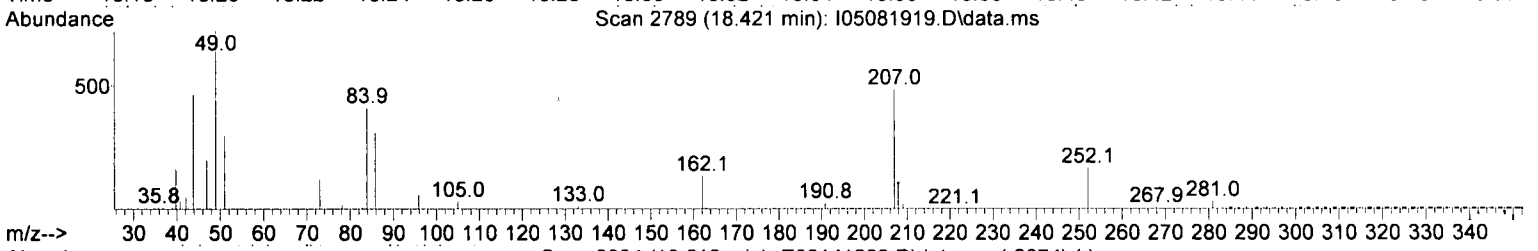
R = -5.14e-002 A*A + 1.18e+000 A - 3.91e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: T:\methods\SV9_050819.M
Calibration Table Last Updated: Thu May 09 13:06:21 2019

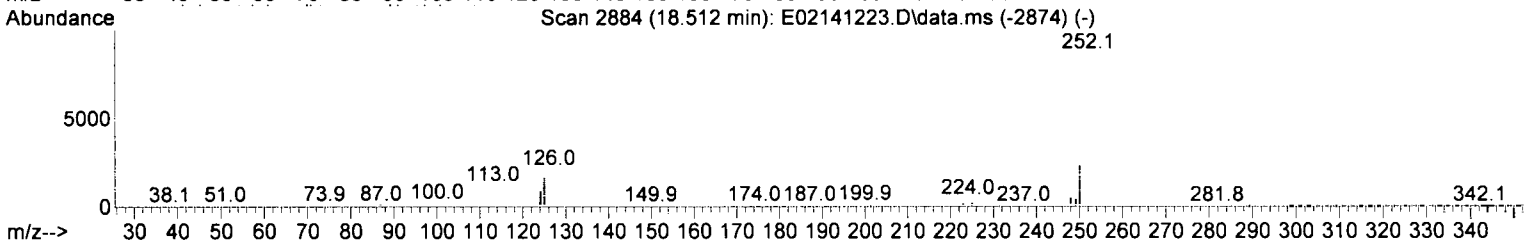
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\REQUANT\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 13:11:43 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081919.D\data.ms

(92) Benzo(a)pyrene (T)

18.421min (+ 0.027) 7.36 ng/ml m

response 183

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: 9E08056

Analysis Included
8270D LL Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9E08056-TUN1	MS Tune	Soil	A19D323	A19D031	5/8/2019 7:08:00PM
9E08056-ICB1	Initial Cal Blank	Soil		A19D031	5/8/2019 7:35:00PM
9E08056-CAL1	Cal Standard	Soil	A19D053	"	5/8/2019 8:12:00PM
9E08056-CAL2	Cal Standard	Soil	A19D054	"	5/8/2019 8:48:00PM
9E08056-CAL3	Cal Standard	Soil	A19D055	"	5/8/2019 9:25:00PM
9E08056-CAL4	Cal Standard	Soil	A19D056	"	5/8/2019 10:01:00PM
9E08056-CAL5	Cal Standard	Soil	A19D057	"	5/8/2019 10:38:00PM
9E08056-CAL6	Cal Standard	Soil	A19D058	"	5/8/2019 11:14:00PM
9E08056-CAL7	Cal Standard	Soil	A19D059	"	5/8/2019 11:50:00PM
9E08056-CAL8	Cal Standard	Soil	A19D060	"	5/9/2019 12:26:00AM
9E08056-CAL9	Cal Standard	Soil	A19D061	"	5/9/2019 1:01:00AM
9E08056-CALA	Cal Standard	Soil	A19D062	"	5/9/2019 1:37:00AM
9E08056-ICV1	Initial Cal Check	Soil	A19C239	"	5/9/2019 2:48:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9E1009** Instrument: **SV-GCMS9**

8270D LL Full List Sequence: **9E08056** Matrix: **Soil**

9E08056-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9E08056-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: 9E08056

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: **A9E1009** Instrument: **SV-GCMS9**

8270D LL Full List Sequence: **9E08056** Matrix: **Soil**

9E08056-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: 9E08056

Analysis Included
8270D LL Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9E08056-TUN1	MS Tune	Water	A19D323	A19D031	5/8/2019 7:08:00PM
9E08056-ICB1	Initial Cal Blank	Water		A19D031	5/8/2019 7:35:00PM
9E08056-CAL1	Cal Standard	Water	A19D053	"	5/8/2019 8:12:00PM
9E08056-CAL2	Cal Standard	Water	A19D054	"	5/8/2019 8:48:00PM
9E08056-CAL3	Cal Standard	Water	A19D055	"	5/8/2019 9:25:00PM
9E08056-CAL4	Cal Standard	Water	A19D056	"	5/8/2019 10:01:00PM
9E08056-CAL5	Cal Standard	Water	A19D057	"	5/8/2019 10:38:00PM
9E08056-CAL6	Cal Standard	Water	A19D058	"	5/8/2019 11:14:00PM
9E08056-CAL7	Cal Standard	Water	A19D059	"	5/8/2019 11:50:00PM
9E08056-CAL8	Cal Standard	Water	A19D060	"	5/9/2019 12:26:00AM
9E08056-CAL9	Cal Standard	Water	A19D061	"	5/9/2019 1:01:00AM
9E08056-CALA	Cal Standard	Water	A19D062	"	5/9/2019 1:37:00AM
9E08056-ICV1	Initial Cal Check	Water	A19C239	"	5/9/2019 2:48:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9E1009** Instrument: **SV-GCMS9**

8270D LL Full List Sequence: **9E08056** Matrix: **Water**

9E08056-CAL1	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL2	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL3	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL4	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL5	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL6	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL7	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL8	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-CAL9	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9E08056-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: 9E08056

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: **A9E1009** Instrument: **SV-GCMS9**

8270D LL Full List Sequence: **9E08056** Matrix: **Water**

9E08056-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 : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 17:11:47 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

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	100	0.00
2	T	N-Nitrosodimethylamine	1000.000	979.663	2.0	106	0.00
3	T	Pyridine	1000.000	944.023	5.6	98	0.00
4	S	2-Fluorophenol (Surr)	1000.000	1015.004	-1.5	102	0.00
5	S	Phenol-d6 (Surr)	1000.000	1003.193	-0.3	101	0.00
6	T	Phenol	1000.000	1055.456	-5.5	104	0.00
7	T	Aniline	1000.000	1016.543	-1.7	113	0.00
8	T	Bis(2-chloroethyl) ether	1000.000	1038.528	-3.9	101	0.00
9	T	2-Chlorophenol	1000.000	1028.048	-2.8	100	0.00
10	T	1,3-Dichlorobenzene	1000.000	988.801	1.1	98	0.00
11	T	1,4-Dichlorobenzene	1000.000	1008.149	-0.8	98	0.00
12	T	Benzyl alcohol	1000.000	966.033	3.4	94	0.00
13	T	1,2-Dichlorobenzene	1000.000	1021.899	-2.2	100	0.00
14	T	2-Methylphenol	1000.000	1042.888	-4.3	102	0.00
15	T	2,2'-Oxybis(1-Chloropropane	1000.000	986.011	1.4	97	0.00
16	T	N-Nitrosodi-n-propylamine	1000.000	1034.019	-3.4	101	0.00
17	T	3+4-Methylphenol	1000.000	1053.446	-5.3	100	0.00
18	T	Hexachloroethane	1000.000	1002.566	-0.3	100	0.00
19	S	Nitrobenzene-d5 (Surr)	1000.000	982.981	1.7	100	0.00
20	T	Nitrobenzene	1000.000	997.639	0.2	100	0.00
21	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	102	0.00
22	T	Isophorone	1000.000	1041.611	-4.2	101	0.00
23	T	2-Nitrophenol	1000.000	1112.080	-11.2	106	0.00
24	T	2,4-Dimethylphenol	1000.000	1029.019	-2.9	96	0.00
25	T	Bis(2-chloroethoxy) methane	1000.000	1029.922	-3.0	101	0.00
26	T	Benzoic acid	2000.000	1883.744	5.8	88	0.00
27	T	2,4-Dichlorophenol	1000.000	1034.808	-3.5	103	0.00
28	T	1,2,4-Trichlorobenzene	1000.000	1012.195	-1.2	98	0.00
29	T	Naphthalene	1000.000	1009.997	-1.0	98	0.00
30	T	4-Chloroaniline	1000.000	967.402	3.3	96	0.00
31	T	Hexachlorobutadiene	1000.000	1022.646	-2.3	102	0.00
32	T	4-Chloro-3-methylphenol	1000.000	1007.280	-0.7	100	0.00
33	T	2-Methylnaphthalene	1000.000	1061.904	-6.2	100	0.00
34	T	1-Methylnaphthalene	1000.000	1041.615	-4.2	98	0.00
35	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	101	0.00
36	T	Hexachlorocyclopentadiene	1000.000	1071.823	-7.2	102	0.00
37	T	2,4,6-Trichlorophenol	1000.000	1042.933	-4.3	100	0.00
38	T	2,4,5-Trichlorophenol	1000.000	1087.056	-8.7	102	0.00
39	T	1,1'-Biphenyl	1000.000	1072.168	-7.2	100	0.00
40	S	2-Fluorobiphenyl (Surr)	1000.000	1079.788	-8.0	101	0.00
41	T	2-Chloronaphthalene	1000.000	1075.710	-7.6	101	0.00
42	T	2-Nitroaniline	1000.000	1099.892	-10.0	103	0.00
43	T	2,6-Dimethylnaphthalene	1000.000	1064.534	-6.5	99	0.00
44	T	1,4-Dinitrobenzene	1000.000	1073.010	-7.3	105	0.00
45	T	Dimethyl phthalate	1000.000	1061.689	-6.2	101	0.00
46	T	1,3-Dinitrobenzene	1000.000	1096.253	-9.6	102	0.00
47	T	2,6-Dinitrotoluene	1000.000	1126.253	-12.6	102	0.00
48	T	1,2-Dinitrobenzene	1000.000	1070.352	-7.0	99	0.00

Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 17:11:47 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

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	1088.765	-8.9	101	0.00
50	T	3-Nitroaniline	1000.000	1148.365	-14.8	105	0.00
51	T	Acenaphthene	1000.000	1038.577	-3.9	100	0.00
52	T	2,4-Dinitrophenol	1000.000	946.801	5.3	93	0.00
53	T	4-Nitrophenol	1000.000	1034.680	-3.5	99	0.00
54	T	2,4-Dinitrotoluene	1000.000	1028.340	-2.8	100	0.00
55	T	Dibenzofuran	1000.000	1074.202	-7.4	101	0.00
56	T	2,3,5,6-Tetrachlorophenol	1000.000	1036.218	-3.6	99	0.00
57	T	2,3,4,6-Tetrachlorophenol	1000.000	1057.546	-5.8	99	0.00
58	T	Diethyl phthalate	1000.000	1008.933	-0.9	100	0.00
59	T	2,3,5-Trimethylnaphthalene	1000.000	979.815	2.0	100	0.00
60	T	Fluorene	1000.000	980.699	1.9	100	0.00
61	T	4-Chlorophenyl phenyl ether	1000.000	1021.183	-2.1	100	0.00
62	T	4-Nitroaniline	1000.000	1148.137	-14.8	107	0.00
63	T	4,6-Dinitro-2-methylphenol	1000.000	1164.436	-16.4	114	0.00
64	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	102	0.00
65	T	N-Nitrosodiphenylamine	1000.000	1041.336	-4.1	100	0.00
66	T	Azobenzene (1,2-DPH)	1000.000	1062.752	-6.3	101	0.00
67	S	2,4,6-Tribromophenol (Surr)	1000.000	1085.756	-8.6	98	0.00
68	T	4-Bromophenyl phenyl ether	1000.000	1067.925	-6.8	102	0.00
69	T	Hexachlorobenzene	1000.000	1008.788	-0.9	101	0.00
70	T	Pentachlorophenol (PCP)	1000.000	1037.903	-3.8	103	0.00
71	T	Phenanthrene	1000.000	1007.111	-0.7	100	0.00
72	T	Anthracene	1000.000	1026.924	-2.7	101	0.00
73	T	Carbazole	1000.000	1083.500	-8.3	100	0.00
74	T	Di-n-butyl phthalate	1000.000	1076.331	-7.6	100	0.00
75	T	Fluoranthene	1000.000	1068.458	-6.8	100	0.00
76	T	Benzidine	2000.000	1732.757	13.4	83	0.00
77	T	Pyrene	1000.000	1041.218	-4.1	100	0.00
78	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	101	0.00
79	S	Terphenyl-d14 (Surr)	1000.000	1043.187	-4.3	101	0.00
80	T	Butyl benzyl phthalate	1000.000	1062.300	-6.2	99	0.00
81	T	Bis(2-ethylhexyl) adipate	1000.000	995.630	0.4	99	0.00
82	T	3,3-Dichlorobenzidine	2000.000	2074.489	-3.7	100	0.00
83	T	Benz(a)anthracene	1000.000	1044.678	-4.5	102	0.00
84	T	Chrysene	1000.000	1000.048	-0.0	100	0.00
85	T	Bis(2-ethylhexyl) phthalate	1000.000	1060.069	-6.0	101	0.00
86	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	102	0.00
87	T	Di-n-octyl phthalate	1000.000	1012.789	-1.3	101	0.00
88	T	Benzo(b)fluoranthene	1000.000	1035.108	-3.5	100	0.00
89	T	Benzo(k)fluoranthene	1000.000	1008.985	-0.9	98	0.00
90	T	Benzo(b+k)fluoranthene	2000.000	2026.947	-1.3	99	0.00
91	T	Benzo(e)pyrene	1000.000	1058.505	-5.9	100	0.00
92	T	Benzo(a)pyrene	1000.000	1026.248	-2.6	98	0.00
93	T	Perylene	1000.000	1159.571	-16.0	111	0.00
94	I	Dibenz(a,h)Anthrcene-d14 (I	2000.000	2000.000	0.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 17:11:47 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

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	987.220	1.3	99	0.00
96 T	Dibenz(a,h)anthracene	1000.000	1027.936	-2.8	99	0.00
97 T	Benzo(g,h,i)perylene	1000.000	1055.892	-5.6	100	0.00

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

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081917.D
Acq On : 8 May 2019 7:08 pm
Operator : JK /AMS /DTH
Sample : 9E08056-TUN1
Misc : 1x, A19D323 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 09 10:13:18 2019
Quant Method : T:\methods\DFTPP-625.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Thu May 09 10:12:54 2019
Response via : Initial Calibration
InstName : SV-GCMS9

9/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	7.942	136	177402	2.00	ug/mL	0.00
2) Acenaphthene-d10	9.713	162	79924	2.00	ug/mL	0.00
4) Phenanthrene-d10	11.221	188	119012	2.00	ug/mL	0.00
10) Chrysene-d12	14.944	240	104422	2.00	ug/mL	0.00
11) Perylene-d12	16.933	264	91182	2.00	ug/mL	0.00
Target Compounds						Qvalue
3) Pentachlorophenol	11.039	266	258730	28.85	ug/mL	98
5) DFTPP	11.504	442	233124	23.30	ug/mL#	68
6) Benzidine	12.687	184	1059560	29.57	ug/mL	96
7) 4,4-DDE	12.949	TIC	14865	No Calib	#	
8) 4,4-DDD	13.467	TIC	27182	5.51	ug/mL#	100
9) 4,4-DDT	14.045	TIC	3476962	34.67	ug/mL#	1

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

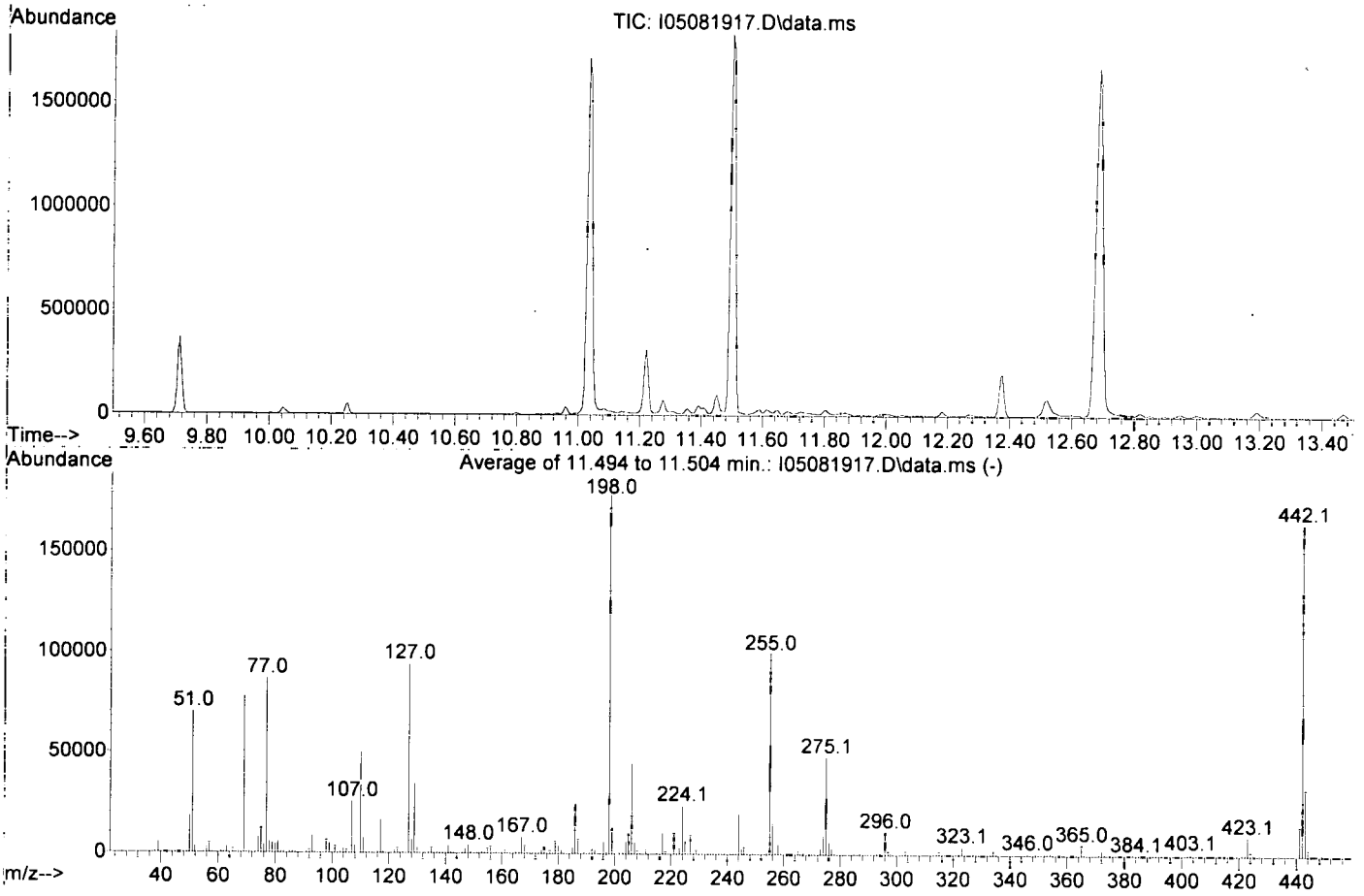
DFTPP

Data Path : T:\data\2019-05\9E08056\
Data File : I05081917.D
Acq On : 8 May 2019 7:08 pm
Operator : JK /AMS /DTH
Sample : 9E08056-TUN1
Misc : 1x, A19D323 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

JK 5/9/19

Method : T:\methods\DFTPP-625.M
Title : DFTPP Tune Methodug/mL
Last Update : Thu May 09 10:12:54 2019



AutoFind: Scans 1497, 1498, 1499; Background Corrected with Scan 1491

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.1	70134	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.5	78009	PASS
70	69	0.00	2	0.5	368	PASS
127	198	40	60	52.5	94209	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	179499	PASS
199	198	5	9	7.1	12762	PASS
275	198	10	30	27.0	48432	PASS
365	198	1	100	2.9	5249	PASS
441	443	0.01	100	43.2	14368	PASS
442	198	40	100	91.7	164629	PASS
443	442	17	23	20.2	33256	PASS

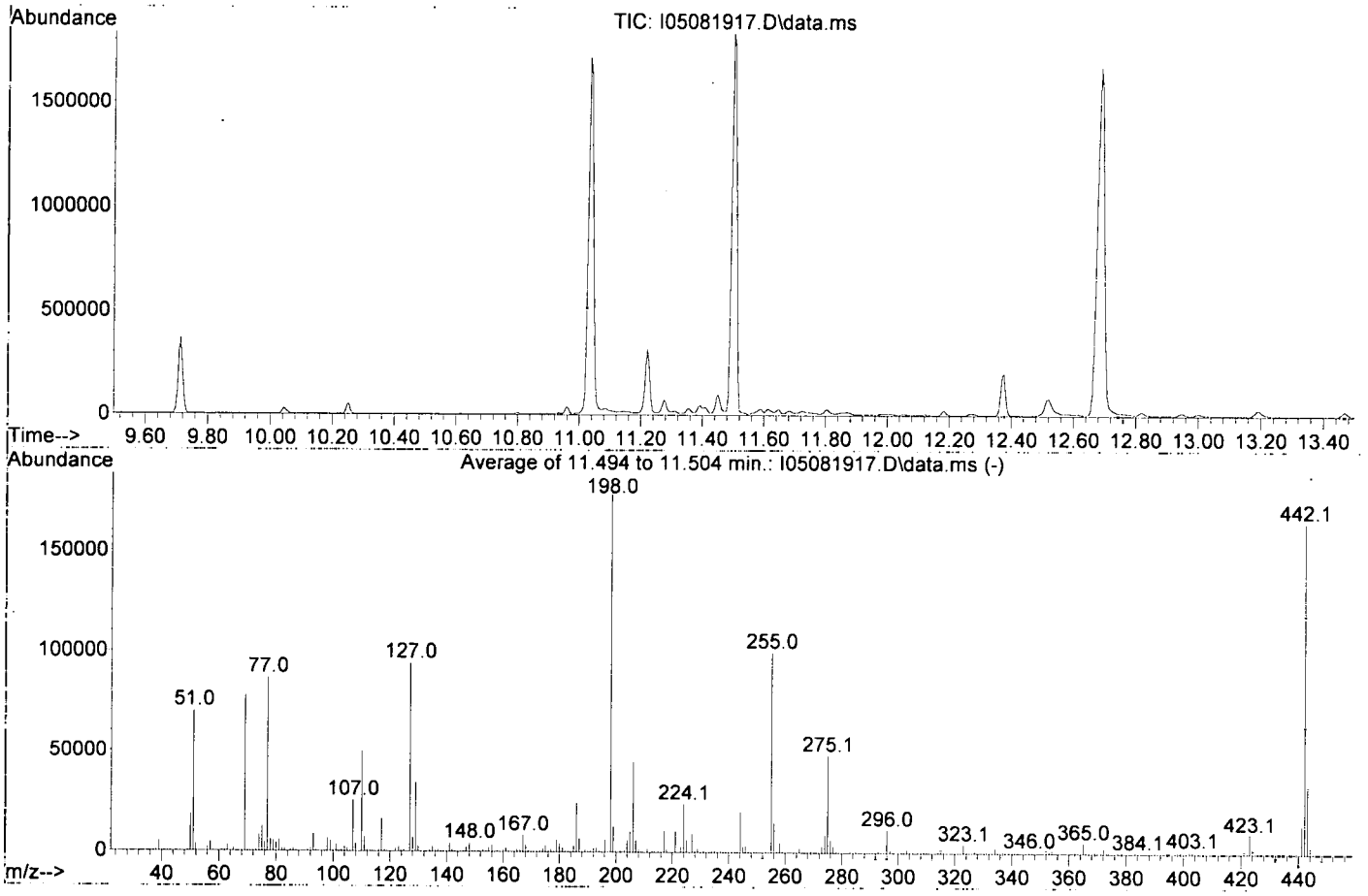
DFTPP

Data Path : T:\data\2019-05\9E08056\
Data File : I05081917.D
Acq On : 8 May 2019 7:08 pm
Operator : JK /AMS /DTH
Sample : 9E08056-TUN1
Misc : 1x, A19D323 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : T:\methods\DFTPP-8270.M
Title : DFTPP Tune Methodug/mL
Last Update : Wed May 08 19:51:32 2019

JK 5/10/19



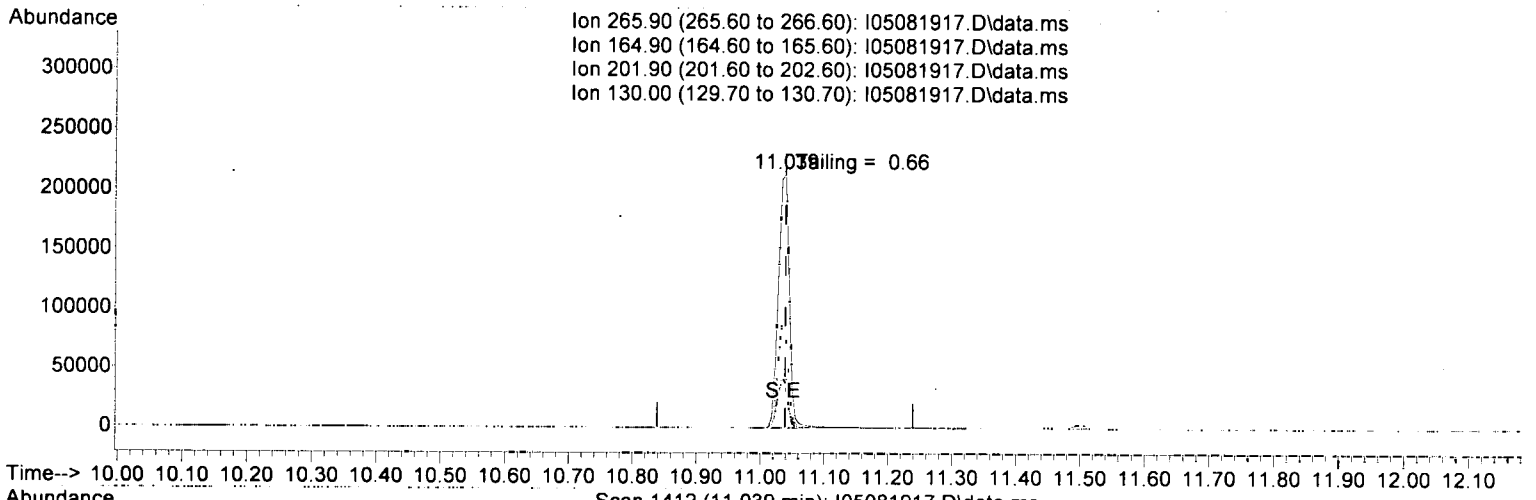
AutoFind: Scans 1497, 1498, 1499; Background Corrected with Scan 1491

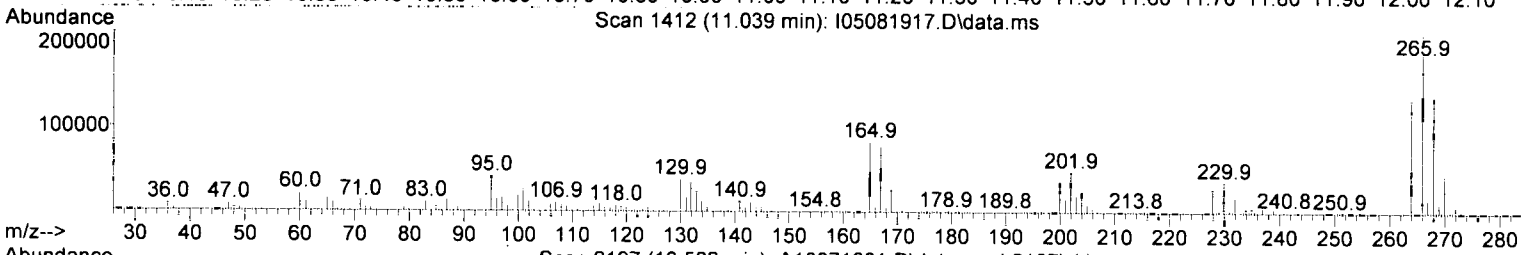
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.1	70134	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.5	78009	PASS
70	69	0.00	2	0.5	368	PASS
127	198	10	80	52.5	94209	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	179499	PASS
199	198	5	9	7.1	12762	PASS
275	198	10	60	27.0	48432	PASS
365	198	1	100	2.9	5249	PASS
441	442	0.01	24	8.7	14368	PASS
442	198	50	200	91.7	164629	PASS
443	442	15	24	20.2	33256	PASS

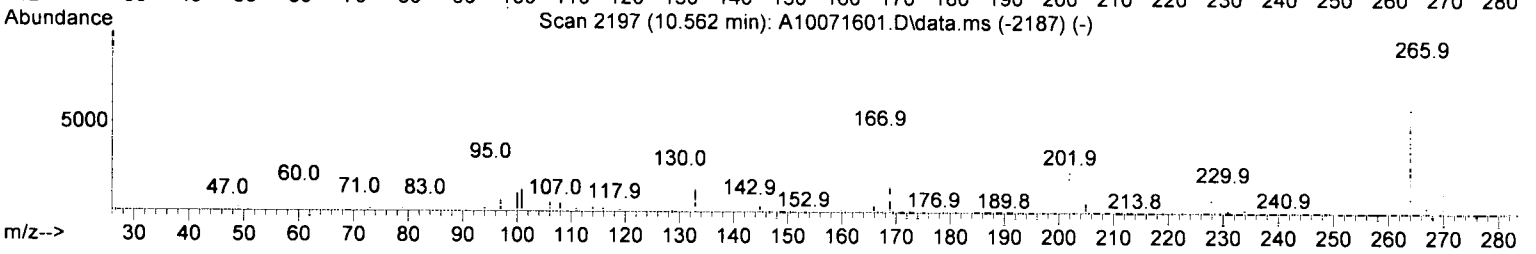
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081917.D
Acq On : 8 May 2019 7:08 pm
Operator : JK /AMS /DTH
Sample : 9E08056-TUN1
Misc : 1x, A19D323 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 09 10:13:18 2019
Quant Method : T:\methods\DFTPP-625.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Thu May 09 10:12:54 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081917.D\data.ms

(3) Pentachlorophenol

11.039min (0.000) 28.85 ug/mL

response 258730

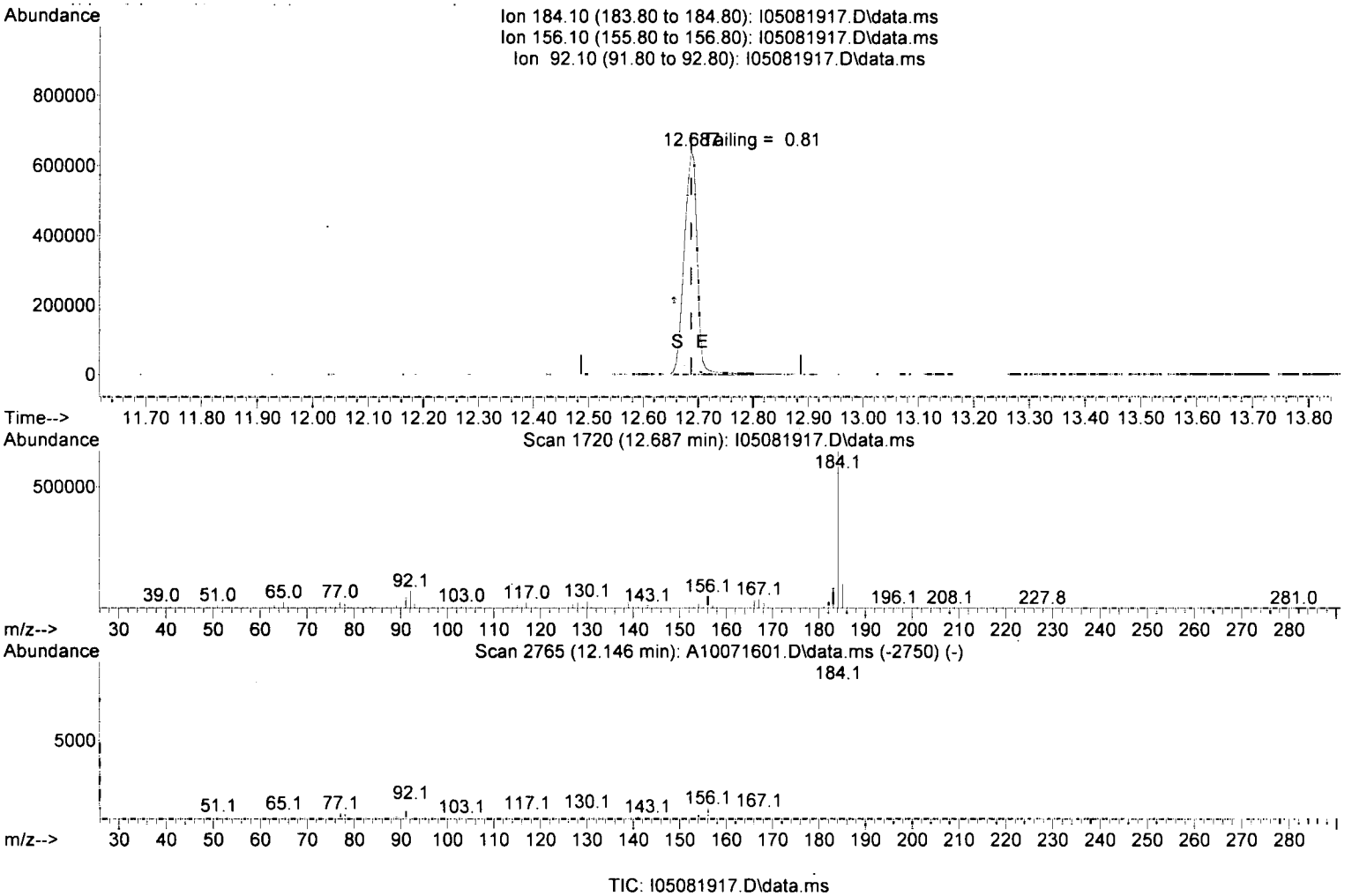
Ion	Exp%	Act%
265.90	100.00	100.00
164.90	40.70	38.94
201.90	21.80	22.28
130.00	18.60	17.95

JK 5/9/19

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081917.D
Acq On : 8 May 2019 7:08 pm
Operator : JK /AMS /DTH
Sample : 9E08056-TUN1
Misc : 1x, A19D323 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 09 10:13:18 2019
Quant Method : T:\methods\DFTPP-625.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Thu May 09 10:12:54 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05081917.D\data.ms

(6) Benzidine

12.687min (0.000) 29.57 ug/mL

response 1059560

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	7.00	7.51
92.10	8.90	10.92
0.00	0.00	0.00

5/9/19

DDT Breakdown Check (Validated 5/1/2013)

From:
9E08056-TUN1
SV-GCMS9

First Column Area Counts		Percent Breakdown	
DDE	14865		
DDD	27182		
DDT	1347696[illegible]	1.19	PASS

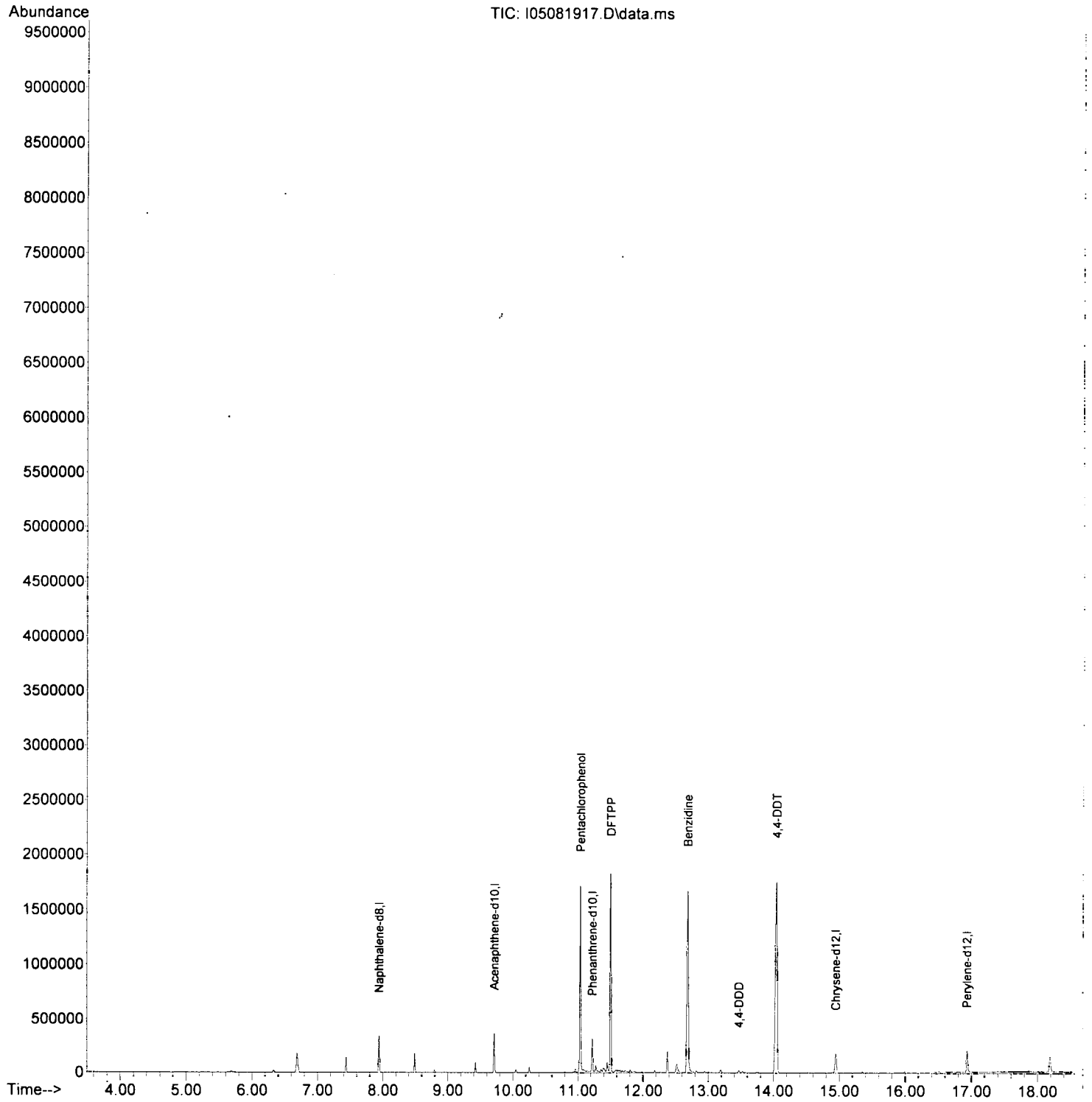
Breakdown must be less than 20% to accept sample data.

5/9/19

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081917.D
Acq On : 8 May 2019 7:08 pm
Operator : JK /AMS /DTH
Sample : 9E08056-TUN1
Misc : 1x, A19D323 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: May 09 10:13:18 2019
Quant Method : T:\methods\DFTPP-625.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Thu May 09 10:12:54 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081918.D
Acq On : 8 May 2019 7:35 pm
Operator : JK /AMS /DTH
Sample : 9E08056-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:07 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	127428	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	522440	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	251914	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	480361	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.051	240	512978	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.539	264	472385	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.924	292	430097	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.477	112	80	0.94	ng/ml	0.01
5) Phenol-d6 (Surr)	6.360	99	63	0.56	ng/ml	0.02
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	4.188	74	449	6.67	ng/ml#	1
3) Pyridine	4.279	79	159	N.D.		
6) Phenol	6.360	94	69	N.D.		
7) Aniline	6.387	93	176	N.D.		
8) Bis(2-chloroethyl) ether	6.435	93	248	N.D.		
9) 2-Chlorophenol	6.499	128	75	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...	6.953	45	52	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	7.210	77	113	N.D.		
22) Isophorone	7.478	82	59	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	7.964	128	78	N.D.		
30) 4-Chloroaniline	0.000		0	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	0.000		0	N.D.		
33) 2-Methylnaphthalene	0.000		0	N.D.		
34) 1-Methylnaphthalene	0.000		0	N.D.		
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	0.000		0	N.D.		
38) 2,4,5-Trichlorophenol	0.000		0	N.D.		
39) 1,1'-Biphenyl	0.000		0	N.D.		
41) 2-Chloronaphthalene	0.000		0	N.D.		
42) 2-Nitroaniline	0.000		0	N.D.		
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081918.D
Acq On : 8 May 2019 7:35 pm
Operator : JK /AMS /DTH
Sample : 9E08056-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:07 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

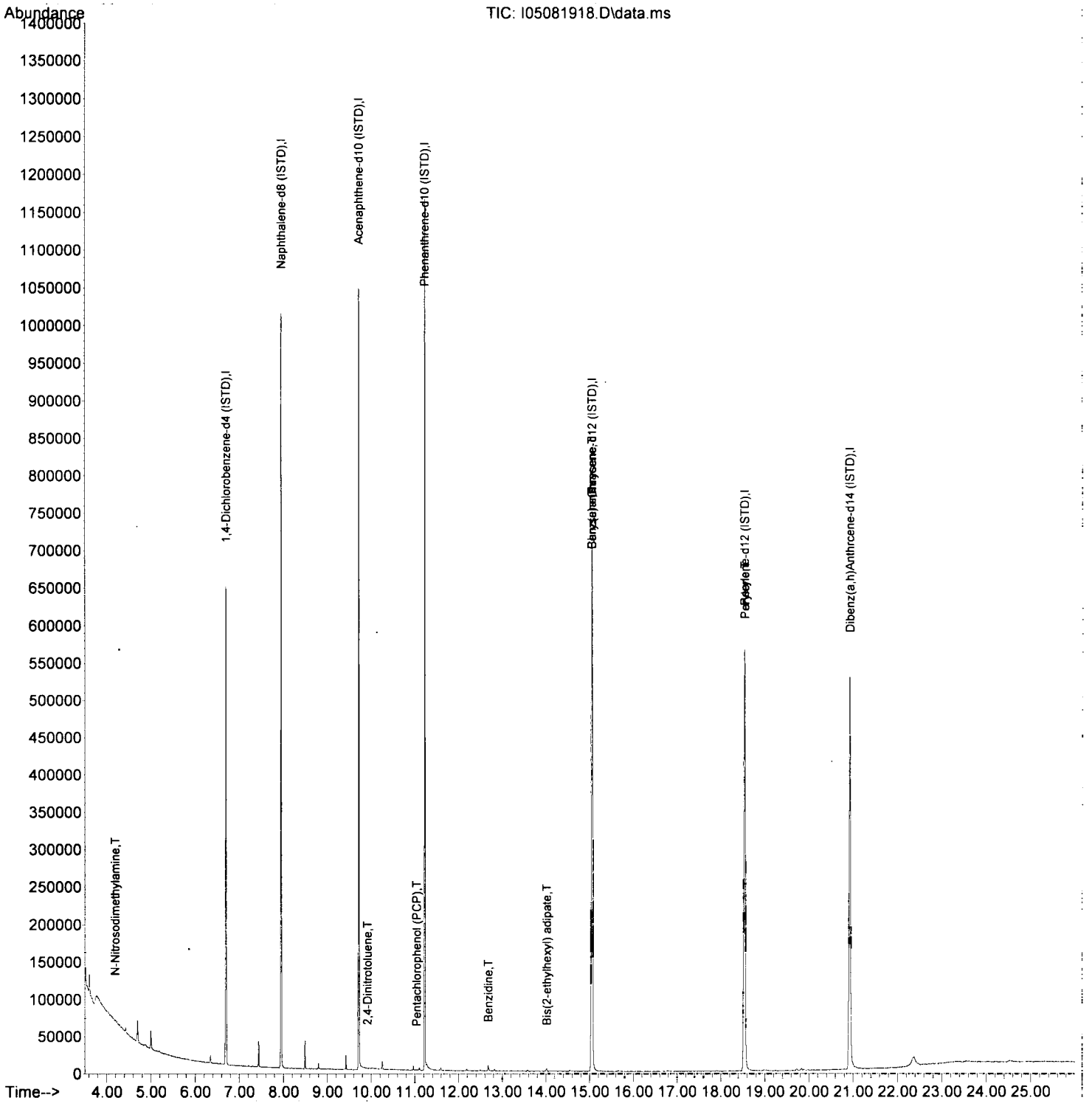
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	0.000		0	N.D.		
45) Dimethyl phthalate	0.000		0	N.D.		
46) 1,3-Dinitrobenzene	0.000		0	N.D.		
47) 2,6-Dinitrotoluene	0.000		0	N.D.		
48) 1,2-Dinitrobenzene	0.000		0	N.D.		
49) Acenaphthylene	0.000		0	N.D.		
50) 3-Nitroaniline	0.000		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	9.911	165	97	33.10	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	10.131	149	55	N.D.		
59) 2,3,5-Trimethylnaphtha...	10.238	170	50	N.D.		
60) Fluorene	0.000		0	N.D.		
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.		
62) 4-Nitroaniline	0.000		0	N.D.		
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.		
65) N-Nitrosodiphenylamine	0.000		0	N.D.		
66) Azobenzene (1,2-DPH)	0.000		0	N.D.		
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
69) Hexachlorobenzene	0.000		0	N.D.		
70) Pentachlorophenol (PCP)	11.035	266	254	90.33	ng/ml	86
71) Phenanthrene	11.222	178	214	N.D.		
72) Anthracene	11.222	178	214	N.D.		
73) Carbazole	0.000		0	N.D.		
74) Di-n-butyl phthalate	0.000		0	N.D.		
75) Fluoranthene	0.000		0	N.D.		
76) Benzidine	12.677	184	5254	103.92	ng/ml	99
77) Pyrene	0.000		0	N.D.		
80) Butyl benzyl phthalate	0.000		0	N.D.		
81) Bis(2-ethylhexyl) adipate	14.014	129	1009	7.10	ng/ml	94
82) 3,3-Dichlorobenzidine	14.992	252	376	Below	Cal	91
83) Benz(a)anthracene	15.046	228	1291	4.40	ng/ml	68
84) Chrysene	15.046	228	1279	4.68	ng/ml	65
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	0.000		0	N.D.		
92) Benzo(a)pyrene	0.000		0	N.D.		
93) Perylene	18.544	252	1717	7.10	ng/ml	74
95) Indeno(1,2,3-cd)pyrene	20.929	276	304	N.D.		
96) Dibenz(a,h)anthracene	20.924	278	137	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 : T:\data\2019-05\9E08056\
Data File : I05081918.D
Acq On : 8 May 2019 7:35 pm
Operator : JK /AMS /DTH
Sample : 9E08056-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:07 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081918.D
Acq On : 8 May 2019 7:35 pm
Operator : JK /AMS /DTH
Sample : 9E08056-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Final Reqmant

Quant Time: May 09 17:11:39 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	127428	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	522440	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	251914	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	480361	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.051	240	512978	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.539	264	472385	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.924	292	430097	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.477	112	80	0.96	ng/ml	0.01
5) Phenol-d6 (Surr)	6.360	99	63	0.58	ng/ml	0.02
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	4.188	74	449	7.05	ng/ml#	1
3) Pyridine	4.279	79	159	N.D.		
6) Phenol	6.360	94	69	N.D.		
7) Aniline	6.387	93	176	N.D.		
8) Bis(2-chloroethyl) ether	6.435	93	248	2.56	ng/ml	93
9) 2-Chlorophenol	6.499	128	75	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...	6.953	45	52	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	7.210	77	113	N.D.		
22) Isophorone	7.478	82	59	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	7.964	128	78	N.D.		
30) 4-Chloroaniline	0.000		0	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	0.000		0	N.D.		
33) 2-Methylnaphthalene	0.000		0	N.D.		
34) 1-Methylnaphthalene	0.000		0	N.D.		
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	0.000		0	N.D.		
38) 2,4,5-Trichlorophenol	0.000		0	N.D.		
39) 1,1'-Biphenyl	0.000		0	N.D.		
41) 2-Chloronaphthalene	0.000		0	N.D.		
42) 2-Nitroaniline	0.000		0	N.D.		
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081918.D
Acq On : 8 May 2019 7:35 pm
Operator : JK /AMS /DTH
Sample : 9E08056-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 17:11:39 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

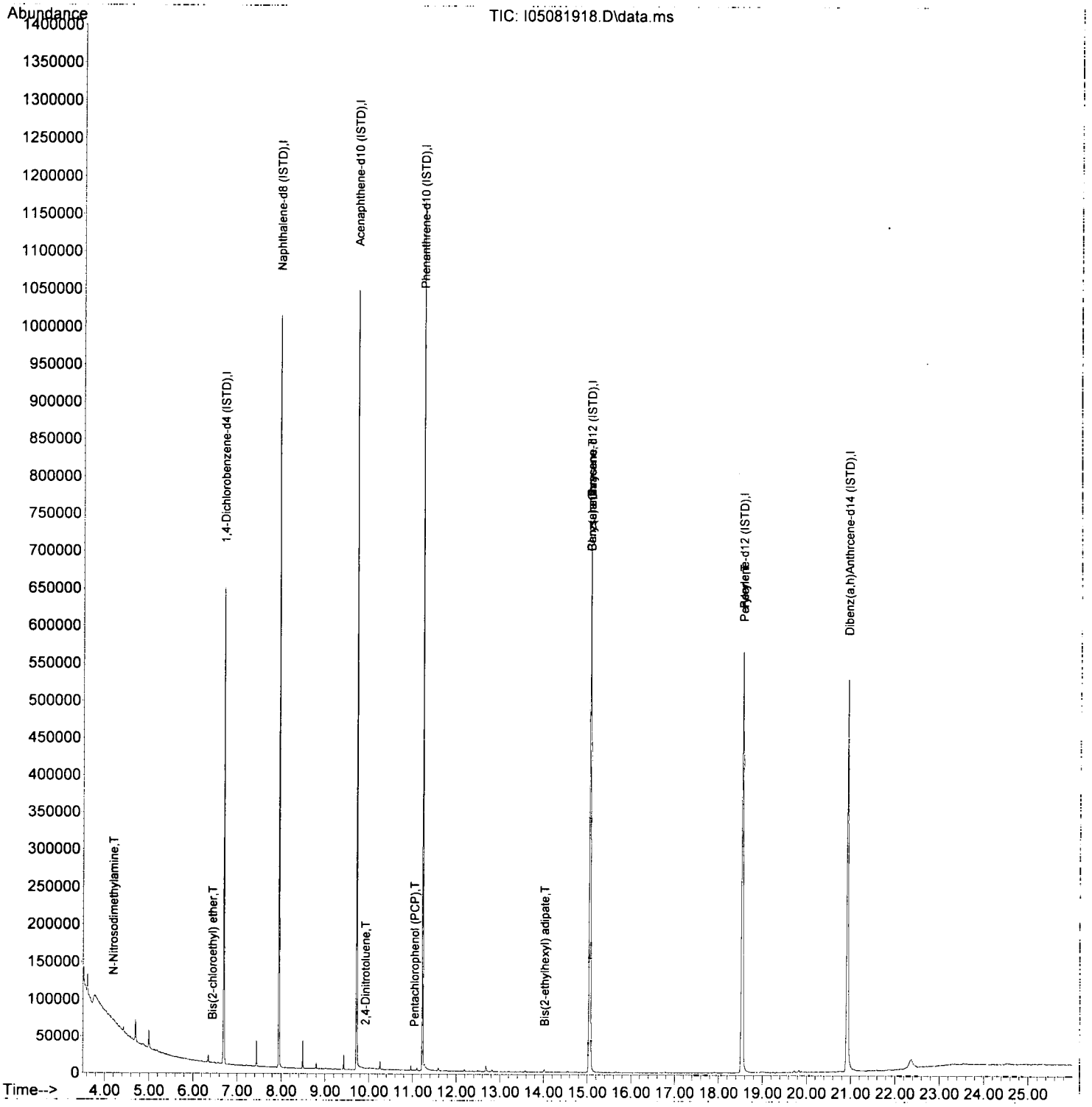
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	0.000		0	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	0.000		0	N.D.	
50) 3-Nitroaniline	0.000		0	N.D.	
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	9.911	165	97	34.45 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	10.131	149	55	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.238	170	50	N.D.	
60) Fluorene	0.000		0	N.D.	
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	
62) 4-Nitroaniline	0.000		0	N.D.	
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	0.000		0	N.D.	
66) Azobenzene (1,2-DPH)	0.000		0	N.D.	
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	11.035	266	254	65.69 ng/ml	86
71) Phenanthrene	11.222	178	214	N.D.	
72) Anthracene	11.222	178	214	N.D.	
73) Carbazole	0.000		0	N.D.	
74) Di-n-butyl phthalate	0.000		0	N.D.	
75) Fluoranthene	0.000		0	N.D.	
76) Benzidine	12.677	184	5254	Below Cal	99
77) Pyrene	0.000		0	N.D.	
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.014	129	1009	7.46 ng/ml	94
82) 3,3-Dichlorobenzidine	14.992	252	376	Below Cal	91
83) Benz(a)anthracene	15.046	228	1291	4.33 ng/ml	68
84) Chrysene	15.046	228	1279	4.65 ng/ml	65
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	0.000		0	N.D.	
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.544	252	1717	7.18 ng/ml	74
95) Indeno(1,2,3-cd)pyrene	20.929	276	304	N.D.	
96) Dibenz(a,h)anthracene	20.924	278	137	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 : T:\data\2019-05\9E08056\
Data File : I05081918.D
Acq On : 8 May 2019 7:35 pm
Operator : JK /AMS /DTH
Sample : 9E08056-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 17:11:39 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:14 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	114486	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	461650	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	230578	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	445843	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.051	240	468796	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.538	264	432537	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.924	292	400350	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.472	112	1296	16.93	ng/ml	0.00
5) Phenol-d6 (Surr)	6.349	99	1675	16.59	ng/ml	0.01
19) Nitrobenzene-d5 (Surr)	7.231	82	1778	21.02	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	3096	18.40	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.516	330	296	43.31	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	4571	20.48	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.193	74	1386	22.92	ng/ml#	36
3) Pyridine	4.236	79	1594	16.87	ng/ml#	49
6) Phenol	6.354	94	1840	16.72	ng/ml	97
7) Aniline	6.386	93	2217	22.05	ng/ml	98
8) Bis(2-chloroethyl) ether	6.434	93	1922	21.30	ng/ml	92
9) 2-Chlorophenol	6.504	128	1505	19.20	ng/ml	85
10) 1,3-Dichlorobenzene	6.643	146	2020	23.21	ng/ml	92
11) 1,4-Dichlorobenzene	6.713	146	1733	20.88	ng/ml	84
12) Benzyl alcohol	6.830	108	394	32.12	ng/ml#	67
13) 1,2-Dichlorobenzene	6.862	146	1593	19.64	ng/ml	94
14) 2-Methylphenol	6.937	107	1153	18.58	ng/ml	78
15) 2,2'-Oxybis(1-Chloropr...	6.953	45	2282	18.10	ng/ml	99
16) N-Nitrosodi-n-propylamine	7.082	70	1232	19.27	ng/ml	95
17) 3+4-Methylphenol	7.082	107	1360	17.39	ng/ml	87
18) Hexachloroethane	7.194	201	565	22.14	ng/ml	83
20) Nitrobenzene	7.253	77	1693	19.66	ng/ml	97
22) Isophorone	7.478	82	3108	18.23	ng/ml	95
23) 2-Nitrophenol	7.563	139	652	40.14	ng/ml	98
24) 2,4-Dimethylphenol	7.601	122	1035	15.16	ng/ml	84
25) Bis(2-chloroethoxy) me...	7.686	93	1890	18.62	ng/ml	96
26) Benzoic acid	0.000		0	N.D.		
27) 2,4-Dichlorophenol	7.814	162	685	21.81	ng/ml	91
28) 1,2,4-Trichlorobenzene	7.889	180	1529	21.22	ng/ml	95
29) Naphthalene	7.970	128	4931	21.54	ng/ml	95
30) 4-Chloroaniline	8.012	127	1367	22.10	ng/ml	95
31) Hexachlorobutadiene	8.093	225	856	23.61	ng/ml	89
32) 4-Chloro-3-methylphenol	8.504	107	518	37.77	ng/ml#	1
33) 2-Methylnaphthalene	8.660	142	3206	19.00	ng/ml	99
34) 1-Methylnaphthalene	8.761	142	3306	20.65	ng/ml	94
36) Hexachlorocyclopentadiene	8.825	237	56	33.22	ng/ml#	27
37) 2,4,6-Trichlorophenol	8.948	196	344	40.72	ng/ml#	74
38) 2,4,5-Trichlorophenol	8.991	198	415	38.85	ng/ml#	62
39) 1,1'-Biphenyl	9.125	154	3301	16.94	ng/ml	98
41) 2-Chloronaphthalene	9.152	162	2457	17.33	ng/ml	92
42) 2-Nitroaniline	9.248	138	198	4.26	ng/ml#	79
43) 2,6-Dimethylnaphthalene	9.285	156	2570	18.38	ng/ml	87

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:14 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.376	168	116	66.58	ng/ml	86
45) Dimethyl phthalate	9.419	163	3008	18.69	ng/ml	98
46) 1,3-Dinitrobenzene	9.456	168	110	4.44	ng/ml	48
47) 2,6-Dinitrotoluene	9.483	165	309	8.81	ng/ml#	66
48) 1,2-Dinitrobenzene	9.537	168	108	6.10	ng/ml#	1
49) Acenaphthylene	9.569	152	4296	19.09	ng/ml	98
50) 3-Nitroaniline	9.665	138	279	22.94	ng/ml	83
51) Acenaphthene	9.745	153	2971	20.99	ng/ml	98
52) 2,4-Dinitrophenol	0.000		0	N.D		
53) 4-Nitrophenol	9.852	139	173	78.89	ng/ml	74
54) 2,4-Dinitrotoluene	9.900	165	414	39.85	ng/ml	83
55) Dibenzofuran	9.922	168	3412	17.51	ng/ml#	82
56) 2,3,5,6-Tetrachlorophenol	10.007	232	213	55.74	ng/ml	79
57) 2,3,4,6-Tetrachlorophenol	10.050	232	352	45.87	ng/ml	85
58) Diethyl phthalate	10.130	149	3091	20.52	ng/ml	94
59) 2,3,5-Trimethylnaphtha...	10.130	170	2925	22.62	ng/ml	91
60) Fluorene	10.269	166	3504	22.08	ng/ml	90
61) 4-Chlorophenyl phenyl ...	10.259	204	1452	19.48	ng/ml	86
62) 4-Nitroaniline	10.280	138	396	11.51	ng/ml	79
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.		
65) N-Nitrosodiphenylamine	10.376	169	2436	17.88	ng/ml	89
66) Azobenzene (1,2-DPH)	10.419	77	2808	16.45	ng/ml	96
68) 4-Bromophenyl phenyl e...	10.756	248	976	21.64	ng/ml#	83
69) Hexachlorobenzene	10.836	284	1039	21.71	ng/ml	90
70) Pentachlorophenol (PCP)	11.034	266	515	103.76	ng/ml	75
71) Phenanthrene	11.248	178	5060	21.87	ng/ml	94
72) Anthracene	11.296	178	5028	22.51	ng/ml	95
73) Carbazole	11.457	167	3928	22.54	ng/ml	99
74) Di-n-butyl phthalate	11.794	149	4702	17.52	ng/ml	96
75) Fluoranthene	12.521	202	5484	21.36	ng/ml	96
76) Benzidine	12.676	184	5337	112.28	ng/ml	99
77) Pyrene	12.821	202	5874	22.60	ng/ml	96
80) Butyl benzyl phthalate	13.837	149	1472	44.58	ng/ml	83
81) Bis(2-ethylhexyl) adipate	14.014	129	2977	22.91	ng/ml	95
82) 3,3-Dichlorobenzidine	14.987	252	2583	Below	Cal	87
83) Benz(a)anthracene	15.030	228	5805	21.64	ng/ml	99
84) Chrysene	15.110	228	5174	20.70	ng/ml	93
85) Bis(2-ethylhexyl) phth...	15.180	149	1776	9.88	ng/ml	99
87) Di-n-octyl phthalate	16.838	149	2233	79.02	ng/ml	86
88) Benzo(b)fluoranthene	17.613	252	4502	27.10	ng/ml	97
89) Benzo(k)fluoranthene	~~17.683~~	~~252~~	~~3913~~	~~23.87~~	~~ng/ml~~	96
90) Benzo(b+k)fluoranthene	17.613	252	8905	50.62	ng/ml	96
91) Benzo(e)pyrene	18.266	252	4695	19.12	ng/ml	91
92) Benzo(a)pyrene	18.383	252	3596	26.47	ng/ml	90
93) Perylene	18.587	252	4452	20.10	ng/ml	96
95) Indeno(1,2,3-cd)pyrene	20.913	276	4515	19.92	ng/ml	73
96) Dibenz(a,h)anthracene	20.972	278	3890	20.39	ng/ml	98
97) Benzo(g,h,i)perylene	21.448	276	4035	19.00	ng/ml	72

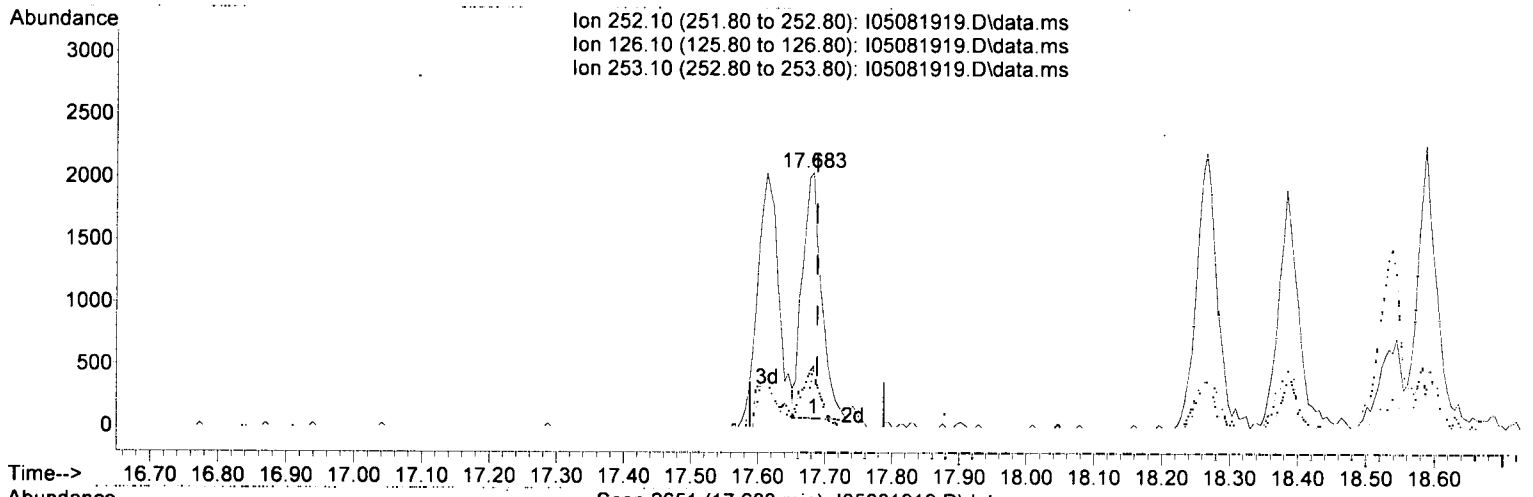
See ML

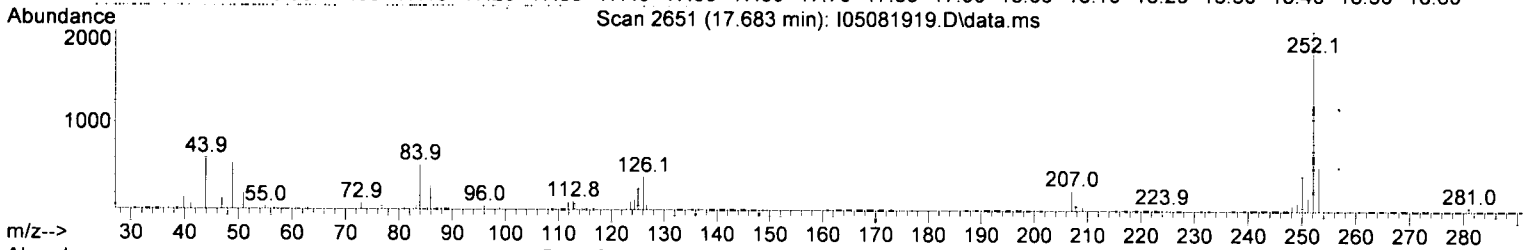
(#) = qualifier out of range (m) = manual integration (+) = signals summed

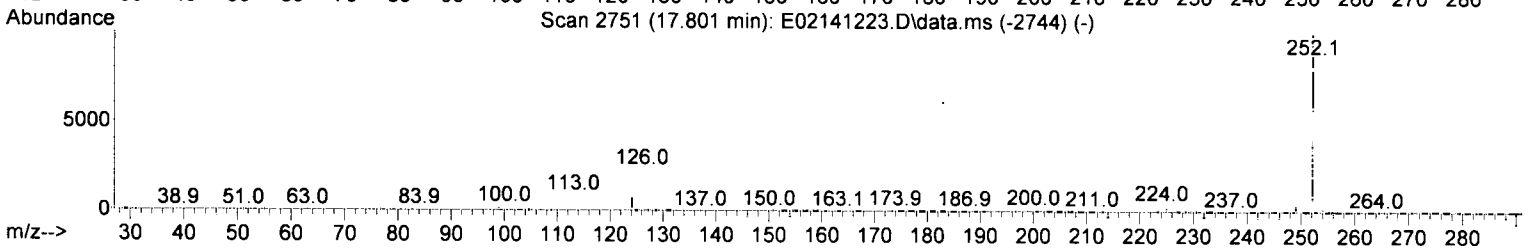
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:14 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081919.D\data.ms

(89) Benzo(k)fluoranthene (T)

17.683min (-0.006) 23.87 ng/ml

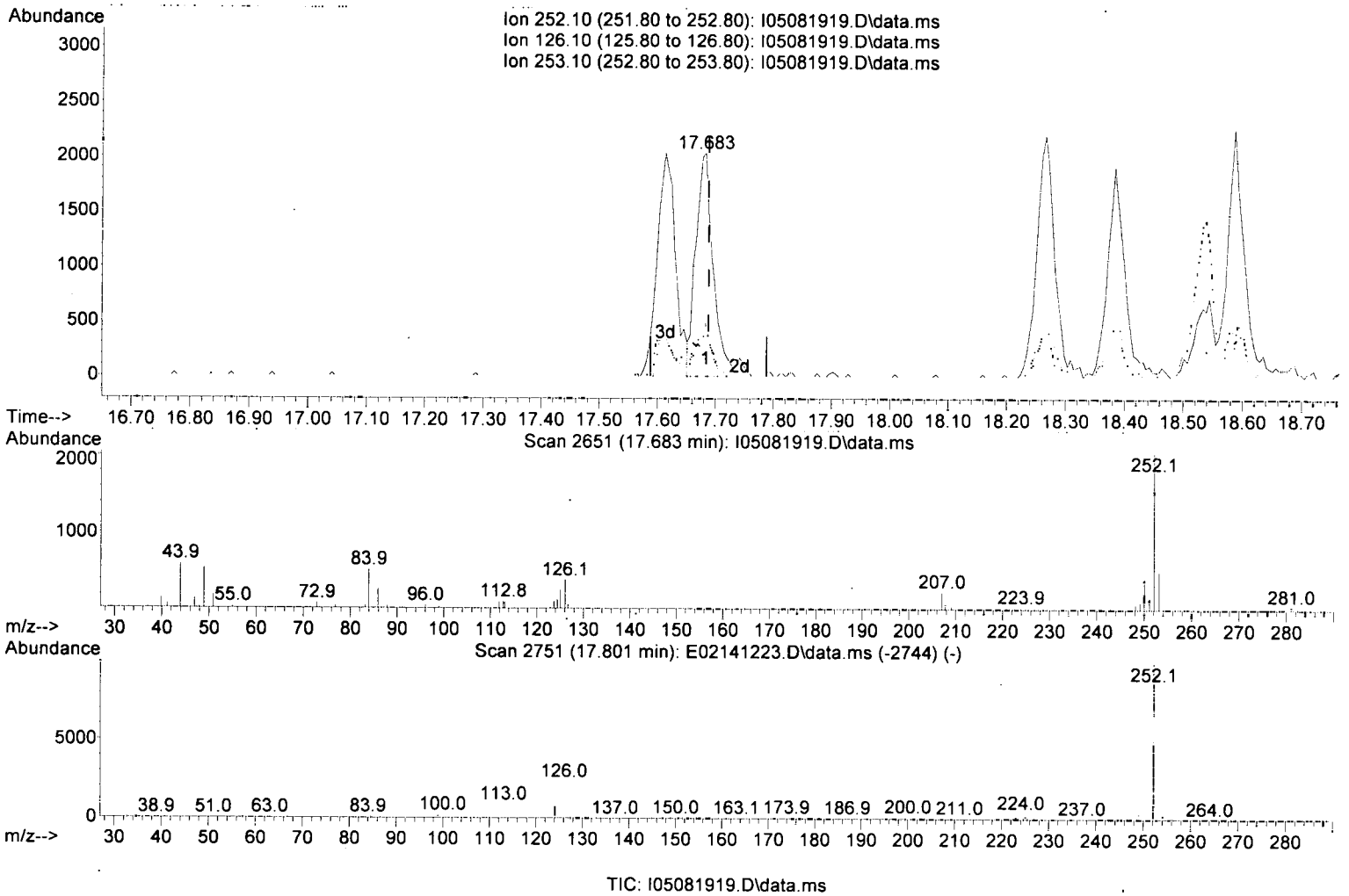
response 3913

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	23.46
253.10	21.70	25.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:14 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05081919.D\data.ms

(89) Benzo(k)fluoranthene (T)

17.683min (-0.006) 25.71 ng/ml m

response 4403

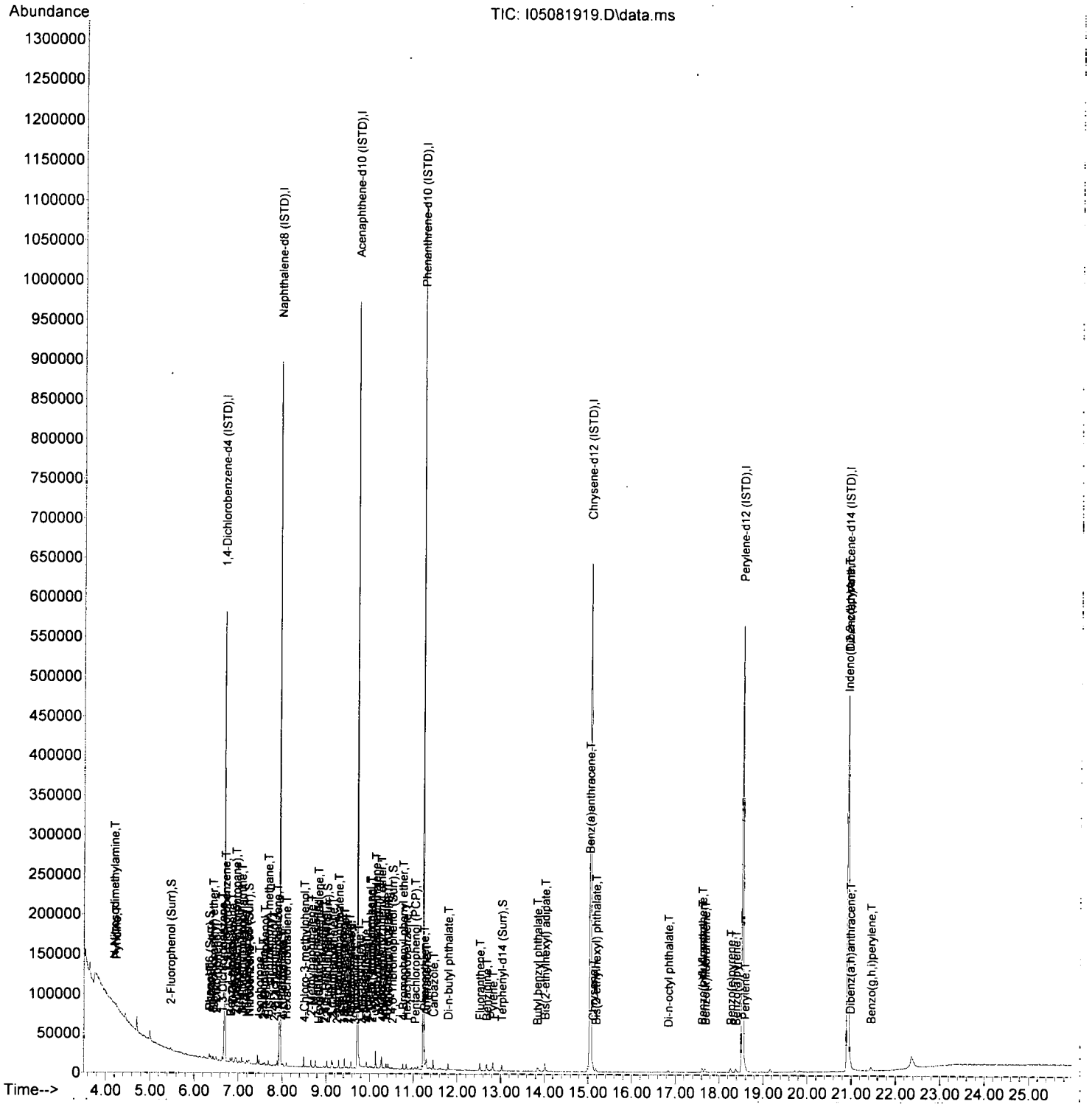
Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	19.44
253.10	21.70	25.42
0.00	0.00	0.00

JK 5/9/19

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081919.D
Acq On : 8 May 2019 8:12 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL1
Misc : 1x, A19D053 BNA@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:14 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081920.D
Acq On : 8 May 2019 8:48 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.691	152	117186	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.943	136	466642	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	235336	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	447217	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.051	240	470097	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.539	264	436889	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.919	292	403848	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.467	112	3106	39.64	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	4324	41.83	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.232	82	4032	46.57	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	8836	51.45	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.516	330	790	70.57	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	10935	48.86	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.178	74	2851	46.07	ng/ml#	70
3) Pyridine	4.215	79	4118	42.59	ng/ml#	61
6) Phenol	6.354	94	4928	43.76	ng/ml	93
7) Aniline	6.381	93	5080	49.37	ng/ml	94
8) Bis(2-chloroethyl) ether	6.429	93	4474	48.44	ng/ml	98
9) 2-Chlorophenol	6.499	128	3771	47.01	ng/ml	92
10) 1,3-Dichlorobenzene	6.643	146	4617	51.82	ng/ml	93
11) 1,4-Dichlorobenzene	6.707	146	4532	53.35	ng/ml	98
12) Benzyl alcohol	6.830	108	1234	49.30	ng/ml	89
13) 1,2-Dichlorobenzene	6.863	146	4338	52.25	ng/ml	97
14) 2-Methylphenol	6.932	107	2679	42.19	ng/ml	93
15) 2,2'-Oxybis(1-Chloropr...	6.948	45	5842	45.28	ng/ml	98
16) N-Nitrosodi-n-propylamine	7.077	70	3144	48.05	ng/ml	93
17) 3+4-Methylphenol	7.082	107	3346	41.79	ng/ml	97
18) Hexachloroethane	7.194	201	1408	53.91	ng/ml	85
20) Nitrobenzene	7.248	77	4129	46.85	ng/ml	98
22) Isophorone	7.478	82	8299	48.17	ng/ml	97
23) 2-Nitrophenol	7.563	139	1851	66.48	ng/ml	98
24) 2,4-Dimethylphenol	7.601	122	2552	36.98	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.681	93	5405	52.67	ng/ml	97
26) Benzoic acid	7.681	105	157	795.44	ng/ml	94
27) 2,4-Dichlorophenol	7.804	162	1767	40.41	ng/ml	94
28) 1,2,4-Trichlorobenzene	7.890	180	3994	54.83	ng/ml	89
29) Naphthalene	7.964	128	12776	55.21	ng/ml	99
30) 4-Chloroaniline	8.013	127	3426	54.81	ng/ml	93
31) Hexachlorobutadiene	8.093	225	2007	54.77	ng/ml	85
32) 4-Chloro-3-methylphenol	8.499	107	1435	51.37	ng/ml#	1
33) 2-Methylnaphthalene	8.660	142	8403	49.27	ng/ml	98
34) 1-Methylnaphthalene	8.756	142	8435	52.12	ng/ml	99
36) Hexachlorocyclopentadiene	8.826	237	592	49.29	ng/ml	88
37) 2,4,6-Trichlorophenol	8.943	196	987	55.28	ng/ml	84
38) 2,4,5-Trichlorophenol	8.991	198	862	49.18	ng/ml	92
39) 1,1'-Biphenyl	9.125	154	9087	45.69	ng/ml	98
41) 2-Chloronaphthalene	9.152	162	6592	45.56	ng/ml	97
42) 2-Nitroaniline	9.248	138	759	16.01	ng/ml	94
43) 2,6-Dimethylnaphthalene	9.286	156	7150	50.10	ng/ml	98

See MS

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081920.D
Acq On : 8 May 2019 8:48 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

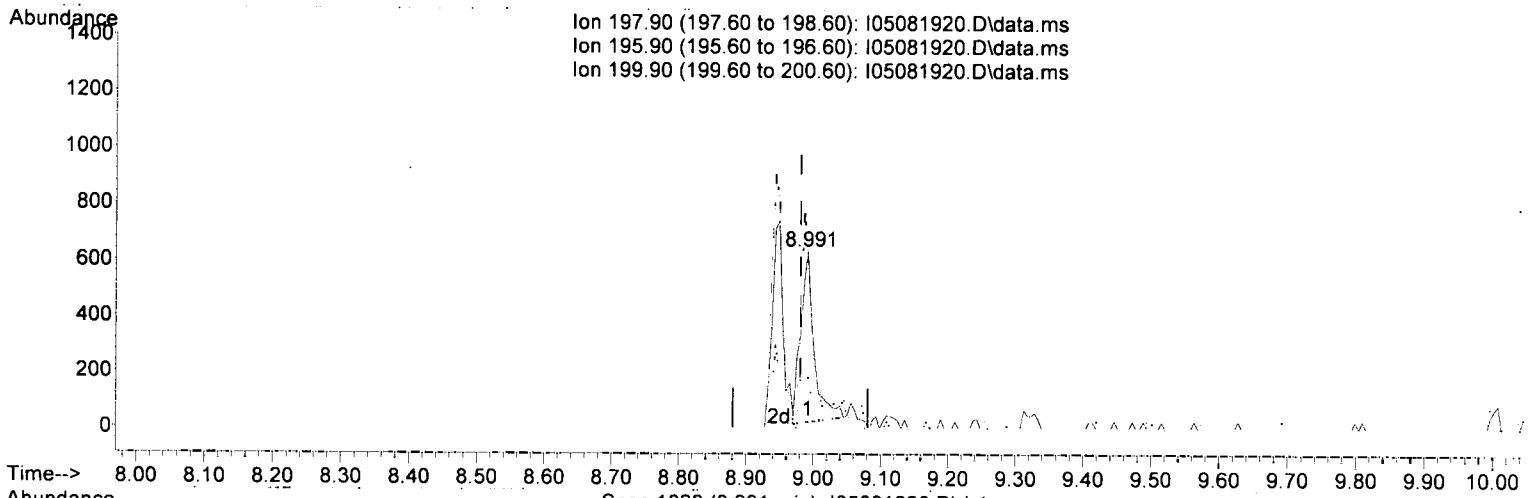
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.376	168	303	74.86	ng/ml#	70
45) Dimethyl phthalate	9.419	163	8669	52.79	ng/ml	98
46) 1,3-Dinitrobenzene	9.451	168	617	24.40	ng/ml	76
47) 2,6-Dinitrotoluene	9.483	165	1045	29.21	ng/ml	77
48) 1,2-Dinitrobenzene	9.542	168	519	28.72	ng/ml	93
49) Acenaphthylene	9.569	152	11830	51.50	ng/ml	98
50) 3-Nitroaniline	9.660	138	912	40.89	ng/ml	93
51) Acenaphthene	9.745	153	8352	57.80	ng/ml	96
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	9.842	139	405	87.39	ng/ml	91
54) 2,4-Dinitrotoluene	9.890	165	1084	53.31	ng/ml	92
55) Dibenzofuran	9.917	168	10231	51.44	ng/ml	86
56) 2,3,5,6-Tetrachlorophenol	10.008	232	720	71.19	ng/ml	84
57) 2,3,4,6-Tetrachlorophenol	10.050	232	1085	66.47	ng/ml	86
58) Diethyl phthalate	10.131	149	8249	53.66	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.131	170	7475	56.65	ng/ml	91
60) Fluorene	10.264	166	8897	54.93	ng/ml	96
61) 4-Chlorophenyl phenyl ...	10.259	204	4291	56.42	ng/ml	86
62) 4-Nitroaniline	10.275	138	1270	36.16	ng/ml	94
63) 4,6-Dinitro-2-methylph...	10.312	198	217	101.38	ng/ml	71
65) N-Nitrosodiphenylamine	10.377	169	6367	46.58	ng/ml	96
66) Azobenzene (1,2-DPH)	10.419	77	7675	44.83	ng/ml	93
68) 4-Bromophenyl phenyl e...	10.756	248	2481	54.83	ng/ml#	77
69) Hexachlorobenzene	10.837	284	3112	64.82	ng/ml	90
70) Pentachlorophenol (PCP)	11.035	266	782	116.47	ng/ml	75
71) Phenanthrene	11.243	178	13230	57.00	ng/ml	98
72) Anthracene	11.297	178	12760	56.96	ng/ml	98
73) Carbazole	11.452	167	10615	51.27	ng/ml	99
74) Di-n-butyl phthalate	11.794	149	11962	44.43	ng/ml	98
75) Fluoranthene	12.521	202	14115	54.81	ng/ml	98
76) Benzidine	12.677	184	6670	136.06	ng/ml	95
77) Pyrene	12.821	202	14957	57.38	ng/ml	97
80) Butyl benzyl phthalate	13.837	149	4377	64.96	ng/ml	93
81) Bis(2-ethylhexyl) adipate	14.008	129	5191	39.84	ng/ml	96
82) 3,3-Dichlorobenzidine	14.987	252	6262	Below Cal		92
83) Benz(a)anthracene	15.030	228	13479	50.10	ng/ml	97
84) Chrysene	15.105	228	12647	50.46	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.180	149	5059	28.08	ng/ml	88
87) Di-n-octyl phthalate	16.843	149	6475	93.63	ng/ml	96
88) Benzo(b)fluoranthene	17.613	252	11686	54.36	ng/ml	93
89) Benzo(k)fluoranthene	17.677	252	12101	54.18	ng/ml	97
90) Benzo(b+k)fluoranthene	17.677	252	24677	108.29	ng/ml	97
91) Benzo(e)pyrene	18.271	252	12373	49.90	ng/ml	96
92) Benzo(a)pyrene	18.389	252	10371	55.04	ng/ml	94
93) Perylene	18.587	252	10773	48.16	ng/ml	100
95) Indeno(1,2,3-cd)pyrene	20.913	276	10988	48.06	ng/ml	74
96) Dibenz(a,h)anthracene	20.988	278	9885	51.38	ng/ml	89
97) Benzo(g,h,i)perylene	21.454	276	10510	49.07	ng/ml	91

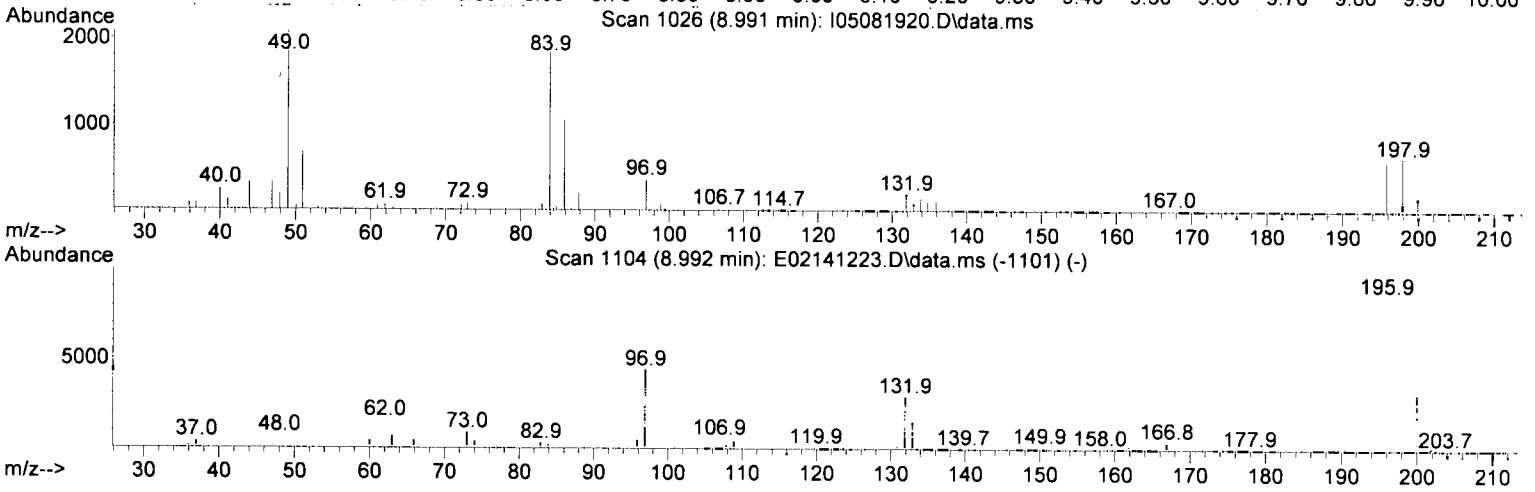
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081920.D
Acq On : 8 May 2019 8:48 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9





TIC: I05081920.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

8.991min (+0.011) 49.18 ng/ml

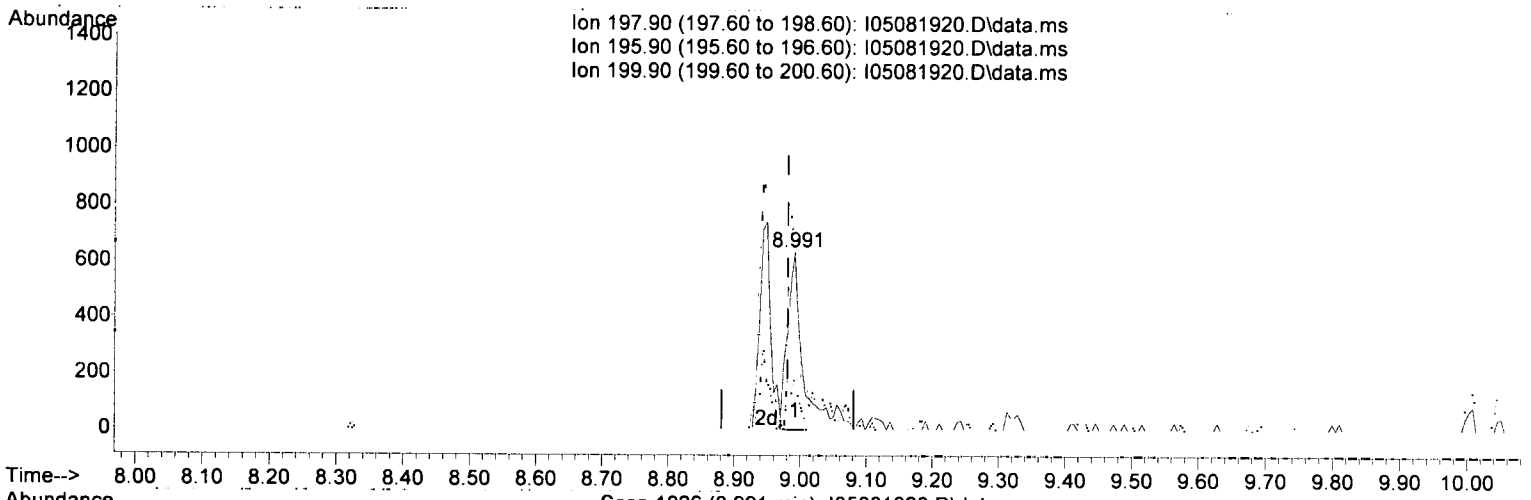
response 862

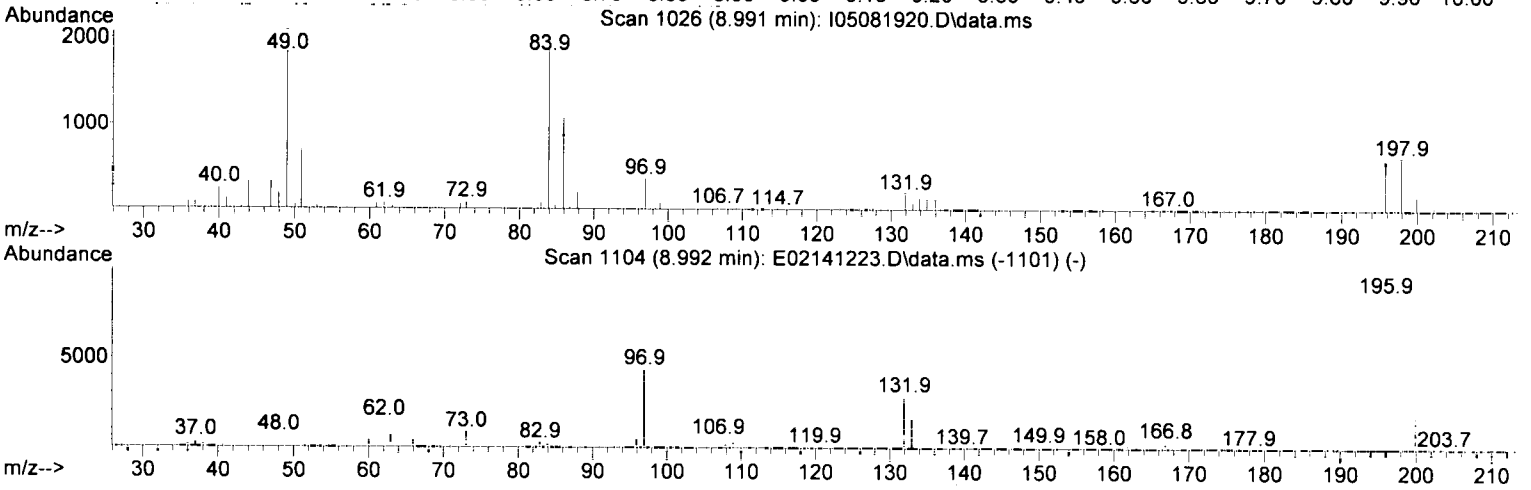
Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	95.28
199.90	31.10	29.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081920.D
Acq On : 8 May 2019 8:48 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9





TIC: I05081920.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

8.991min (+ 0.011) 54.39 ng/ml (m) JK 5/9/19

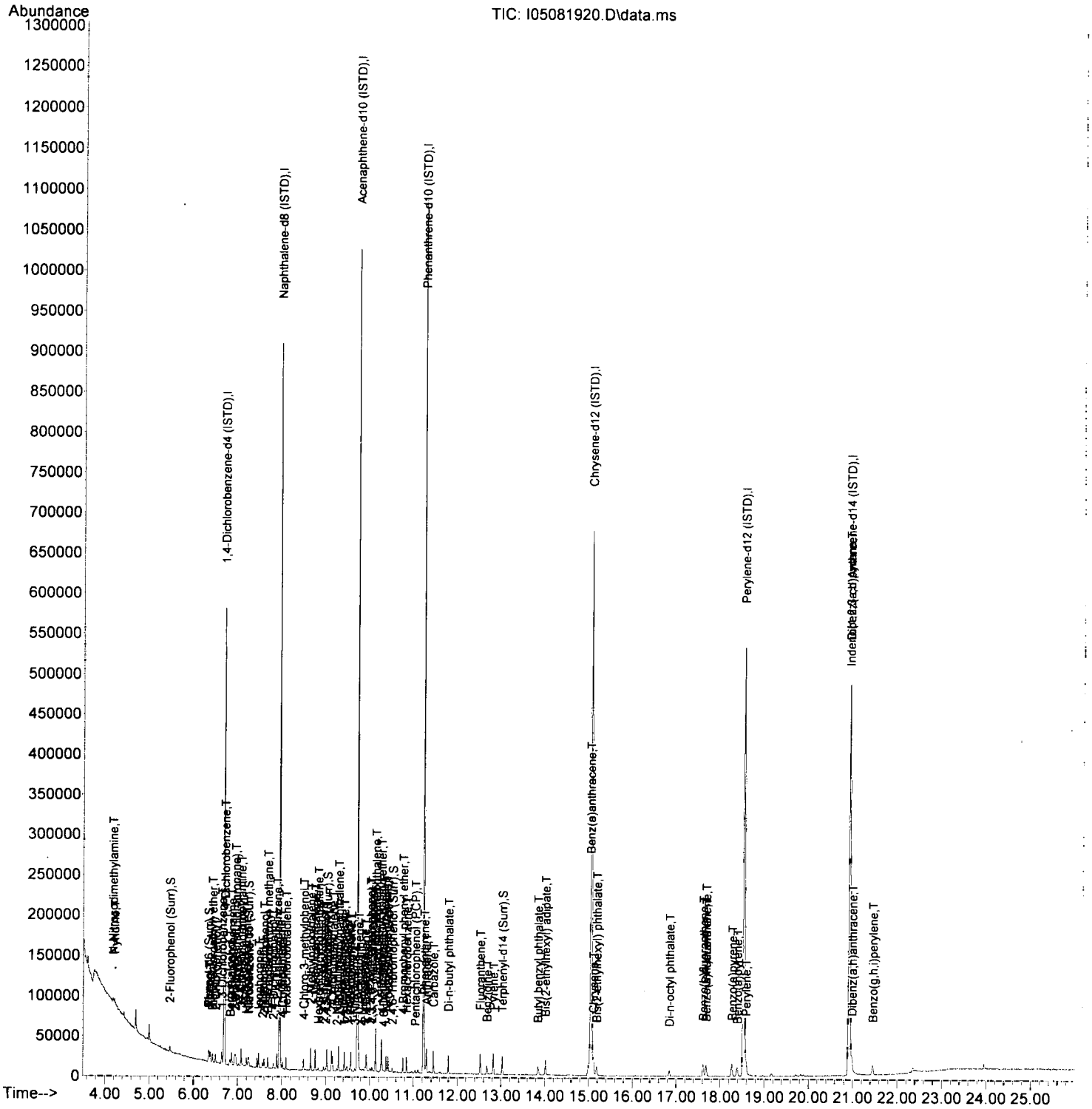
response 1083

Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	95.28
199.90	31.10	29.13
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081920.D
Acq On : 8 May 2019 8:48 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL2
Misc : 1x, A19D054 BNA@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.691	152	115550	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.943	136	461862	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	238866	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.221	188	441856	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.051	240	464995	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.533	264	434795	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.919	292	409849	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.472	112	7013	90.77	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	9148	89.75	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.231	82	8175	95.75	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	19505	111.89	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.510	330	1794	127.24	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.019	244	23610	106.65	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.188	74	5631	92.28	ng/ml	76
3) Pyridine	4.215	79	7898	82.84	ng/ml	84
6) Phenol	6.354	94	10314	92.88	ng/ml	98
7) Aniline	6.381	93	10637	104.83	ng/ml	92
8) Bis(2-chloroethyl) ether	6.429	93	8939	98.15	ng/ml	95
9) 2-Chlorophenol	6.499	128	7863	99.40	ng/ml	91
10) 1,3-Dichlorobenzene	6.643	146	9757	111.06	ng/ml	97
11) 1,4-Dichlorobenzene	6.713	146	8776	104.78	ng/ml	95
12) Benzyl alcohol	6.825	108	2898	84.51	ng/ml	99
13) 1,2-Dichlorobenzene	6.862	146	8854	108.15	ng/ml	98
14) 2-Methylphenol	6.932	107	6386	101.99	ng/ml	89
15) 2,2'-Oxybis(1-Chloropr...	6.953	45	12268	96.43	ng/ml	97
16) N-Nitrosodi-n-propylamine	7.076	70	6313	97.85	ng/ml	91
17) 3+4-Methylphenol	7.076	107	7451	94.37	ng/ml	95
18) Hexachloroethane	7.194	201	2779	107.90	ng/ml	88
20) Nitrobenzene	7.247	77	8591	98.85	ng/ml	93
22) Isophorone	7.477	82	16536	96.96	ng/ml	97
23) 2-Nitrophenol	7.563	139	3972	114.25	ng/ml	89
24) 2,4-Dimethylphenol	7.595	122	6013	88.03	ng/ml	94
25) Bis(2-chloroethoxy) me...	7.686	93	11079	109.07	ng/ml	99
26) Benzoic acid	7.686	105	112	794.36	ng/ml#	27
27) 2,4-Dichlorophenol	7.804	162	4504	88.55	ng/ml	98
28) 1,2,4-Trichlorobenzene	7.889	180	8177	113.42	ng/ml	96
29) Naphthalene	7.964	128	25557	111.59	ng/ml	100
30) 4-Chloroaniline	8.012	127	6574	106.26	ng/ml	95
31) Hexachlorobutadiene	8.093	225	4053	111.76	ng/ml	98
32) 4-Chloro-3-methylphenol	8.499	107	2916	73.90	ng/ml#	53
33) 2-Methylnaphthalene	8.659	142	17636	104.47	ng/ml	96
34) 1-Methylnaphthalene	8.756	142	17565	109.66	ng/ml	96
36) Hexachlorocyclopentadiene	8.825	237	1795	84.61	ng/ml	92
37) 2,4,6-Trichlorophenol	8.943	196	2595	91.22	ng/ml	97
38) 2,4,5-Trichlorophenol	8.986	198	2233	80.70	ng/ml	98
39) 1,1'-Biphenyl	9.125	154	20138	99.75	ng/ml	99
41) 2-Chloronaphthalene	9.146	162	14570	99.21	ng/ml	98
42) 2-Nitroaniline	9.248	138	1934	40.20	ng/ml	91
43) 2,6-Dimethylnaphthalene	9.285	156	15688	108.29	ng/ml	93

See MI

See MI

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

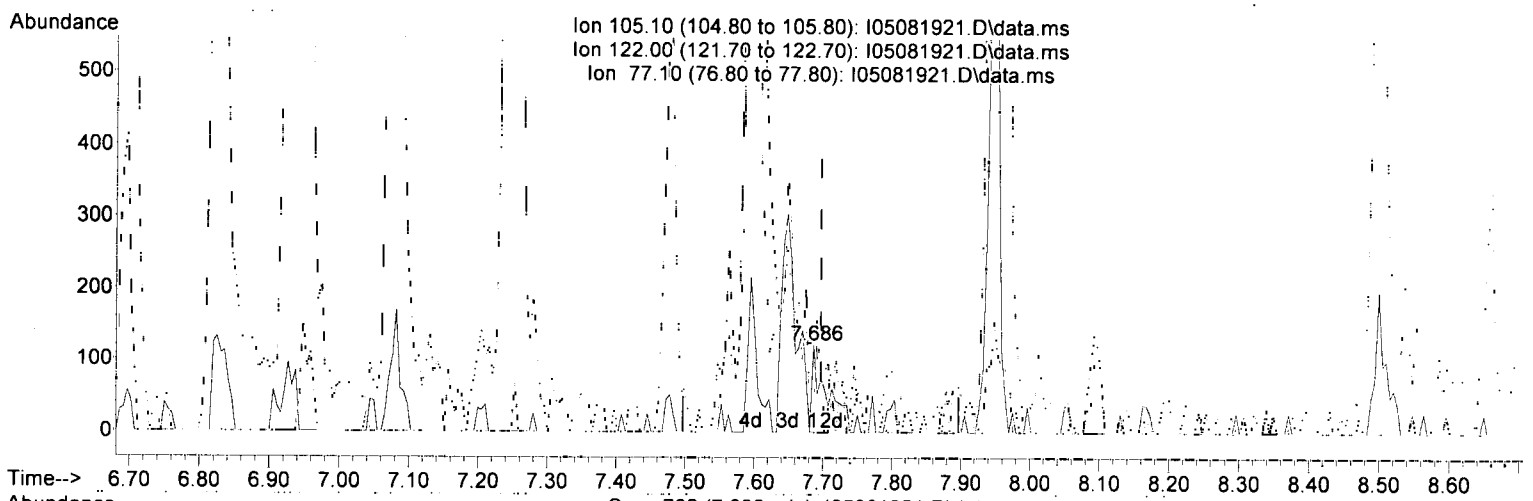
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.371	168	955	103.43	ng/ml	92
45) Dimethyl phthalate	9.419	163	18418	110.50	ng/ml	98
46) 1,3-Dinitrobenzene	9.451	168	1664	64.83	ng/ml	89
47) 2,6-Dinitrotoluene	9.483	165	2837	78.12	ng/ml	85
48) 1,2-Dinitrobenzene	9.537	168	1261	68.76	ng/ml	90
49) Acenaphthylene	9.569	152	26148	112.15	ng/ml	99
50) 3-Nitroaniline	9.654	138	2267	78.90	ng/ml	98
51) Acenaphthene	9.745	153	16799	114.54	ng/ml	99
52) 2,4-Dinitrophenol	9.767	184	124	187.96	ng/ml	80
53) 4-Nitrophenol	9.836	139	1299	119.92	ng/ml	95
54) 2,4-Dinitrotoluene	9.890	165	3069	92.76	ng/ml	97
55) Dibenzofuran	9.916	168	21911	108.53	ng/ml	90
56) 2,3,5,6-Tetrachlorophenol	10.002	232	1956	108.24	ng/ml	81
57) 2,3,4,6-Tetrachlorophenol	~~10.050~~	~~232~~	~~2718~~	~~111.52~~	~~ng/ml#~~	77 see MJ
58) Diethyl phthalate	10.130	149	17729	113.63	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.130	170	15984	119.35	ng/ml	93
60) Fluorene	10.264	166	19156	116.53	ng/ml	97
61) 4-Chlorophenyl phenyl ...	10.259	204	9040	117.10	ng/ml	84
62) 4-Nitroaniline	10.275	138	2732	76.64	ng/ml	97
63) 4,6-Dinitro-2-methylph...	10.307	198	760	134.94	ng/ml	75
65) N-Nitrosodiphenylamine	10.376	169	14816	109.71	ng/ml	98
66) Azobenzene (1,2-DPH)	10.419	77	17330	102.46	ng/ml	88
68) 4-Bromophenyl phenyl e...	10.756	248	5435	121.58	ng/ml#	78
69) Hexachlorobenzene	10.836	284	6195	130.59	ng/ml	90
70) Pentachlorophenol (PCP)	11.034	266	1222	138.21	ng/ml	89
71) Phenanthrene	11.243	178	26210	114.29	ng/ml	99
72) Anthracene	11.296	178	26491	119.69	ng/ml	97
73) Carbazole	11.451	167	22432	103.59	ng/ml	100
74) Di-n-butyl phthalate	11.788	149	26562	99.86	ng/ml	99
75) Fluoranthene	12.521	202	29669	116.61	ng/ml	98
76) Benzidine	12.676	184	14400	277.95	ng/ml	99
77) Pyrene	12.815	202	31027	120.46	ng/ml	96
80) Butyl benzyl phthalate	13.837	149	9184	99.39	ng/ml	94
81) Bis(2-ethylhexyl) adipate	14.008	129	10197	79.13	ng/ml	100
82) 3,3-Dichlorobenzidine	14.982	252	13834	121.71	ng/ml	94
83) Benz(a)anthracene	15.024	228	26892	101.04	ng/ml	99
84) Chrysene	15.105	228	25625	103.37	ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.179	149	11680	65.53	ng/ml	93
87) Di-n-octyl phthalate	16.838	149	14915	122.97	ng/ml	98
88) Benzo(b)fluoranthene	17.613	252	23806	101.01	ng/ml	93
89) Benzo(k)fluoranthene	17.677	252	25069	102.98	ng/ml	96
90) Benzo(b+k)fluoranthene	17.613	252	50907	205.68	ng/ml	91
91) Benzo(e)pyrene	18.266	252	25730	104.26	ng/ml	96
92) Benzo(a)pyrene	18.383	252	21986	104.74	ng/ml	97
93) Perylene	18.592	252	22641	101.71	ng/ml	98
95) Indeno(1,2,3-cd)pyrene	20.908	276	22712	97.88	ng/ml	100
96) Dibenz(a,h)anthracene	20.977	278	20562	105.30	ng/ml	90
97) Benzo(g,h,i)perylene	21.448	276	22018	101.29	ng/ml	86

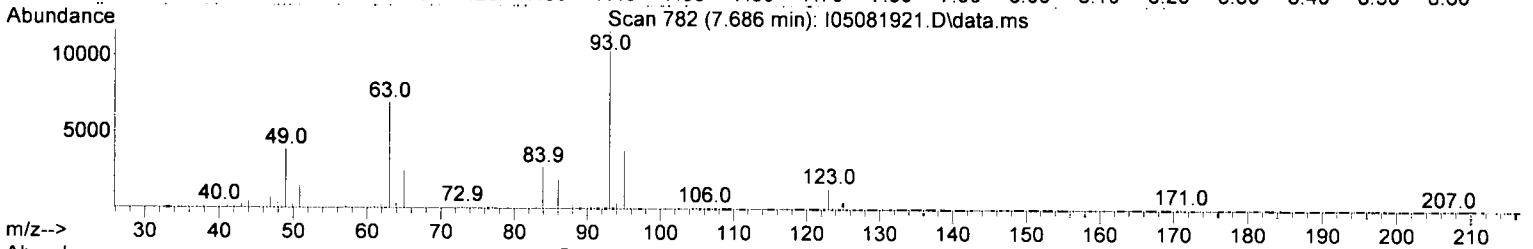
(#) = qualifier out of range (m) = manual integration (+) = signals summed

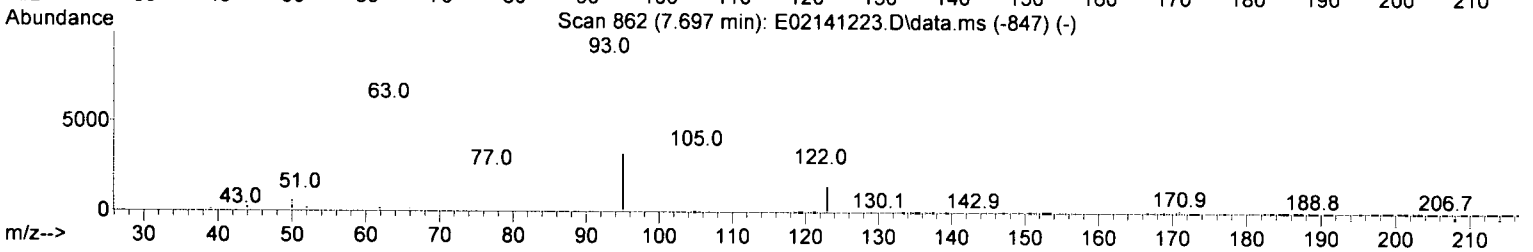
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081921.D\data.ms

(26) Benzoic acid (T)

7.686min (-0.011) 794.36 ng/ml

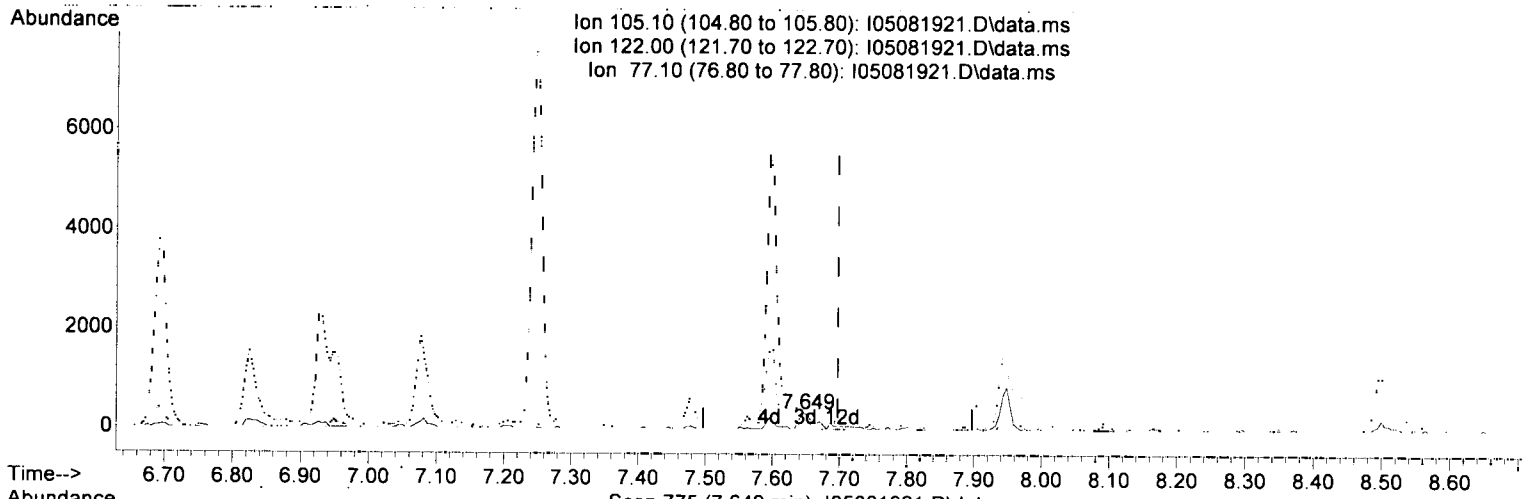
response 112

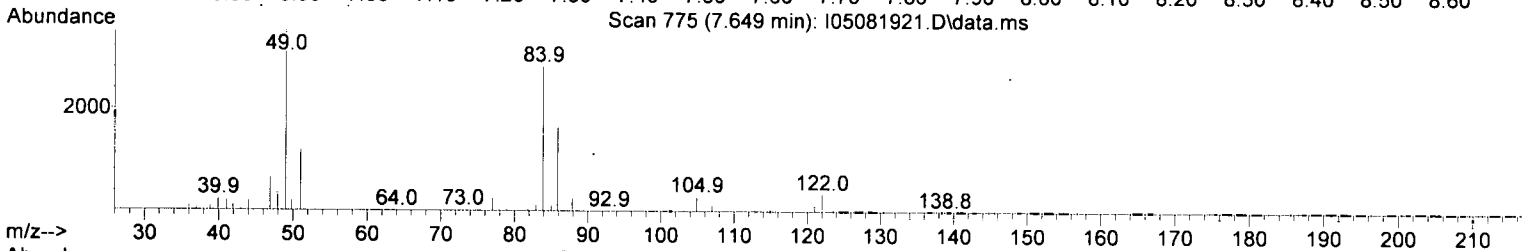
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	0.00#
77.10	76.00	122.13#
0.00	0.00	0.00

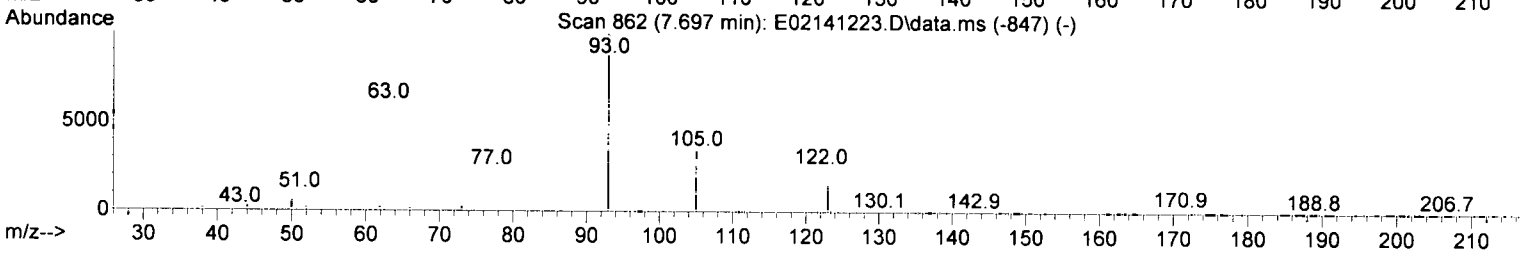
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081921.D\data.ms

(26) Benzoic acid (T)

7.649min (-0.048) 805.72 ng/ml (m)

response 570

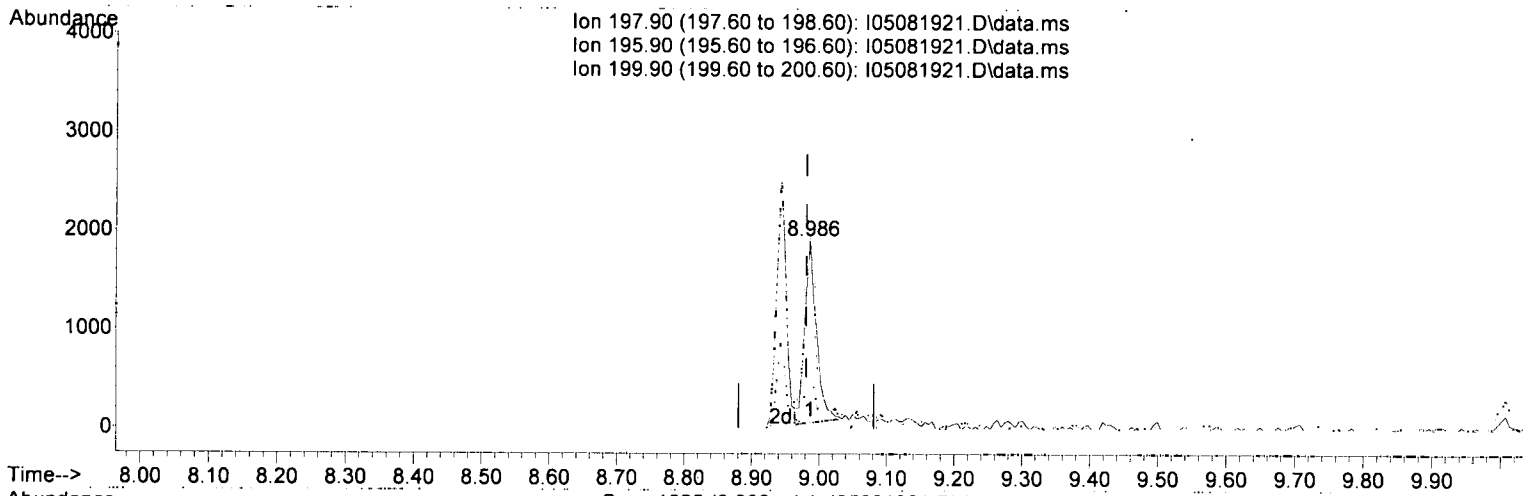
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	116.39#
77.10	76.00	86.89
0.00	0.00	0.00

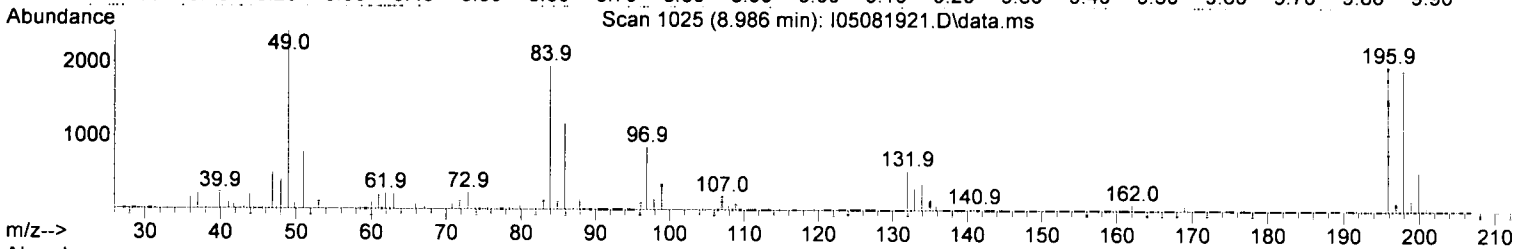
5/9/19

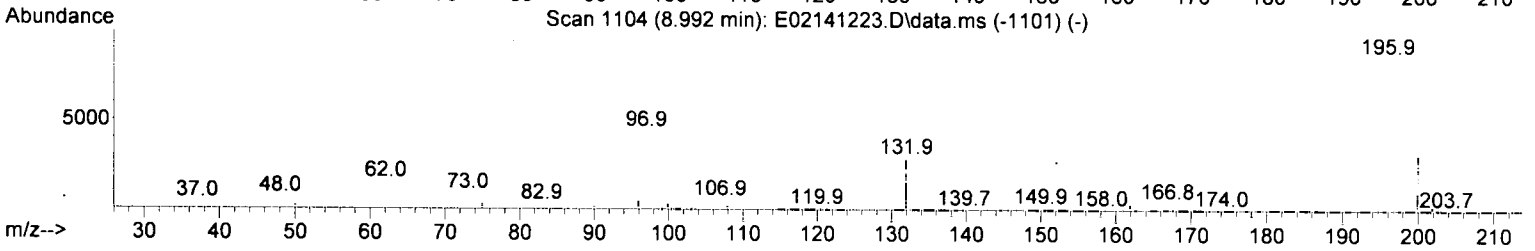
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081921.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

8.986min (+ 0.005) 80.70 ng/ml

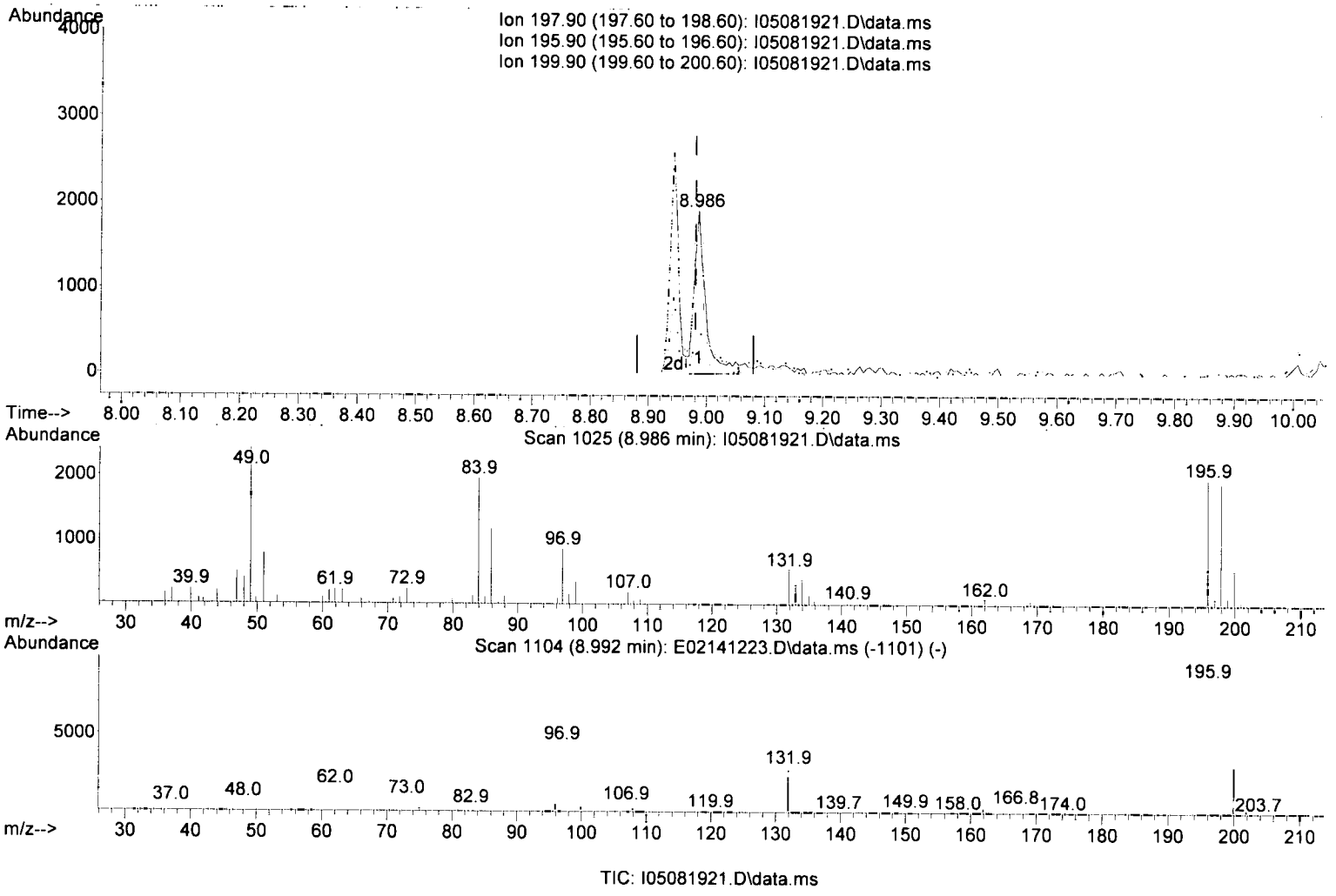
response 2233

Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	103.25
199.90	31.10	28.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05081921.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

8.986min (+ 0.005) 91.36 ng/ml D

response 2692

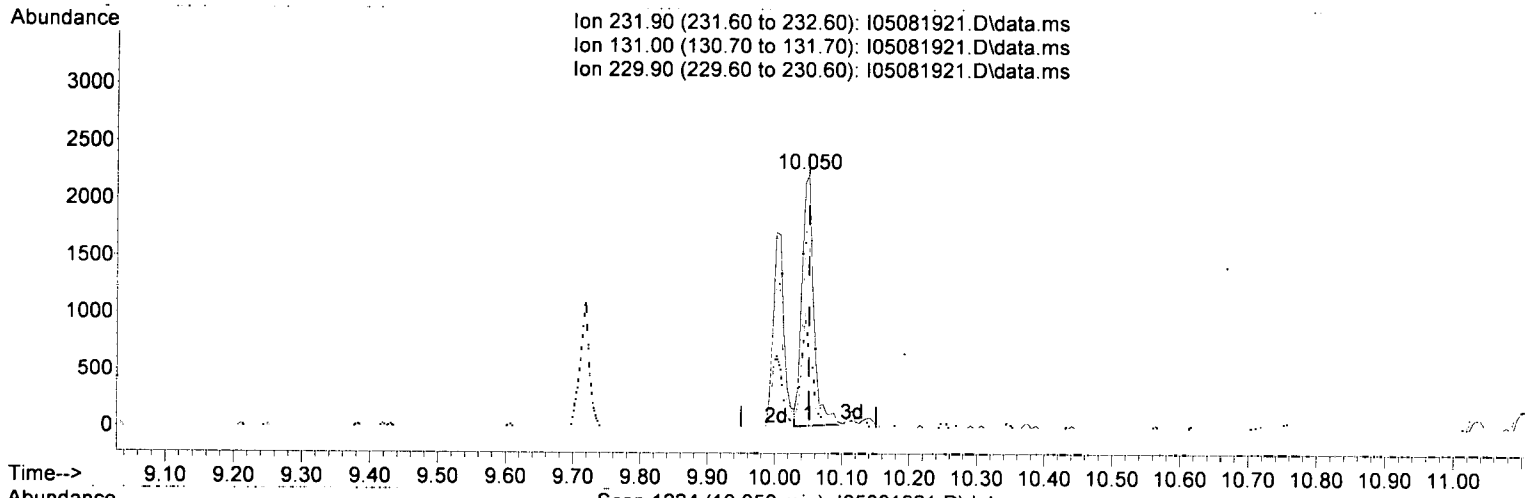
Ion	Exp%	Act%
197.90	100.00	100.00
195.90	105.00	103.25
199.90	31.10	28.81
0.00	0.00	0.00

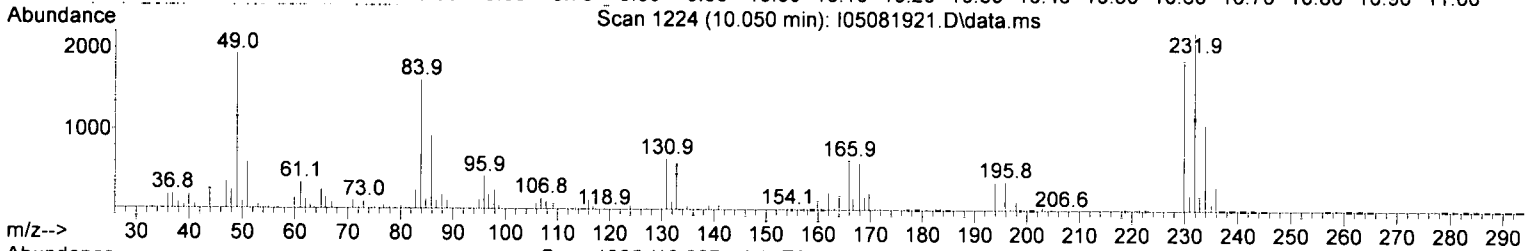
5/9/19

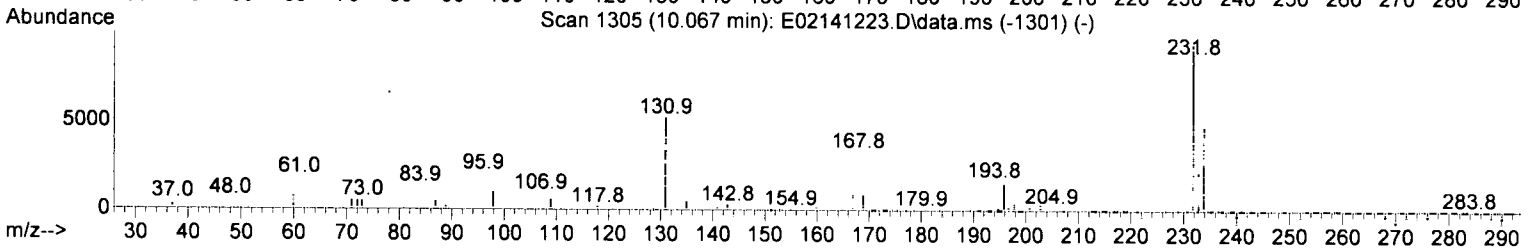
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081921.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.050min (-0.000) 111.52 ng/ml

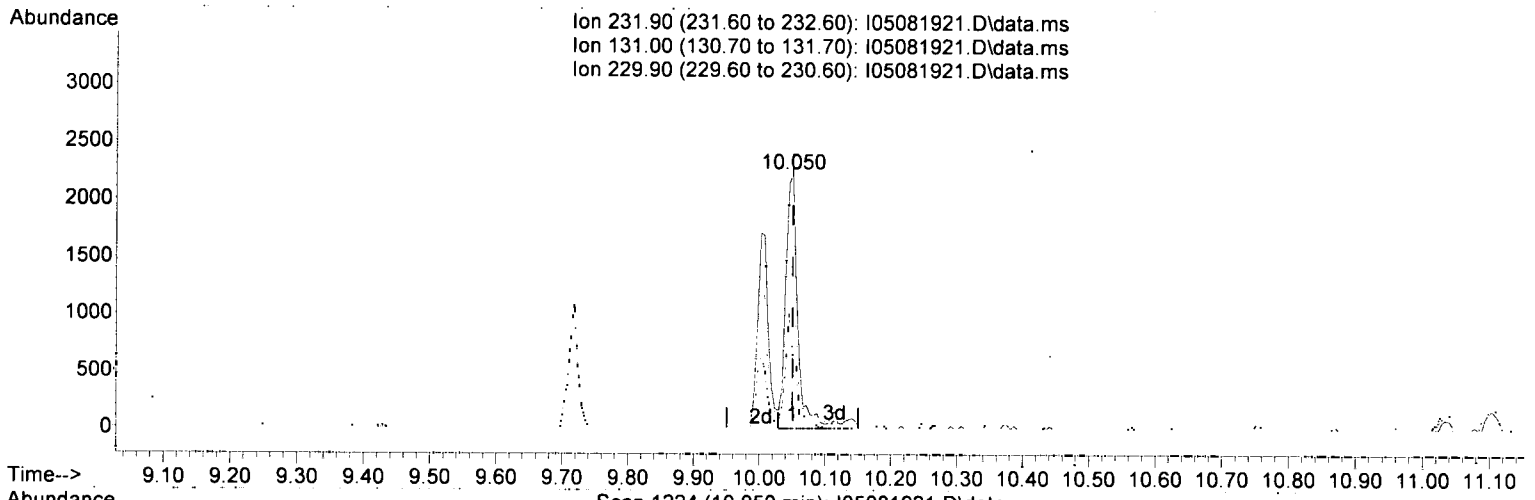
response 2712

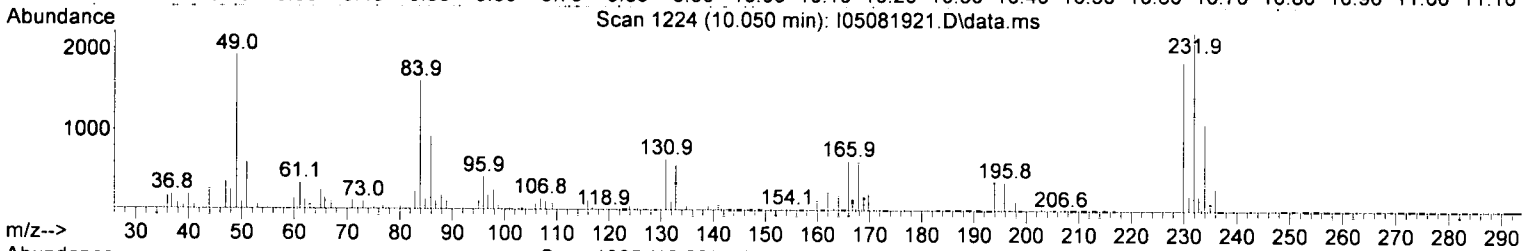
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	29.25#
229.90	78.40	83.76
0.00	0.00	0.00

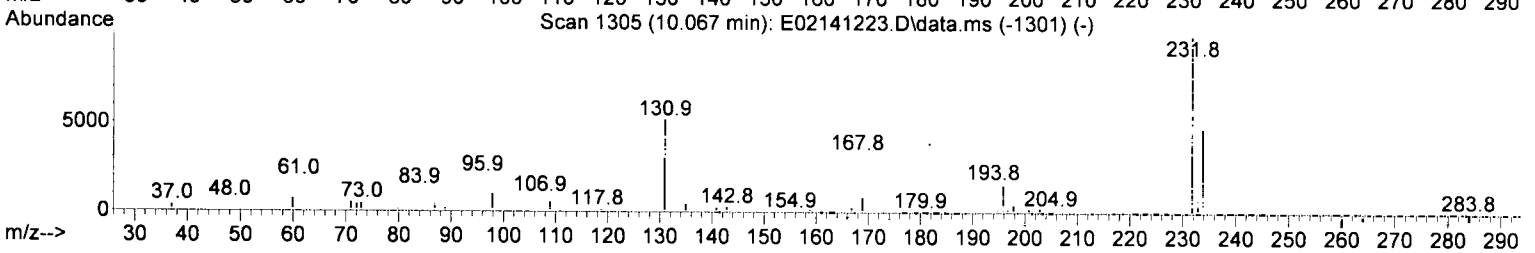
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081921.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.050min (-0.000) 120.47 ng/ml m

5/9/19

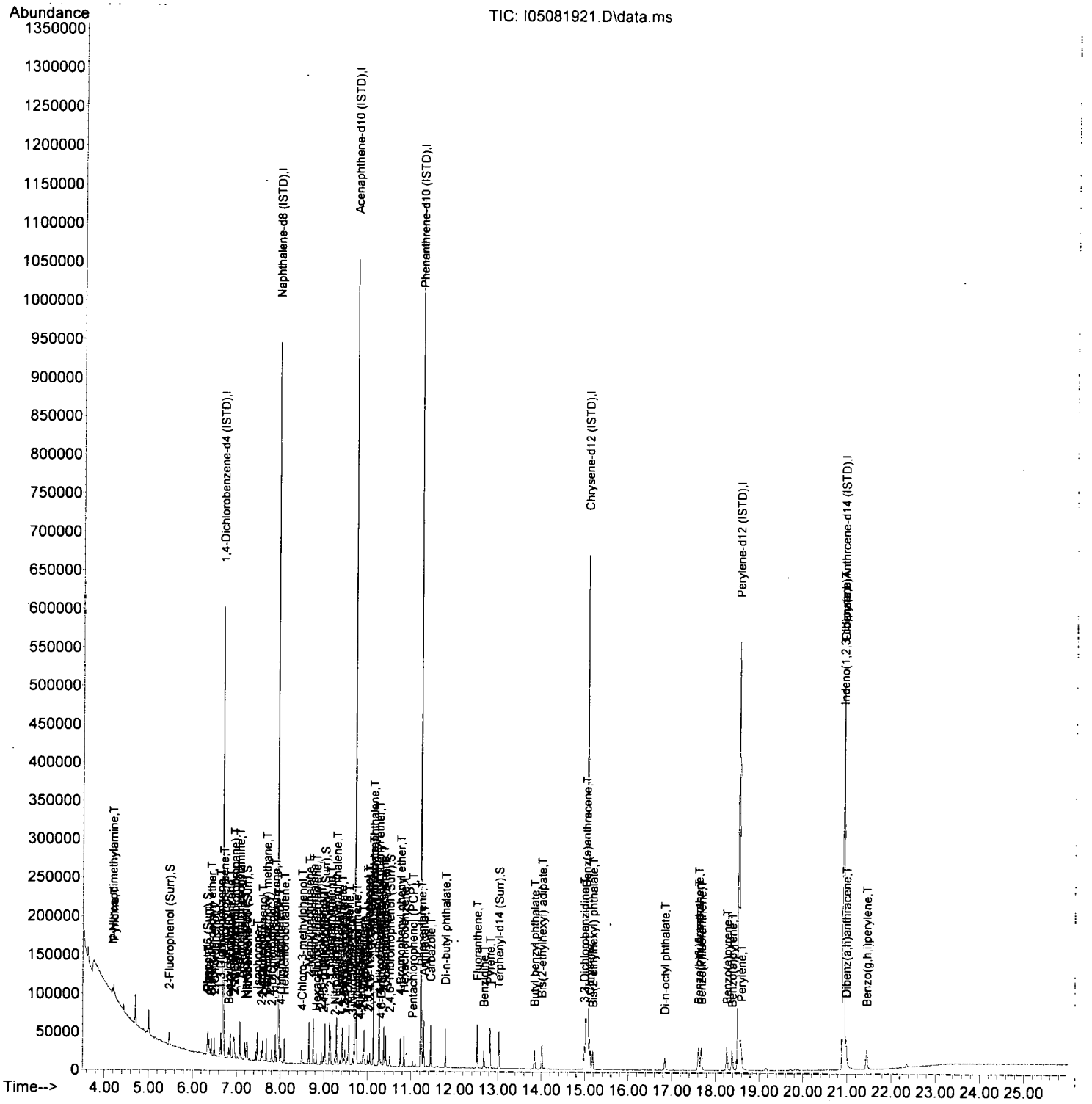
response 3032

Ion	Exp%	Act%
231.90	100.00	100.00
131.00	63.10	29.25#
229.90	78.40	83.76
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081921.D
Acq On : 8 May 2019 9:25 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL3
Misc : 1x, A19D055 BNA@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:31 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081922.D
Acq On : 8 May 2019 10:01 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.691	152	120284	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.943	136	469577	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	245169	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	455298	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.051	240	479919	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.539	264	448879	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.919	292	416516	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.467	112	14997	186.46	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	19650	185.20	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.226	82	17627	198.33	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	41740	233.29	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.510	330	4189	254.08	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	49759	217.77	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.167	74	11200	176.32	ng/ml	91
3) Pyridine	4.188	79	17242	173.73	ng/ml	95
6) Phenol	6.349	94	21991	190.24	ng/ml	99
7) Aniline	6.381	93	21214	200.85	ng/ml	98
8) Bis(2-chloroethyl) ether	6.429	93	18736	197.62	ng/ml	95
9) 2-Chlorophenol	6.499	128	16450	199.77	ng/ml	92
10) 1,3-Dichlorobenzene	6.643	146	19525	213.49	ng/ml	94
11) 1,4-Dichlorobenzene	6.707	146	18751	215.07	ng/ml	94
12) Benzyl alcohol	6.820	108	6970	163.75	ng/ml	98
13) 1,2-Dichlorobenzene	6.863	146	18424	216.20	ng/ml	96
14) 2-Methylphenol	6.927	107	12165	186.63	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	6.948	45	24389	184.15	ng/ml	97
16) N-Nitrosodi-n-propylamine	7.077	70	13250	197.28	ng/ml	92
17) 3+4-Methylphenol	7.077	107	15823	192.53	ng/ml	97
18) Hexachloroethane	7.194	201	5764	214.99	ng/ml	84
20) Nitrobenzene	7.248	77	18273	201.98	ng/ml	96
22) Isophorone	7.478	82	35486	204.67	ng/ml	97
23) 2-Nitrophenol	7.563	139	9275	229.22	ng/ml	93
24) 2,4-Dimethylphenol	7.595	122	13165	189.57	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.681	93	21622	209.37	ng/ml	99
26) Benzoic acid	~~7.697~~	~~105~~	~~180~~	~~795.98~~	~~ng/ml~~	98 see MI
27) 2,4-Dichlorophenol	7.804	162	10432	189.02	ng/ml	98
28) 1,2,4-Trichlorobenzene	7.890	180	16423	224.06	ng/ml	98
29) Naphthalene	7.964	128	51599	221.59	ng/ml	100
30) 4-Chloroaniline	8.013	127	12811	203.66	ng/ml	98
31) Hexachlorobutadiene	8.093	225	8220	222.93	ng/ml	98
32) 4-Chloro-3-methylphenol	8.494	107	9012	163.32	ng/ml	85
33) 2-Methylnaphthalene	8.660	142	36961	215.36	ng/ml	97
34) 1-Methylnaphthalene	8.756	142	36346	223.19	ng/ml	96
36) Hexachlorocyclopentadiene	8.826	237	5324	184.81	ng/ml	92
37) 2,4,6-Trichlorophenol	8.943	196	7125	189.25	ng/ml	94
38) 2,4,5-Trichlorophenol	8.986	198	6364	172.87	ng/ml	96
39) 1,1'-Biphenyl	9.125	154	44415	214.36	ng/ml	99
41) 2-Chloronaphthalene	9.146	162	32196	213.60	ng/ml	96
42) 2-Nitroaniline	9.248	138	7039	142.55	ng/ml	83
43) 2,6-Dimethylnaphthalene	9.286	156	34391	231.30	ng/ml	94

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081922.D
Acq On : 8 May 2019 10:01 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

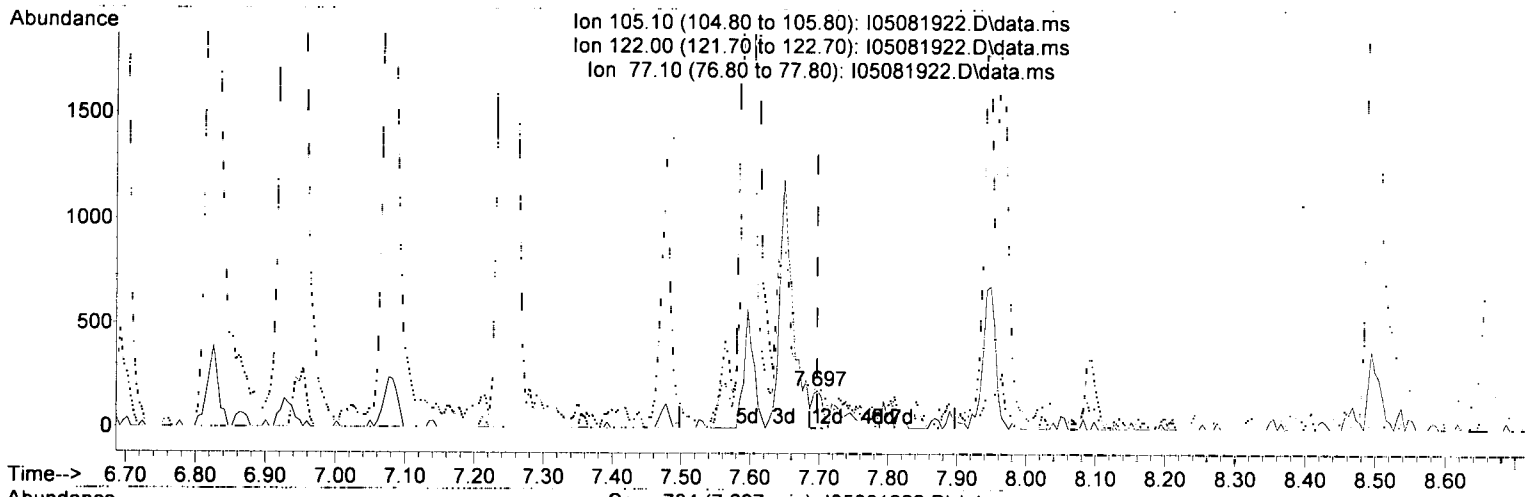
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.371	168	3037	191.61	ng/ml	97
45) Dimethyl phthalate	9.419	163	38348	224.15	ng/ml	100
46) 1,3-Dinitrobenzene	9.451	168	4229	160.53	ng/ml	91
47) 2,6-Dinitrotoluene	9.483	165	7570	203.08	ng/ml	88
48) 1,2-Dinitrobenzene	9.537	168	3477	184.71	ng/ml	85
49) Acenaphthylene	9.569	152	54704	228.60	ng/ml	99
50) 3-Nitroaniline	9.660	138	6297	189.89	ng/ml	91
51) Acenaphthene	9.745	153	34142	226.81	ng/ml	97
52) 2,4-Dinitrophenol	9.767	184	725	248.66	ng/ml	76
53) 4-Nitrophenol	9.836	139	3537	198.32	ng/ml	89
54) 2,4-Dinitrotoluene	9.895	165	8883	204.75	ng/ml	82
55) Dibenzofuran	9.922	168	47089	227.25	ng/ml	93
56) 2,3,5,6-Tetrachlorophenol	10.002	232	5912	222.82	ng/ml	89
57) 2,3,4,6-Tetrachlorophenol	10.045	232	7180	231.35	ng/ml	85
58) Diethyl phthalate	10.131	149	36994	231.01	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.131	170	31957	232.47	ng/ml	98
60) Fluorene	10.270	166	38831	230.14	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.259	204	19218	242.54	ng/ml	86
62) 4-Nitroaniline	10.275	138	7673	209.71	ng/ml	93
63) 4,6-Dinitro-2-methylph...	10.307	198	2514	238.84	ng/ml	83
65) N-Nitrosodiphenylamine	10.377	169	32443	233.15	ng/ml	97
66) Azobenzene (1,2-DPH)	10.419	77	36434	209.04	ng/ml	90
68) 4-Bromophenyl phenyl e...	10.756	248	10934	237.37	ng/ml	83
69) Hexachlorobenzene	10.837	284	11859	242.61	ng/ml	94
70) Pentachlorophenol (PCP)	11.035	266	3055	222.18	ng/ml	97
71) Phenanthrene	11.243	178	53865	227.94	ng/ml	97
72) Anthracene	11.297	178	54658	239.66	ng/ml	97
73) Carbazole	11.452	167	48320	211.98	ng/ml	97
74) Di-n-butyl phthalate	11.794	149	58030	211.72	ng/ml	99
75) Fluoranthene	12.521	202	63551	242.40	ng/ml	97
76) Benzidine	12.677	184	37553	670.44	ng/ml	99
77) Pyrene	12.816	202	65571	247.07	ng/ml	99
80) Butyl benzyl phthalate	13.843	149	23562	195.74	ng/ml	87
81) Bis(2-ethylhexyl) adipate	14.014	129	22694	170.62	ng/ml	93
82) 3,3-Dichlorobenzidine	14.987	252	28902	759.23	ng/ml	90
83) Benz(a)anthracene	15.025	228	58075	211.43	ng/ml	98
84) Chrysene	15.105	228	53969	210.93	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.180	149	29512	160.43	ng/ml	94
87) Di-n-octyl phthalate	16.843	149	42140	211.67	ng/ml	98
88) Benzo(b)fluoranthene	17.613	252	54791	212.85	ng/ml	95
89) Benzo(k)fluoranthene	17.678	252	56932	216.15	ng/ml	94
90) Benzo(b+k)fluoranthene	17.613	252	114689	428.28	ng/ml	94
91) Benzo(e)pyrene	18.266	252	55890	219.38	ng/ml	94
92) Benzo(a)pyrene	18.384	252	49339	214.68	ng/ml	98
93) Perylene	18.592	252	46507	202.37	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.913	276	45199	191.67	ng/ml	96
96) Dibenz(a,h)anthracene	20.983	278	43093	217.16	ng/ml	94
97) Benzo(g,h,i)perylene	21.448	276	46913	212.36	ng/ml	89

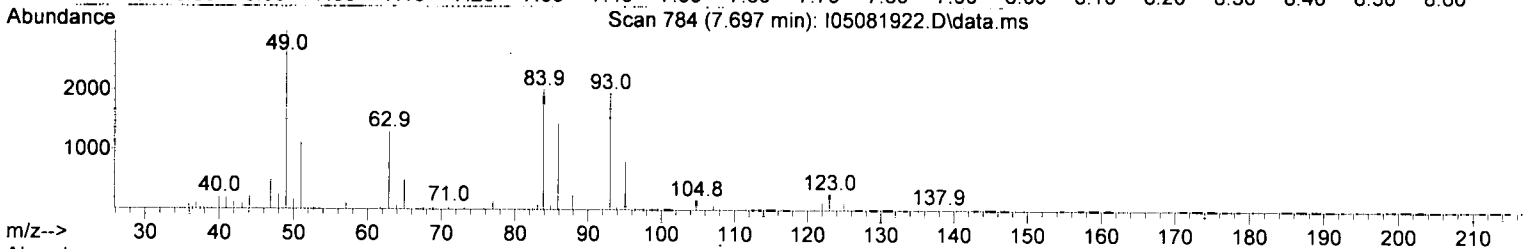
(#) = qualifier out of range (m) = manual integration (+) = signals summed

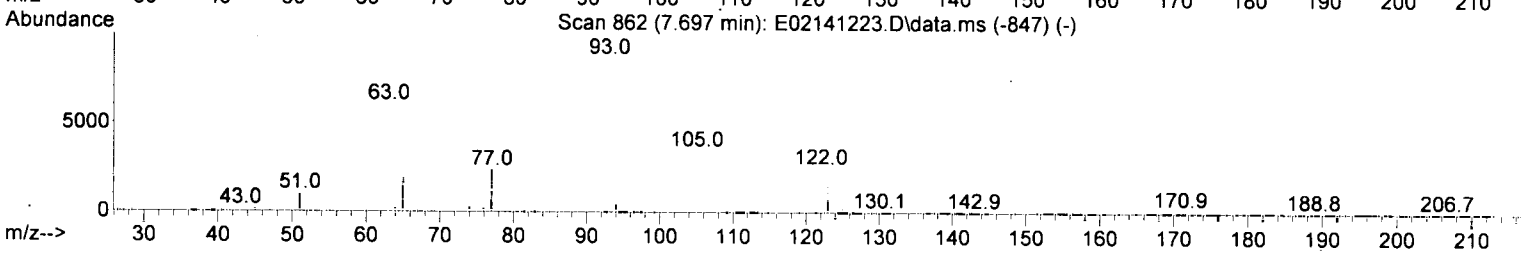
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081922.D
Acq On : 8 May 2019 10:01 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081922.D\data.ms

(26) Benzoic acid (T)

7.697min (+ 0.000) 795.98 ng/ml

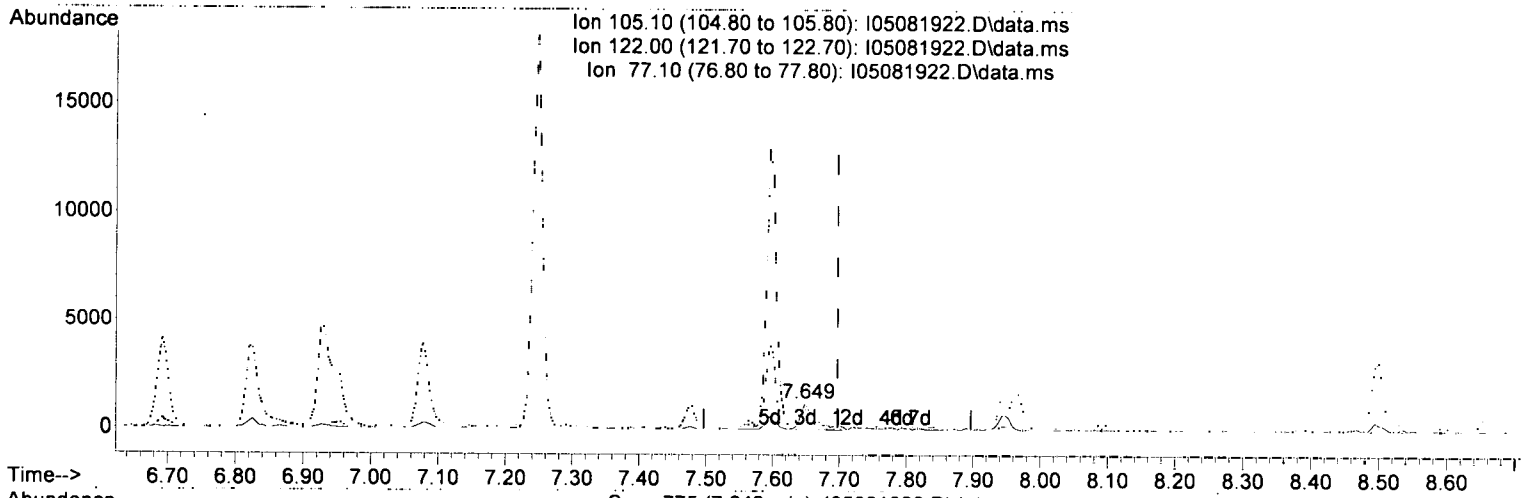
response 180

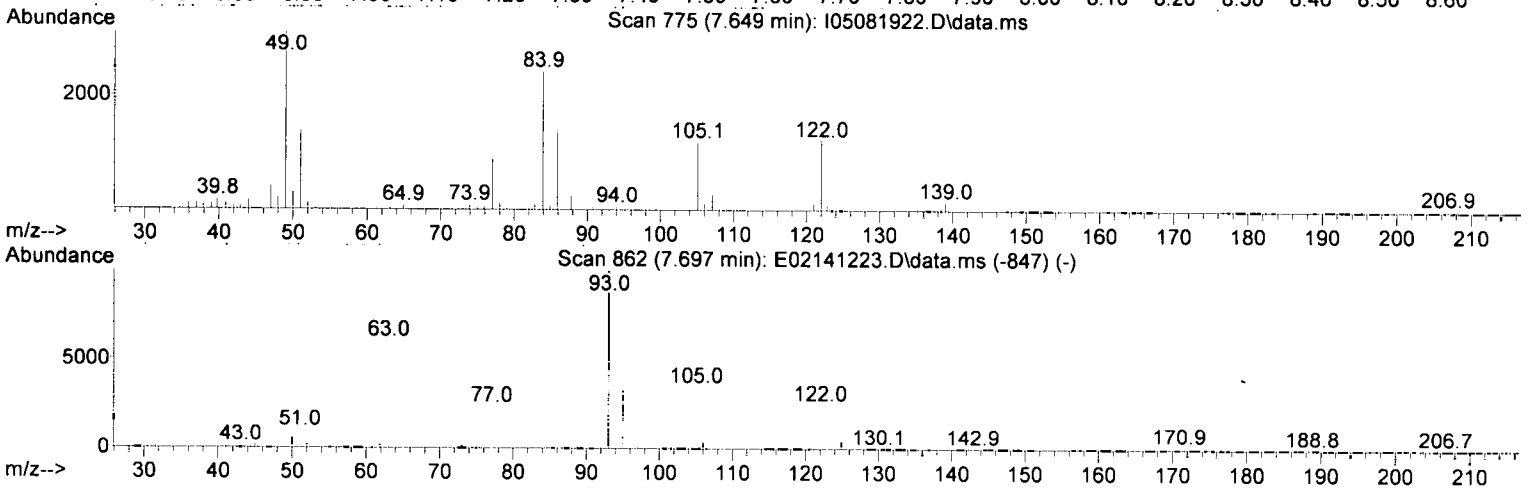
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	82.68
77.10	76.00	77.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081922.D
Acq On : 8 May 2019 10:01 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9





TIC: I05081922.D\data.ms

(26) Benzoic acid (T)

7.649min (-0.048) 835.63 ng/ml m

5/9/19

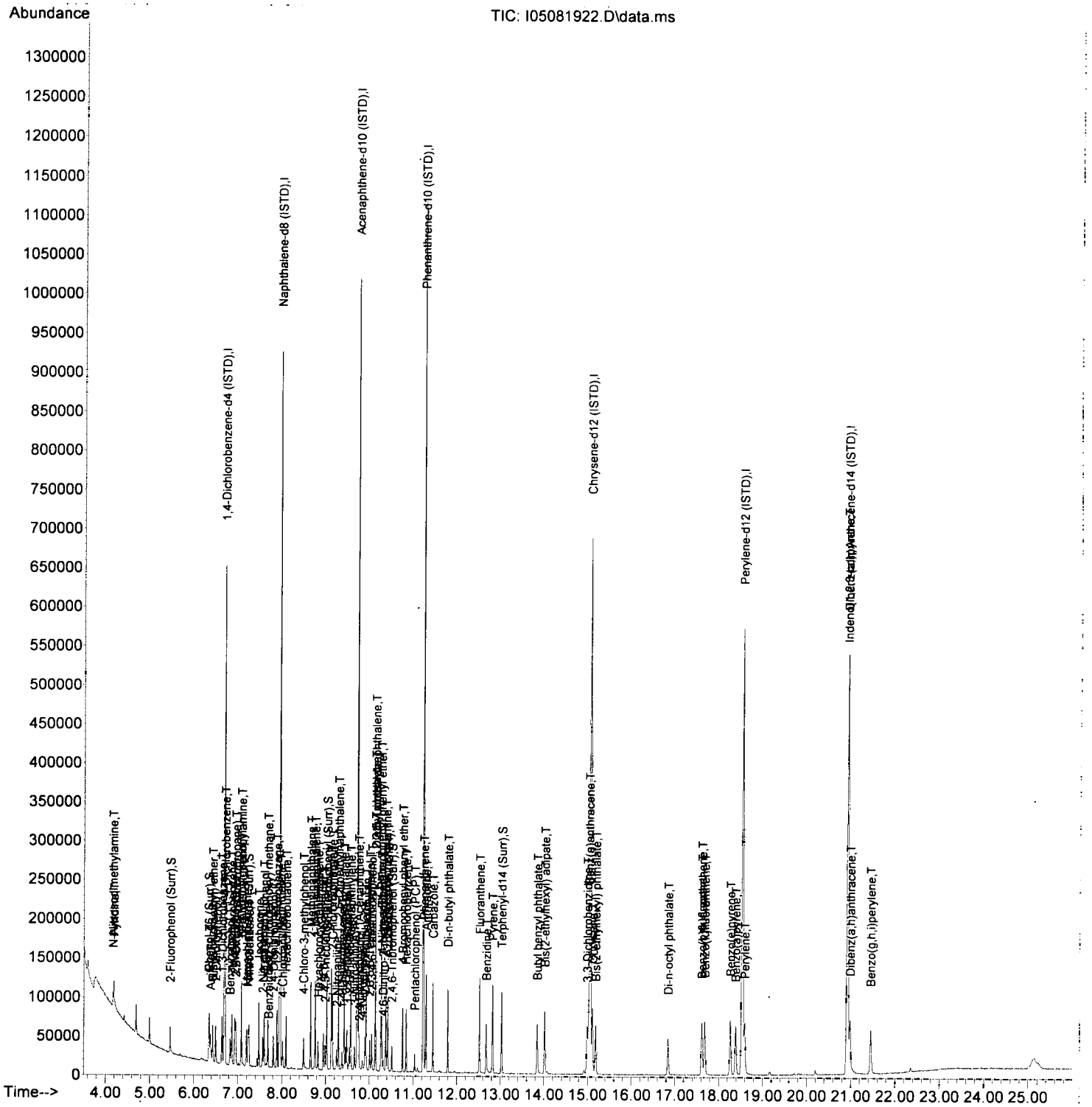
response 1808

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	101.76
77.10	76.00	76.19
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081922.D
Acq On : 8 May 2019 10:01 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL4
Misc : 1x, A19D056 BNA@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081923.D
Acq On : 8 May 2019 10:38 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL5
Misc : 1x, A19D057 BNA@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:45 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	118130	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	449407	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.713	162	233204	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	434358	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.051	240	448745	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.538	264	423882	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.924	292	408680	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.472	112	39110	495.14	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	50799	487.51	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.231	82	42745	489.72	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	100779	592.16	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.515	330	11050	653.33	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	118955	556.78	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.183	74	27689	443.85	ng/ml	94
3) Pyridine	4.199	79	44836	460.01	ng/ml	96
6) Phenol	6.349	94	56392	496.73	ng/ml	97
7) Aniline	6.381	93	52964	510.59	ng/ml	99
8) Bis(2-chloroethyl) ether	6.429	93	45269	486.19	ng/ml	98
9) 2-Chlorophenol	6.499	128	42307	523.15	ng/ml	93
10) 1,3-Dichlorobenzene	6.643	146	48498	539.96	ng/ml	96
11) 1,4-Dichlorobenzene	6.713	146	45970	536.88	ng/ml	96
12) Benzyl alcohol	6.825	108	21295	455.40	ng/ml	94
13) 1,2-Dichlorobenzene	6.862	146	45584	544.66	ng/ml	95
14) 2-Methylphenol	6.932	107	33013	515.71	ng/ml	96
15) 2,2'-Oxybis(1-Chloropr...	6.948	45	59332	456.16	ng/ml	97
16) N-Nitrosodi-n-propylamine	7.076	70	33065	501.29	ng/ml	97
17) 3+4-Methylphenol	7.076	107	41496	514.11	ng/ml	95
18) Hexachloroethane	7.194	201	14906	566.11	ng/ml	86
20) Nitrobenzene	7.247	77	43153	485.69	ng/ml	94
22) Isophorone	7.477	82	89488	539.19	ng/ml	96
23) 2-Nitrophenol	7.563	139	25491	610.26	ng/ml	96
24) 2,4-Dimethylphenol	7.595	122	33821	508.87	ng/ml	97
25) Bis(2-chloroethoxy) me...	7.686	93	53158	537.84	ng/ml	99
26) Benzoic acid	7.670	105	12609	1109.66	ng/ml	96
27) 2,4-Dichlorophenol	7.804	162	28435	518.94	ng/ml	95
28) 1,2,4-Trichlorobenzene	7.889	180	39463	562.55	ng/ml	97
29) Naphthalene	7.964	128	121753	546.34	ng/ml	99
30) 4-Chloroaniline	8.018	127	25718	427.20	ng/ml	95
31) Hexachlorobutadiene	8.093	225	20186	572.03	ng/ml	97
32) 4-Chloro-3-methylphenol	8.494	107	29879	489.21	ng/ml	97
33) 2-Methylnaphthalene	8.660	142	94207	573.54	ng/ml	97
34) 1-Methylnaphthalene	8.756	142	90038	577.72	ng/ml	97
36) Hexachlorocyclopentadiene	8.825	237	16399	526.00	ng/ml	98
37) 2,4,6-Trichlorophenol	8.943	196	21591	531.23	ng/ml	100
38) 2,4,5-Trichlorophenol	8.980	198	19810	501.07	ng/ml	99
39) 1,1'-Biphenyl	9.125	154	111947	568.00	ng/ml	99
41) 2-Chloronaphthalene	9.152	162	80038	558.24	ng/ml	93
42) 2-Nitroaniline	9.243	138	22855	486.58	ng/ml	95
43) 2,6-Dimethylnaphthalene	9.285	156	82179	581.06	ng/ml	96

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081923.D
Acq On : 8 May 2019 10:38 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL5
Misc : 1x, A19D057 BNA@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:45 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

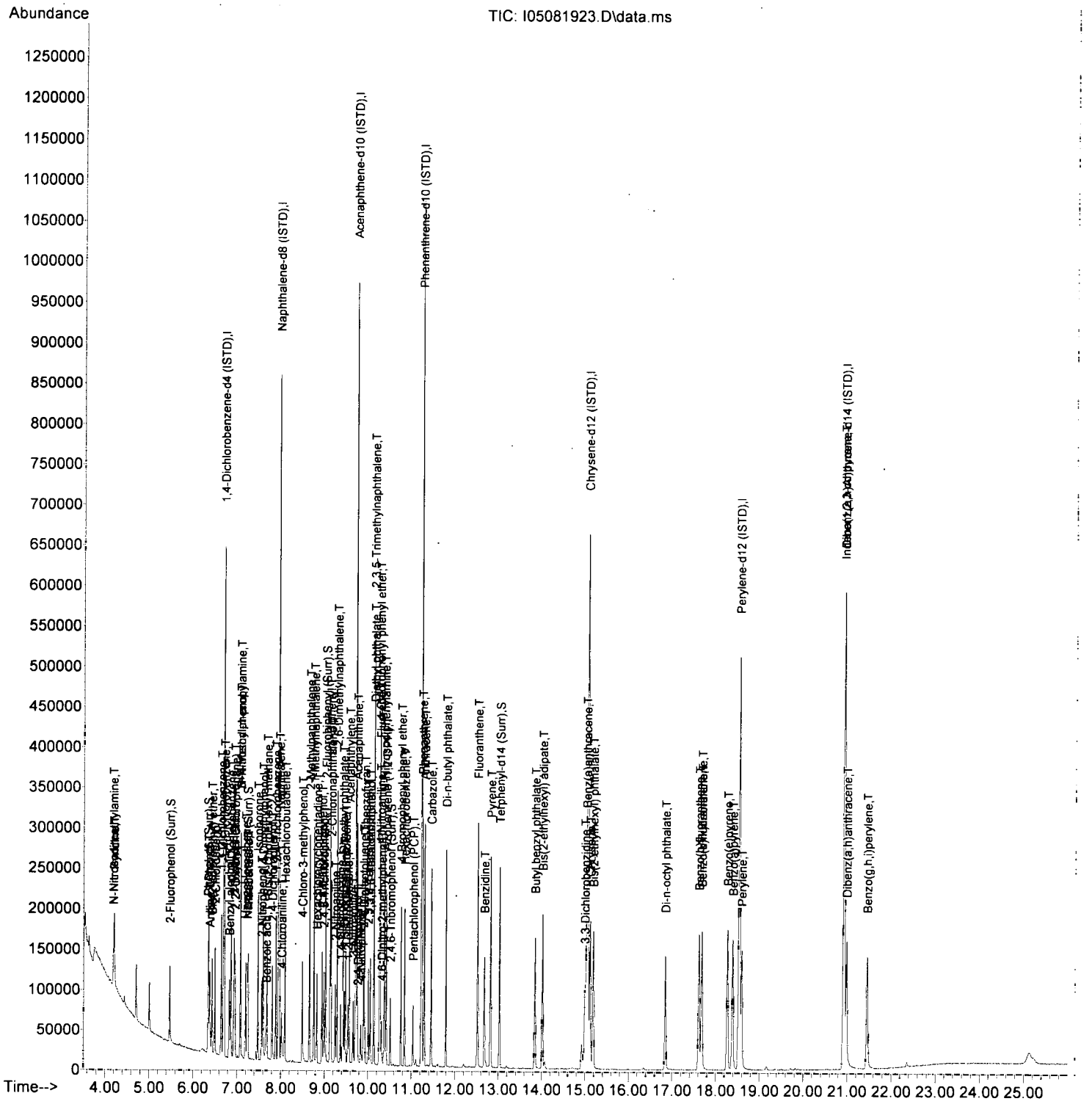
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.371	168	10337	524.07	ng/ml	84
45) Dimethyl phthalate	9.424	163	91807	564.16	ng/ml	99
46) 1,3-Dinitrobenzene	9.451	168	13273	529.67	ng/ml	97
47) 2,6-Dinitrotoluene	9.483	165	20865	588.48	ng/ml	86
48) 1,2-Dinitrobenzene	9.537	168	9375	523.58	ng/ml	85
49) Acenaphthylene	9.569	152	129518	569.00	ng/ml	99
50) 3-Nitroaniline	9.660	138	17372	538.16	ng/ml	89
51) Acenaphthene	9.745	153	79978	558.57	ng/ml	99
52) 2,4-Dinitrophenol	9.761	184	3835	566.86	ng/ml	99
53) 4-Nitrophenol	9.831	139	11649	504.51	ng/ml	84
54) 2,4-Dinitrotoluene	9.895	165	25345	552.15	ng/ml	82
55) Dibenzofuran	9.922	168	113330	574.99	ng/ml	93
56) 2,3,5,6-Tetrachlorophenol	10.002	232	17017	570.18	ng/ml	90
57) 2,3,4,6-Tetrachlorophenol	10.045	232	19079	582.63	ng/ml	88
58) Diethyl phthalate	10.136	149	84929	557.56	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.130	170	76253	583.17	ng/ml	94
60) Fluorene	10.269	166	91858	572.35	ng/ml	97
61) 4-Chlorophenyl phenyl ...	10.259	204	44439	589.61	ng/ml	88
62) 4-Nitroaniline	10.275	138	19675	565.32	ng/ml	94
63) 4,6-Dinitro-2-methylph...	10.312	198	8901	633.37	ng/ml	77
65) N-Nitrosodiphenylamine	10.376	169	78301	589.83	ng/ml	96
66) Azobenzene (1,2-DPH)	10.419	77	87002	523.24	ng/ml	90
68) 4-Bromophenyl phenyl e...	10.756	248	27078	616.17	ng/ml	86
69) Hexachlorobenzene	10.836	284	28884	619.40	ng/ml	93
70) Pentachlorophenol (PCP)	11.034	266	10538	588.98	ng/ml	94
71) Phenanthrene	11.243	178	127029	563.47	ng/ml	98
72) Anthracene	11.296	178	128961	592.72	ng/ml	98
73) Carbazole	11.452	167	116650	540.21	ng/ml	98
74) Di-n-butyl phthalate	11.794	149	147202	562.95	ng/ml	99
75) Fluoranthene	12.521	202	155537	621.85	ng/ml	96
76) Benzidine	12.676	184	76984	1386.28	ng/ml	97
77) Pyrene	12.821	202	154311	609.46	ng/ml	99
80) Butyl benzyl phthalate	13.842	149	63002	491.75	ng/ml	91
81) Bis(2-ethylhexyl) adipate	14.014	129	56949	457.91	ng/ml	98
82) 3,3-Dichlorobenzidine	14.987	252	47477	1694.22	ng/ml	97
83) Benz(a)anthracene	15.024	228	138304	538.49	ng/ml	97
84) Chrysene	15.110	228	126427	528.46	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.180	149	81848	475.85	ng/ml	96
87) Di-n-octyl phthalate	16.843	149	132449	524.88	ng/ml	99
88) Benzo(b)fluoranthene	17.613	252	139653	554.84	ng/ml	95
89) Benzo(k)fluoranthene	17.677	252	142423	562.67	ng/ml	94
90) Benzo(b+k)fluoranthene	17.677	252	289741	1117.93	ng/ml	94
91) Benzo(e)pyrene	18.271	252	140018	582.00	ng/ml	98
92) Benzo(a)pyrene	18.389	252	129040	575.04	ng/ml	97
93) Perylene	18.592	252	116376	536.26	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.919	276	116104	501.79	ng/ml	95
96) Dibenz(a,h)anthracene	20.983	278	106785	548.44	ng/ml	96
97) Benzo(g,h,i)perylene	21.453	276	120043	553.82	ng/ml	89

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

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081923.D
Acq On : 8 May 2019 10:38 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL5
Misc : 1x, A19D057 BNA@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:45 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081924.D
Acq On : 8 May 2019 11:14 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL6
Misc : 1x, A19D058 BNA@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:52 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	116694	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	435111	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.719	162	224844	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	425173	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.057	240	428978	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.539	264	400554	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.924	292	399119	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.467	112	76115	975.49	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	98894	960.76	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.232	82	81436	944.48	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	182200	1110.38	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.516	330	22087	1300.38	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	219562	1075.04	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.172	74	53609	869.93	ng/ml	100
3) Pyridine	4.183	79	85720	890.30	ng/ml	99
6) Phenol	6.354	94	107531	958.84	ng/ml	97
7) Aniline	6.381	93	81018	790.65	ng/ml	97
8) Bis(2-chloroethyl) ether	6.435	93	91455	994.32	ng/ml	98
9) 2-Chlorophenol	6.499	128	81650	1022.08	ng/ml	95
10) 1,3-Dichlorobenzene	6.643	146	91509	1031.37	ng/ml	98
11) 1,4-Dichlorobenzene	6.713	146	87432	1033.67	ng/ml	97
12) Benzyl alcohol	6.825	108	45805	949.75	ng/ml	91
13) 1,2-Dichlorobenzene	6.863	146	84135	1017.65	ng/ml	97
14) 2-Methylphenol	6.932	107	61935	979.41	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	6.954	45	109743	854.12	ng/ml	95
16) N-Nitrosodi-n-propylamine	7.077	70	62234	955.13	ng/ml	96
17) 3+4-Methylphenol	7.077	107	78741	987.56	ng/ml	98
18) Hexachloroethane	7.194	201	27533	1058.54	ng/ml	94
20) Nitrobenzene	7.248	77	81129	924.35	ng/ml	95
22) Isophorone	7.483	82	169224	1053.31	ng/ml	95
23) 2-Nitrophenol	7.563	139	44264	1073.97	ng/ml	99
24) 2,4-Dimethylphenol	7.601	122	67530	1049.45	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.686	93	98157	1025.75	ng/ml	99
26) Benzoic acid	7.697	105	57591	2238.59	ng/ml	98
27) 2,4-Dichlorophenol	7.804	162	59077	1097.68	ng/ml	99
28) 1,2,4-Trichlorobenzene	7.890	180	73101	1076.31	ng/ml	97
29) Naphthalene	7.970	128	228023	1056.83	ng/ml	99
30) 4-Chloroaniline	8.023	127	57359	984.09	ng/ml	96
31) Hexachlorobutadiene	8.098	225	37131	1086.79	ng/ml	99
32) 4-Chloro-3-methylphenol	8.494	107	67094	1083.65	ng/ml	98
33) 2-Methylnaphthalene	8.660	142	177224	1114.40	ng/ml	97
34) 1-Methylnaphthalene	8.761	142	166590	1104.02	ng/ml	98
36) Hexachlorocyclopentadiene	8.826	237	34750	1111.10	ng/ml	96
37) 2,4,6-Trichlorophenol	8.943	196	44351	1093.91	ng/ml	99
38) 2,4,5-Trichlorophenol	8.981	198	42377	1080.38	ng/ml	99
39) 1,1'-Biphenyl	9.125	154	204461	1075.97	ng/ml	99
41) 2-Chloronaphthalene	9.152	162	145871	1055.23	ng/ml	96
42) 2-Nitroaniline	9.248	138	48960	1081.11	ng/ml	91
43) 2,6-Dimethylnaphthalene	9.286	156	150715	1105.27	ng/ml	96

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081924.D
Acq On : 8 May 2019 11:14 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL6
Misc : 1x, A19D058 BNA@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:52 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

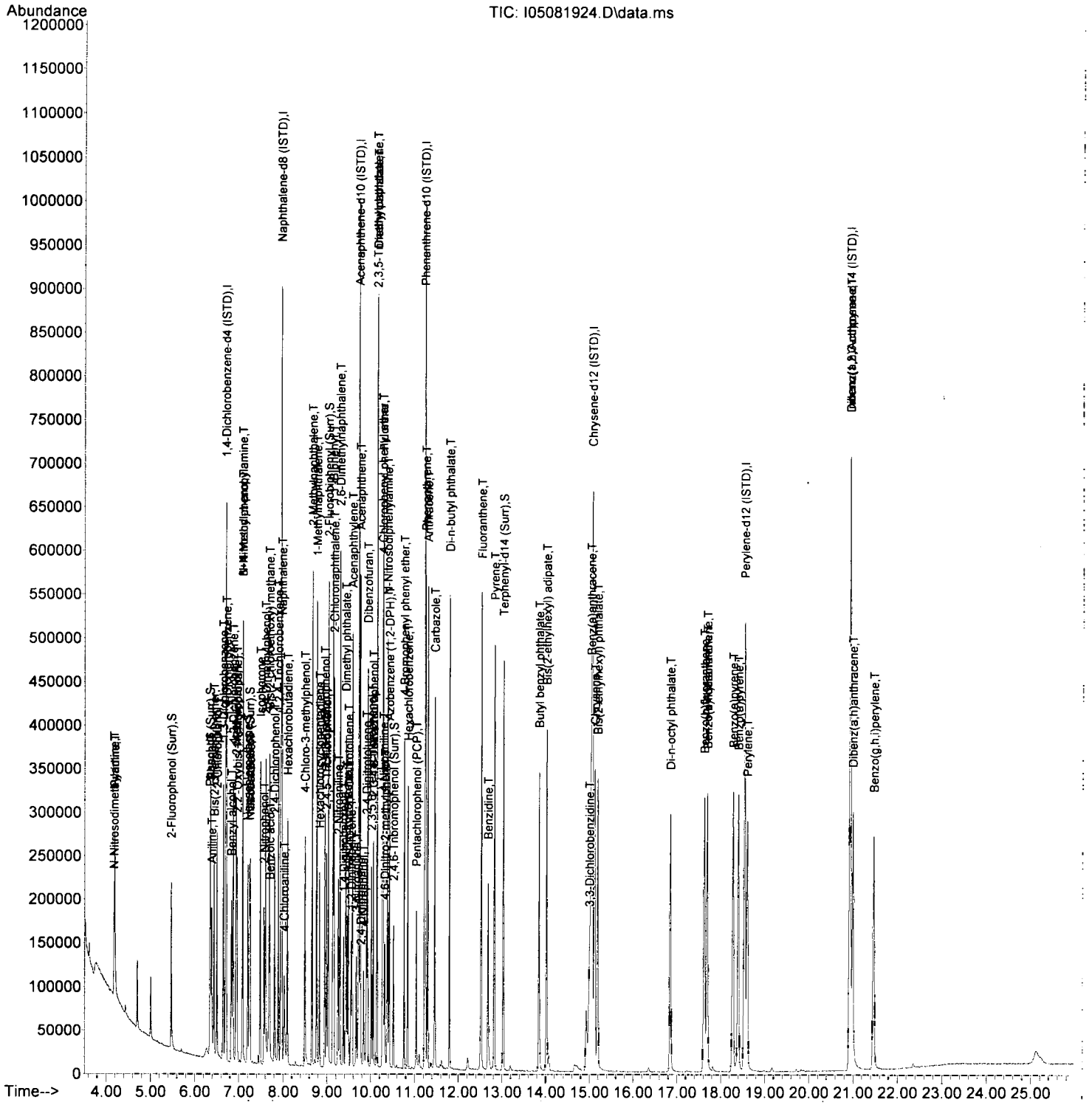
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.376	168	23019	1115.72	ng/ml	81
45) Dimethyl phthalate	9.425	163	167550	1067.88	ng/ml	99
46) 1,3-Dinitrobenzene	9.457	168	27406	1134.32	ng/ml	91
47) 2,6-Dinitrotoluene	9.489	165	39367	1151.59	ng/ml	78
48) 1,2-Dinitrobenzene	9.548	168	19142	1108.80	ng/ml#	72
49) Acenaphthylene	9.574	152	242796	1106.31	ng/ml	99
50) 3-Nitroaniline	9.665	138	30789	1019.40	ng/ml	92
51) Acenaphthene	9.751	153	146889	1064.01	ng/ml	99
52) 2,4-Dinitrophenol	9.767	184	12133	1336.11	ng/ml	87
53) 4-Nitrophenol	9.831	139	26763	1084.22	ng/ml	89
54) 2,4-Dinitrotoluene	9.895	165	50363	1106.48	ng/ml	85
55) Dibenzofuran	9.922	168	206307	1085.63	ng/ml	94
56) 2,3,5,6-Tetrachlorophenol	10.008	232	35452	1158.39	ng/ml	87
57) 2,3,4,6-Tetrachlorophenol	10.050	232	38150	1171.11	ng/ml	87
58) Diethyl phthalate	10.136	149	154986	1055.31	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.131	170	135724	1076.59	ng/ml	96
60) Fluorene	10.270	166	163031	1053.59	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.259	204	79614	1095.58	ng/ml	88
62) 4-Nitroaniline	10.280	138	36743	1094.98	ng/ml	91
63) 4,6-Dinitro-2-methylph...	10.312	198	21051	1355.86	ng/ml	82
65) N-Nitrosodiphenylamine	10.377	169	139124	1070.63	ng/ml	98
66) Azobenzene (1,2-DPH)	10.419	77	156991	964.57	ng/ml	91
68) 4-Bromophenyl phenyl e...	10.756	248	49801	1157.73	ng/ml	87
69) Hexachlorobenzene	10.842	284	52902	1158.97	ng/ml	91
70) Pentachlorophenol (PCP)	11.035	266	23287	1202.11	ng/ml	98
71) Phenanthrene	11.248	178	232143	1051.98	ng/ml	100
72) Anthracene	11.297	178	235356	1105.09	ng/ml	99
73) Carbazole	11.457	167	218760	1070.75	ng/ml	98
74) Di-n-butyl phthalate	11.794	149	281730	1100.70	ng/ml	99
75) Fluoranthene	12.527	202	287574	1174.59	ng/ml	97
76) Benzidine	12.677	184	119397	2129.89	ng/ml	97
77) Pyrene	12.821	202	286850	1157.41	ng/ml	100
80) Butyl benzyl phthalate	13.843	149	128733	996.48	ng/ml	90
81) Bis(2-ethylhexyl) adipate	14.014	129	114896	966.42	ng/ml	98
82) 3,3-Dichlorobenzidine	14.993	252	62412	2491.37	ng/ml	94
83) Benz(a)anthracene	15.030	228	257723	1049.68	ng/ml	99
84) Chrysene	15.116	228	231498	1012.24	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.180	149	159937	972.69	ng/ml	96
87) Di-n-octyl phthalate	16.843	149	284170	1052.31	ng/ml	98
88) Benzo(b)fluoranthene	17.619	252	268390	1108.16	ng/ml	96
89) Benzo(k)fluoranthene	17.688	252	262537	1105.11	ng/ml	95
90) Benzo(b+k)fluoranthene	17.688	252	543058	2204.99	ng/ml	95
91) Benzo(e)pyrene	18.277	252	259798	1142.77	ng/ml	98
92) Benzo(a)pyrene	18.394	252	245703	1147.61	ng/ml	97
93) Perylene	18.597	252	216265	1054.59	ng/ml	98
95) Indeno(1,2,3-cd)pyrene	20.924	276	217807	963.89	ng/ml	94
96) Dibenz(a,h)anthracene	20.988	278	199329	1048.27	ng/ml	94
97) Benzo(g,h,i)perylene	21.464	276	226164	1068.40	ng/ml	90

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

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081924.D
Acq On : 8 May 2019 11:14 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL6
Misc : 1x, A19D058 BNA@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:02:52 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081925.D
Acq On : 8 May 2019 11:50 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL7
Misc : 1x, A19D059 BNA@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:00 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	107016	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	404790	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.719	162	208028	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.222	188	396363	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.062	240	353171	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.544	264	333963	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.929	292	322705	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.467	112	148818	2079.73	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	191806	2031.91	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.232	82	149113	1885.78	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	311047	2048.84	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.516	330	38932	2416.44	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	356113	2117.90	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.167	74	104473	1848.62	ng/ml	97
3) Pyridine	4.183	79	164460	1862.57	ng/ml	99
6) Phenol	6.354	94	203006	1973.89	ng/ml	97
7) Aniline	6.381	93	119883	1275.74	ng/ml	97
8) Bis(2-chloroethyl) ether	6.435	93	172619	2046.48	ng/ml	98
9) 2-Chlorophenol	6.499	128	152301	2078.88	ng/ml	94
10) 1,3-Dichlorobenzene	6.643	146	163909	2014.44	ng/ml	95
11) 1,4-Dichlorobenzene	6.713	146	154653	1993.74	ng/ml	97
12) Benzyl alcohol	6.825	108	91265	1975.88	ng/ml	93
13) 1,2-Dichlorobenzene	6.863	146	151209	1994.34	ng/ml	98
14) 2-Methylphenol	6.932	107	113843	1963.07	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	6.953	45	195754	1661.32	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.082	70	111051	1858.47	ng/ml	94
17) 3+4-Methylphenol	7.082	107	144919	1981.92	ng/ml	98
18) Hexachloroethane	7.194	201	49920	2092.81	ng/ml	90
20) Nitrobenzene	7.253	77	144892	1800.13	ng/ml	91
22) Isophorone	7.483	82	306230	2048.86	ng/ml	95
23) 2-Nitrophenol	7.563	139	81543	2100.52	ng/ml	99
24) 2,4-Dimethylphenol	7.601	122	125958	2104.07	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.686	93	173377	1947.52	ng/ml	99
26) Benzoic acid	7.724	105	120684	3889.47	ng/ml	98
27) 2,4-Dichlorophenol	7.809	162	112156	2211.77	ng/ml	98
28) 1,2,4-Trichlorobenzene	7.889	180	127703	2021.09	ng/ml	96
29) Naphthalene	7.970	128	397624	1980.92	ng/ml	98
30) 4-Chloroaniline	8.034	127	84586	1559.92	ng/ml	96
31) Hexachlorobutadiene	8.098	225	67587	2126.39	ng/ml	100
32) 4-Chloro-3-methylphenol	8.499	107	128769	2162.11	ng/ml	95
33) 2-Methylnaphthalene	8.660	142	312815	2114.36	ng/ml	98
34) 1-Methylnaphthalene	8.761	142	290157	2066.96	ng/ml	98
36) Hexachlorocyclopentadiene	8.825	237	65488	2203.54	ng/ml	98
37) 2,4,6-Trichlorophenol	8.943	196	81849	2145.98	ng/ml	98
38) 2,4,5-Trichlorophenol	8.981	198	78891	2159.17	ng/ml	97
39) 1,1'-Biphenyl	9.130	154	349335	1986.97	ng/ml	98
41) 2-Chloronaphthalene	9.152	162	248276	1941.20	ng/ml	97
42) 2-Nitroaniline	9.253	138	89274	2130.66	ng/ml	86
43) 2,6-Dimethylnaphthalene	9.291	156	257201	2038.65	ng/ml	95

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081925.D
Acq On : 8 May 2019 11:50 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL7
Misc : 1x, A19D059 BNA@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:00 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

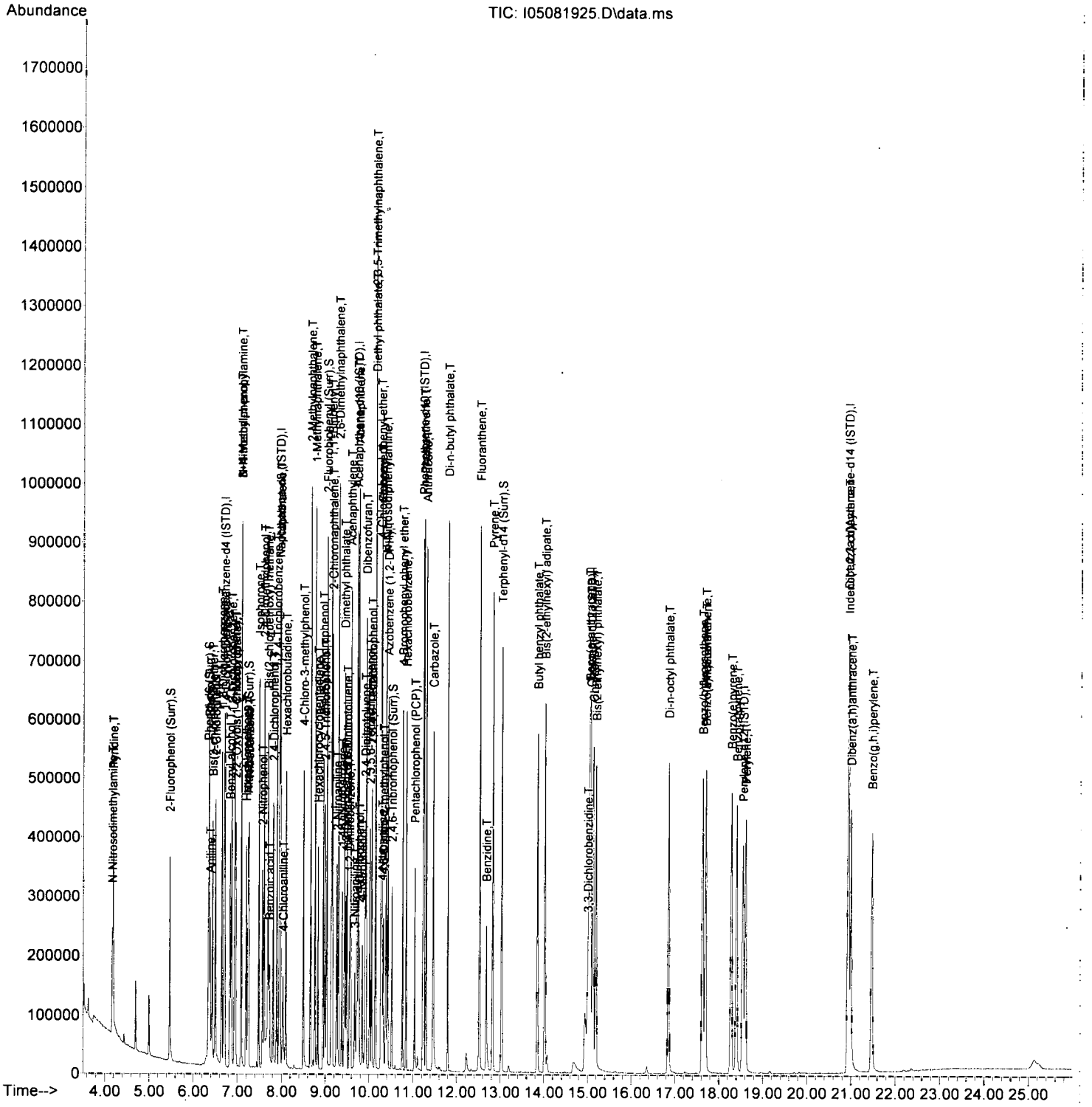
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.376	168	42957	2139.47	ng/ml	82
45) Dimethyl phthalate	9.430	163	291628	2008.94	ng/ml	98
46) 1,3-Dinitrobenzene	9.462	168	48772	2181.83	ng/ml	90
47) 2,6-Dinitrotoluene	9.489	165	70090	2216.06	ng/ml	85
48) 1,2-Dinitrobenzene	9.548	168	34100	2134.92	ng/ml	88
49) Acenaphthylene	9.574	152	407881	2008.76	ng/ml	99
50) 3-Nitroaniline	9.665	138	46893	1795.57	ng/ml	95
51) Acenaphthene	9.751	153	254388	1991.66	ng/ml	100
52) 2,4-Dinitrophenol	9.767	184	25811	2502.10	ng/ml	88
53) 4-Nitrophenol	9.836	139	48681	2007.95	ng/ml	86
54) 2,4-Dinitrotoluene	9.901	165	90563	2127.03	ng/ml	81
55) Dibenzofuran	9.922	168	351544	1999.43	ng/ml	95
56) 2,3,5,6-Tetrachlorophenol	10.008	232	64681	2181.55	ng/ml	88
57) 2,3,4,6-Tetrachlorophenol	10.050	232	68233	2234.46	ng/ml	88
58) Diethyl phthalate	10.141	149	252775	1860.29	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.136	170	226222	1939.49	ng/ml	98
60) Fluorene	10.275	166	271787	1898.41	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.259	204	136404	2028.81	ng/ml	90
62) 4-Nitroaniline	10.286	138	59807	1926.38	ng/ml	97
63) 4,6-Dinitro-2-methylph...	10.318	198	40019	2494.03	ng/ml	75
65) N-Nitrosodiphenylamine	10.382	169	227824	1880.66	ng/ml	98
66) Azobenzene (1,2-DPH)	10.425	77	264872	1745.69	ng/ml	87
68) 4-Bromophenyl phenyl e...	10.756	248	88111	2197.21	ng/ml	89
69) Hexachlorobenzene	10.842	284	92531	2174.50	ng/ml	91
70) Pentachlorophenol (PCP)	11.034	266	45320	2323.06	ng/ml	97
71) Phenanthrene	11.248	178	398028	1934.81	ng/ml	98
72) Anthracene	11.302	178	397681	2003.00	ng/ml	100
73) Carbazole	11.457	167	364563	2063.64	ng/ml	98
74) Di-n-butyl phthalate	11.794	149	471443	1975.77	ng/ml	98
75) Fluoranthene	12.527	202	475094	2081.55	ng/ml	97
76) Benzidine	12.677	184	153390	2855.74	ng/ml	99
77) Pyrene	12.821	202	468721	2028.71	ng/ml	99
80) Butyl benzyl phthalate	13.848	149	219372	1966.35	ng/ml	91
81) Bis(2-ethylhexyl) adipate	14.014	129	191848	1960.05	ng/ml	97
82) 3,3-Dichlorobenzidine	14.998	252	81995	4181.32	ng/ml	98
83) Benz(a)anthracene	15.030	228	409861	2027.64	ng/ml	99
84) Chrysene	15.121	228	375111	1992.25	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.185	149	265428	1960.75	ng/ml	95
87) Di-n-octyl phthalate	16.848	149	490249	1949.45	ng/ml	98
88) Benzo(b)fluoranthene	17.624	252	444019	2152.11	ng/ml	96
89) Benzo(k)fluoranthene	17.694	252	401664	2075.77	ng/ml	96
90) Benzo(b+k)fluoranthene	17.694	252	864585	4211.83	ng/ml	96
91) Benzo(e)pyrene	18.282	252	421328	2222.82	ng/ml	98
92) Benzo(a)pyrene	18.405	252	383125	2137.17	ng/ml	97
93) Perylene	18.608	252	344990	2017.74	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.935	276	348943	1909.89	ng/ml	93
96) Dibenz(a,h)anthracene	20.994	278	325096	2114.51	ng/ml	96
97) Benzo(g,h,i)perylene	21.470	276	360991	2109.13	ng/ml	91

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

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081925.D
Acq On : 8 May 2019 11:50 pm
Operator : JK /AMS /DTH
Sample : 9E08056-CAL7
Misc : 1x, A19D059 BNA@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:00 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081926.D
Acq On : 9 May 2019 12:26 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL8
Misc : 1x, A19D060 BNA@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:08 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	98792	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.954	136	378186	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.724	162	202901	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.227	188	404511	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.073	240	346046	2000.00	ng/ml	0.02
86) Perylene-d12 (ISTD)	18.555	264	361418	2000.00	ng/ml	0.02
94) Dibenz(a,h)Anthrcene-d...	20.951	292	360190	2000.00	ng/ml	0.03
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.467	112	284613	4308.58	ng/ml	0.00
5) Phenol-d6 (Surr)	6.349	99	374178	4293.86	ng/ml	0.01
19) Nitrobenzene-d5 (Surr)	7.237	82	275454	3773.57	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.029	172	532909	3598.93	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.521	330	78802	4693.62	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.030	244	667601	4052.16	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.167	74	199054	3815.42	ng/ml	99
3) Pyridine	4.172	79	337112	4135.74	ng/ml	99
6) Phenol	6.360	94	375248	3952.38	ng/ml	100
7) Aniline	6.387	93	249012	2870.46	ng/ml	96
8) Bis(2-chloroethyl) ether	6.440	93	297917	3825.96	ng/ml	99
9) 2-Chlorophenol	6.504	128	275296	4070.56	ng/ml	94
10) 1,3-Dichlorobenzene	6.649	146	287179	3823.24	ng/ml	97
11) 1,4-Dichlorobenzene	6.718	146	272704	3808.28	ng/ml	97
12) Benzyl alcohol	6.836	108	184713	4060.15	ng/ml	92
13) 1,2-Dichlorobenzene	6.868	146	259626	3709.35	ng/ml	98
14) 2-Methylphenol	6.937	107	213032	3979.25	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	6.959	45	331551	3048.03	ng/ml	92
16) N-Nitrosodi-n-propylamine	7.093	70	197390	3578.37	ng/ml	93
17) 3+4-Methylphenol	7.087	107	268146	3972.46	ng/ml	99
18) Hexachloroethane	7.200	201	89376	4058.84	ng/ml	87
20) Nitrobenzene	7.258	77	262312	3530.24	ng/ml	93
22) Isophorone	7.494	82	573921	4110.00	ng/ml	94
23) 2-Nitrophenol	7.574	139	153577	4204.01	ng/ml	96
24) 2,4-Dimethylphenol	7.611	122	231859	4145.56	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.697	93	317226	3814.03	ng/ml	98
26) Benzoic acid	7.783	105	329662	8705.24	ng/ml	97
27) 2,4-Dichlorophenol	7.815	162	210069	4356.34	ng/ml	99
28) 1,2,4-Trichlorobenzene	7.895	180	222596	3770.73	ng/ml	98
29) Naphthalene	7.975	128	687088	3663.80	ng/ml	97
30) 4-Chloroaniline	8.045	127	170567	3366.84	ng/ml	95
31) Hexachlorobutadiene	8.098	225	118434	3988.23	ng/ml	99
32) 4-Chloro-3-methylphenol	8.505	107	257664	4420.43	ng/ml	96
33) 2-Methylnaphthalene	8.665	142	555825	4021.18	ng/ml	98
34) 1-Methylnaphthalene	8.767	142	506152	3859.27	ng/ml	98
36) Hexachlorocyclopentadiene	8.831	237	130554	4365.71	ng/ml	100
37) 2,4,6-Trichlorophenol	8.949	196	157742	4195.02	ng/ml	98
38) 2,4,5-Trichlorophenol	8.986	198	152327	4304.48	ng/ml	99
39) 1,1'-Biphenyl	9.136	154	599715	3497.29	ng/ml	98
41) 2-Chloronaphthalene	9.157	162	426263	3417.05	ng/ml	98
42) 2-Nitroaniline	9.259	138	175844	4302.84	ng/ml	93
43) 2,6-Dimethylnaphthalene	9.296	156	440208	3577.39	ng/ml	97

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081926.D
Acq On : 9 May 2019 12:26 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL8
Misc : 1x, A19D060 BNA@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:08 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

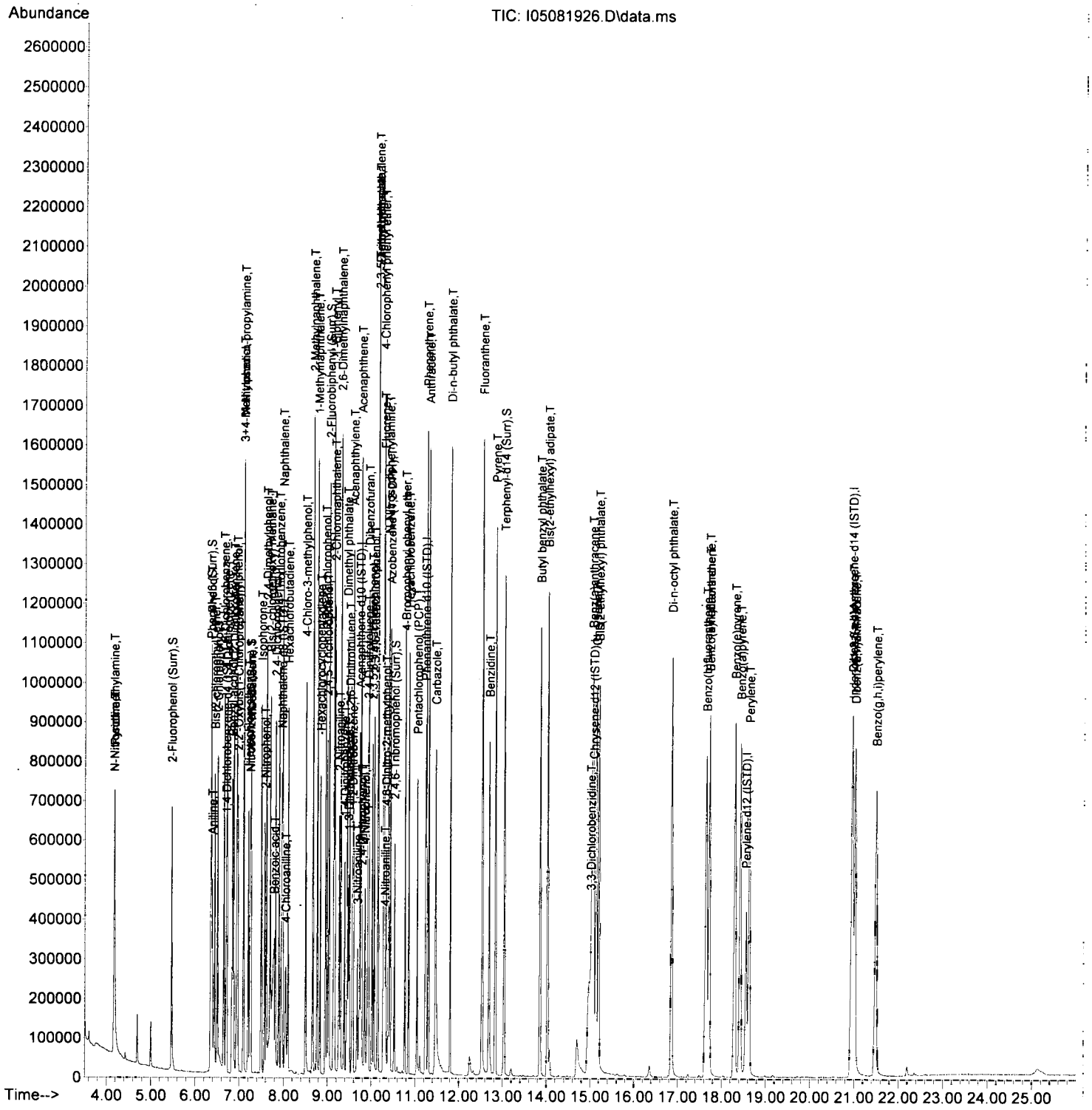
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.387	168	89593	4300.59	ng/ml	80
45) Dimethyl phthalate	9.441	163	526270	3716.92	ng/ml	97
46) 1,3-Dinitrobenzene	9.473	168	97308	4463.09	ng/ml	90
47) 2,6-Dinitrotoluene	9.499	165	131486	4262.28	ng/ml	83
48) 1,2-Dinitrobenzene	9.564	168	65816	4224.70	ng/ml	80
49) Acenaphthylene	9.580	152	694303	3505.74	ng/ml	97
50) 3-Nitroaniline	9.676	138	82018	4212.09	ng/ml	94
51) Acenaphthene	9.756	153	449192	3605.68	ng/ml	99
52) 2,4-Dinitrophenol	9.778	184	66685	5006.82	ng/ml	88
53) 4-Nitrophenol	9.847	139	110480	4293.76	ng/ml	87
54) 2,4-Dinitrotoluene	9.911	165	174398	4193.29	ng/ml	85
55) Dibenzofuran	9.927	168	609207	3552.47	ng/ml	98
56) 2,3,5,6-Tetrachlorophenol	10.013	232	128540	4189.58	ng/ml	90
57) 2,3,4,6-Tetrachlorophenol	10.056	232	131983	4411.97	ng/ml	91
58) Diethyl phthalate	10.147	149	430062	3245.01	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.141	170	377414	3317.49	ng/ml	98
60) Fluorene	10.280	166	463326	3318.07	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.270	204	239379	3650.38	ng/ml	89
62) 4-Nitroaniline	10.302	138	119176	3935.66	ng/ml	94
63) 4,6-Dinitro-2-methylph...	10.329	198	87463	4765.28	ng/ml	78
65) N-Nitrosodiphenylamine	10.393	169	398485	3223.19	ng/ml	99
66) Azobenzene (1,2-DPH)	10.430	77	481159	3107.29	ng/ml	86
68) 4-Bromophenyl phenyl e...	10.767	248	164575	4021.31	ng/ml	86
69) Hexachlorobenzene	10.847	284	169055	3892.80	ng/ml	94
70) Pentachlorophenol (PCP)	11.040	266	103356	4679.02	ng/ml	97
71) Phenanthrene	11.254	178	712691	3394.59	ng/ml	98
72) Anthracene	11.307	178	710857	3508.25	ng/ml	98
73) Carbazole	11.462	167	666936	4706.84	ng/ml	99
74) Di-n-butyl phthalate	11.799	149	869303	3569.78	ng/ml	98
75) Fluoranthene	12.532	202	874011	3752.21	ng/ml	98
76) Benzidine	12.687	184	507935	7862.86	ng/ml	98
77) Pyrene	12.832	202	853568	3619.97	ng/ml	98
80) Butyl benzyl phthalate	13.853	149	466198	3979.59	ng/ml	91
81) Bis(2-ethylhexyl) adipate	14.024	129	395039	4119.09	ng/ml	97
82) 3,3-Dichlorobenzidine	15.009	252	140872	7405.50	ng/ml	95
83) Benz(a)anthracene	15.046	228	790890	3993.20	ng/ml	99
84) Chrysene	15.132	228	726806	3939.62	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.190	149	541901	4085.51	ng/ml	94
87) Di-n-octyl phthalate	16.859	149	1106017	3530.60	ng/ml	97
88) Benzo(b)fluoranthene	17.651	252	916793	3978.72	ng/ml	96
89) Benzo(k)fluoranthene	17.720	252	788525	3971.90	ng/ml	96
90) Benzo(b+k)fluoranthene	17.720	252	1749715	7921.59	ng/ml	96
91) Benzo(e)pyrene	18.303	252	863719	4210.62	ng/ml	99
92) Benzo(a)pyrene	18.426	252	770441	3963.51	ng/ml	97
93) Perylene	18.630	252	705720	3813.99	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.962	276	792468	3886.05	ng/ml	95
96) Dibenz(a,h)anthracene	21.020	278	675316	3935.31	ng/ml	96
97) Benzo(g,h,i)perylene	21.496	276	777615	4070.47	ng/ml	93

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

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081926.D
Acq On : 9 May 2019 12:26 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL8
Misc : 1x, A19D060 BNA@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:08 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081927.D
Acq On : 9 May 2019 1:01 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:16 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.702	152	97132	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.954	136	383773	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.724	162	200935	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.232	188	408419	2000.00	ng/ml	0.01
78) Chrysene-d12 (ISTD)	15.083	240	325607	2000.00	ng/ml	0.03
86) Perylene-d12 (ISTD)	18.565	264	352282	2000.00	ng/ml	0.03
94) Dibenz(a,h)Anthrcene-d...	20.956	292	359354	2000.00	ng/ml	0.03
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.472	112	435036	6698.29	ng/ml	0.00
5) Phenol-d6 (Surr)	6.354	99	554225	6468.67	ng/ml	0.02
19) Nitrobenzene-d5 (Surr)	7.242	82	400998	5587.34	ng/ml	0.01
40) 2-Fluorobiphenyl (Surr)	9.034	172	698194	4761.29	ng/ml	0.01
67) 2,4,6-Tribromophenol (...	10.526	330	114295	6644.05	ng/ml	0.01
79) Terphenyl-d14 (Surr)	13.040	244	884802	5707.63	ng/ml	0.02
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.172	74	300039	5849.36	ng/ml	98
3) Pyridine	4.178	79	496772	6198.63	ng/ml	98
6) Phenol	6.370	94	546989	5859.74	ng/ml	98
7) Aniline	6.392	93	406652	4767.74	ng/ml	97
8) Bis(2-chloroethyl) ether	6.445	93	395115	5160.94	ng/ml	96
9) 2-Chlorophenol	6.504	128	397555	5978.76	ng/ml	95
10) 1,3-Dichlorobenzene	6.649	146	414202	5608.54	ng/ml	97
11) 1,4-Dichlorobenzene	6.718	146	384033	5454.63	ng/ml	98
12) Benzyl alcohol	6.841	108	269444	5748.55	ng/ml	93
13) 1,2-Dichlorobenzene	6.868	146	366398	5324.29	ng/ml	99
14) 2-Methylphenol	6.943	107	301798	5733.66	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	6.959	45	456599	4269.37	ng/ml	93
16) N-Nitrosodi-n-propylamine	7.103	70	270883	4994.60	ng/ml	92
17) 3+4-Methylphenol	7.098	107	373641	5629.91	ng/ml	97
18) Hexachloroethane	7.200	201	130625	6033.47	ng/ml	90
20) Nitrobenzene	7.264	77	371635	5087.01	ng/ml	92
22) Isophorone	7.504	82	838709	5918.77	ng/ml	94
23) 2-Nitrophenol	7.574	139	224039	6026.89	ng/ml	98
24) 2,4-Dimethylphenol	7.617	122	328729	5791.99	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.702	93	444685	5268.64	ng/ml	96
26) Benzoic acid	~~7.617~~	~~105~~	~~12038~~	~~1146.75~~	~~ng/ml#~~	1
27) 2,4-Dichlorophenol	7.820	162	285851	5779.38	ng/ml	100
28) 1,2,4-Trichlorobenzene	7.895	180	308537	5150.47	ng/ml	100
29) Naphthalene	7.980	128	939298	4935.76	ng/ml	95
30) 4-Chloroaniline	8.045	127	243860	4743.50	ng/ml	95
31) Hexachlorobutadiene	8.103	225	164363	5454.30	ng/ml	99
32) 4-Chloro-3-methylphenol	8.505	107	368355	6047.98	ng/ml	97
33) 2-Methylnaphthalene	8.665	142	744774	5309.71	ng/ml	100
34) 1-Methylnaphthalene	8.767	142	691750	5197.62	ng/ml	100
36) Hexachlorocyclopentadiene	8.831	237	188663	6229.45	ng/ml	99
37) 2,4,6-Trichlorophenol	8.954	196	223754	5978.05	ng/ml	98
38) 2,4,5-Trichlorophenol	8.991	198	209851	6044.28	ng/ml	99
39) 1,1'-Biphenyl	9.136	154	789288	4647.84	ng/ml	97
41) 2-Chloronaphthalene	9.162	162	576153	4663.80	ng/ml	98
42) 2-Nitroaniline	9.264	138	257132	6353.49	ng/ml	91
43) 2,6-Dimethylnaphthalene	9.296	156	582020	4776.12	ng/ml	98

See MI

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081927.D
Acq On : 9 May 2019 1:01 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:16 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

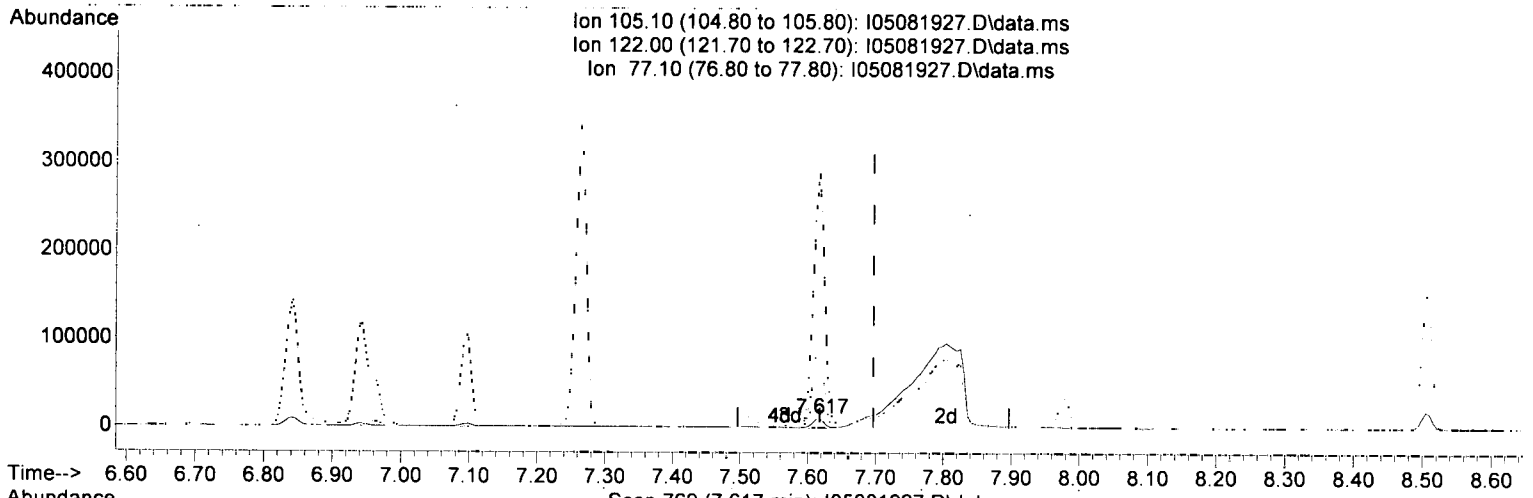
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.392	168	132868	6167.00	ng/ml	80
45) Dimethyl phthalate	9.451	163	719060	5128.25	ng/ml	97
46) 1,3-Dinitrobenzene	9.483	168	139435	6457.85	ng/ml	92
47) 2,6-Dinitrotoluene	9.505	165	182024	5958.26	ng/ml	87
48) 1,2-Dinitrobenzene	9.574	168	89987	5832.75	ng/ml	85
49) Acenaphthylene	9.585	152	879320	4483.39	ng/ml	96
50) 3-Nitroaniline	9.681	138	118898	Below Cal		95
51) Acenaphthene	9.762	153	608926	4935.69	ng/ml	99
52) 2,4-Dinitrophenol	9.783	184	105311	6831.80	ng/ml	90
53) 4-Nitrophenol	9.852	139	165172	6138.35	ng/ml	91
54) 2,4-Dinitrotoluene	9.922	165	237610	5783.24	ng/ml	89
55) Dibenzofuran	9.933	168	796168	4688.12	ng/ml	100
56) 2,3,5,6-Tetrachlorophenol	10.018	232	183781	5808.43	ng/ml	88
57) 2,3,4,6-Tetrachlorophenol	10.061	232	183789	6207.71	ng/ml	91
58) Diethyl phthalate	10.157	149	560826	4273.09	ng/ml	93
59) 2,3,5-Trimethylnaphtha...	10.147	170	492303	4369.71	ng/ml	98
60) Fluorene	10.286	166	605832	4381.07	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.270	204	319658	4922.28	ng/ml	93
62) 4-Nitroaniline	10.307	138	166859	5564.25	ng/ml	94
63) 4,6-Dinitro-2-methylph...	10.339	198	129071	6438.23	ng/ml	77
65) N-Nitrosodiphenylamine	10.398	169	527740	4227.84	ng/ml	100
66) Azobenzene (1,2-DPH)	10.435	77	656969	4202.06	ng/ml	84
68) 4-Bromophenyl phenyl e...	10.767	248	229006	5542.11	ng/ml	91
69) Hexachlorobenzene	10.853	284	231353	5276.35	ng/ml	92
70) Pentachlorophenol (PCP)	11.045	266	153485	6449.00	ng/ml	97
71) Phenanthrene	11.259	178	956642	4512.95	ng/ml	96
72) Anthracene	11.313	178	942171	4605.35	ng/ml	96
73) Carbazole	11.462	167	822554	Below Cal		99
74) Di-n-butyl phthalate	11.799	149	1162762	4729.17	ng/ml	96
75) Fluoranthene	12.537	202	1152260	4899.43	ng/ml	98
76) Benzidine	12.698	184	835608	11543.22	ng/ml	98
77) Pyrene	12.837	202	1135183	4768.23	ng/ml	97
80) Butyl benzyl phthalate	13.859	149	660330	5691.70	ng/ml	92
81) Bis(2-ethylhexyl) adipate	14.030	129	550853	6104.32	ng/ml	97
82) 3,3-Dichlorobenzidine	~~15.019~~	~~252~~	~~133256~~	~~7443.98~~	~~ng/ml~~	98 See MI
83) Benz(a)anthracene	15.057	228	1056377	5668.45	ng/ml	98
84) Chrysene	15.148	228	987765	5690.22	ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.196	149	749108	6002.20	ng/ml	94
87) Di-n-octyl phthalate	16.870	149	1544982	4650.93	ng/ml	98
88) Benzo(b)fluoranthene	17.667	252	1322262	5724.25	ng/ml	96
89) Benzo(k)fluoranthene	17.736	252	1035740	5629.61	ng/ml	96
90) Benzo(b+k)fluoranthene	17.736	252	2421312	11319.06	ng/ml	96
91) Benzo(e)pyrene	18.319	252	1199867	6001.03	ng/ml	99
92) Benzo(a)pyrene	18.448	252	1066798	5628.06	ng/ml	97
93) Perylene	18.651	252	989986	5489.03	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.983	276	1164266	5722.54	ng/ml	95
96) Dibenz(a,h)anthracene	21.042	278	945959	5525.27	ng/ml	96
97) Benzo(g,h,i)perylene	21.518	276	1089470	5716.16	ng/ml	94

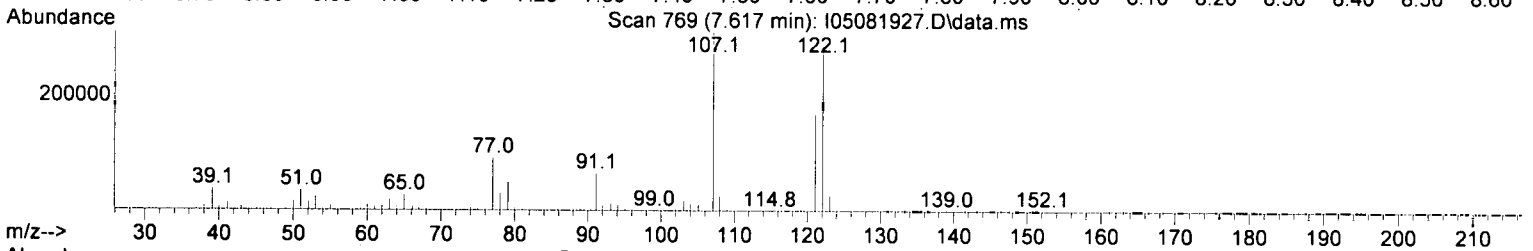
(#) = qualifier out of range (m) = manual integration (+) = signals summed

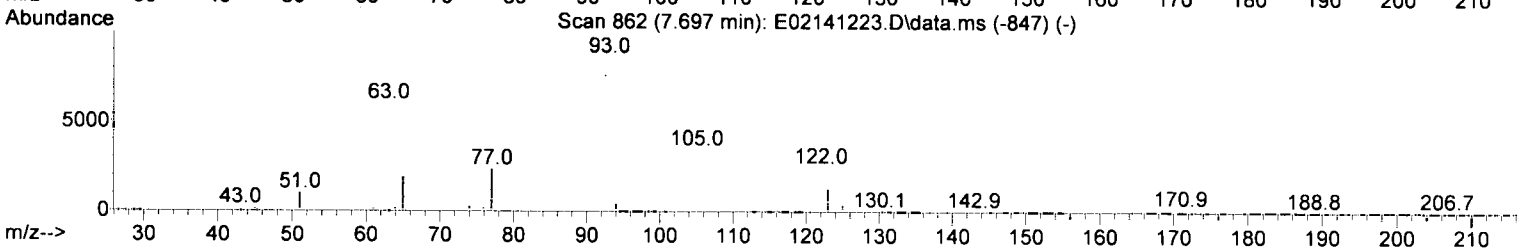
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081927.D
Acq On : 9 May 2019 1:01 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:16 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081927.D\data.ms

(26) Benzoic acid (T)

7.617min (-0.080) 1146.75 ng/ml

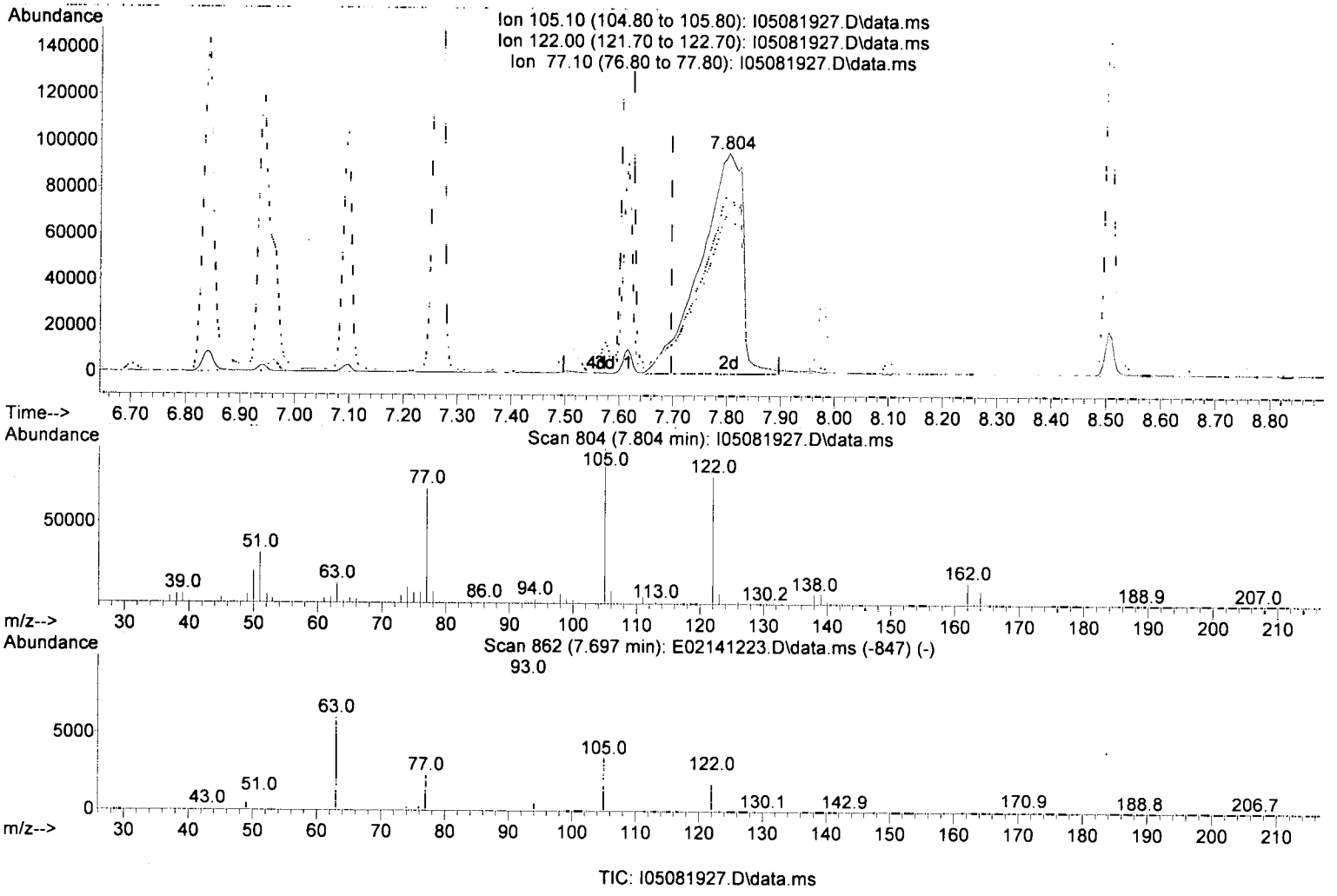
response 12038

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	2757.81#
77.10	76.00	872.30#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081927.D
Acq On : 9 May 2019 1:01 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:16 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05081927.D\data.ms

(26) Benzoic acid (T)

7.804min (+ 0.107) 12091.52 ng/ml (m)

response 520098

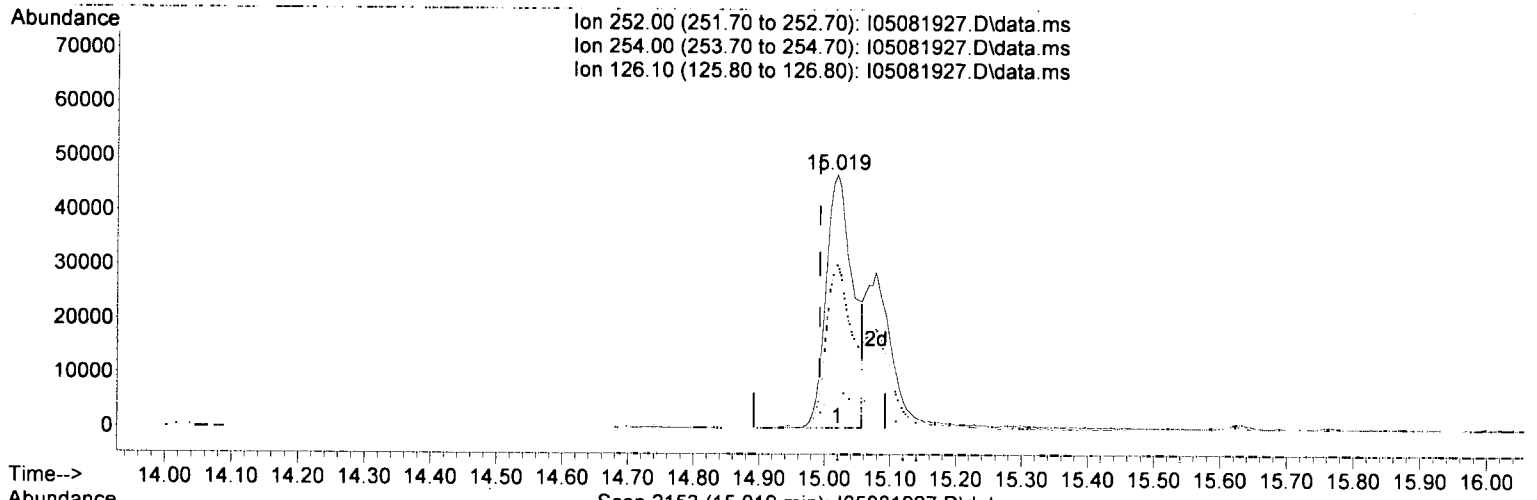
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	82.17
77.10	76.00	74.36
0.00	0.00	0.00

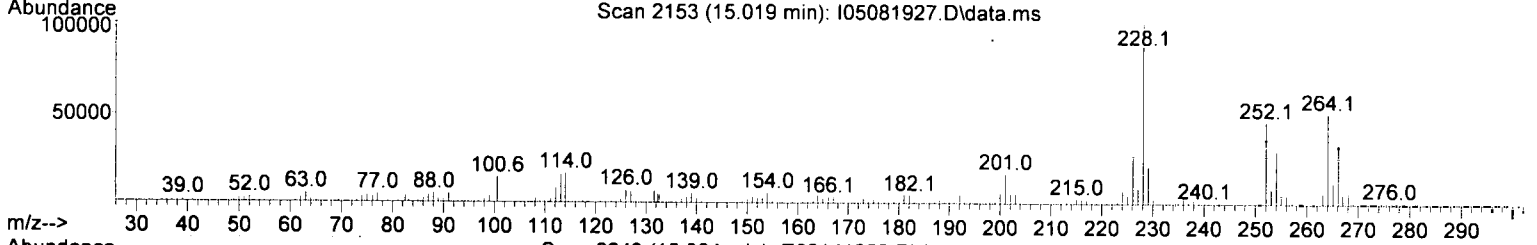
JK 5/9/19

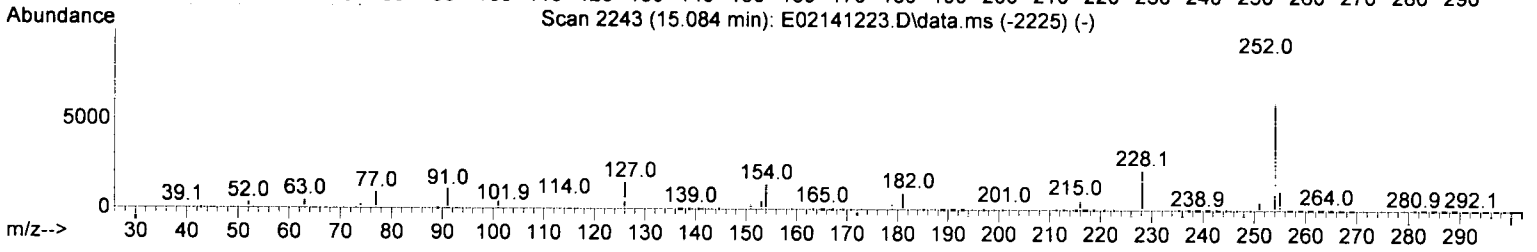
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081927.D
Acq On : 9 May 2019 1:01 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:16 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081927.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.019min (+ 0.027) 7443.98 ng/ml

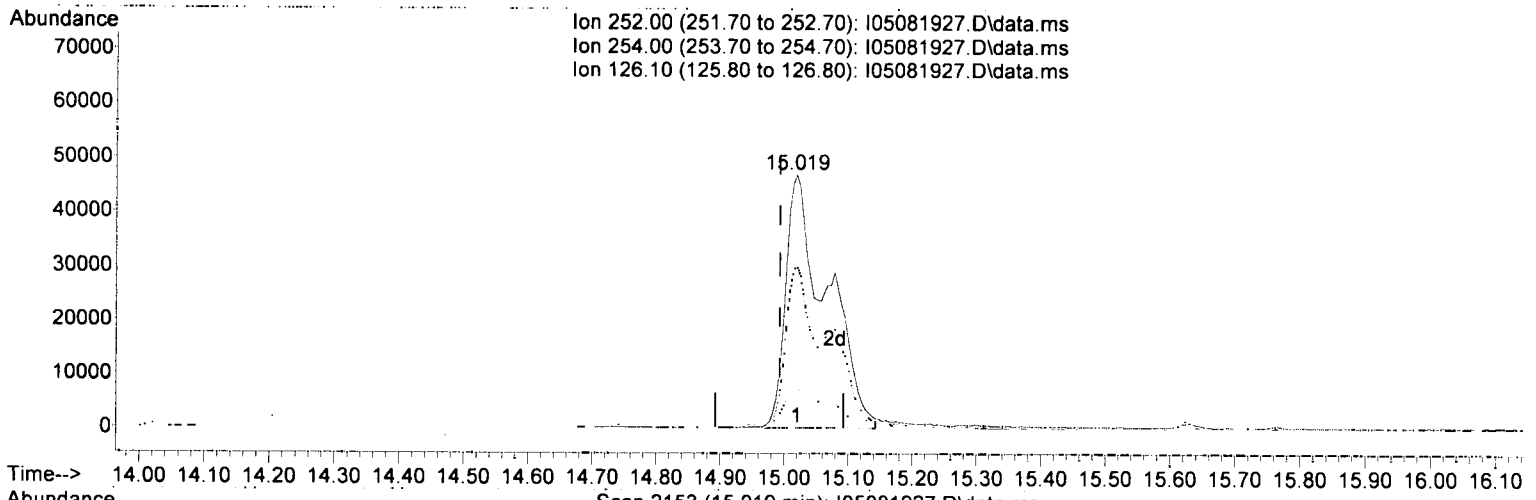
response 133256

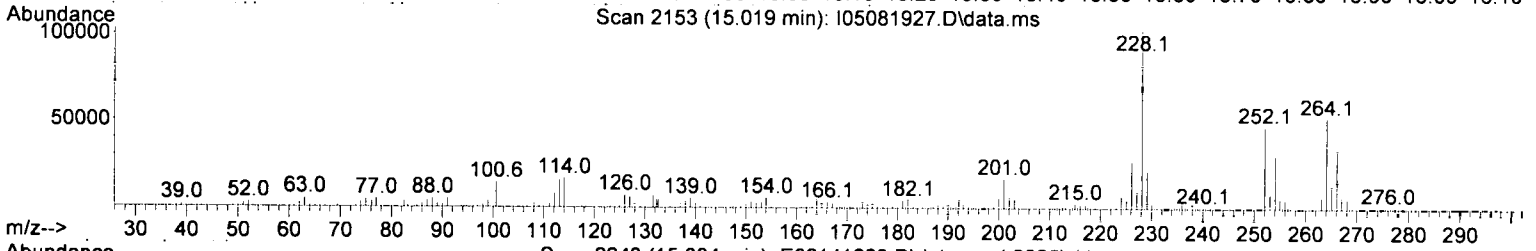
Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	64.54
126.10	16.90	15.63
0.00	0.00	0.00

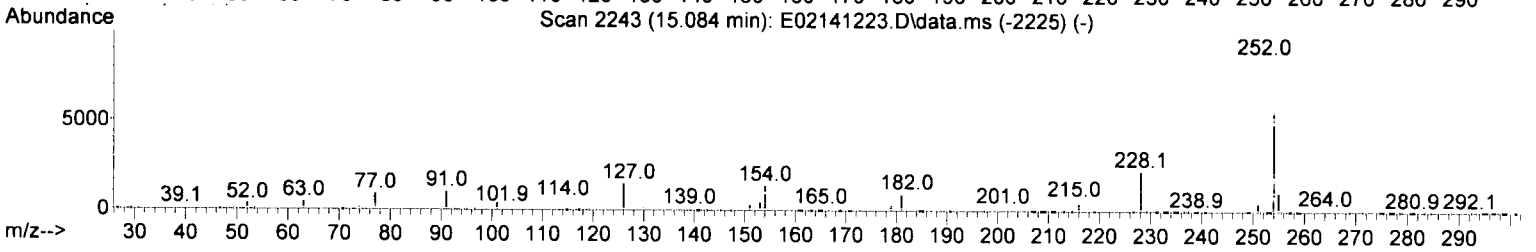
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081927.D
Acq On : 9 May 2019 1:01 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:16 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081927.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.019min (+ 0.027) 11468.11 ng/ml m 5/9/19

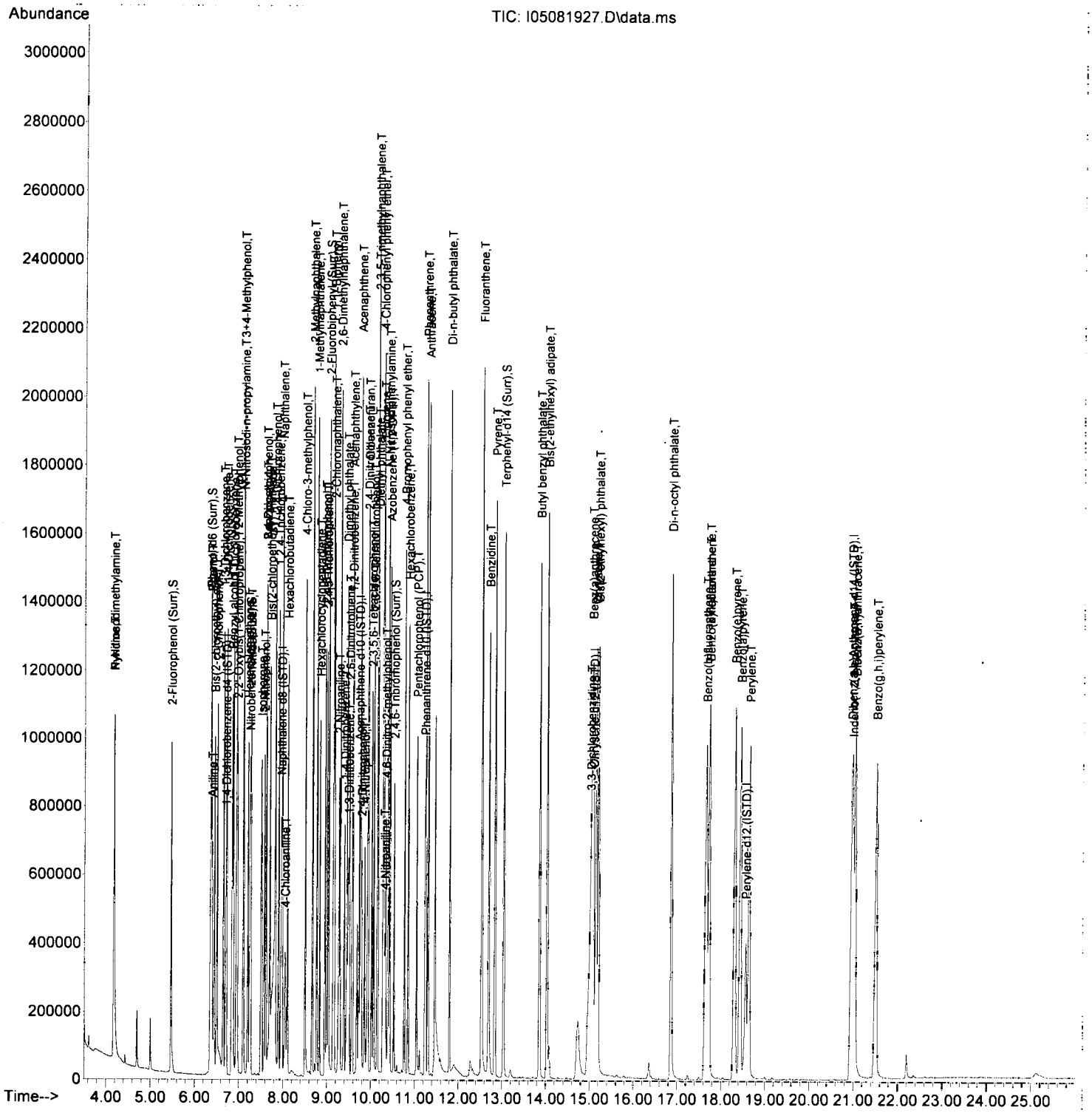
response 210131

Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	64.54
126.10	16.90	15.63
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081927.D
Acq On : 9 May 2019 1:01 am
Operator : JK /AMS /DTH
Sample : 9E08056-CAL9
Misc : 1x, A19D061 BNA@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:16 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	95689	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.954	136	368532	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.724	162	194593	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.232	188	396349	2000.00	ng/ml	0.01
78) Chrysene-d12 (ISTD)	15.089	240	305019	2000.00	ng/ml	0.03
86) Perylene-d12 (ISTD)	18.571	264	337687	2000.00	ng/ml	0.03
94) Dibenz(a,h)Anthrcene-d...	20.962	292	348077	2000.00	ng/ml	0.04
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.467	112	560056	8753.27	ng/ml	0.00
5) Phenol-d6 (Surr)	6.360	99	706999	8376.22	ng/ml	0.02
19) Nitrobenzene-d5 (Surr)	7.248	82	507577	7179.02	ng/ml	0.02
40) 2-Fluorobiphenyl (Surr)	9.034	172	835510	5883.40	ng/ml	0.01
67) 2,4,6-Tribromophenol (...	10.532	330	142560	8432.13	ng/ml	0.02
79) Terphenyl-d14 (Surr)	13.040	244	1074072	7396.22	ng/ml	0.02
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.162	74	396249	7841.50	ng/ml	99
3) Pyridine	4.162	79	659225	8349.73	ng/ml	98
6) Phenol	6.376	94	672921	7317.52	ng/ml	90
7) Aniline	6.392	93	595081	7082.17	ng/ml	95
8) Bis(2-chloroethyl) ether	6.445	93	510517	6768.86	ng/ml	96
9) 2-Chlorophenol	6.504	128	503387	7684.51	ng/ml	95
10) 1,3-Dichlorobenzene	6.649	146	517626	7114.66	ng/ml	96
11) 1,4-Dichlorobenzene	6.718	146	480345	6925.49	ng/ml	97
12) Benzyl alcohol	6.847	108	337977	7070.03	ng/ml	93
13) 1,2-Dichlorobenzene	6.868	146	448803	6620.11	ng/ml	99
14) 2-Methylphenol	6.943	107	369236	7120.66	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	6.959	45	549922	5219.51	ng/ml	90
16) N-Nitrosodi-n-propylamine	7.109	70	339637	6356.74	ng/ml	94
17) 3+4-Methylphenol	7.098	107	458606	7014.35	ng/ml	100
18) Hexachloroethane	7.200	201	161926	7592.02	ng/ml	89
20) Nitrobenzene	7.269	77	462505	6426.32	ng/ml	89
22) Isophorone	7.510	82	1078748	7927.56	ng/ml	93
23) 2-Nitrophenol	7.574	139	283482	7925.73	ng/ml	97
24) 2,4-Dimethylphenol	7.622	122	412108	7561.36	ng/ml	97
25) Bis(2-chloroethoxy) me...	7.702	93	553975	6834.95	ng/ml	96
26) Benzoic acid	~~7.622~~	~~105~~	~~15549~~	1267.44	ng/ml#	1
27) 2,4-Dichlorophenol	7.825	162	358983	7465.88	ng/ml	99
28) 1,2,4-Trichlorobenzene	7.900	180	375837	6533.38	ng/ml	99
29) Naphthalene	7.980	128	1132611	6197.70	ng/ml	94
30) 4-Chloroaniline	8.039	127	398347	8068.99	ng/ml	95
31) Hexachlorobutadiene	8.103	225	199760	6903.08	ng/ml	99
32) 4-Chloro-3-methylphenol	8.510	107	462055	7683.16	ng/ml	96
33) 2-Methylnaphthalene	8.670	142	907754	6739.28	ng/ml	99
34) 1-Methylnaphthalene	8.772	142	826000	6463.00	ng/ml	99
36) Hexachlorocyclopentadiene	8.831	237	228123	7653.38	ng/ml	97
37) 2,4,6-Trichlorophenol	8.954	196	275262	7566.36	ng/ml	97
38) 2,4,5-Trichlorophenol	8.997	198	259729	7806.13	ng/ml	98
39) 1,1'-Biphenyl	9.141	154	939145	5710.53	ng/ml	94
41) 2-Chloronaphthalene	9.162	162	683312	5711.49	ng/ml	97
42) 2-Nitroaniline	9.269	138	330555	8433.89	ng/ml	91
43) 2,6-Dimethylnaphthalene	9.302	156	693134	5873.31	ng/ml	97

See ML

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.398	168	171694	7925.07 ng/ml	81
45) Dimethyl phthalate	9.462	163	895747	6596.56 ng/ml	97
46) 1,3-Dinitrobenzene	9.489	168	173847	8314.03 ng/ml	95
47) 2,6-Dinitrotoluene	9.510	165	222349	7515.44 ng/ml	89
48) 1,2-Dinitrobenzene	9.580	168	107372	7186.42 ng/ml	96
49) Acenaphthylene	9.585	152	984732	5184.49 ng/ml	96
50) 3-Nitroaniline	9.692	138	173485	Below Cal	90
51) Acenaphthene	9.762	153	730149	6111.16 ng/ml	99
52) 2,4-Dinitrophenol	9.794	184	138854	8328.38 ng/ml	85
53) 4-Nitrophenol	9.863	139	212171	7786.41 ng/ml	91
54) 2,4-Dinitrotoluene	9.927	165	279820	7051.12 ng/ml	93
55) Dibenzofuran	9.938	168	933154	5673.82 ng/ml	97
56) 2,3,5,6-Tetrachlorophenol	10.018	232	227276	7182.34 ng/ml	91
57) 2,3,4,6-Tetrachlorophenol	10.066	232	226177	7900.84 ng/ml	90
58) Diethyl phthalate	10.163	149	666758	5245.78 ng/ml	93
59) 2,3,5-Trimethylnaphtha...	10.147	170	595050	5453.83 ng/ml	98
60) Fluorene	10.286	166	722035	5391.56 ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.275	204	378804	6023.15 ng/ml	92
62) 4-Nitroaniline	10.318	138	203360	7002.47 ng/ml	94
63) 4,6-Dinitro-2-methylph...	10.345	198	165731	7900.50 ng/ml	79
65) N-Nitrosodiphenylamine	10.398	169	645120	5325.58 ng/ml	100
66) Azobenzene (1,2-DPH)	10.435	77	801688	5283.85 ng/ml	86
68) 4-Bromophenyl phenyl e...	10.772	248	278562	6946.70 ng/ml	90
69) Hexachlorobenzene	10.853	284	281208	6608.67 ng/ml	93
70) Pentachlorophenol (PCP)	11.045	266	193595	7963.68 ng/ml	97
71) Phenanthrene	11.259	178	1153195	5605.85 ng/ml	96
72) Anthracene	11.313	178	1111218	5597.06 ng/ml	95
73) Carbazole	11.462	167	892838	Below Cal	100
74) Di-n-butyl phthalate	11.799	149	1386560	5811.14 ng/ml	95
75) Fluoranthene	12.543	202	1406107	6160.86 ng/ml	98
76) Benzidine	12.703	184	1165482	15132.51 ng/ml	98
77) Pyrene	12.842	202	1376701	5958.81 ng/ml	96
80) Butyl benzyl phthalate	13.864	149	830873	7307.82 ng/ml	92
81) Bis(2-ethylhexyl) adipate	14.030	129	686647	8122.73 ng/ml	96
82) 3,3-Dichlorobenzidine	15.025	252	162347	9581.85 ng/ml	98
83) Benz(a)anthracene	15.062	228	1276068	7309.47 ng/ml	98
84) Chrysene	15.158	228	1196829	7359.94 ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.201	149	911551	7796.76 ng/ml	94
87) Di-n-octyl phthalate	16.875	149	1949268	5698.09 ng/ml	98
88) Benzo(b)fluoranthene	17.672	252	1745814	7653.17 ng/ml	96
89) Benzo(k)fluoranthene	17.747	252	1092068	6332.06 ng/ml	97
90) Benzo(b+k)fluoranthene	17.747	252	2997124	14716.03 ng/ml	97
91) Benzo(e)pyrene	18.335	252	1487060	7758.85 ng/ml	98
92) Benzo(a)pyrene	18.464	252	1307681	7196.72 ng/ml	97
93) Perylene	18.662	252	1226461	7094.08 ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.999	276	1508870	7656.59 ng/ml	98
96) Dibenz(a,h)anthracene	21.058	278	1170463	7058.07 ng/ml	94
97) Benzo(g,h,i)perylene	21.534	276	1353653	7332.36 ng/ml	94

See NI

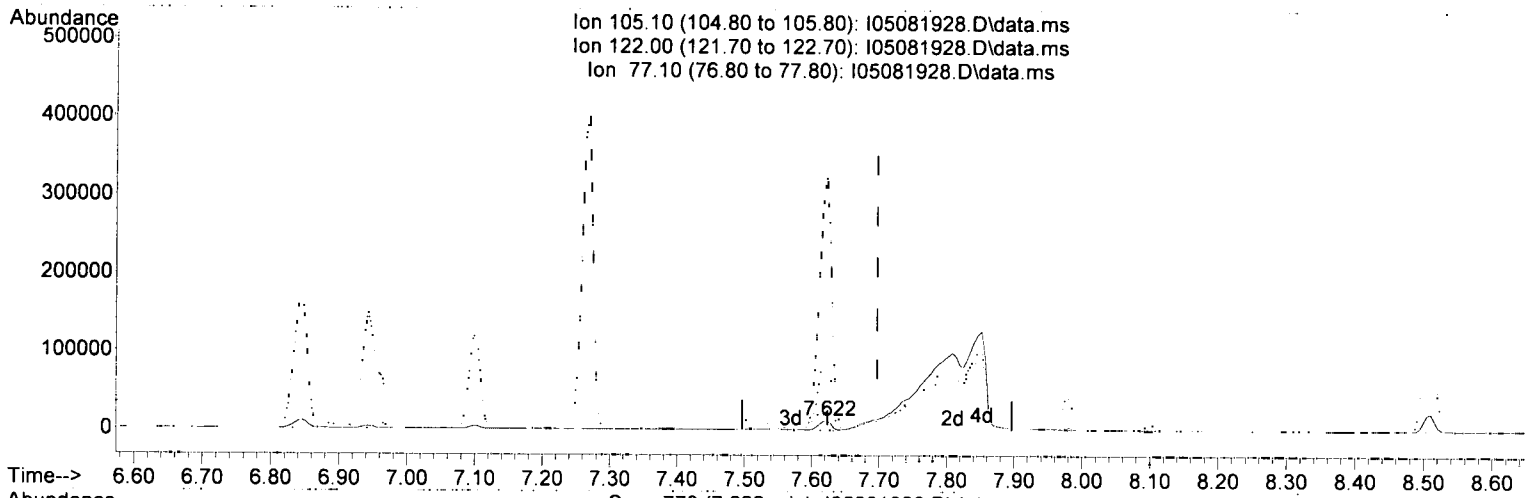
See NI

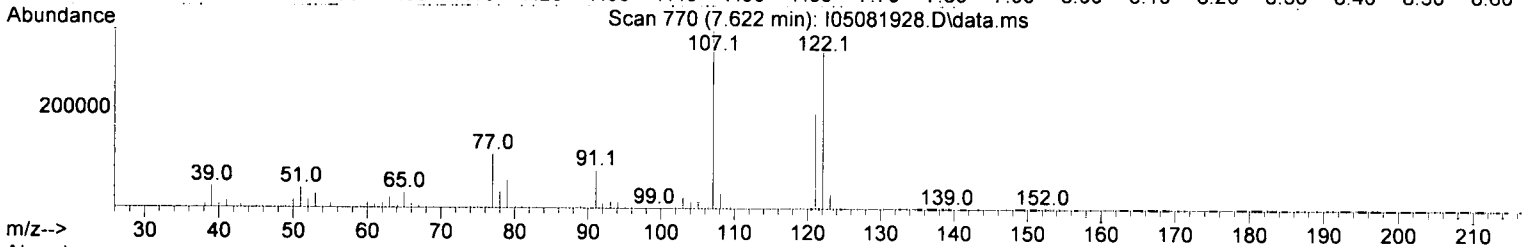
(#) = qualifier out of range (m) = manual integration (+) = signals summed

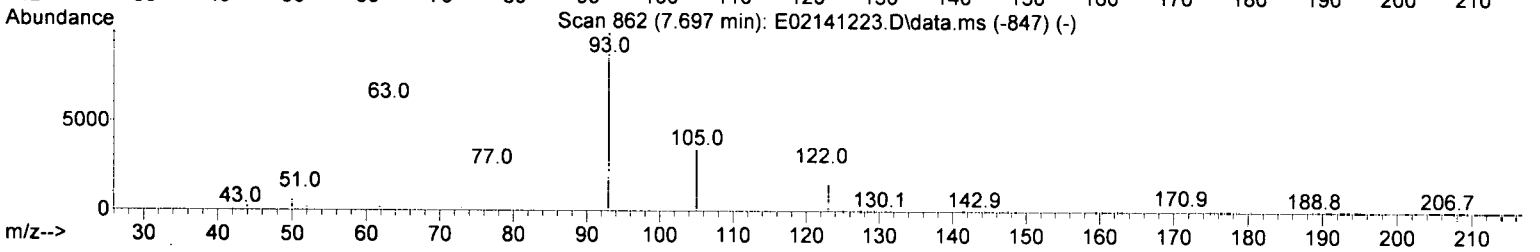
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081928.D\data.ms

(26) Benzoic acid (T)

7.622min (-0.075) 1267.44 ng/ml

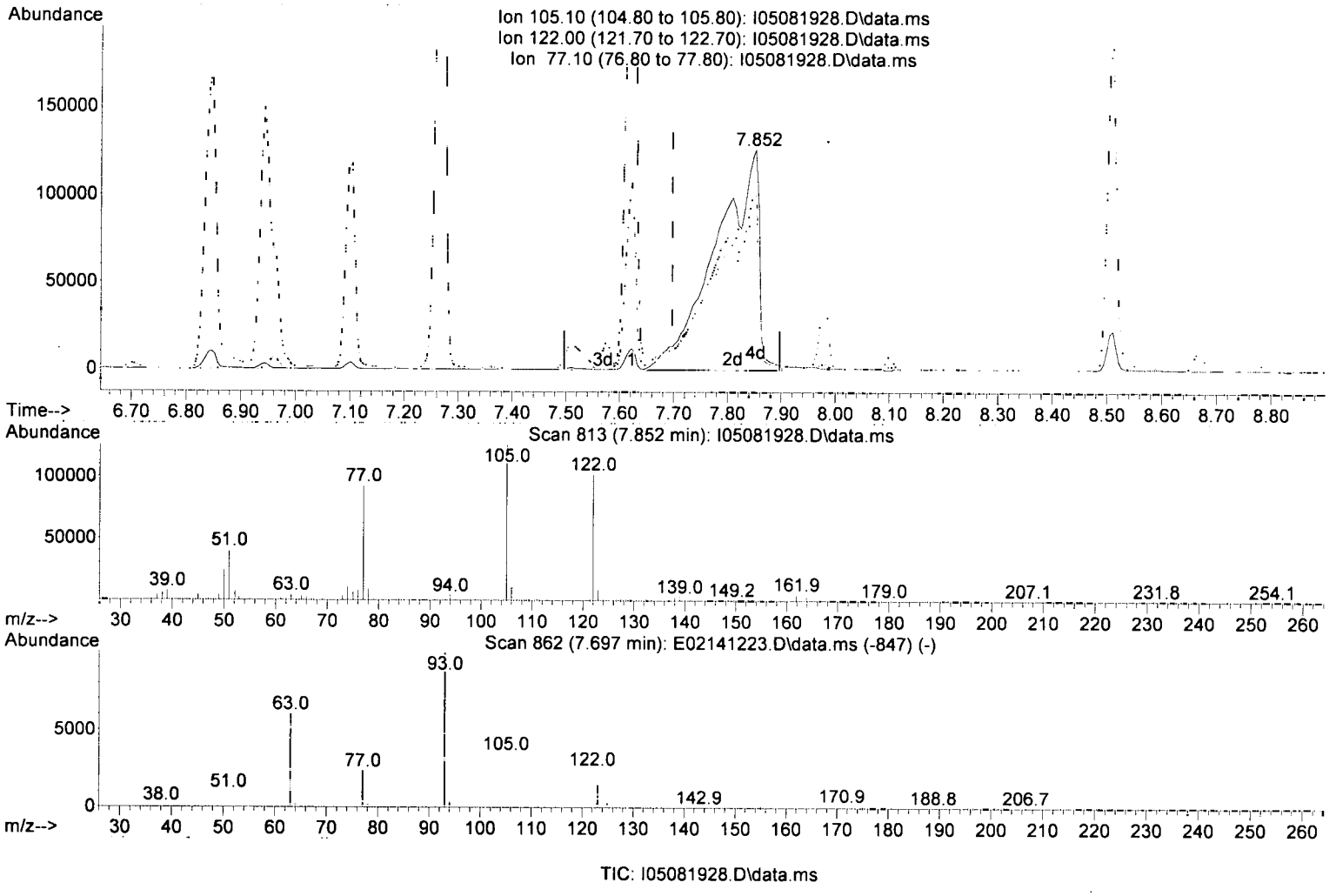
response 15549

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	2689.53#
77.10	76.00	883.46#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05081928.D\data.ms

(26) Benzoic acid (T)

7.852min (+ 0.155) 15436.52 ng/ml (m)

response 699436

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	80.70	80.97
77.10	76.00	73.43
0.00	0.00	0.00

5/9/19

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
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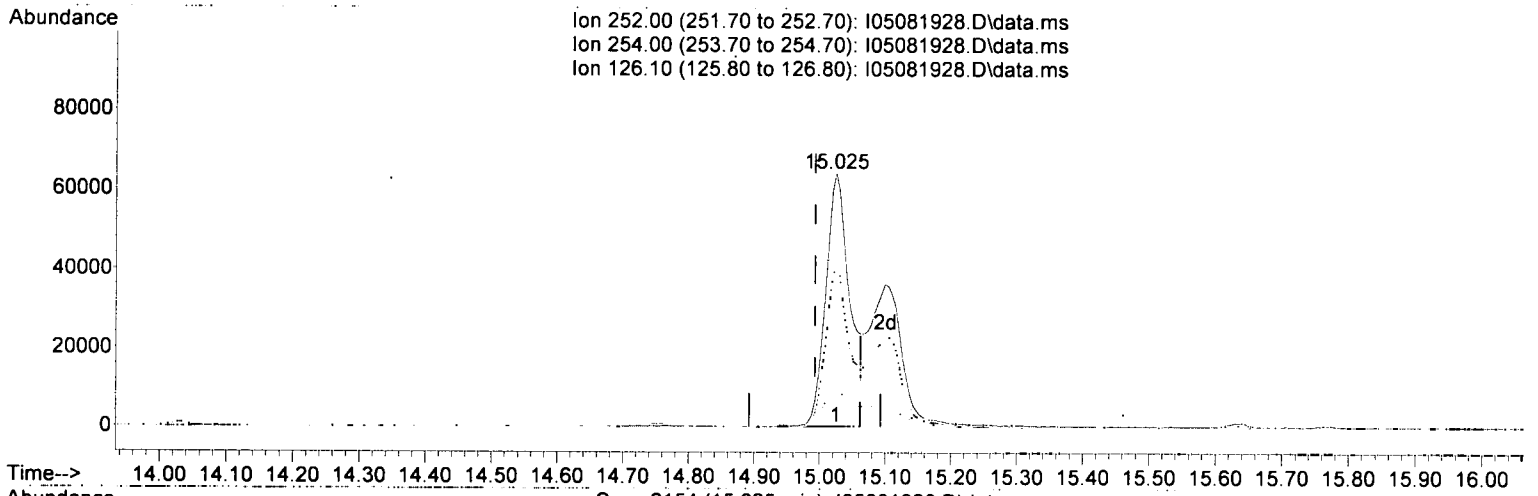
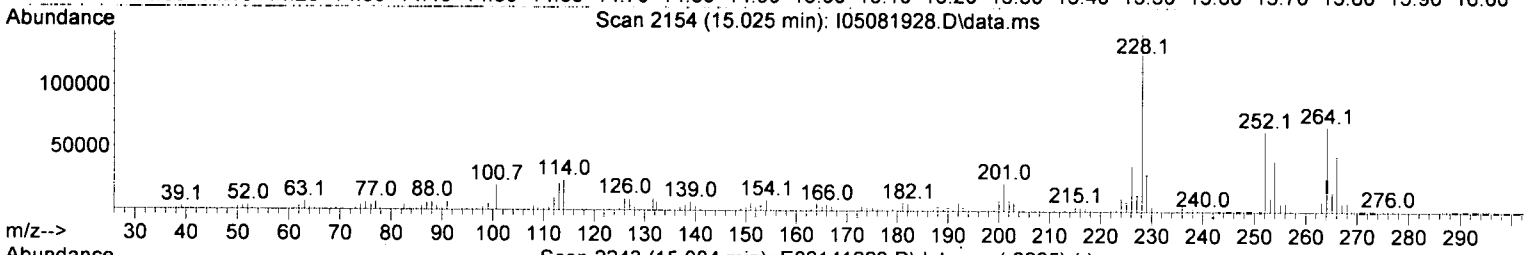
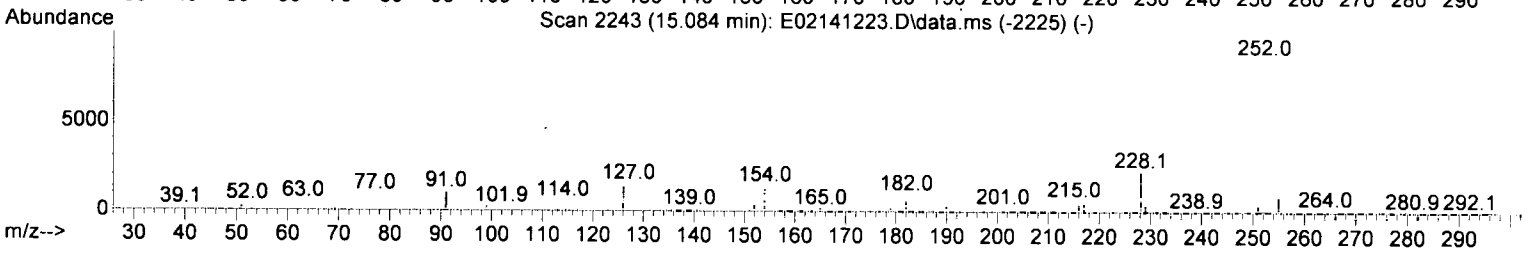






TIC: I05081928.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.025min (+ 0.032) 9581.85 ng/ml

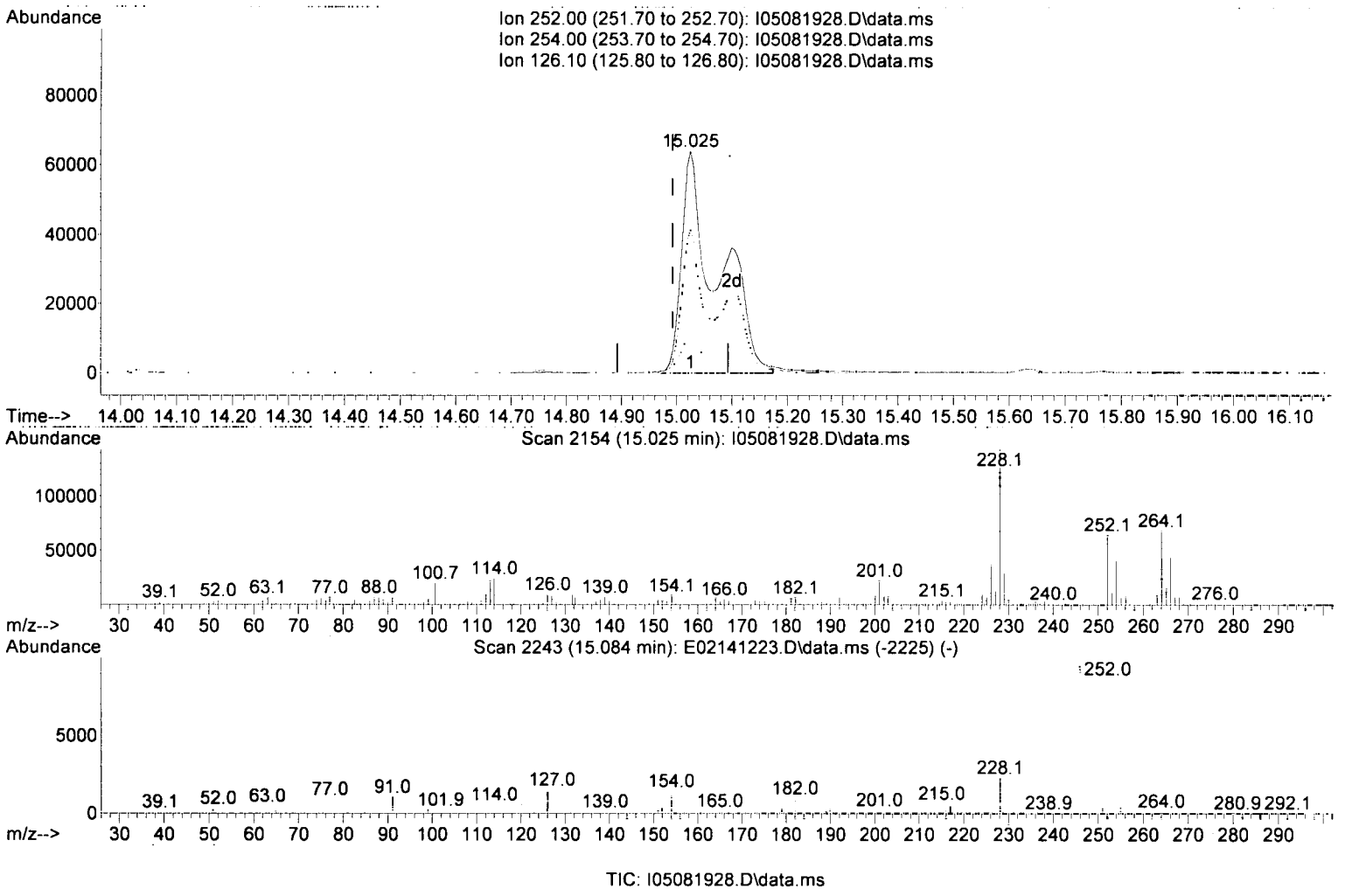
response 162347

Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	64.49
126.10	16.90	15.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



TIC: I05081928.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.025min (+ 0.032) 16113.65 ng/ml m

5/9/19

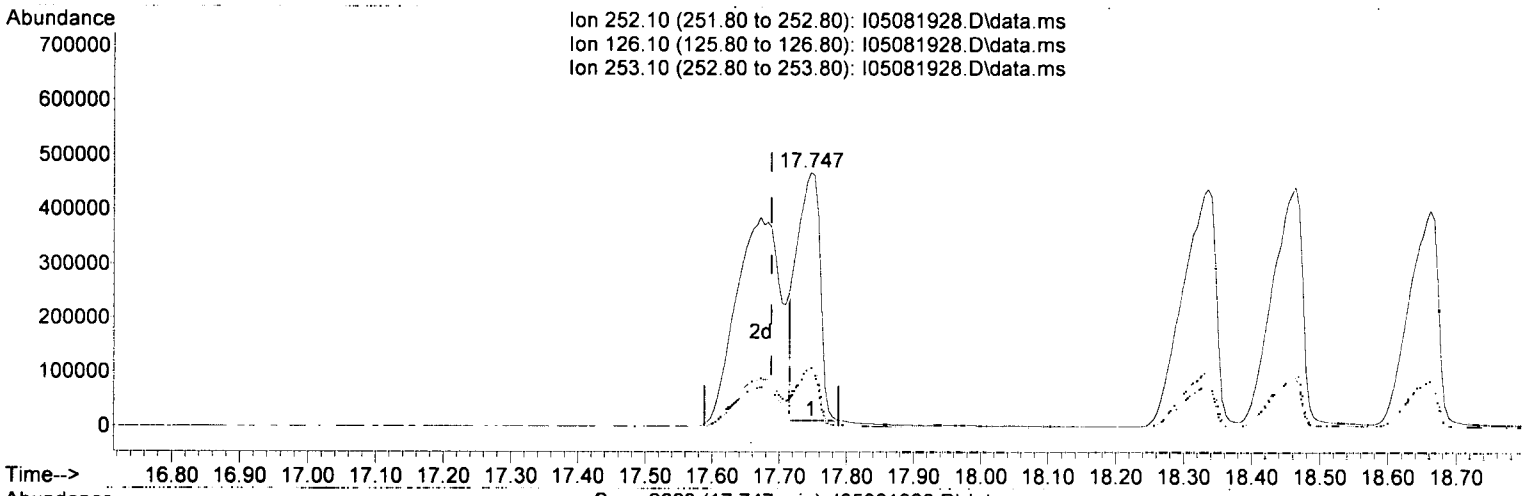
response 287387

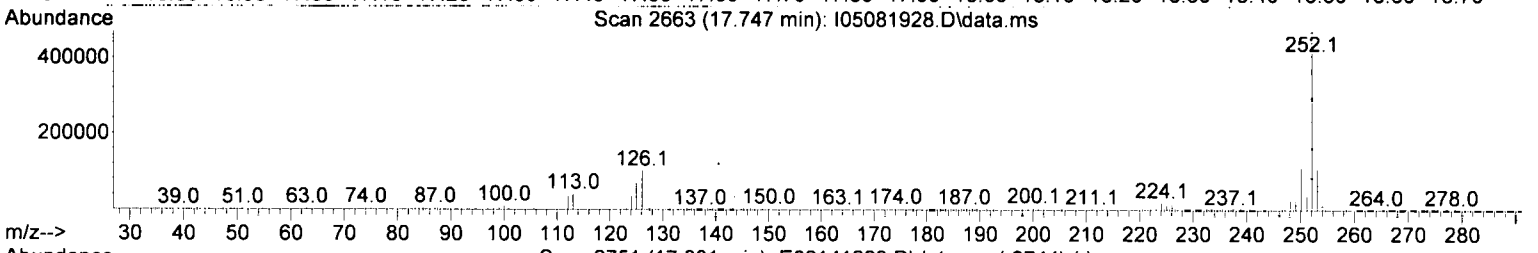
Ion	Exp%	Act%
252.00	100.00	100.00
254.00	66.10	64.49
126.10	16.90	15.19
0.00	0.00	0.00

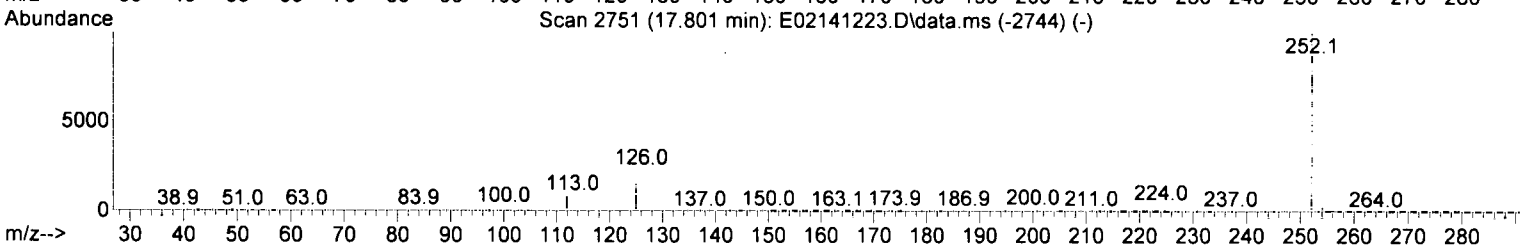
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081928.D\data.ms

(89) Benzo(k)fluoranthene (T)

17.747min (+ 0.059) 6332.06 ng/ml

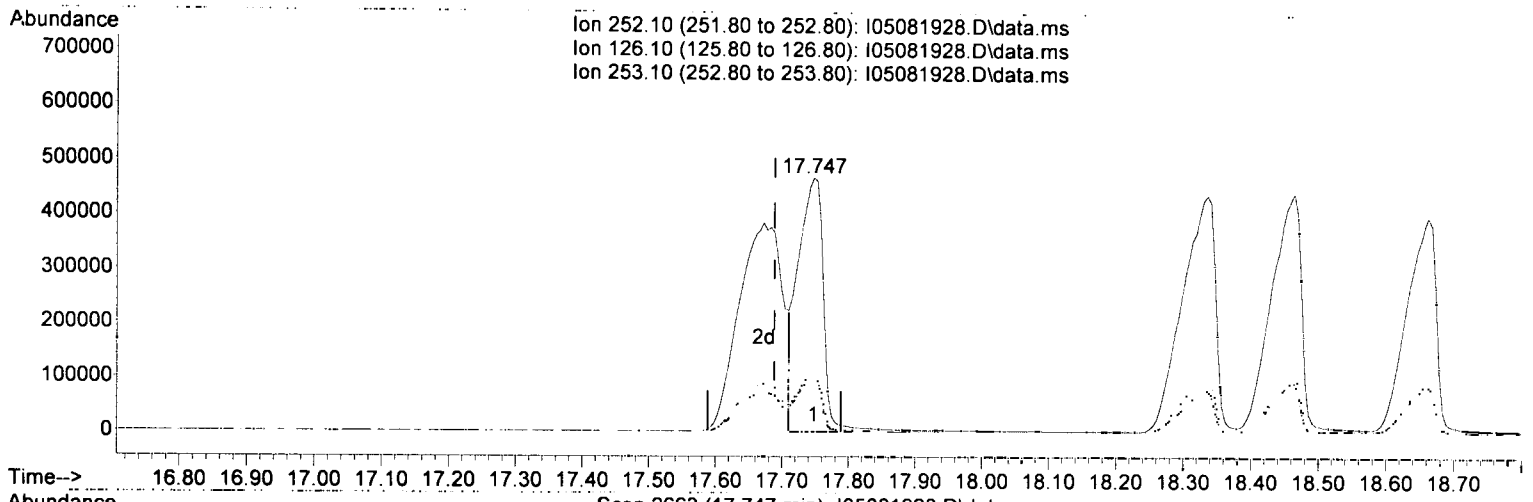
response 1092068

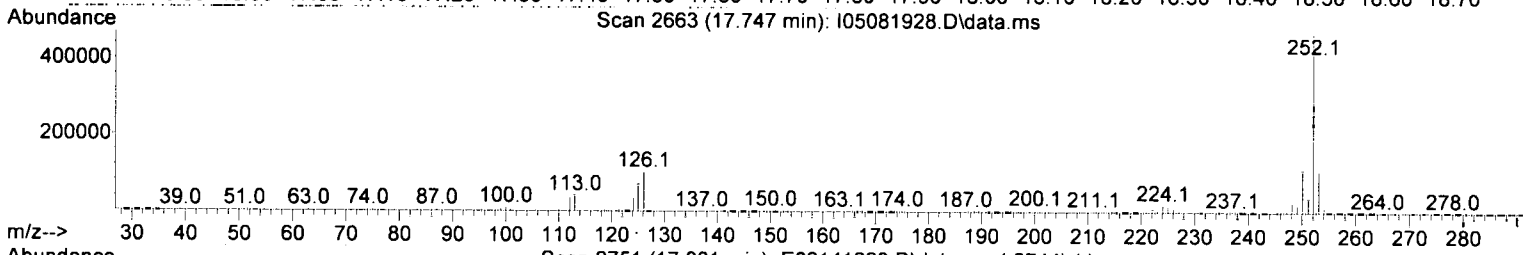
Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	21.87
253.10	21.70	23.14
0.00	0.00	0.00

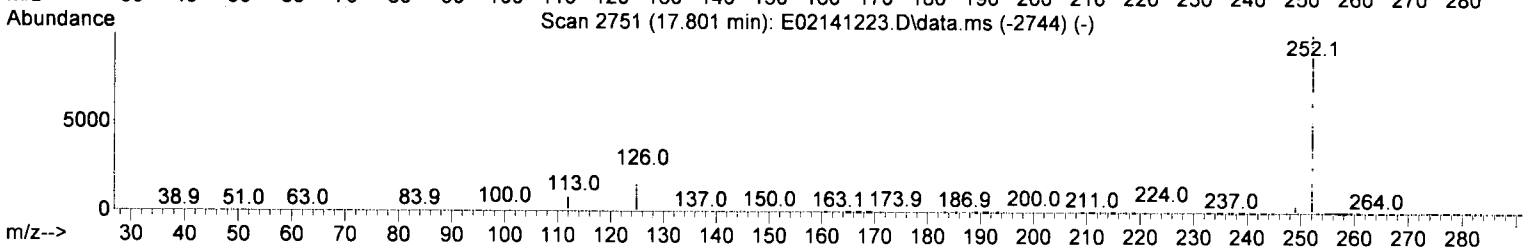
Quantitation Report (Qedit)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9







TIC: I05081928.D\data.ms

(89) Benzo(k)fluoranthene (T)

17.747min (+ 0.059) 7354.87 ng/ml m GJ 5/9/19

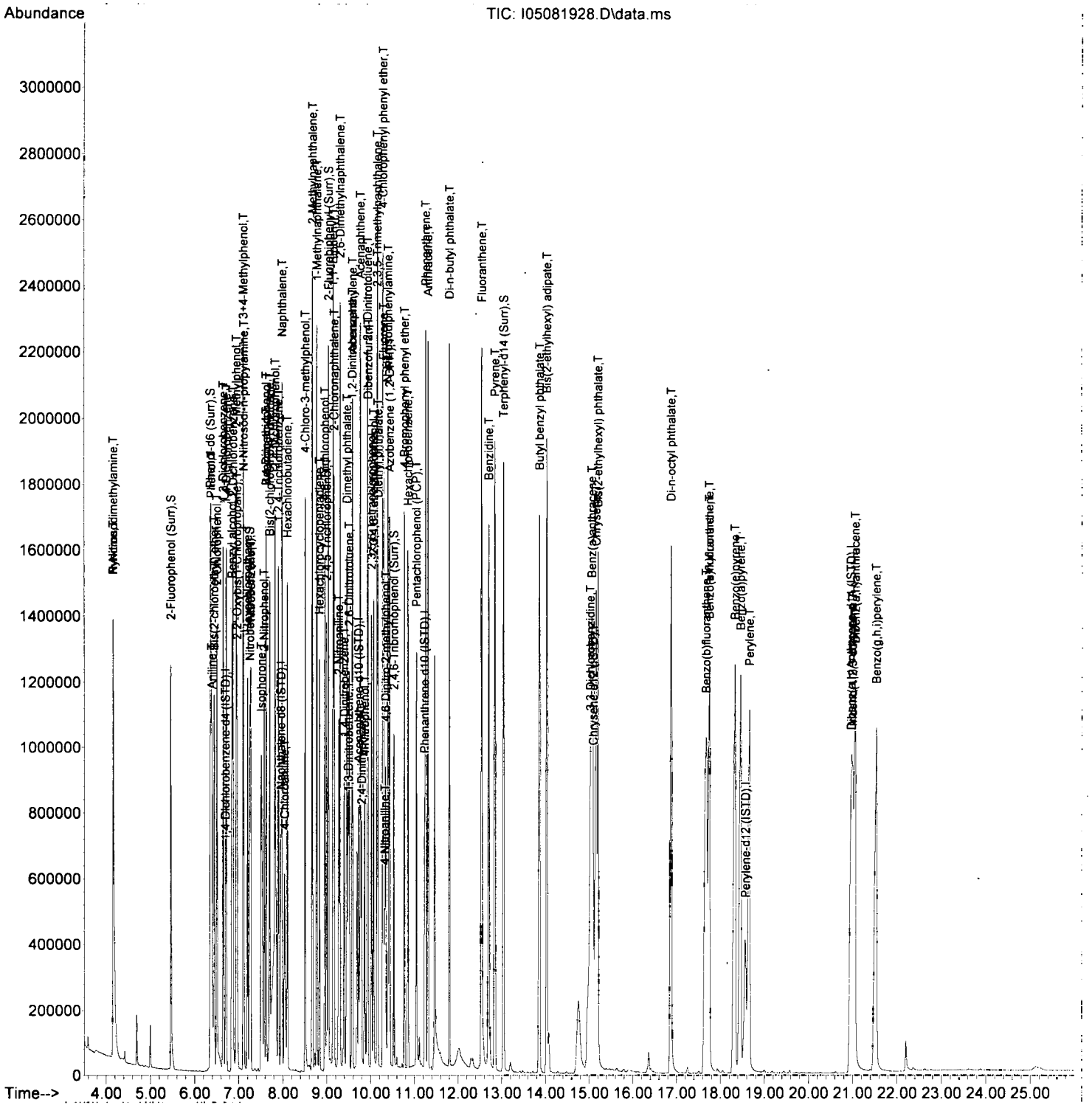
response 1226693

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	23.30	21.87
253.10	21.70	23.14
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081928.D
Acq On : 9 May 2019 1:37 am
Operator : JK /AMS /DTH
Sample : 9E08056-CALA
Misc : 1x, A19D062 BNA@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:23 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

JK 5/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	116606	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	444228	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.719	162	227633	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.227	188	432433	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.057	240	431821	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.544	264	409331	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.924	292	397711	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.466	112	77339	991.92	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	99468	967.06	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.231	82	81052	940.74	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	184294	1109.38	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.516	330	21607	1252.19	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	220750	1073.74	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.167	74	57086	927.05	ng/ml	98
3) Pyridine	4.183	79	83967	872.75	ng/ml	97
6) Phenol	6.354	94	111298	993.18	ng/ml	98
7) Aniline	6.381	93	91216	890.85	ng/ml	94
8) Bis(2-chloroethyl) ether	6.434	93	92166	1002.81	ng/ml	98
9) 2-Chlorophenol	6.499	128	81865	1025.54	ng/ml	95
10) 1,3-Dichlorobenzene	6.643	146	90060	1015.81	ng/ml	96
11) 1,4-Dichlorobenzene	6.713	146	85768	1014.76	ng/ml	97
12) Benzyl alcohol	6.825	108	42923	893.60	ng/ml	95
13) 1,2-Dichlorobenzene	6.862	146	83881	1015.35	ng/ml	97
14) 2-Methylphenol	6.932	107	62992	996.88	ng/ml	97
15) 2,2'-Oxybis(1-Chloropr...	6.953	45	106577	830.11	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.082	70	62598	961.44	ng/ml	94
17) 3+4-Methylphenol	7.082	107	79117	993.02	ng/ml	98
18) Hexachloroethane	7.194	201	27479	1057.26	ng/ml	93
20) Nitrobenzene	7.247	77	80915	922.61	ng/ml	94
22) Isophorone	7.483	82	171349	1044.65	ng/ml	95
23) 2-Nitrophenol	7.568	139	46713	1109.25	ng/ml	93
24) 2,4-Dimethylphenol	7.601	122	64853	987.16	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.686	93	99442	1017.85	ng/ml	98
26) Benzoic acid	7.702	105	50958	2053.05	ng/ml	96
27) 2,4-Dichlorophenol	7.809	162	60602	1102.81	ng/ml	97
28) 1,2,4-Trichlorobenzene	7.889	180	71884	1036.67	ng/ml	99
29) Naphthalene	7.970	128	223784	1015.89	ng/ml	98
30) 4-Chloroaniline	8.023	127	54929	923.06	ng/ml	95
31) Hexachlorobutadiene	8.098	225	37710	1081.09	ng/ml	99
32) 4-Chloro-3-methylphenol	8.499	107	67175	1063.65	ng/ml	97
33) 2-Methylnaphthalene	8.660	142	177506	1093.27	ng/ml	98
34) 1-Methylnaphthalene	8.761	142	163988	1064.48	ng/ml	98
36) Hexachlorocyclopentadiene	8.831	237	35605	1123.95	ng/ml	97
37) 2,4,6-Trichlorophenol	8.943	196	44187	1077.06	ng/ml	98
38) 2,4,5-Trichlorophenol	8.986	198	43264	1089.29	ng/ml	98
39) 1,1'-Biphenyl	9.125	154	203941	1060.08	ng/ml	99
41) 2-Chloronaphthalene	9.152	162	147432	1053.45	ng/ml	96
42) 2-Nitroaniline	9.248	138	50581	1103.22	ng/ml	90
43) 2,6-Dimethylnaphthalene	9.285	156	149204	1080.78	ng/ml	95

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9

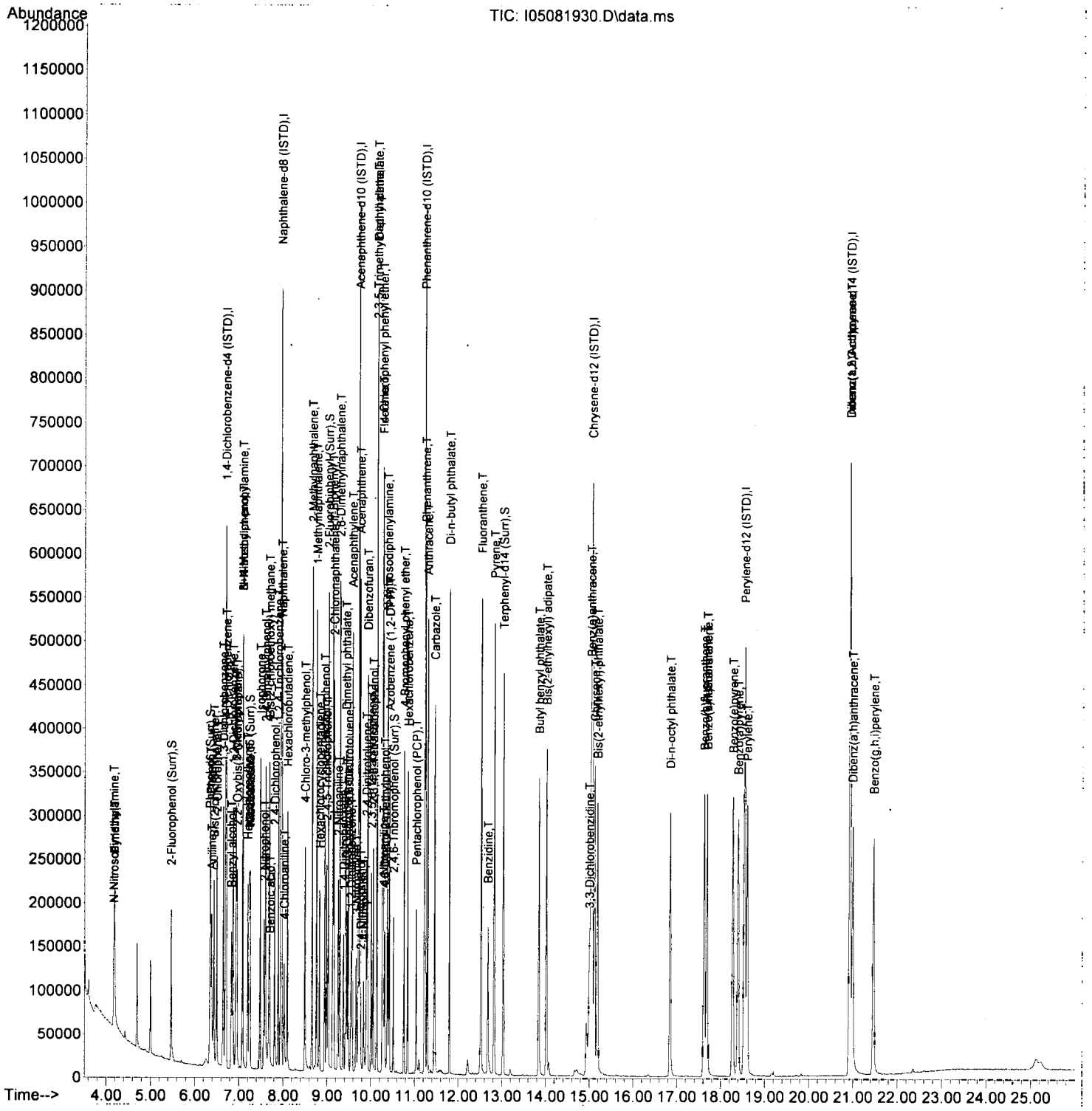
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.376	168	24100	1150.84	ng/ml	79
45) Dimethyl phthalate	9.430	163	169073	1064.38	ng/ml	100
46) 1,3-Dinitrobenzene	9.456	168	28035	1146.14	ng/ml	91
47) 2,6-Dinitrotoluene	9.489	165	40105	1158.80	ng/ml	80
48) 1,2-Dinitrobenzene	9.547	168	18904	1081.60	ng/ml	77
49) Acenaphthylene	9.574	152	245169	1108.43	ng/ml	99
50) 3-Nitroaniline	9.665	138	32303	1059.76	ng/ml	95
51) Acenaphthene	9.751	153	147329	1054.13	ng/ml	99
52) 2,4-Dinitrophenol	9.767	184	11258	1250.76	ng/ml	90
53) 4-Nitrophenol	9.836	139	26562	1064.89	ng/ml	86
54) 2,4-Dinitrotoluene	9.895	165	50566	1097.56	ng/ml	87
55) Dibenzofuran	9.922	168	207368	1077.84	ng/ml	94
56) 2,3,5,6-Tetrachlorophenol	10.007	232	35153	1136.16	ng/ml	87
57) 2,3,4,6-Tetrachlorophenol	10.050	232	37583	1140.48	ng/ml	86
58) Diethyl phthalate	10.136	149	155688	1047.10	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.130	170	135406	1060.91	ng/ml	99
60) Fluorene	10.269	166	163155	1041.47	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.264	204	79372	1078.87	ng/ml	84
62) 4-Nitroaniline	10.286	138	39138	1152.06	ng/ml	90
63) 4,6-Dinitro-2-methylph...	10.312	198	23959	1498.70	ng/ml	81
65) N-Nitrosodiphenylamine	10.382	169	139086	1052.37	ng/ml	98
66) Azobenzene (1,2-DPH)	10.425	77	159312	962.39	ng/ml	85
68) 4-Bromophenyl phenyl e...	10.756	248	50774	1160.53	ng/ml	89
69) Hexachlorobenzene	10.842	284	53277	1147.59	ng/ml	91
70) Pentachlorophenol (PCP)	11.034	266	24081	1220.08	ng/ml	95
71) Phenanthrene	11.248	178	232643	1036.54	ng/ml	99
72) Anthracene	11.296	178	237192	1095.01	ng/ml	98
73) Carbazole	11.457	167	219325	1054.27	ng/ml	98
74) Di-n-butyl phthalate	11.794	149	282307	1084.43	ng/ml	99
75) Fluoranthene	12.527	202	288406	1158.21	ng/ml	96
76) Benzidine	12.676	184	99508	1770.57	ng/ml	98
77) Pyrene	12.821	202	286022	1134.69	ng/ml	100
80) Butyl benzyl phthalate	13.842	149	126879	976.97	ng/ml	90
81) Bis(2-ethylhexyl) adipate	14.014	129	113335	947.01	ng/ml	98
82) 3,3-Dichlorobenzidine	14.992	252	62301	2467.19	ng/ml	97
83) Benz(a)anthracene	15.030	228	262028	1060.19	ng/ml	99
84) Chrysene	15.115	228	231406	1005.17	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.180	149	161392	975.08	ng/ml	95
87) Di-n-octyl phthalate	16.843	149	287021	1041.82	ng/ml	98
88) Benzo(b)fluoranthene	17.619	252	267547	1081.70	ng/ml	96
89) Benzo(k)fluoranthene	17.688	252	258374	1063.39	ng/ml	96
90) Benzo(b+k)fluoranthene	17.688	252	537352	2135.29	ng/ml	96
91) Benzo(e)pyrene	18.276	252	259061	1115.09	ng/ml	97
92) Benzo(a)pyrene	18.394	252	240398	1099.22	ng/ml	96
93) Perylene	18.597	252	240296	1146.64	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.924	276	215601	957.51	ng/ml	96
96) Dibenz(a,h)anthracene	20.988	278	198191	1045.97	ng/ml	93
97) Benzo(g,h,i)perylene	21.464	276	225482	1068.95	ng/ml	90

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

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 11:03:38 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 11:01:22 2019
Response via : Initial Calibration
InstName : SV-GCMS9



Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Final Reqmant

JK 5/9/19

Quant Time: May 09 17:11:47 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.697	152	116606	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	7.948	136	444228	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.719	162	227633	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.227	188	432433	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.057	240	431821	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.544	264	409331	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	20.924	292	397711	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.466	112	77339	1015.00	ng/ml	0.00
5) Phenol-d6 (Surr)	6.338	99	99468	1003.19	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.231	82	81052	982.98	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.023	172	184294	1079.79	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.516	330	21607	1085.76	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.024	244	220750	1043.19	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.167	74	57086	979.66	ng/ml	98
3) Pyridine	4.183	79	83967	944.02	ng/ml	97
6) Phenol	6.354	94	111298	1055.46	ng/ml	98
7) Aniline	6.381	93	91216	1016.54	ng/ml	94
8) Bis(2-chloroethyl) ether	6.434	93	92166	1038.53	ng/ml	98
9) 2-Chlorophenol	6.499	128	81865	1028.05	ng/ml	95
10) 1,3-Dichlorobenzene	6.643	146	90060	988.80	ng/ml	96
11) 1,4-Dichlorobenzene	6.713	146	85768	1008.15	ng/ml	97
12) Benzyl alcohol	6.825	108	42923	966.03	ng/ml	95
13) 1,2-Dichlorobenzene	6.862	146	83881	1021.90	ng/ml	97
14) 2-Methylphenol	6.932	107	62992	1042.89	ng/ml	97
15) 2,2'-Oxybis(1-Chloropr...	6.953	45	106577	986.01	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.082	70	62598	1034.02	ng/ml	94
17) 3+4-Methylphenol	7.082	107	79117	1053.45	ng/ml	98
18) Hexachloroethane	7.194	201	27479	1002.57	ng/ml	93
20) Nitrobenzene	7.247	77	80915	997.64	ng/ml	94
22) Isophorone	7.483	82	171349	1041.61	ng/ml	95
23) 2-Nitrophenol	7.568	139	46713	1112.08	ng/ml	93
24) 2,4-Dimethylphenol	7.601	122	64853	1029.02	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.686	93	99442	1029.92	ng/ml	98
26) Benzoic acid	7.702	105	50958	1883.74	ng/ml	96
27) 2,4-Dichlorophenol	7.809	162	60602	1034.81	ng/ml	97
28) 1,2,4-Trichlorobenzene	7.889	180	71884	1012.20	ng/ml	99
29) Naphthalene	7.970	128	223784	1010.00	ng/ml	98
30) 4-Chloroaniline	8.023	127	54929	967.40	ng/ml	95
31) Hexachlorobutadiene	8.098	225	37710	1022.65	ng/ml	99
32) 4-Chloro-3-methylphenol	8.499	107	67175	1007.28	ng/ml	97
33) 2-Methylnaphthalene	8.660	142	177506	1061.90	ng/ml	98
34) 1-Methylnaphthalene	8.761	142	163988	1041.62	ng/ml	98
36) Hexachlorocyclopentadiene	8.831	237	35605	1071.82	ng/ml	97
37) 2,4,6-Trichlorophenol	8.943	196	44187	1042.93	ng/ml	98
38) 2,4,5-Trichlorophenol	8.986	198	43264	1087.06	ng/ml	98
39) 1,1'-Biphenyl	9.125	154	203941	1072.17	ng/ml	99
41) 2-Chloronaphthalene	9.152	162	147432	1075.71	ng/ml	96
42) 2-Nitroaniline	9.248	138	50581	1099.89	ng/ml	90
43) 2,6-Dimethylnaphthalene	9.285	156	149204	1064.53	ng/ml	95

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 17:11:47 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9

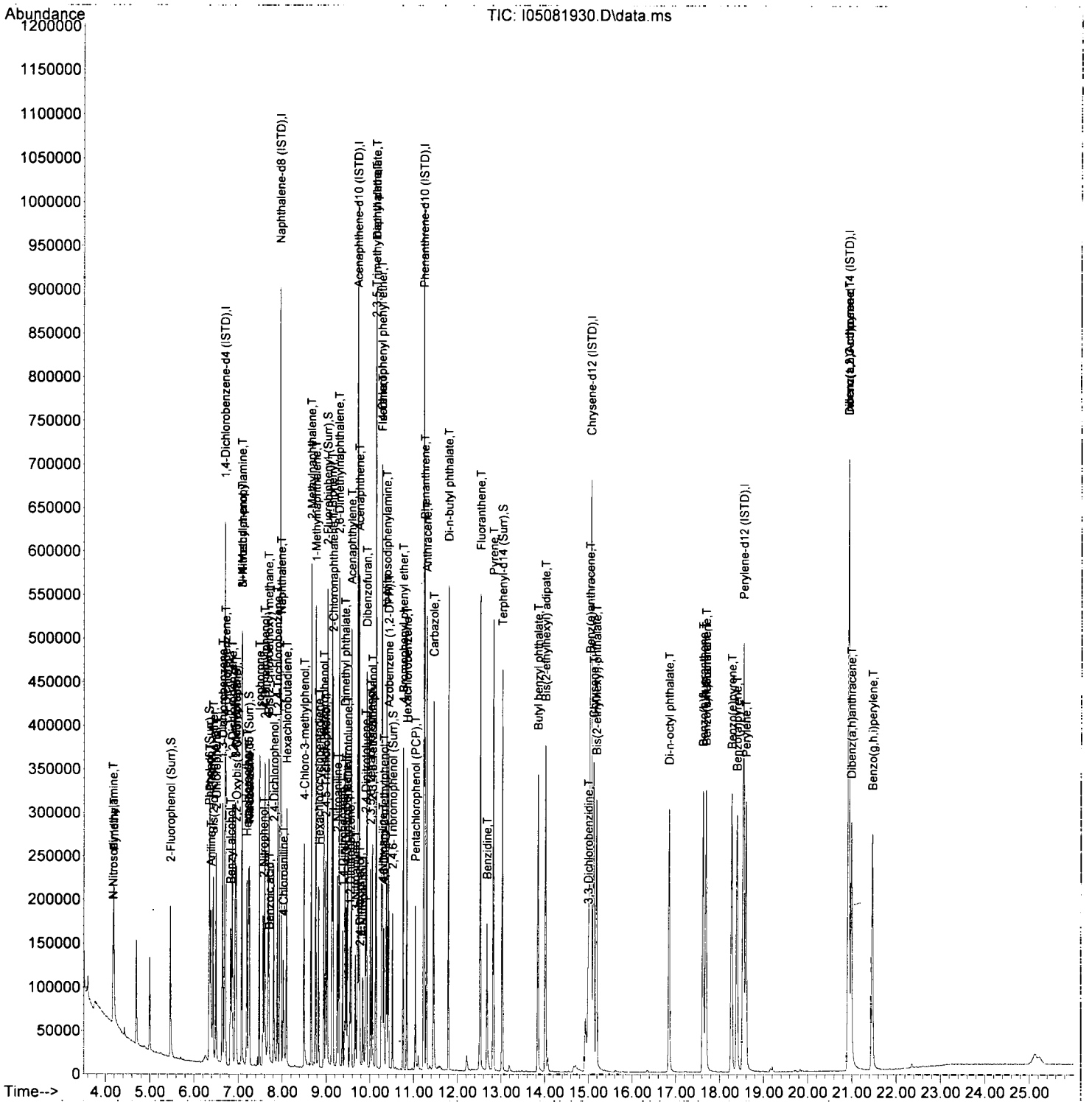
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.376	168	24100	1073.01	ng/ml	79
45) Dimethyl phthalate	9.430	163	169073	1061.69	ng/ml	100
46) 1,3-Dinitrobenzene	9.456	168	28035	1096.25	ng/ml	91
47) 2,6-Dinitrotoluene	9.489	165	40105	1126.25	ng/ml	80
48) 1,2-Dinitrobenzene	9.547	168	18904	1070.35	ng/ml	77
49) Acenaphthylene	9.574	152	245169	1088.77	ng/ml	99
50) 3-Nitroaniline	9.665	138	32303	1148.36	ng/ml	95
51) Acenaphthene	9.751	153	147329	1038.58	ng/ml	99
52) 2,4-Dinitrophenol	9.767	184	11258	946.80	ng/ml	90
53) 4-Nitrophenol	9.836	139	26562	1034.68	ng/ml	86
54) 2,4-Dinitrotoluene	9.895	165	50566	1028.34	ng/ml	87
55) Dibenzofuran	9.922	168	207368	1074.20	ng/ml	94
56) 2,3,5,6-Tetrachlorophenol	10.007	232	35153	1036.22	ng/ml	87
57) 2,3,4,6-Tetrachlorophenol	10.050	232	37583	1057.55	ng/ml	86
58) Diethyl phthalate	10.136	149	155688	1008.93	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.130	170	135406	979.82	ng/ml	99
60) Fluorene	10.269	166	163155	980.70	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.264	204	79372	1021.18	ng/ml	84
62) 4-Nitroaniline	10.286	138	39138	1148.14	ng/ml	90
63) 4,6-Dinitro-2-methylph...	10.312	198	23959	1164.44	ng/ml	81
65) N-Nitrosodiphenylamine	10.382	169	139086	1041.34	ng/ml	98
66) Azobenzene (1,2-DPH)	10.425	77	159312	1062.75	ng/ml	85
68) 4-Bromophenyl phenyl e...	10.756	248	50774	1067.93	ng/ml	89
69) Hexachlorobenzene	10.842	284	53277	1008.79	ng/ml	91
70) Pentachlorophenol (PCP)	11.034	266	24081	1037.90	ng/ml	95
71) Phenanthrene	11.248	178	232643	1007.11	ng/ml	99
72) Anthracene	11.296	178	237192	1026.92	ng/ml	98
73) Carbazole	11.457	167	219325	1083.50	ng/ml	98
74) Di-n-butyl phthalate	11.794	149	282307	1076.33	ng/ml	99
75) Fluoranthene	12.527	202	288406	1068.46	ng/ml	96
76) Benzidine	12.676	184	99508	1732.76	ng/ml	98
77) Pyrene	12.821	202	286022	1041.22	ng/ml	100
80) Butyl benzyl phthalate	13.842	149	126879	1062.30	ng/ml	90
81) Bis(2-ethylhexyl) adipate	14.014	129	113335	995.63	ng/ml	98
82) 3,3-Dichlorobenzidine	14.992	252	62301	2074.49	ng/ml	97
83) Benz(a)anthracene	15.030	228	262028	1044.68	ng/ml	99
84) Chrysene	15.115	228	231406	1000.05	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.180	149	161392	1060.07	ng/ml	95
87) Di-n-octyl phthalate	16.843	149	287021	1012.79	ng/ml	98
88) Benzo(b)fluoranthene	17.619	252	267547	1035.11	ng/ml	96
89) Benzo(k)fluoranthene	17.688	252	258374	1008.99	ng/ml	96
90) Benzo(b+k)fluoranthene	17.688	252	537352	2026.95	ng/ml	96
91) Benzo(e)pyrene	18.276	252	259061	1058.50	ng/ml	97
92) Benzo(a)pyrene	18.394	252	240398	1026.25	ng/ml	96
93) Perylene	18.597	252	240296	1159.57	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	20.924	276	215601	987.22	ng/ml	96
96) Dibenz(a,h)anthracene	20.988	278	198191	1027.94	ng/ml	93
97) Benzo(g,h,i)perylene	21.464	276	225482	1055.89	ng/ml	90

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

Quantitation Report (Not Reviewed)

Data Path : T:\data\2019-05\9E08056\
Data File : I05081930.D
Acq On : 9 May 2019 2:48 am
Operator : JK /AMS /DTH
Sample : 9E08056-ICV1
Misc : 1x, A19C239 BNA@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV9_AQUISITION.M

Quant Time: May 09 17:11:47 2019
Quant Method : T:\methods\SV9_050819.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu May 09 12:25:58 2019
Response via : Initial Calibration
InstName : SV-GCMS9



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 9051056

Sequence 9E20036

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

9051056

Apex Laboratories

BATCH #: 9051056 (Solid)

Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9051056-BLK1	---	**05/20/19 13:59**	**0.52**	**50**	*QC Sample*		
9051056-BS1	---	**05/20/19 13:59**	**0.5**	**50**	*QC Sample*		
Spike 1: **5000 uL of A19E038** Spike 2: **500 uL of A19D229**							
A9E0582-01	*05/23/19*	**05/20/19 13:59**	~~0.5~~ .462	**50**	**Hahn and Associates**	**2708-190515-005**	expedited 5/20
☐ 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							
9051056-DUP1	---	**05/20/19 13:59**	~~0.5~~ .463	**50**	*QC Sample*		
Source: **A9E0582-01**							
9051056-MS1	---	**05/20/19 13:59**	~~0.5~~ .511	**50**	*QC Sample*		
Source: **A9E0582-01** Spike 1: **5000 uL of A19E038** Spike 2: **500 uL of A19D229**							

MJG 5/20/19

A) A19E033 ~~250 µL~~ 2500 µL
B) A19D335 ~~125 µL~~ 1250 µL
C) A19D334 ~~125 µL~~ 1250 µL

MJG 5/20/19

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 5/20/19

Std ID	Exp. Date	Description
A19D229	10/13/19	Hg Spiking Standard
A19E038	05/31/19	**Combo Spike** A+B+C

Digestion time and temperature achieved?
Initials: MJG I witnessed temp.

MJG 5/20/19
Prepared By: Date

James A Johnson 05/22/19
Reviewed By: Date

Batch #: 9051056

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: 05/20/19 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	557	9051056-BLK1	184.85	184.85	n/a
2	523	9051056-BS1	184.02	184.01	n/a
3	532A	A9E0582-01	185.32	185.32	n/a
4	575	9051056-DUP1	183.93	183.93	n/a
5	527	9051056-MS1	185.04	185.04	n/a
6					n/a
7					n/a
8					n/a
9					n/a
10					n/a
11					n/a
12					n/a
13					n/a
14					n/a
15					n/a
16					n/a
17					n/a
18					n/a
19					n/a
20					n/a
21					n/a
22					n/a
23					n/a
24					n/a
25					n/a

*Example Calculation: (Pre(g) – Post(g))/(Post(g) – 159.32g) This represents the mean weight of the empty digestion vessels. By factoring in the mean digestion vessel weight, we observe weight loss from only the sample, rather than as a percentage of the sample+vessel weight.

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9E22036** Instrument: **ICPMS5**

Date: **05/22/19 10:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E22036-CAL1	Water	QC	QC			A19C136	A19D348
2	9E22036-CAL2	Water	QC	QC			A19C136	A19D349
3	9E22036-CAL3	Water	QC	QC			A19C136	A19D350
4	9E22036-CAL4	Water	QC	QC			A19C136	A19D351
5	9E22036-CAL5	Water	QC	QC			A19C136	A19E083
6	9E22036-CAL6	Water	QC	QC			A19C136	A19D352
7	9E22036-CAL7	Water	QC	QC			A19C136	A19E082
8	9E22036-CAL8	Water	QC	QC			A19C136	A19D321
9	9E22036-CAL9	Water	QC	QC			A19C136	A19E164
10	9E22036-ICV1	Water	QC	QC			A19C136	A19E109
11	9E22036-ICB1	Water	QC	QC			A19C136	
12	9E22036-CRL1	Water	QC	QC			A19C136	A19D348
13	9E22036-CRL2	Water	QC	QC			A19C136	A19D349
14	9E22036-CRL3	Water	QC	QC			A19C136	A19D350
15	9E22036-IFA1	Water	QC	QC			A19C136	A19E234
16	9E22036-IFB1	Water	QC	QC			A19C136	A19E235
17	9051130-BLK1	Water	QC	QC		9051130	A19C136	
18	9051130-BS1	Water	QC	QC		9051130	A19C136	
19	A9E0704-01	Water	Cu (Copper) - 200.8 - Total		05/22/19	9051130	A19C136	
20	"	Water	Pb (Lead) - 200.8 - Total	"	05/22/19	9051130	A19C136	
21	"	Water	Zn (Zinc) - 200.8 - Total	"	05/22/19	9051130	A19C136	
22	9051130-DUP1	Water	QC	QC		9051130	A19C136	
23	9051130-MS1	Water	QC	QC		9051130	A19C136	
24	9051144-BLK1	Solid	QC	QC		9051144	A19C136	
25	9051144-BS1	Solid	QC	QC		9051144	A19C136	
26	A9E0682-01	Solid	Ag (Silver) - 6020 - TCLP		05/22/19	9051144	A19C136	
27	"	Solid	As (Arsenic) - 6020 - TCLP	"	05/22/19	9051144	A19C136	
28	"	Solid	Ba (Barium) - 6020 - TCLP	"	05/22/19	9051144	A19C136	
29	"	Solid	Cd (Cadmium) - 6020 - TCLP	"	05/22/19	9051144	A19C136	
30	"	Solid	Cr (Chromium) - 6020 - TCLP	"	05/22/19	9051144	A19C136	
31	"	Solid	Hg (Mercury) - 6020 - TCLP	"	05/22/19	9051144	A19C136	
32	"	Solid	Pb (Lead) - 6020 - TCLP	"	05/22/19	9051144	A19C136	
33	"	Solid	Se (Selenium) - 6020 - TCLP	"	05/22/19	9051144	A19C136	
34	9051144-MS2	Solid	QC	QC		9051144	A19C136	
35	A9E0574-01	Solid	Pb (Lead) - 6020 - TCLP		05/22/19	9051144	A19C136	
36	9E22036-CCV1	Water	QC	QC			A19C136	A19E109
37	9E22036-CCB1	Water	QC	QC			A19C136	
38	9E22036-CRL4	Water	QC	QC			A19C136	A19D348
39	9E22036-CRL5	Water	QC	QC			A19C136	A19D349
40	9E22036-CRL6	Water	QC	QC			A19C136	A19D350
41	A9E0453-02	Solid	Ag (Silver) - 6020 - TCLP		05/24/19	9051144	A19C136	
42	"	Solid	As (Arsenic) - 6020 - TCLP		05/24/19	9051144	A19C136	
43	"	Solid	Ba (Barium) - 6020 - TCLP		05/24/19	9051144	A19C136	
44	"	Solid	Cd (Cadmium) - 6020 - TCLP		05/24/19	9051144	A19C136	
45	"	Solid	Cr (Chromium) - 6020 - TCLP		05/24/19	9051144	A19C136	
46	"	Solid	Hg (Mercury) - 6020 - TCLP		05/24/19	9051144	A19C136	
47	"	Solid	Pb (Lead) - 6020 - TCLP		05/24/19	9051144	A19C136	
48	"	Solid	Se (Selenium) - 6020 - TCLP		05/24/19	9051144	A19C136	
49	A9E0453-06	Solid	Ag (Silver) - 6020 - TCLP		05/24/19	9051144	A19C136	
50	"	Solid	As (Arsenic) - 6020 - TCLP		05/24/19	9051144	A19C136	
51	"	Solid	Ba (Barium) - 6020 - TCLP		05/24/19	9051144	A19C136	

Sequence: **9E22036** Instrument: **ICPMS5**

Date: **05/22/19 10:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
52	"	Solid	Cd (Cadmium) - 6020 - TCLP		05/24/19	9051144	A19C136	
53	"	Solid	Cr (Chromium) - 6020 - TCLP		05/24/19	9051144	A19C136	
54	"	Solid	Hg (Mercury) - 6020 - TCLP		05/24/19	9051144	A19C136	
55	"	Solid	Pb (Lead) - 6020 - TCLP		05/24/19	9051144	A19C136	
56	"	Solid	Se (Selenium) - 6020 - TCLP		05/24/19	9051144	A19C136	
57	A9E0670-05	Solid	Ag (Silver) - 6020 - TCLP		05/24/19	9051144	A19C136	
58	"	Solid	As (Arsenic) - 6020 - TCLP		05/24/19	9051144	A19C136	
59	"	Solid	Ba (Barium) - 6020 - TCLP		05/24/19	9051144	A19C136	
60	"	Solid	Cd (Cadmium) - 6020 - TCLP		05/24/19	9051144	A19C136	
61	"	Solid	Cr (Chromium) - 6020 - TCLP		05/24/19	9051144	A19C136	
62	"	Solid	Hg (Mercury) - 6020 - TCLP		05/24/19	9051144	A19C136	
63	"	Solid	Pb (Lead) - 6020 - TCLP		05/24/19	9051144	A19C136	
64	"	Solid	Se (Selenium) - 6020 - TCLP		05/24/19	9051144	A19C136	
65	9051144-MS1	Solid	QC	QC		9051144	A19C136	
66	9051146-BLK1	Solid	QC	QC		9051146	A19C136	
67	9051146-BS1	Solid	QC	QC		9051146	A19C136	
68	A9E0453-04	Solid	Ag (Silver) - 6020 - TCLP		05/24/19	9051146	A19C136	
69	"	Solid	As (Arsenic) - 6020 - TCLP		05/24/19	9051146	A19C136	
70	"	Solid	Ba (Barium) - 6020 - TCLP		05/24/19	9051146	A19C136	
71	"	Solid	Cd (Cadmium) - 6020 - TCLP		05/24/19	9051146	A19C136	
72	"	Solid	Cr (Chromium) - 6020 - TCLP		05/24/19	9051146	A19C136	
73	"	Solid	Hg (Mercury) - 6020 - TCLP		05/24/19	9051146	A19C136	
74	"	Solid	Pb (Lead) - 6020 - TCLP		05/24/19	9051146	A19C136	
75	"	Solid	Se (Selenium) - 6020 - TCLP		05/24/19	9051146	A19C136	
76	9051146-MS1	Solid	QC	QC		9051146	A19C136	
77	9051132-BLK1	Soil	QC	QC		9051132	A19C136	
78	9051132-BS1	Soil	QC	QC		9051132	A19C136	
79	9E22036-CCV2	Water	QC	QC			A19C136	A19E109
80	9E22036-CCB2	Water	QC	QC			A19C136	
81	A9E0401-12	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
82	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
83	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
84	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
85	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
86	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
87	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
88	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
89	A9E0401-16	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
90	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
91	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
92	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
93	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
94	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
95	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
96	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
97	A9E0401-17	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
98	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
99	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
100	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
101	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
102	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
103	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
104	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
105	A9E0401-18	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
106	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	

Sequence: **9E22036** Instrument: **ICPMS5**

Date: **05/22/19 10:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
107	"	Soil	Ba (Barium) - 6020 - Total	"	05/24/19	9051132	A19C136	
108	"	Soil	Cd (Cadmium) - 6020 - Total	"	05/24/19	9051132	A19C136	
109	"	Soil	Cr (Chromium) - 6020 - Total	"	05/24/19	9051132	A19C136	
110	"	Soil	Hg (Mercury) - 6020 - Total	"	05/24/19	9051132	A19C136	
111	"	Soil	Pb (Lead) - 6020 - Total	"	05/24/19	9051132	A19C136	
112	"	Soil	Se (Selenium) - 6020 - Total	"	05/24/19	9051132	A19C136	
113	9051132-DUP1	Soil	QC	QC		9051132	A19C136	
114	9051132-MS1	Soil	QC	QC		9051132	A19C136	
115	A9E0401-19	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
116	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
117	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
118	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
119	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
120	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
121	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
122	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
123	A9E0401-20	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
124	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
125	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
126	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
127	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
128	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
129	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
130	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
131	A9E0401-21	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
132	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
133	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
134	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
135	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
136	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
137	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
138	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
139	A9E0401-22	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
140	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
141	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
142	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
143	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
144	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
145	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
146	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
147	9E22036-CCV3	Water	QC	QC			A19C136	A19E109
148	9E22036-CCB3	Water	QC	QC			A19C136	
149	A9E0401-23	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
150	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
151	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
152	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
153	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
154	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
155	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
156	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
157	A9E0401-24	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
158	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
159	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
160	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
161	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
162	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
163	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
164	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
165	A9E0401-25	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
166	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
167	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
168	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
169	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
170	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
171	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
172	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
173	A9E0401-26	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
174	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
175	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
176	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
177	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
178	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
179	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
180	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
181	A9E0401-27	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
182	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
183	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
184	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
185	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
186	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
187	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
188	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
189	A9E0401-28	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
190	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
191	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
192	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
193	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
194	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
195	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
196	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
197	A9E0401-29	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
198	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
199	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
200	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
201	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
202	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
203	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
204	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
205	A9E0401-31	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
206	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
207	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
208	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	
209	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051132	A19C136	
210	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051132	A19C136	
211	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051132	A19C136	
212	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051132	A19C136	
213	A9E0401-33	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
214	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051132	A19C136	
215	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051132	A19C136	
216	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051132	A19C136	

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
217	"	Soil	Cr (Chromium) - 6020 - Total	"	05/24/19	9051132	A19C136	
218	"	Soil	Hg (Mercury) - 6020 - Total	"	05/24/19	9051132	A19C136	
219	"	Soil	Pb (Lead) - 6020 - Total	"	05/24/19	9051132	A19C136	
220	"	Soil	Se (Selenium) - 6020 - Total	"	05/24/19	9051132	A19C136	
221	A9E0401-34	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
222	"	Soil	As (Arsenic) - 6020 - Total	"	05/24/19	9051132	A19C136	
223	"	Soil	Ba (Barium) - 6020 - Total	"	05/24/19	9051132	A19C136	
224	"	Soil	Cd (Cadmium) - 6020 - Total	"	05/24/19	9051132	A19C136	
225	"	Soil	Cr (Chromium) - 6020 - Total	"	05/24/19	9051132	A19C136	
226	"	Soil	Hg (Mercury) - 6020 - Total	"	05/24/19	9051132	A19C136	
227	"	Soil	Pb (Lead) - 6020 - Total	"	05/24/19	9051132	A19C136	
228	"	Soil	Se (Selenium) - 6020 - Total	"	05/24/19	9051132	A19C136	
229	9E22036-CCV4	Water	QC	QC			A19C136	A19E109
230	9E22036-CCB4	Water	QC	QC			A19C136	
231	9E22036-CRL7	Water	QC	QC			A19C136	A19D348
232	9E22036-CRL8	Water	QC	QC			A19C136	A19D349
233	9E22036-CRL9	Water	QC	QC			A19C136	A19D350
234	A9E0401-36	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051132	A19C136	
235	"	Soil	As (Arsenic) - 6020 - Total	"	05/24/19	9051132	A19C136	
236	"	Soil	Ba (Barium) - 6020 - Total	"	05/24/19	9051132	A19C136	
237	"	Soil	Cd (Cadmium) - 6020 - Total	"	05/24/19	9051132	A19C136	
238	"	Soil	Cr (Chromium) - 6020 - Total	"	05/24/19	9051132	A19C136	
239	"	Soil	Hg (Mercury) - 6020 - Total	"	05/24/19	9051132	A19C136	
240	"	Soil	Pb (Lead) - 6020 - Total	"	05/24/19	9051132	A19C136	
241	"	Soil	Se (Selenium) - 6020 - Total	"	05/24/19	9051132	A19C136	
242	9051132-MS2	Soil	QC	QC		9051132	A19C136	
243	9051056-BLK2	Solid	QC	QC		9051056	A19C136	
244	9051056-BS2	Solid	QC	QC		9051056	A19C136	
245	A9E0582-01RE1	Solid	Ag (Silver) - 6020 - Total	Hahn and Associates	05/23/19	9051056	A19C136	
246	"	Solid	Al (Aluminum) - 6020 - Total	"	05/23/19	9051056	A19C136	
247	"	Solid	As (Arsenic) - 6020 - Total	"	05/23/19	9051056	A19C136	
248	"	Solid	Ba (Barium) - 6020 - Total	"	05/23/19	9051056	A19C136	
249	"	Solid	Be (Beryllium) - 6020 - Total	"	05/23/19	9051056	A19C136	
250	"	Solid	Ca (Calcium) - 6020 - Total	"	05/23/19	9051056	A19C136	
251	"	Solid	Cd (Cadmium) - 6020 - Total	"	05/23/19	9051056	A19C136	
252	"	Solid	Cr (Chromium) - 6020 - Total	"	05/23/19	9051056	A19C136	
253	"	Solid	Cu (Copper) - 6020 - Total	"	05/23/19	9051056	A19C136	
254	"	Solid	Fe (Iron) - 6020 - Total	"	05/23/19	9051056	A19C136	
255	"	Solid	Hg (Mercury) - 6020 - Total	"	05/23/19	9051056	A19C136	
256	"	Solid	K (Potassium) - 6020 - Total	"	05/23/19	9051056	A19C136	
257	"	Solid	Mg (Magnesium) - 6020 - Total	"	05/23/19	9051056	A19C136	
258	"	Solid	Mn (Manganese) - 6020 - Total	"	05/23/19	9051056	A19C136	
259	"	Solid	Na (Sodium) - 6020 - Total	"	05/23/19	9051056	A19C136	
260	"	Solid	Ni (Nickel) - 6020 - Total	"	05/23/19	9051056	A19C136	
261	"	Solid	Pb (Lead) - 6020 - Total	"	05/23/19	9051056	A19C136	
262	"	Solid	Sb (Antimony) - 6020 - Total	"	05/23/19	9051056	A19C136	
263	"	Solid	Se (Selenium) - 6020 - Total	"	05/23/19	9051056	A19C136	
264	"	Solid	Tl (Thallium) - 6020 - Total	"	05/23/19	9051056	A19C136	
265	"	Solid	V (Vanadium) - 6020 - Total	"	05/23/19	9051056	A19C136	
266	"	Solid	Zn (Zinc) - 6020 - Total	"	05/23/19	9051056	A19C136	
267	9051056-DUP2	Solid	QC	QC		9051056	A19C136	
268	9051056-MS2	Solid	QC	QC		9051056	A19C136	
269	9051151-BLK1	Soil	QC	QC		9051151	A19C136	
270	9E22036-CCV5	Water	QC	QC			A19C136	A19E109
271	9E22036-CCB5	Water	QC	QC			A19C136	

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
272	9051151-BS1	Soil	QC	QC		9051151	A19C136	
273	A9E0401-37	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
274	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
275	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
276	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
277	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
278	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
279	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
280	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
281	A9E0401-38	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
282	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
283	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
284	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
285	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
286	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
287	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
288	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
289	A9E0401-40	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
290	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
291	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
292	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
293	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
294	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
295	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
296	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
297	A9E0401-41	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
298	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
299	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
300	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
301	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
302	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
303	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
304	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
305	9051151-DUP1	Soil	QC	QC		9051151	A19C136	
306	9051151-MS1	Soil	QC	QC		9051151	A19C136	
307	A9E0401-42	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
308	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
309	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
310	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
311	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
312	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
313	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
314	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
315	A9E0401-44	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
316	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
317	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
318	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
319	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
320	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
321	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
322	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
323	A9E0401-46	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
324	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
325	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
326	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	

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#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
327	"	Soil	Cr (Chromium) - 6020 - Total	"	05/24/19	9051151	A19C136	
328	"	Soil	Hg (Mercury) - 6020 - Total	"	05/24/19	9051151	A19C136	
329	"	Soil	Pb (Lead) - 6020 - Total	"	05/24/19	9051151	A19C136	
330	"	Soil	Se (Selenium) - 6020 - Total	"	05/24/19	9051151	A19C136	
331	9E22036-CCV6	Water	QC	QC			A19C136	A19E109
332	9E22036-CCB6	Water	QC	QC			A19C136	
333	A9E0401-48	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
334	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
335	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
336	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
337	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
338	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
339	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
340	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
341	A9E0401-49	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
342	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
343	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
344	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
345	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
346	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
347	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
348	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
349	A9E0401-52	Soil	Ag (Silver) - 6020 - Total		05/24/19	9051151	A19C136	
350	"	Soil	As (Arsenic) - 6020 - Total		05/24/19	9051151	A19C136	
351	"	Soil	Ba (Barium) - 6020 - Total		05/24/19	9051151	A19C136	
352	"	Soil	Cd (Cadmium) - 6020 - Total		05/24/19	9051151	A19C136	
353	"	Soil	Cr (Chromium) - 6020 - Total		05/24/19	9051151	A19C136	
354	"	Soil	Hg (Mercury) - 6020 - Total		05/24/19	9051151	A19C136	
355	"	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
356	"	Soil	Se (Selenium) - 6020 - Total		05/24/19	9051151	A19C136	
357	A9E0575-06	Soil	Pb (Lead) - 6020 - Total		05/24/19	9051151	A19C136	
358	A9E0575-07	Soil	Ag (Silver) - 6020 - Total	(QC Source)		9051151	A19C136	
359	"	Soil	As (Arsenic) - 6020 - Total	(QC Source)		9051151	A19C136	
360	"	Soil	Ba (Barium) - 6020 - Total	(QC Source)		9051151	A19C136	
361	"	Soil	Cd (Cadmium) - 6020 - Total	(QC Source)		9051151	A19C136	
362	"	Soil	Cr (Chromium) - 6020 - Total	(QC Source)		9051151	A19C136	
363	"	Soil	Hg (Mercury) - 6020 - Total	(QC Source)		9051151	A19C136	
364	"	Soil	Pb (Lead) - 6020 - Total	"	05/24/19	9051151	A19C136	
365	"	Soil	Se (Selenium) - 6020 - Total	(QC Source)		9051151	A19C136	
366	9051151-MS2	Soil	QC	QC		9051151	A19C136	
367	9E22036-CCV7	Water	QC	QC			A19D189	A19E109
368	9E22036-CCB7	Water	QC	QC			A19D189	
369	9E22036-CRLA	Water	QC	QC			A19C136	A19D348
370	9E22036-CRLB	Water	QC	QC			A19C136	A19D349
371	9E22036-CRLC	Water	QC	QC			A19C136	A19D350
372	9E22036-CRLD	Water	QC	QC			A19C136	A19D351
373	9051057-BLK2	Paint Chip	QC	QC		9051057	A19C136	
374	9051057-BS2	Paint Chip	QC	QC		9051057	A19C136	
375	A9E0370-01RE1	Paint Chip	Ag (Silver) - 6020 - Total		05/23/19	9051057	A19C136	
376	"	Paint Chip	Cu (Copper) - 6020 - Total	"	05/23/19	9051057	A19C136	
377	"	Paint Chip	Zn (Zinc) - 6020 - Total	"	05/23/19	9051057	A19C136	
378	9051057-DUP2	Paint Chip	QC	QC		9051057	A19C136	
379	9051057-MS2	Paint Chip	QC	QC		9051057	A19C136	
380	A9E0370-01RE2	Paint Chip	Cu (Copper) - 6020 - Total		05/23/19	9051057	A19C136	
381	9051057-DUP3	Paint Chip	QC	QC		9051057	A19C136	

Sequence: **9E22036** Instrument: **ICPMS5**

Date: **05/22/19 10:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
382	9051057-MS3	Paint Chip	QC	QC		9051057	A19C136	
383	A9E0513-03RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
384	9051081-MS3	Water	QC	QC		9051081	A19C136	
385	9E22036-CCV8	Water	QC	QC			A19C136	A19E109
386	9E22036-CCB8	Water	QC	QC			A19C136	
387	A9E0513-11RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
388	"	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
389	A9E0513-12RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
390	"	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
391	A9E0513-13RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
392	"	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
393	A9E0513-15RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
394	"	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
395	A9E0513-16RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
396	"	Water	Fe (Iron) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
397	A9E0513-18RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
398	A9E0513-19RE1	Water	As (Arsenic) - 200.8 - Dissolved		05/24/19	9051081	A19C136	
399	9E22036-CCV9	Water	QC	QC			A19D189	A19E109
400	9E22036-CCVA	Water	QC	QC			A19D189	A19E109
401	9E22036-CCB9	Water	QC	QC			A19D189	
402	9E22036-CCVB	Water	QC	QC			A19D189	A19E109
403	9E22036-CCBA	Water	QC	QC			A19D189	
404	9E22036-CCVC	Water	QC	QC			A19D189	A19E109
405	9E22036-CCBB	Water	QC	QC			A19D189	
406	9E22036-CRLE	Water	QC	QC			A19C136	A19D348
407	9E22036-CRLF	Water	QC	QC			A19C136	A19D349
408	9E22036-CRLG	Water	QC	QC			A19C136	A19D350
409	9E22036-CRLH	Water	QC	QC			A19C136	A19D351

Data Entered By: 05/23/19

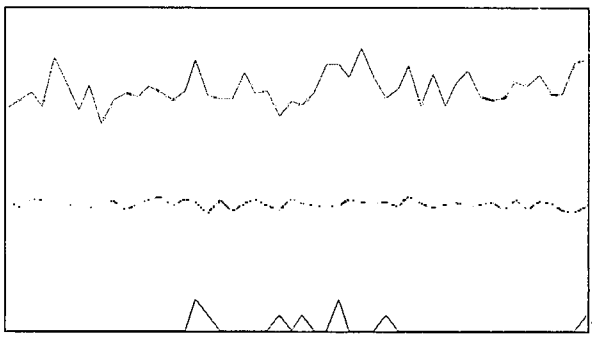
Comments:

Data Reviewed By: 5/24/19

Tune Report

Batch Folder	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq. Date-Time	5/22/2019 12:08
Report Comment	9E22036 General Multi-mode Tune Report A19E047
Instrument Name	7700x JP09240003

[H2]



Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59	500	378	3783.50	1000.00	
89	5000	1968	19679.53	1000.00	
78	20	0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

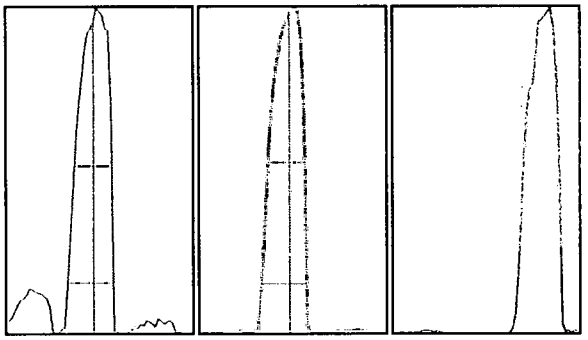
Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	6.74	5.00	[F]
89	3.34	5.00	
78	267.73		

See EPA Tune for RSD
JB 05/23/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
78			

Integration Time [sec]	0.1	**Sampling Period [sec]**	0.306

Tune Report



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-10% (Actual)	W-10% (Required)	W-10% (Flag)
59	362.80	58.95	58.9 - 59.1		0.59	0.733	0.900	
89	1979.72	89.00	88.9 - 89.1		0.58	0.724	0.900	
78			-					

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.14 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.90 V	S/C Temp	2 ℃
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.10 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-175.0 V	Cell Exit	-60 V
Omega Bias	-110 V	Deflect	2.0 V
Omega Lens	5.5 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	170 V
H2 Flow	3.1 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59	500	356	3555.16	1000.00	
89	500	308	3083.47	1000.00	
205	1000	689	6892.90	1000.00	
75	20	1			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	

Tune Report

89		-
205		-
75		-

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	6.99	5.00	[F]
89	6.63	5.00	[F]
205	4.75	5.00	
75	130.73		

See EPA TUNE for RSD

BB 05/23/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
205			
75			

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.412

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-10% (Actual)	W-10% (Required)	W-10% (Flag)
59	377.06	59.00	58.9 - 59.1		0.53	0.726	0.900	
89	300.29	89.00	88.9 - 89.1		0.58	0.749	0.900	
205	726.71	205.05	204.9 - 205.1		0.54	0.740	0.900	
75	1.75	75.00	-		0.21	0.241		

Integration Time [sec] 0.1 **Acquisition Time [sec]** 29.92 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.90 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.10 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-175.0 V	Cell Exit	-60 V
Omega Bias	-110 V	Deflect	2.5 V
Omega Lens	5.5 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.4 mL/min	OctP RF	170 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[NoGas]

Tune Report

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
7	1000	830	8296.65	1000.00	
89	2000	1672	16719.44	1000.00	
205	2000	1114	11141.10	1000.00	
102	20	0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
7		-	
89		-	
205		-	
102		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	5.16	5.00	[F]
89	3.52	5.00	
205	3.79	5.00	
102	239.74		

See EPA TUNE for RSD
05/23/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
7	1.90	10	
89	2.40	10	
205	8.60	30	
102	3.80		

Ratio (oxide)	156/140	1.518 %
Ratio (2+)	69/138	2.932 %

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.413

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-10% (Actual)	W-10% (Required)	W-10% (Flag)
7	829.97	6.90	6.9 - 7.1		0.63	0.771	0.900	
89	1724.18	89.05	88.9 - 89.1		0.57	0.727	0.900	
205	1119.19	205.00	204.9 - 205.1		0.56	0.752	0.900	
102			-					

Integration Time [sec] 0.1 **Acquisition Time [sec]** 30.12 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.90 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.10 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V

Tune Report

Extract 2	-175.0 V	Cell Exit	-60 V
Omega Bias	-110 V	Deflect	9.0 V
Omega Lens	5.5 V	Plate Bias	-70 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V
He Flow	0.0 mL/min	OctP RF	170 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

Tune Report

Batch Folder	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq. Date-Time	5/22/2019 12:24
Report Comment	9E22036 EPA Multi-mode Tune Report A19E047
Instrument Name	7700x JP09240003

[H2]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59		2075	20746.30	1000.00	
89		10692	106923.84	1000.00	
78		8			

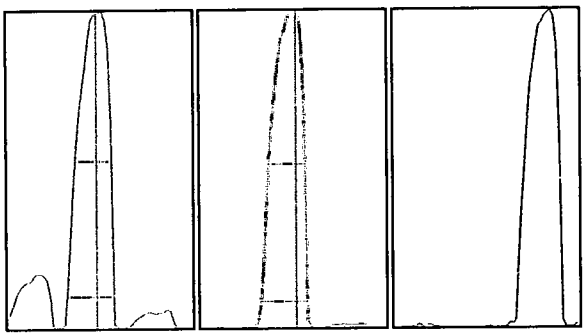
Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	2.77	5.00	
89	4.13	5.00	
78	21.83		

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
78			

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
59	1975	2111	2108	2105	2074
89	9956	10649	10807	11000	11050
78	7	6	8	10	9

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
59	370.40	59.00	58.9 - 59.1		0.58	0.754	0.900	

Tune Report

89	1952.14	89.05 ✓	88.9 - 89.1	0.57	0.742 ✓	0.900
78			-			

Integration Time [sec] 0.1 **Acquisition Time [sec]** 100.35 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.90 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.10 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-175.0 V	Cell Exit	-60 V
Omega Bias	-110 V	Deflect	2.0 V
Omega Lens	5.5 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	170 V
H2 Flow	3.1 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59		1970	19695.59	1000.00	
89		1676	16756.65	1000.00	
205		3780	37803.07	1000.00	
75		5			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	1.26 ✓	5.00	
89	2.55 ✓	5.00	
205	1.77 ✓	5.00	
75	17.47		

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			

Tune Report

205
75

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
59	2008	1969	1970	1940	1961
89	1632	1713	1730	1655	1649
205	3844	3848	3785	3717	3708
75	5	7	4	5	6

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
59	355.84	59.00	58.9 - 59.1		0.57	0.751	0.900	
89	309.78	89.00	88.9 - 89.1		0.57	0.740	0.900	
205	713.88	205.00	204.9 - 205.1		0.54	0.780	0.900	
75	1.05	75.10	-		0.18	0.640		

Integration Time [sec] 0.1 **Acquisition Time [sec]** 134.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.90 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.10 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-175.0 V	Cell Exit	-60 V
Omega Bias	-110 V	Deflect	2.5 V
Omega Lens	5.5 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.4 mL/min	OctP RF	170 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[NoGas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
7		5062	50621.86	1000.00	
89		9165	91650.97	1000.00	
205		6284	62844.81	1000.00	
102		3			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
7		-	

Tune Report

89		-
205		-
102		-

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	1.24	5.00	
89	0.94	5.00	
205	0.64	5.00	
102	21.12		

Mass	Background (Actual)	Background (Required)	Background (Flag)
7			
89			
205			
102			

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
7	5146	5079	5075	5038	4974
89	9192	9063	9291	9113	9165
205	6288	6223	6275	6308	6329
102	3	3	4	3	2

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
7	829.85	6.95	6.9 - 7.1		0.64	0.786	0.900	
89	1683.91	89.05	88.9 - 89.1		0.57	0.741	0.900	
205	1164.95	205.00	204.9 - 205.1		0.55	0.756	0.900	
102			-					

Integration Time [sec] 0.1 **Acquisition Time [sec]** 135.3 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.90 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.10 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-175.0 V	Cell Exit	-60 V
Omega Bias	-110 V	Deflect	9.0 V
Omega Lens	5.5 V	Plate Bias	-70 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V

Tune Report

He Flow	0.0 mL/min	OctP RF	170 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

Quantitation Report ICPMS5

File Name	001RINS.d		
File Path	C:\Agilent\ICPMH\1\DATA\9E22036.b		
Acq Time	5/22/2019 13:09:16	Sample Type	
Sample Name	**rinse**	Rinse	
Comment	**rinse blank**	Last Calib	N/A
Prep Dilution	1.0000	Vial:	3
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas			ppb			
Na	23	45	H2			ppb			
Mg	24	45	He			ppb		22.5	
Al	27	45	He			ppb		22.5	
K	39	45	He			ppb			
Ca	44	45	H2			ppb			
Ti	47	45	NoGas			ppb			
V	51	74	He			ppb			
Cr	52	74	He			ppb			
Mn	55	74	He			ppb		1	
Fe	56	74	H2			ppb			
Fe	57	74	H2			ppb			
Co	59	74	NoGas			ppb			
Ni	60	74	He			ppb			
Cu	65	74	He			ppb		1	
Cu	65	74	NoGas			ppb			
Zn	66	74	He			ppb			
As	75	74	He			ppb			
Se	78	74	H2			ppb			
Mo	95	103	He			ppb			
Ag	107	103	He			ppb			
Cd	111	103	NoGas			ppb			
Sb	121	103	He			ppb			
Ba	138	159	He			ppb			
W	182	159	NoGas			ppb			
Hg	201	159	NoGas			ppt			
Tl	205	159	He			ppb		1	
Pb	208	159	NoGas			ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	625848	0.6	0	Pulse		
Sc	45	H2	1079598	0.8	0	Pulse		
Sc	45	He	132769	1.4	0	Pulse		
Sc	45	NoGas	1742259	1.7	0	Analog		
Ge	74	H2	433023	0.7	0	Pulse		
Ge	74	He	87707	0.1	0	Pulse		
Ge	74	NoGas	482769	1.2	0	Pulse		
Rh	103	He	270189	0.5	0	Pulse		
Rh	103	NoGas	521591	0.2	0	Pulse		
Tb	159	He	399895	0.6	0	Pulse		
Tb	159	NoGas	870454	0.1	0	Pulse		
Bi	209	He	283568	1.2	0	Pulse		
Bi	209	NoGas	520304	0.0	0	Pulse		

Quantitation Report ICPMS5

File Name	002RINS.d		
File Path	C:\Agilent\ICPMH\1\DATA\9E22036.b		
Acq Time	5/22/2019 13:13:32	Sample Type	
Sample Name	**rinse**		Rinse
Comment	**rinse blank**	Last Calib	N/A
Prep Dilution	1.0000	Vial:	3
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas			ppb			
Na	23	45	H2			ppb			
Mg	24	45	He			ppb		22.5	
Al	27	45	He			ppb		22.5	
K	39	45	He			ppb			
Ca	44	45	H2			ppb			
Ti	47	45	NoGas			ppb			
V	51	74	He			ppb			
Cr	52	74	He			ppb			
Mn	55	74	He			ppb		1	
Fe	56	74	H2			ppb			
Fe	57	74	H2			ppb			
Co	59	74	NoGas			ppb			
Ni	60	74	He			ppb			
Cu	65	74	He			ppb		1	
Cu	65	74	NoGas			ppb			
Zn	66	74	He			ppb			
As	75	74	He			ppb			
Se	78	74	H2			ppb			
Mo	95	103	He			ppb			
Ag	107	103	He			ppb			
Cd	111	103	NoGas			ppb			
Sb	121	103	He			ppb			
Ba	138	159	He			ppb			
W	182	159	NoGas			ppb			
Hg	201	159	NoGas			ppt			
Tl	205	159	He			ppb		1	
Pb	208	159	NoGas			ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	620814	1.3	0	Pulse		
Sc	45	H2	1176045	2.6	0	Mix		
Sc	45	He	139534	0.7	0	Pulse		
Sc	45	NoGas	1793593	0.4	0	Analog		
Ge	74	H2	448941	1.1	0	Pulse		
Ge	74	He	89850	0.2	0	Pulse		
Ge	74	NoGas	483389	0.7	0	Pulse		
Rh	103	He	269617	0.7	0	Pulse		
Rh	103	NoGas	517234	0.9	0	Pulse		
Tb	159	He	399105	0.3	0	Pulse		
Tb	159	NoGas	848546	0.3	0	Pulse		
Bi	209	He	279236	0.8	0	Pulse		
Bi	209	NoGas	500066	0.5	0	Pulse		

Quantitation Report ICPMS5

File Name	003RINS.d		
File Path	C:\Agilent\ICPMH\1\DATA\9E22036.b		
Acq Time	5/22/2019 13:17:47	Sample Type	
Sample Name	**cal blk**	Rinse	
Comment	**cal blk check**	Last Calib	N/A
Prep Dilution	1.0000	Vial:	1
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas			ppb			
Na	23	45	H2			ppb			
Mg	24	45	He			ppb		22.5	
Al	27	45	He			ppb		22.5	
K	39	45	He			ppb			
Ca	44	45	H2			ppb			
Ti	47	45	NoGas			ppb			
V	51	74	He			ppb			
Cr	52	74	He			ppb			
Mn	55	74	He			ppb		1	
Fe	56	74	H2			ppb			
Fe	57	74	H2			ppb			
Co	59	74	NoGas			ppb			
Ni	60	74	He			ppb			
Cu	65	74	He			ppb		1	
Cu	65	74	NoGas			ppb			
Zn	66	74	He			ppb			
As	75	74	He			ppb			
Se	78	74	H2			ppb			
Mo	95	103	He			ppb			
Ag	107	103	He			ppb			
Cd	111	103	NoGas			ppb			
Sb	121	103	He			ppb			
Ba	138	159	He			ppb			
W	182	159	NoGas			ppb			
Hg	201	159	NoGas			ppt			
Tl	205	159	He			ppb		1	
Pb	208	159	NoGas			ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	617471	2.3	0	Pulse		
Sc	45	H2	1178716	0.7	0	Pulse		
Sc	45	He	140687	0.4	0	Pulse		
Sc	45	NoGas	1796708	2.3	0	Analog		
Ge	74	H2	448065	0.2	0	Pulse		
Ge	74	He	90109	0.0	0	Pulse		
Ge	74	NoGas	483643	1.8	0	Pulse		
Rh	103	He	271104	0.8	0	Pulse		
Rh	103	NoGas	518291	1.6	0	Pulse		
Tb	159	He	397201	1.4	0	Pulse		
Tb	159	NoGas	845329	2.0	0	Pulse		
Bi	209	He	275905	1.9	0	Pulse		
Bi	209	NoGas	494428	1.7	0	Pulse		

Sample Name	9E22036-CAL0	Vial	1
File Name	004CALB.d		
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b		
Acq Time	5/22/2019 13:22:01		
Sample Type	CalBlk		
Total Dilution	1.0000		
Comment	3.5%HNO3+0.4%HCl		
ISTD Ref FileName	004CALB.d		
Sample QC Pass/Fial	Pass		
ISTD QC Pass/Fail	Pass		
Operator	**ICPMS Analyst**		

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2		ppb	Pulse	21996	2.2	0.018	0.2001	3
Ca	44	45	1	H2		ppb	Pulse	900	4.3	0.001	0.2001	3
Fe	56	74	1	H2		ppb	Pulse	12914	1.8	0.029	0.3000	3
Fe	57	74	1	H2		ppb	Pulse	814	6.8	0.002	0.3000	3
Se	78	74	1	H2		ppb	Pulse	2	132.3	0.000	0.9999	3
Mg	24	45	2	He		ppb	Pulse	440	9.9	0.003	0.0999	3
Al	27	45	2	He		ppb	Pulse	103	58.3	0.001	0.0999	3
K	39	45	2	He		ppb	Pulse	18583	1.7	0.133	0.0999	3
V	51	74	2	He		ppb	Pulse	709	11.6	0.008	0.3000	3
Cr	52	74	2	He		ppb	Pulse	138	13.8	0.002	0.3000	3
Mn	55	74	2	He		ppb	Pulse	82	24.8	0.001	0.3000	3
Ni	60	74	2	He		ppb	Pulse	306	12.2	0.003	0.3000	3
Cu	65	74	2	He		ppb	Pulse	268	12.8	0.003	0.3000	3
Zn	66	74	2	He		ppb	Pulse	96	17.9	0.001	0.3000	3
As	75	74	2	He		ppb	Pulse	13	30.3	0.000	0.9999	3
Mo	95	103	2	He		ppb	Pulse	10	33.3	0.000	0.3000	3
Ag	107	103	2	He		ppb	Pulse	1	173.2	0.000	0.3000	3
Sb	121	103	2	He		ppb	Pulse	2	173.2	0.000	0.3000	3
Ba	138	159	2	He		ppb	Pulse	118	5.9	0.000	0.3000	3
Tl	205	159	2	He		ppb	Pulse	66	17.9	0.000	0.3000	3
Be	9	6	3	NoGas		ppb	Pulse	33	26.5	0.000	0.3000	3
Ti	47	45	3	NoGas		ppb	Pulse	68	29.6	0.000	0.2001	3
Co	59	74	3	NoGas		ppb	Pulse	358	4.3	0.001	0.2001	3
Cu	65	74	3	NoGas		ppb	Pulse	600	9.6	0.001	0.2001	3
Cd	111	103	3	NoGas		ppb	Pulse	3	300.3	0.000	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	44	31.2	0.000	0.3000	3
Hg	201	159	3	NoGas		ppt	Pulse	9	63.6	0.000	2.0001	3
Pb	208	159	3	NoGas		ppb	Pulse	630	6.3	0.001	0.2001	3

QC ISTD Table

Name	Mass	Det.	Tune Mode	CPS	CPS RSD
Sc	45	Pulse	H2	1188984	0.7
Ge	74	Pulse	H2	448606	1.0
Sc	45	Pulse	He	140140	1.2
Ge	74	Pulse	He	89994	0.6
Rh	103	Pulse	He	269021	0.2
Tb	159	Pulse	He	395791	0.8
Bi	209	Pulse	He	274187	0.3
Li	6	Pulse	NoGas	612114	1.6
Sc	45	Analog	NoGas	1816935	1.0
Ge	74	Pulse	NoGas	485934	1.1
Rh	103	Pulse	NoGas	517870	1.3
Tb	159	Pulse	NoGas	838151	0.6
Bi	209	Pulse	NoGas	489836	1.6

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL1	1102
File Name	005CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/22/2019 13:26:16	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19D348 JPB 05/22	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	9.000	ppb	Pulse	43311	0.7	0.037	0.2001	3
Ca	44	45	1	H2	9.000	ppb	Pulse	1933	7.9	0.002	0.2001	3
Fe	56	74	1	H2	9.000	ppb	Pulse	73918	0.7	0.165	0.3000	3
Fe	57	74	1	H2	9.000	ppb	Pulse	2307	2.3	0.005	0.3000	3
Se	78	74	1	H2	0.180	ppb	Pulse	38	5.3	0.000	0.9999	3
Mg	24	45	2	He	9.000	ppb	Pulse	2399	5.0	0.017	0.0999	3
Al	27	45	2	He	9.000	ppb	Pulse	1148	10.1	0.008	0.0999	3
K	39	45	2	He	9.000	ppb	Pulse	20444	4.5	0.145	0.0999	3
V	51	74	2	He	0.180	ppb	Pulse	1066	8.3	0.012	0.3000	3
Cr	52	74	2	He	0.180	ppb	Pulse	521	10.2	0.006	0.3000	3
Mn	55	74	2	He	0.180	ppb	Pulse	302	8.0	0.003	0.3000	3
Ni	60	74	2	He	0.180	ppb	Pulse	408	14.3	0.005	0.3000	3
Cu	65	74	2	He	0.180	ppb	Pulse	467	16.6	0.005	0.3000	3
Zn	66	74	2	He	0.180	ppb	Pulse	143	31.3	0.002	0.3000	3
As	75	74	2	He	0.180	ppb	Pulse	41	12.2	0.000	0.9999	3
Mo	95	103	2	He	0.180	ppb	Pulse	167	12.2	0.001	0.3000	3
Ag	107	103	2	He	0.180	ppb	Pulse	559	14.6	0.002	0.3000	3
Sb	121	103	2	He	0.180	ppb	Pulse	197	13.5	0.001	0.3000	3
Ba	138	159	2	He	0.180	ppb	Pulse	504	4.5	0.001	0.3000	3
Tl	205	159	2	He	0.180	ppb	Pulse	1138	14.3	0.003	0.3000	3
Be	9	6	3	NoGas	0.180	ppb	Pulse	327	2.0	0.001	0.3000	3
Ti	47	45	3	NoGas	0.180	ppb	Pulse	227	25.9	0.000	0.2001	3
Co	59	74	3	NoGas	0.180	ppb	Pulse	1808	2.1	0.004	0.2001	3
Cu	65	74	3	NoGas	0.180	ppb	Pulse	1075	10.7	0.002	0.2001	3
Cd	111	103	3	NoGas	0.180	ppb	Pulse	172	14.0	0.000	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	47	18.9	0.000	0.3000	3
Hg	201	159	3	NoGas		ppt	Pulse	12	25.1	0.000	2.0001	3
Pb	208	159	3	NoGas	0.180	ppb	Pulse	2912	5.0	0.003	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1184489	0.6	Pulse	99.6	
Ge	74	H2	448606.056666667	448064	0.5	Pulse	99.9	
Sc	45	He	140139.606666667	140892	1.0	Pulse	100.5	
Ge	74	He	89993.8966666667	90194	0.6	Pulse	100.2	
Rh	103	He	269020.95	267212	0.7	Pulse	99.3	
Tb	159	He	395791.276666667	391990	0.5	Pulse	99.0	
Bi	209	He	274186.866666667	273128	0.1	Pulse	99.6	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	609167	1.2	Pulse	99.5	
Sc	45	NoGas	1816935.23333333	1798657	0.4	Analog	99.0	
Ge	74	NoGas	485933.593333333	486373	1.3	Pulse	100.1	
Rh	103	NoGas	517869.783333333	516983	1.4	Pulse	99.8	
Tb	159	NoGas	838151.383333333	841185	0.8	Pulse	100.4	
Bi	209	NoGas	489835.583333333	488513	0.9	Pulse	99.7	

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL2	1103
File Name	006CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/22/2019 13:30:49	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19D349 JPB 05/22	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	44.966	ppb	Pulse	127179	0.6	0.107	0.2001	3
Ca	44	45	1	H2	45.000	ppb	Pulse	6095	1.8	0.005	0.2001	3
Fe	56	74	1	H2	45.016	ppb	Pulse	320621	0.5	0.716	0.3000	3
Fe	57	74	1	H2	44.996	ppb	Pulse	8261	3.2	0.018	0.3000	3
Se	78	74	1	H2	0.897	ppb	Pulse	168	2.9	0.000	0.9999	3
Mg	24	45	2	He	45.069	ppb	Pulse	10765	1.9	0.075	0.0999	3
Al	27	45	2	He	44.974	ppb	Pulse	5320	8.4	0.037	0.0999	3
K	39	45	2	He	45.091	ppb	Pulse	28326	2.9	0.198	0.0999	3
V	51	74	2	He	0.895	ppb	Pulse	2304	2.9	0.025	0.3000	3
Cr	52	74	2	He	0.895	ppb	Pulse	1851	3.0	0.020	0.3000	3
Mn	55	74	2	He	0.899	ppb	Pulse	1170	10.1	0.013	0.3000	3
Ni	60	74	2	He	0.902	ppb	Pulse	850	7.1	0.009	0.3000	3
Cu	65	74	2	He	0.893	ppb	Pulse	1111	12.4	0.012	0.3000	3
Zn	66	74	2	He	0.902	ppb	Pulse	350	8.6	0.004	0.3000	3
As	75	74	2	He	0.903	ppb	Pulse	171	11.1	0.002	0.9999	3
Mo	95	103	2	He	0.901	ppb	Pulse	822	9.0	0.003	0.3000	3
Ag	107	103	2	He	0.899	ppb	Pulse	2757	3.7	0.010	0.3000	3
Sb	121	103	2	He	0.898	ppb	Pulse	944	10.9	0.003	0.3000	3
Ba	138	159	2	He	0.902	ppb	Pulse	2234	4.3	0.006	0.3000	3
Tl	205	159	2	He	0.900	ppb	Pulse	5536	2.6	0.014	0.3000	3
Be	9	6	3	NoGas	0.903	ppb	Pulse	1625	5.5	0.003	0.3000	3
Ti	47	45	3	NoGas	0.888	ppb	Pulse	665	16.2	0.000	0.2001	3
Co	59	74	3	NoGas	0.903	ppb	Pulse	8346	4.2	0.017	0.2001	3
Cu	65	74	3	NoGas	0.894	ppb	Pulse	2624	9.3	0.005	0.2001	3
Cd	111	103	3	NoGas	0.909	ppb	Pulse	1149	9.4	0.002	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	39	13.1	0.000	0.3000	3
Hg	201	159	3	NoGas	36.000	ppt	Pulse	30	1.0	0.000	2.0001	3
Pb	208	159	3	NoGas	0.900	ppb	Pulse	12171	0.9	0.014	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1187514	0.3	Pulse	99.9	
Ge	74	H2	448606.056666667	447811	0.6	Pulse	99.8	
Sc	45	He	140139.606666667	142733	0.8	Pulse	101.9	
Ge	74	He	89993.8966666667	91440	0.1	Pulse	101.6	
Rh	103	He	269020.95	271297	0.8	Pulse	100.8	
Tb	159	He	395791.276666667	399921	0.6	Pulse	101.0	
Bi	209	He	274186.866666667	276845	0.7	Pulse	101.0	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	607970	1.1	Pulse	99.3	
Sc	45	NoGas	1816935.23333333	1837477	2.6	Analog	101.1	
Ge	74	NoGas	485933.593333333	489364	0.8	Pulse	100.7	
Rh	103	NoGas	517869.783333333	523448	0.4	Pulse	101.1	
Tb	159	NoGas	838151.383333333	848604	0.7	Pulse	101.2	
Bi	209	NoGas	489835.583333333	493479	0.6	Pulse	100.7	

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL3	1104
File Name	007CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/22/2019 13:35:30	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19D350 JPB 05/22	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	ICPMS	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	89.879	ppb	Pulse	233403	0.5	0.195	0.2001	3
Ca	44	45	1	H2	89.582	ppb	Pulse	11168	2.1	0.009	0.2001	3
Fe	56	74	1	H2	89.823	ppb	Pulse	624626	0.1	1.390	0.3000	3
Fe	57	74	1	H2	89.795	ppb	Pulse	15604	1.2	0.035	0.3000	3
Se	78	74	1	H2	1.820	ppb	Pulse	356	7.2	0.001	0.9999	3
Mg	24	45	2	He	89.589	ppb	Pulse	20563	4.0	0.144	0.0999	3
Al	27	45	2	He	89.973	ppb	Pulse	10507	4.8	0.074	0.0999	3
K	39	45	2	He	89.921	ppb	Pulse	37542	2.1	0.264	0.0999	3
V	51	74	2	He	1.749	ppb	Pulse	3499	2.5	0.038	0.3000	3
Cr	52	74	2	He	1.804	ppb	Pulse	3607	2.6	0.040	0.3000	3
Mn	55	74	2	He	1.817	ppb	Pulse	2355	5.3	0.026	0.3000	3
Ni	60	74	2	He	1.884	ppb	Pulse	1679	4.5	0.018	0.3000	3
Cu	65	74	2	He	1.821	ppb	Pulse	2060	10.5	0.023	0.3000	3
Zn	66	74	2	He	1.837	ppb	Pulse	654	1.6	0.007	0.3000	3
As	75	74	2	He	1.818	ppb	Pulse	343	8.7	0.004	0.9999	3
Mo	95	103	2	He	1.774	ppb	Pulse	1517	8.3	0.006	0.3000	3
Ag	107	103	2	He	1.793	ppb	Pulse	5375	0.8	0.020	0.3000	3
Sb	121	103	2	He	1.798	ppb	Pulse	1868	2.6	0.007	0.3000	3
Ba	138	159	2	He	1.801	ppb	Pulse	4300	1.3	0.011	0.3000	3
Tl	205	159	2	He	1.798	ppb	Pulse	10826	1.0	0.027	0.3000	3
Be	9	6	3	NoGas	1.775	ppb	Pulse	2995	1.5	0.005	0.3000	3
Ti	47	45	3	NoGas	1.786	ppb	Pulse	1223	11.1	0.001	0.2001	3
Co	59	74	3	NoGas	1.802	ppb	Pulse	16267	3.6	0.033	0.2001	3
Cu	65	74	3	NoGas	1.767	ppb	Pulse	4310	3.1	0.009	0.2001	3
Cd	111	103	3	NoGas	1.759	ppb	Pulse	2022	11.4	0.004	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	39	19.8	0.000	0.3000	3
Hg	201	159	3	NoGas	68.155	ppt	Pulse	41	22.0	0.000	2.0001	3
Pb	208	159	3	NoGas	1.798	ppb	Pulse	23463	0.9	0.028	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1198928	0.4	Pulse	100.8	
Ge	74	H2	448606.056666667	449473	0.2	Pulse	100.2	
Sc	45	He	140139.606666667	142456	0.6	Pulse	101.7	
Ge	74	He	89993.8966666667	91230	0.2	Pulse	101.4	
Rh	103	He	269020.95	269350	0.4	Pulse	100.1	
Tb	159	He	395791.276666667	395369	0.7	Pulse	99.9	
Bi	209	He	274186.866666667	272704	0.6	Pulse	99.5	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	606351	1.2	Pulse	99.1	
Sc	45	NoGas	1816935.23333333	1827659	1.1	Analog	100.6	
Ge	74	NoGas	485933.593333333	487116	0.3	Pulse	100.2	
Rh	103	NoGas	517869.783333333	518501	0.1	Pulse	100.1	
Tb	159	NoGas	838151.383333333	845341	0.3	Pulse	100.9	
Bi	209	NoGas	489835.583333333	486482	0.7	Pulse	99.3	

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL4	1105
File Name	008CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/22/2019 13:40:02	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19D351 JPB 05/22	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	180.206	ppb	Pulse	445318	0.5	0.373	0.2001	3
Ca	44	45	1	H2	179.630	ppb	Pulse	21258	1.7	0.018	0.2001	3
Fe	56	74	1	H2	179.814	ppb	Pulse	1230929	0.3	2.744	0.3000	3
Fe	57	74	1	H2	180.609	ppb	Pulse	30821	1.5	0.069	0.3000	3
Se	78	74	1	H2	3.593	ppb	Pulse	695	4.4	0.002	0.9999	3
Mg	24	45	2	He	181.216	ppb	Pulse	42183	1.0	0.295	0.0999	3
Al	27	45	2	He	179.918	ppb	Pulse	20951	2.4	0.147	0.0999	3
K	39	45	2	He	179.894	ppb	Pulse	56333	1.2	0.394	0.0999	3
V	51	74	2	He	3.569	ppb	Pulse	6247	2.5	0.068	0.3000	3
Cr	52	74	2	He	3.584	ppb	Pulse	6940	0.9	0.076	0.3000	3
Mn	55	74	2	He	3.591	ppb	Pulse	4544	1.2	0.050	0.3000	3
Ni	60	74	2	He	3.564	ppb	Pulse	2825	2.1	0.031	0.3000	3
Cu	65	74	2	He	3.610	ppb	Pulse	3853	1.1	0.042	0.3000	3
Zn	66	74	2	He	3.569	ppb	Pulse	1152	7.7	0.013	0.3000	3
As	75	74	2	He	3.637	ppb	Pulse	694	5.5	0.008	0.9999	3
Mo	95	103	2	He	3.624	ppb	Pulse	3128	8.9	0.012	0.3000	3
Ag	107	103	2	He	3.594	ppb	Pulse	10634	1.4	0.040	0.3000	3
Sb	121	103	2	He	3.601	ppb	Pulse	3712	1.4	0.014	0.3000	3
Ba	138	159	2	He	3.623	ppb	Pulse	8655	1.7	0.022	0.3000	3
Tl	205	159	2	He	3.589	ppb	Pulse	21226	1.8	0.054	0.3000	3
Be	9	6	3	NoGas	3.695	ppb	Pulse	6489	3.4	0.011	0.3000	3
Ti	47	45	3	NoGas	3.647	ppb	Pulse	2427	3.8	0.001	0.2001	3
Co	59	74	3	NoGas	3.657	ppb	Pulse	33007	2.9	0.071	0.2001	3
Cu	65	74	3	NoGas	3.673	ppb	Pulse	8505	5.9	0.018	0.2001	3
Cd	111	103	3	NoGas	3.637	ppb	Pulse	4136	3.2	0.008	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	33	17.3	0.000	0.3000	3
Hg	201	159	3	NoGas	147.310	ppt	Pulse	81	13.4	0.000	2.0001	3
Pb	208	159	3	NoGas	3.672	ppb	Pulse	48066	0.9	0.060	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1193790	0.5	Pulse	100.4	
Ge	74	H2	448606.056666667	448551	0.5	Pulse	100.0	
Sc	45	He	140139.606666667	142980	0.6	Pulse	102.0	
Ge	74	He	89993.8966666667	91321	0.2	Pulse	101.5	
Rh	103	He	269020.95	267212	0.5	Pulse	99.3	
Tb	159	He	395791.276666667	393244	0.6	Pulse	99.4	
Bi	209	He	274186.866666667	273027	0.7	Pulse	99.6	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	582311	3.7	Pulse	95.1	
Sc	45	NoGas	1816935.23333333	1756280	3.4	Analog	96.7	
Ge	74	NoGas	485933.593333333	468604	3.7	Pulse	96.4	
Rh	103	NoGas	517869.783333333	497265	3.4	Pulse	96.0	
Tb	159	NoGas	838151.383333333	807120	4.0	Pulse	96.3	
Bi	209	NoGas	489835.583333333	467636	3.1	Pulse	95.5	

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL5
File Name	009CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 13:44:34
Sample Type	CalStd
Total Dilution	1.0000
Comment	A19E083 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

1106

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	398.844	ppb	Pulse	959484	0.4	0.795	0.2001	3
Ca	44	45	1	H2	397.994	ppb	Pulse	45678	1.6	0.038	0.2001	3
Fe	56	74	1	H2	401.838	ppb	Analog	2795934	0.9	6.204	0.3000	3
Fe	57	74	1	H2	398.473	ppb	Pulse	66395	0.9	0.147	0.3000	3
Se	78	74	1	H2	10.030	ppb	Pulse	1981	3.3	0.004	0.9999	3
Mg	24	45	2	He	398.170	ppb	Pulse	89837	1.9	0.634	0.0999	3
Al	27	45	2	He	400.138	ppb	Pulse	46140	2.5	0.325	0.0999	3
K	39	45	2	He	401.267	ppb	Pulse	102461	1.5	0.723	0.0999	3
V	51	74	2	He	20.033	ppb	Pulse	32875	0.5	0.362	0.3000	3
Cr	52	74	2	He	19.986	ppb	Pulse	37299	1.2	0.410	0.3000	3
Mn	55	74	2	He	19.993	ppb	Pulse	24616	2.9	0.271	0.3000	3
Ni	60	74	2	He	20.019	ppb	Pulse	14701	0.4	0.162	0.3000	3
Cu	65	74	2	He	19.992	ppb	Pulse	19829	0.3	0.218	0.3000	3
Zn	66	74	2	He	19.992	ppb	Pulse	5927	1.8	0.065	0.3000	3
As	75	74	2	He	19.989	ppb	Pulse	3695	2.8	0.041	0.9999	3
Mo	95	103	2	He	10.008	ppb	Pulse	8759	2.8	0.032	0.3000	3
Ag	107	103	2	He	10.002	ppb	Pulse	29969	0.9	0.111	0.3000	3
Sb	121	103	2	He	9.950	ppb	Pulse	10073	0.8	0.037	0.3000	3
Ba	138	159	2	He	20.004	ppb	Pulse	47920	0.4	0.121	0.3000	3
Tl	205	159	2	He	10.005	ppb	Pulse	59815	0.4	0.151	0.3000	3
Be	9	6	3	NoGas	9.971	ppb	Pulse	17809	1.9	0.030	0.3000	3
Ti	47	45	3	NoGas	19.981	ppb	Pulse	13199	3.2	0.007	0.2001	3
Co	59	74	3	NoGas	19.962	ppb	Pulse	178669	0.8	0.366	0.2001	3
Cu	65	74	3	NoGas	19.952	ppb	Pulse	43137	2.3	0.088	0.2001	3
Cd	111	103	3	NoGas	19.974	ppb	Pulse	23072	1.4	0.044	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	57	41.2	0.000	0.3000	3
Hg	201	159	3	NoGas	400.297	ppt	Pulse	220	5.0	0.000	2.0001	3
Pb	208	159	3	NoGas	19.966	ppb	Pulse	262657	0.9	0.309	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1207291	0.1	Mix	101.5	
Ge	74	H2	448606.056666667	450694	0.1	Pulse	100.5	
Sc	45	He	140139.606666667	141783	0.5	Pulse	101.2	
Ge	74	He	89993.8966666667	90936	0.1	Pulse	101.0	
Rh	103	He	269020.95	270249	0.7	Pulse	100.5	
Tb	159	He	395791.276666667	397076	0.5	Pulse	100.3	
Bi	209	He	274186.866666667	276614	0.8	Pulse	100.9	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	603110	1.0	Pulse	98.5	
Sc	45	NoGas	1816935.23333333	1818518	1.3	Analog	100.1	
Ge	74	NoGas	485933.593333333	488660	0.2	Pulse	100.6	
Rh	103	NoGas	517869.783333333	520318	1.0	Pulse	100.5	
Tb	159	NoGas	838151.383333333	850785	0.2	Pulse	101.5	
Bi	209	NoGas	489835.583333333	496744	0.7	Pulse	101.4	

Calibration Standard Report ICPMS5

1107

Sample Name	9E22036-CAL6
File Name	010CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 13:49:05
Sample Type	CalStd
Total Dilution	1.0000
Comment	A19D352
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	2500.788	ppb	Analog	5863979	0.6	4.933	0.2001	3
Ca	44	45	1	H2	2500.203	ppb	Pulse	278470	1.0	0.234	0.2001	3
Fe	56	74	1	H2	2499.492	ppb	Analog	16887132	0.8	38.198	0.3000	3
Fe	57	74	1	H2	2499.261	ppb	Pulse	400610	0.6	0.906	0.3000	3
Se	78	74	1	H2	49.932	ppb	Pulse	9394	1.8	0.021	0.9999	3
Mg	24	45	2	He	2499.305	ppb	Pulse	550987	1.0	3.927	0.0999	3
Al	27	45	2	He	2499.501	ppb	Pulse	282916	0.4	2.017	0.0999	3
K	39	45	2	He	2499.820	ppb	Pulse	533206	0.7	3.800	0.0999	3
V	51	74	2	He	49.801	ppb	Pulse	77748	0.2	0.867	0.3000	3
Cr	52	74	2	He	49.947	ppb	Pulse	91187	1.3	1.016	0.3000	3
Mn	55	74	2	He	49.909	ppb	Pulse	59857	1.4	0.667	0.3000	3
Ni	60	74	2	He	49.947	ppb	Pulse	35511	0.7	0.396	0.3000	3
Cu	65	74	2	He	49.713	ppb	Pulse	46655	0.9	0.520	0.3000	3
Zn	66	74	2	He	49.656	ppb	Pulse	13818	2.8	0.154	0.3000	3
As	75	74	2	He	49.750	ppb	Pulse	8790	1.2	0.098	0.9999	3
Mo	95	103	2	He	50.041	ppb	Pulse	43126	0.7	0.165	0.3000	3
Ag	107	103	2	He	50.000	ppb	Pulse	145058	0.7	0.554	0.3000	3
Sb	121	103	2	He	50.037	ppb	Pulse	49822	0.5	0.190	0.3000	3
Ba	138	159	2	He	49.835	ppb	Pulse	115817	0.7	0.294	0.3000	3
Tl	205	159	2	He	49.949	ppb	Pulse	289266	0.3	0.735	0.3000	3
Be	9	6	3	NoGas	49.947	ppb	Pulse	86441	2.3	0.144	0.3000	3
Ti	47	45	3	NoGas	49.638	ppb	Pulse	31601	1.5	0.017	0.2001	3
Co	59	74	3	NoGas	49.900	ppb	Pulse	431085	1.2	0.902	0.2001	3
Cu	65	74	3	NoGas	49.822	ppb	Pulse	102293	1.2	0.214	0.2001	3
Cd	111	103	3	NoGas	49.907	ppb	Pulse	55335	0.9	0.110	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	77	15.1	0.000	0.3000	3
Hg	201	159	3	NoGas	1999.595	ppt	Pulse	1040	4.5	0.001	2.0001	3
Pb	208	159	3	NoGas	49.798	ppb	Pulse	628706	0.8	0.751	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1188672	0.7	Pulse	100.0	
Ge	74	H2	448606.056666667	442095	0.3	Pulse	98.5	
Sc	45	He	140139.606666667	140300	0.7	Pulse	100.1	
Ge	74	He	89993.8966666667	89728	0.7	Pulse	99.7	
Rh	103	He	269020.95	261628	0.9	Pulse	97.3	
Tb	159	He	395791.276666667	393426	0.9	Pulse	99.4	
Bi	209	He	274186.866666667	269200	1.5	Pulse	98.2	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	598469	0.7	Pulse	97.8	
Sc	45	NoGas	1816935.23333333	1834384	0.8	Analog	101.0	
Ge	74	NoGas	485933.593333333	477865	0.4	Pulse	98.3	
Rh	103	NoGas	517869.783333333	505034	0.6	Pulse	97.5	
Tb	159	NoGas	838151.383333333	837554	0.7	Pulse	99.9	
Bi	209	NoGas	489835.583333333	479860	0.4	Pulse	98.0	

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL7	1108
File Name	011CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/22/2019 13:53:35	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19E082	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	3985.945	ppb	Analog	8944663	0.3	7.785	0.2001	3
Ca	44	45	1	H2	3972.387	ppb	Pulse	419995	0.5	0.366	0.2001	3
Fe	56	74	1	H2	3984.488	ppb	Analog	25757209	0.7	60.296	0.3000	3
Fe	57	74	1	H2	3981.080	ppb	Pulse	609003	0.3	1.426	0.3000	3
Se	78	74	1	H2	99.828	ppb	Pulse	18026	0.7	0.042	0.9999	3
Mg	24	45	2	He	3972.909	ppb	Pulse	838154	0.5	6.138	0.0999	3
Al	27	45	2	He	3970.892	ppb	Pulse	429667	0.8	3.146	0.0999	3
K	39	45	2	He	3974.345	ppb	Pulse	801981	1.0	5.873	0.0999	3
V	51	74	2	He	199.894	ppb	Pulse	299081	0.7	3.430	0.3000	3
Cr	52	74	2	He	199.887	ppb	Pulse	351546	0.3	4.031	0.3000	3
Mn	55	74	2	He	199.870	ppb	Pulse	230700	0.8	2.645	0.3000	3
Ni	60	74	2	He	199.620	ppb	Pulse	133575	0.7	1.532	0.3000	3
Cu	65	74	2	He	199.591	ppb	Pulse	176348	0.4	2.022	0.3000	3
Zn	66	74	2	He	199.968	ppb	Pulse	53689	1.8	0.616	0.3000	3
As	75	74	2	He	199.831	ppb	Pulse	33886	0.6	0.389	0.9999	3
Mo	95	103	2	He	100.044	ppb	Pulse	84223	0.7	0.330	0.3000	3
Ag	107	103	2	He	99.484	ppb	Pulse	276040	0.6	1.082	0.3000	3
Sb	121	103	2	He	99.606	ppb	Pulse	95296	1.0	0.373	0.3000	3
Ba	138	159	2	He	199.840	ppb	Pulse	448284	0.5	1.167	0.3000	3
Tl	205	159	2	He	99.789	ppb	Pulse	559789	0.7	1.457	0.3000	3
Be	9	6	3	NoGas	99.998	ppb	Pulse	169384	0.9	0.289	0.3000	3
Ti	47	45	3	NoGas	199.945	ppb	Pulse	123107	0.1	0.069	0.2001	3
Co	59	74	3	NoGas	199.892	ppb	Analog	1674894	0.9	3.585	0.2001	3
Cu	65	74	3	NoGas	199.412	ppb	Pulse	383143	0.4	0.820	0.2001	3
Cd	111	103	3	NoGas	199.849	ppb	Pulse	212535	0.2	0.434	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	98	16.1	0.000	0.3000	3
Hg	201	159	3	NoGas	3974.481	ppt	Pulse	1975	2.3	0.002	2.0001	3
Pb	208	159	3	NoGas	199.741	ppb	Pulse	2441087	0.1	2.956	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1149033	0.3	Pulse	96.6	
Ge	74	H2	448606.056666667	427177	0.4	Pulse	95.2	
Sc	45	He	140139.606666667	136562	0.7	Pulse	97.4	
Ge	74	He	89993.8966666667	87209	0.8	Pulse	96.9	
Rh	103	He	269020.95	255167	0.5	Pulse	94.9	
Tb	159	He	395791.276666667	384215	1.2	Pulse	97.1	
Bi	209	He	274186.866666667	263079	0.8	Pulse	95.9	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	585958	1.0	Pulse	95.7	
Sc	45	NoGas	1816935.23333333	1783737	1.0	Analog	98.2	
Ge	74	NoGas	485933.593333333	467232	0.3	Pulse	96.2	
Rh	103	NoGas	517869.783333333	489456	0.2	Pulse	94.5	
Tb	159	NoGas	838151.383333333	825735	0.2	Pulse	98.5	
Bi	209	NoGas	489835.583333333	471176	0.4	Pulse	96.2	

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL8	1109
File Name	012CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/22/2019 13:58:05	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19D321	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	10011.807	ppb	Analog	21754417	0.7	19.628	0.2001	3
Ca	44	45	1	H2	9998.250	ppb	Pulse	1017594	0.9	0.918	0.2001	3
Fe	56	74	1	H2	10005.752	ppb	Analog	62035904	0.4	151.759	0.3000	3
Fe	57	74	1	H2	10086.927	ppb	Analog	1534879	0.8	3.755	0.3000	3
Se	78	74	1	H2	0.175	ppb	Pulse	32	29.8	0.000	0.9999	3
Mg	24	45	2	He	10030.544	ppb	Analog	2099969	1.0	15.705	0.0999	3
Al	27	45	2	He	9978.860	ppb	Pulse	1047253	0.5	7.832	0.0999	3
K	39	45	2	He	10012.884	ppb	Analog	1962534	0.2	14.677	0.0999	3
V	51	74	2	He	500.731	ppb	Pulse	733918	0.1	8.653	0.3000	3
Cr	52	74	2	He	500.728	ppb	Pulse	863673	0.1	10.183	0.3000	3
Mn	55	74	2	He	500.784	ppb	Pulse	567254	0.4	6.688	0.3000	3
Ni	60	74	2	He	500.249	ppb	Pulse	326100	0.5	3.845	0.3000	3
Cu	65	74	2	He	499.037	ppb	Pulse	423723	0.2	4.996	0.3000	3
Zn	66	74	2	He	499.233	ppb	Pulse	129074	0.5	1.522	0.3000	3
As	75	74	2	He	499.851	ppb	Pulse	82278	0.2	0.970	0.9999	3
Mo	95	103	2	He	0.138	ppb	Pulse	120	5.6	0.000	0.3000	3
Ag	107	103	2	He	0.070	ppb	Pulse	186	16.7	0.001	0.3000	3
Sb	121	103	2	He	0.117	ppb	Pulse	109	22.1	0.000	0.3000	3
Ba	138	159	2	He	498.363	ppb	Pulse	1091886	0.3	2.855	0.3000	3
Tl	205	159	2	He	0.040	ppb	Pulse	284	11.9	0.001	0.3000	3
Be	9	6	3	NoGas	0.012	ppb	Pulse	52	14.7	0.000	0.3000	3
Ti	47	45	3	NoGas	501.171	ppb	Pulse	305032	1.4	0.175	0.2001	3
Co	59	74	3	NoGas	500.789	ppb	Analog	4103840	0.3	9.063	0.2001	3
Cu	65	74	3	NoGas	499.586	ppb	Pulse	924946	0.2	2.043	0.2001	3
Cd	111	103	3	NoGas	502.568	ppb	Pulse	526426	0.3	1.126	0.3000	3
W	182	159	3	NoGas	100.000	ppb	Pulse	389399	0.2	0.486	0.3000	3
Hg	201	159	3	NoGas	119.815	ppt	Pulse	70	9.3	0.000	2.0001	3
Pb	208	159	3	NoGas	501.284	ppb	Analog	6036363	0.2	7.531	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1108316	0.5	Pulse	93.2	
Ge	74	H2	448606.056666667	408780	0.4	Pulse	91.1	
Sc	45	He	140139.606666667	133712	0.4	Pulse	95.4	
Ge	74	He	89993.8966666667	84821	0.6	Pulse	94.3	
Rh	103	He	269020.95	243989	0.6	Pulse	90.7	
Tb	159	He	395791.276666667	382465	0.9	Pulse	96.6	
Bi	209	He	274186.866666667	258912	1.0	Pulse	94.4	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	581332	2.0	Pulse	95.0	
Sc	45	NoGas	1816935.23333333	1739794	0.7	Analog	95.8	
Ge	74	NoGas	485933.593333333	452884	1.7	Pulse	93.2	
Rh	103	NoGas	517869.783333333	467734	1.7	Pulse	90.3	
Tb	159	NoGas	838151.383333333	801677	1.4	Pulse	95.6	
Bi	209	NoGas	489835.583333333	448872	2.4	Pulse	91.6	

Calibration Standard Report ICPMS5

Sample Name	9E22036-CAL9	1110
File Name	013CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/22/2019 14:02:31	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19E166	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	50019.505	ppb	Analog	102740799	0.5	98.777	0.2001	3
Ca	44	45	1	H2	50103.146	ppb	Analog	4992639	0.8	4.800	0.2001	3
Fe	56	74	1	H2	50038.838	ppb	Analog	289376047	0.5	771.060	0.3000	3
Fe	57	74	1	H2	50038.736	ppb	Analog	7099989	0.8	18.918	0.3000	3
Se	78	74	1	H2	0.118	ppb	Pulse	20	24.8	0.000	0.9999	3
Mg	24	45	2	He	49996.736	ppb	Analog	10257560	0.7	78.165	0.0999	3
Al	27	45	2	He	50050.926	ppb	Analog	5264118	0.8	40.115	0.0999	3
K	39	45	2	He	49955.586	ppb	Analog	9370529	0.8	71.406	0.0999	3
V	51	74	2	He	0.056	ppb	Pulse	720	15.3	0.009	0.3000	3
Cr	52	74	2	He	1013.842	ppb	Analog	1759307	1.0	21.638	0.3000	3
Mn	55	74	2	He	2502.616	ppb	Analog	2779306	1.2	34.181	0.3000	3
Ni	60	74	2	He	993.585	ppb	Pulse	607296	0.1	7.469	0.3000	3
Cu	65	74	2	He	985.495	ppb	Pulse	764055	0.4	9.397	0.3000	3
Zn	66	74	2	He	2495.420	ppb	Pulse	594871	0.5	7.316	0.3000	3
As	75	74	2	He	0.165	ppb	Pulse	38	43.5	0.000	0.9999	3
Mo	95	103	2	He	0.151	ppb	Pulse	122	34.5	0.001	0.3000	3
Ag	107	103	2	He	0.119	ppb	Pulse	298	13.8	0.001	0.3000	3
Sb	121	103	2	He	0.057	ppb	Pulse	51	32.8	0.000	0.3000	3
Ba	138	159	2	He	2499.585	ppb	Analog	5277689	0.3	14.268	0.3000	3
Tl	205	159	2	He	0.016	ppb	Pulse	146	20.0	0.000	0.3000	3
Be	9	6	3	NoGas	0.017	ppb	Pulse	61	8.3	0.000	0.3000	3
Ti	47	45	3	NoGas	2502.260	ppb	Analog	1555869	1.5	0.892	0.2001	3
Co	59	74	3	NoGas	0.315	ppb	Pulse	2864	3.1	0.006	0.2001	3
Cu	65	74	3	NoGas	991.118	ppb	Analog	1749006	0.8	3.932	0.2001	3
Cd	111	103	3	NoGas	999.727	ppb	Pulse	997052	0.3	2.237	0.3000	3
W	182	159	3	NoGas	0.219	ppb	Pulse	898	6.1	0.001	0.3000	3
Hg	201	159	3	NoGas	42.655	ppt	Pulse	33	4.6	0.000	2.0001	3
Pb	208	159	3	NoGas	0.208	ppb	Pulse	3125	4.2	0.004	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1188983.99	1040160	0.6	Pulse	87.5	
Ge	74	H2	448606.056666667	375296	0.4	Pulse	83.7	
Sc	45	He	140139.606666667	131228	0.3	Pulse	93.6	
Ge	74	He	89993.8966666667	81309	0.6	Pulse	90.3	
Rh	103	He	269020.95	228646	0.3	Pulse	85.0	
Tb	159	He	395791.276666667	369911	0.5	Pulse	93.5	
Bi	209	He	274186.866666667	237771	0.3	Pulse	86.7	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	612114.496666667	592397	1.0	Pulse	96.8	
Sc	45	NoGas	1816935.23333333	1743445	2.1	Analog	96.0	
Ge	74	NoGas	485933.593333333	444811	0.9	Pulse	91.5	
Rh	103	NoGas	517869.783333333	445716	1.0	Pulse	86.1	
Tb	159	NoGas	838151.383333333	805662	0.4	Pulse	96.1	
Bi	209	NoGas	489835.583333333	432720	0.7	Pulse	88.3	

P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: 9E22036-ICV1
Data File: 014_ICV.d
Acquired: 5/22/2019 14:23:36

========= Detector Parameters and P/A Factors =========
Discriminator: 4.5 mV
AnalogHV: 1884 V
PulseHV: 1575 V

Acquired: 5/22/2019 12:49:39

Mass[u]	Element	P/A Factor
23	Na	0.112726
24	Mg	0.117477
27	Al	0.121543
39	K	0.125318
44	Ca	0.127459
45	Sc	0.124689
47	Ti	0.128595
51	V	0.128870
52	Cr	0.132916
55	Mn	0.130482
57	Fe	0.132665
59	Co	0.135671
60	Ni	0.139933
65	Cu	0.142736
66	Zn	0.142199
111	Cd	0.148705
138	Ba	0.143936
159	Tb	0.147628
205	Tl	0.151378
206	[Pb]	0.151221
207	[Pb]	0.151924
208	Pb	0.152828
6	Li	Signal too low
7	Li	Signal too low
9	Be	Signal too low
74	Ge	Signal too low
75	As	Signal too low
78	Se	Signal too low
95	Mo	Signal too low
103	Rh	Signal too low
106	[Cd]	Signal too low
107	Ag	Signal too low
108	[Cd]	Signal too low
121	Sb	Signal too low
182	W	Signal too low
201	Hg	Signal too low

=== Independent Detector Parameters and P/A Factors ===
Tune Mode Name: H2
Discriminator: 4.5 mV
AnalogHV: 1884 V
PulseHV: 1575 V

Acquired: 5/22/2019 13:58:07

Mass[u]	Element	P/A Factor
23	Na	0.113825
44	Ca	0.128872
45	Sc	0.126477
56	Fe	0.135386
57	Fe	0.134303
74	Ge	Signal too low
78	Se	Signal too low

Tune Mode Name: He
Discriminator: 4.5 mV
AnalogHV: 1884 V
PulseHV: 1575 V

Acquired: 5/22/2019 14:03:25

Mass[u]	Element	P/A Factor
24	Mg	0.119579
27	Al	0.123049
39	K	0.126911
51	V	0.130974
52	Cr	0.131556
55	Mn	0.131750
60	Ni	0.138315
65	Cu	0.140210
66	Zn	0.139796
138	Ba	0.146141
205	Tl	0.149102
45	Sc	Signal too low
74	Ge	Signal too low
75	As	Signal too low
95	Mo	Signal too low
103	Rh	Signal too low
107	Ag	Signal too low
121	Sb	Signal too low
159	Tb	Signal too low
209	Bi	Signal too low

Tune Mode Name: NoGas
Discriminator: 4.5 mV
AnalogHV: 1884 V
PulseHV: 1575 V

Acquired: 5/22/2019 14:04:31

Mass[u]	Element	P/A Factor
6	Li	0.089637
45	Sc	0.126381
47	Ti	0.125835
59	Co	0.136084
65	Cu	0.139989
111	Cd	0.143880
159	Tb	0.148496
206	Pb	0.151889
207	Pb	0.150613
208	Pb	0.151333
7	Li	Signal too low
9	Be	Signal too low
74	Ge	Signal too low
103	Rh	Signal too low
106	[Cd]	Signal too low
108	[Cd]	Signal too low
182	W	Signal too low
201	Hg	Signal too low
209	Bi	Signal too low

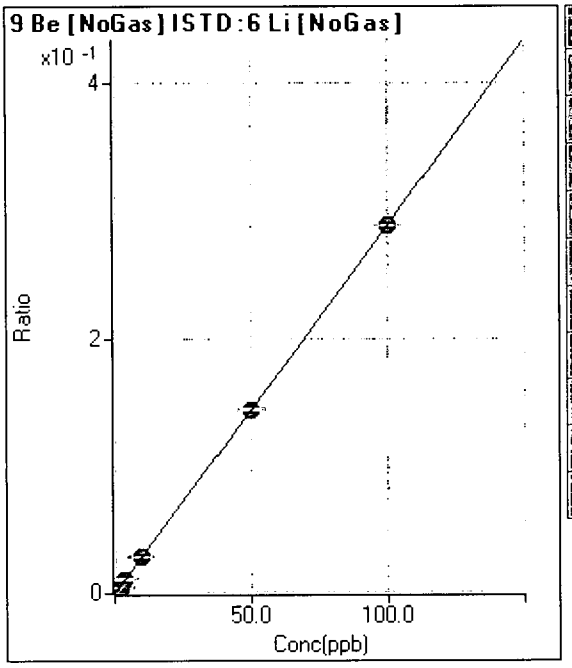
Created: 5/23/2019 13:34:31

Calibration for 014_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\9E22036.b\
Analysis File: 9E22036.batch.bin
DA Date-Time: 5/22/2019 14:25:57
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	9E22036-CAL0	5/22/2019 13:22:01
2	005CALS.d	9E22036-CAL1	5/22/2019 13:26:16
3	006CALS.d	9E22036-CAL2	5/22/2019 13:30:49
4	007CALS.d	9E22036-CAL3	5/22/2019 13:35:30
5	008CALS.d	9E22036-CAL4	5/22/2019 13:40:02
6	009CALS.d	9E22036-CAL5	5/22/2019 13:44:34
7	010CALS.d	9E22036-CAL6	5/22/2019 13:49:05
8	011CALS.d	9E22036-CAL7	5/22/2019 13:53:35
9	012CALS.d	9E22036-CAL8	5/22/2019 13:58:05
10	013CALS.d	9E22036-CAL9	5/22/2019 14:02:31

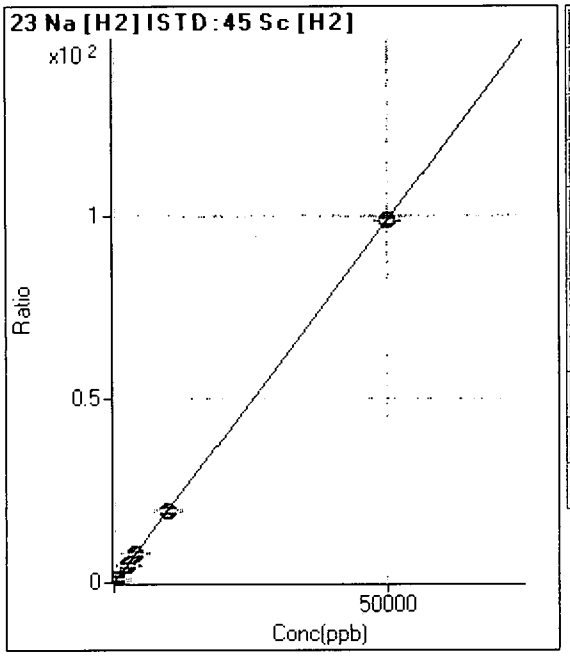
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33	0.000	P	25.2
2	☐	0.180	0.167	327	0.001	P	2.6
3	☐	0.900	0.906	1625	0.003	P	6.3
4	☐	1.800	1.690	2995	0.005	P	2.7
5	☐	3.600	3.843	6489	0.011	P	6.6
6	☐	10.000	10.198	17809	0.030	P	1.5
7	☐	50.000	49.951	86441	0.144	P	1.6
8	☐	100.000	99.998	169384	0.289	P	0.1
9	☐			52	0.000	P	16.5
10	☐			61	0.000	P	9.1

y = 0.0029 * x + 5.4321E-005
R = 1.0000
DL = 0.0142
BEC = 0.01879

Weight: <None>
Min Conc: <None>

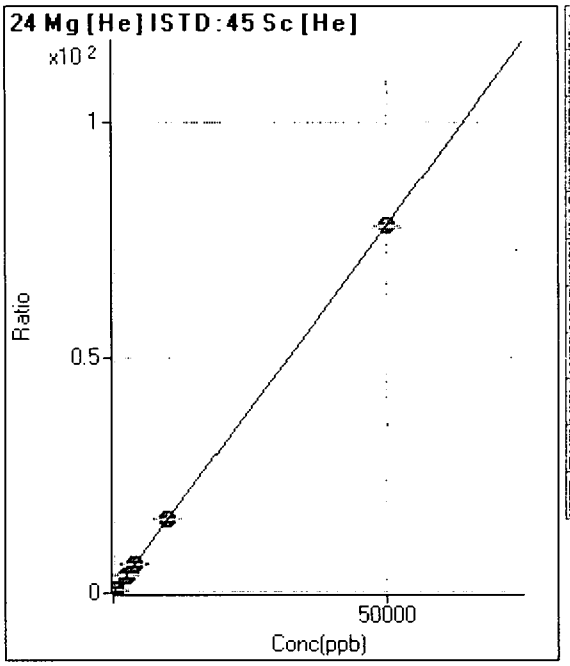


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21996	0.018	P	1.5
2	☐	9.000	9.150	43311	0.037	P	0.2
3	☐	45.000	44.874	127179	0.107	P	0.8
4	☐	90.000	89.232	233403	0.195	P	0.6
5	☐	180.000	179.564	445318	0.373	P	0.0
6	☐	400.000	393.157	959484	0.795	P	0.5
7	☐	2500.000	2489.327	5863979	4.933	A	1.0
8	☐	4000.000	3933.406	8944663	7.785	A	0.5
9	☐	10000.000	9932.072	21754417	19.628	A	0.5
10	☐	50000.000	50019.505	102740799	98.777	A	0.8

y = 0.0020 * x + 0.0185
R = 1.0000
DL = 0.4293
BEC = 9.369

Weight: <None>
Min Conc: <None>

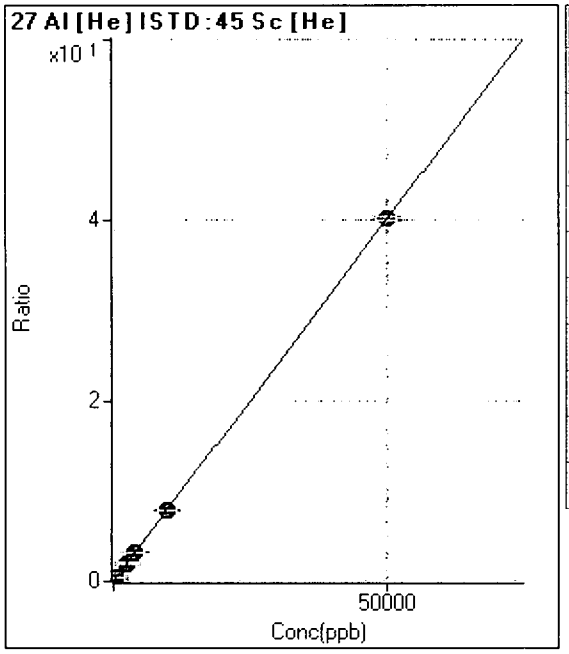
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	440	0.003	P	9.1
2		9.000	8.881	2399	0.017	P	3.9
3		45.000	46.238	10765	0.075	P	2.6
4		90.000	90.324	20563	0.144	P	3.9
5		180.000	186.710	42183	0.295	P	1.1
6		400.000	403.312	89837	0.634	P	2.3
7		2500.000	2510.047	550987	3.927	P	0.7
8		4000.000	3924.085	838154	6.138	P	1.0
9		10000.000	10043.913	2099969	15.705	A	1.1
10		50000.000	49996.736	10257560	78.165	A	0.5

y = 0.0016 * x + 0.0031
R = 1.0000
DL = 0.5505
BEC = 2.01

Weight: <None>
Min Conc: <None>

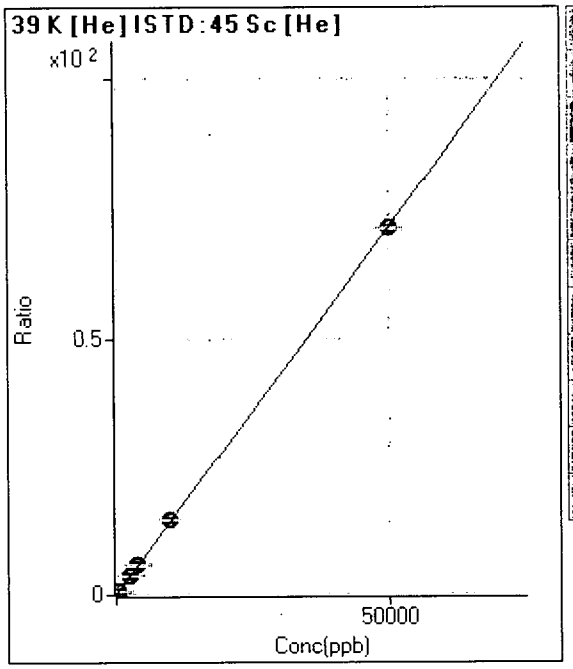


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	103	0.001	P	57.6
2		9.000	9.256	1148	0.008	P	11.1
3		45.000	45.594	5320	0.037	P	8.7
4		90.000	91.107	10507	0.074	P	4.5
5		180.000	181.924	20951	0.147	P	2.8
6		400.000	405.125	46140	0.325	P	2.4
7		2500.000	2515.150	282916	2.017	P	0.4
8		4000.000	3924.931	429667	3.146	P	1.1
9		10000.000	9771.357	1047253	7.832	P	0.5
10		50000.000	50050.926	5264118	40.115	A	1.0

y = 8.0147E-004 * x + 7.3472E-004
R = 1.0000
DL = 1.583
BEC = 0.9167

Weight: <None>
Min Conc: <None>

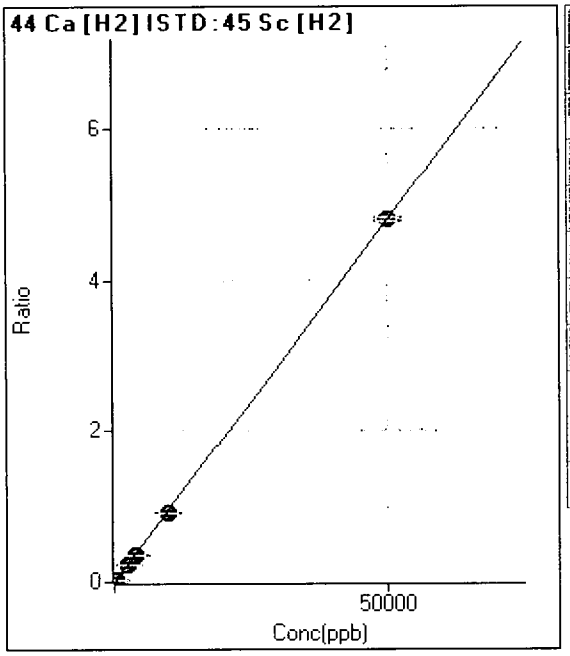
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	18583	0.133	P	2.7
2		9.000	8.749	20444	0.145	P	4.6
3		45.000	46.162	28326	0.198	P	3.7
4		90.000	91.749	37542	0.264	P	1.8
5		180.000	183.208	56333	0.394	P	1.7
6		400.000	413.577	102461	0.723	P	1.8
7		2500.000	2570.794	533206	3.800	P	0.3
8		4000.000	4023.201	801981	5.873	P	0.7
9		10000.000	10194.468	1962534	14.677	A	0.5
10		50000.000	49955.586	9370529	71.406	A	0.6

y = 0.0014 * x + 0.1326
R = 1.0000
DL = 7.575
BEC = 92.96

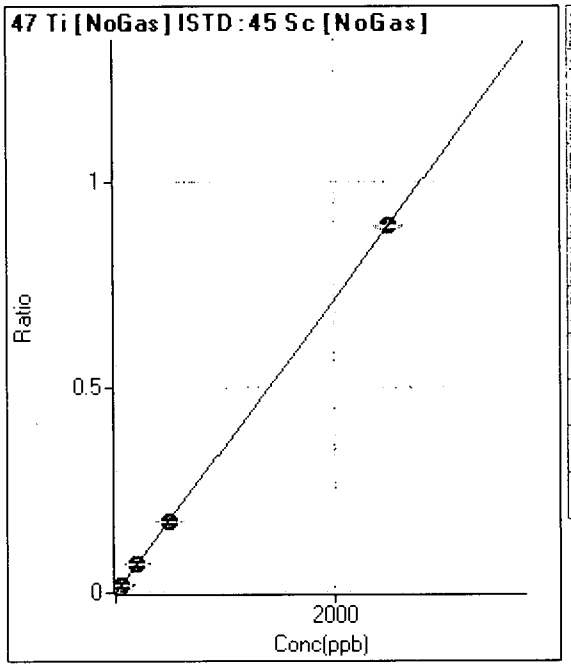
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	900	0.001	P	4.3
2		9.000	9.138	1933	0.002	P	8.3
3		45.000	45.682	6095	0.005	P	1.8
4		90.000	89.347	11168	0.009	P	2.0
5		180.000	177.997	21258	0.018	P	1.6
6		400.000	387.087	45678	0.038	P	1.5
7		2500.000	2437.797	278470	0.234	P	0.7
8		4000.000	3808.050	419995	0.366	P	0.6
9		10000.000	9577.158	1017594	0.918	P	0.4
10		50000.000	50103.146	4992639	4.800	A	1.1

y = 9.5788E-005 * x + 7.5662E-004
R = 1.0000
DL = 1.02
BEC = 7.899

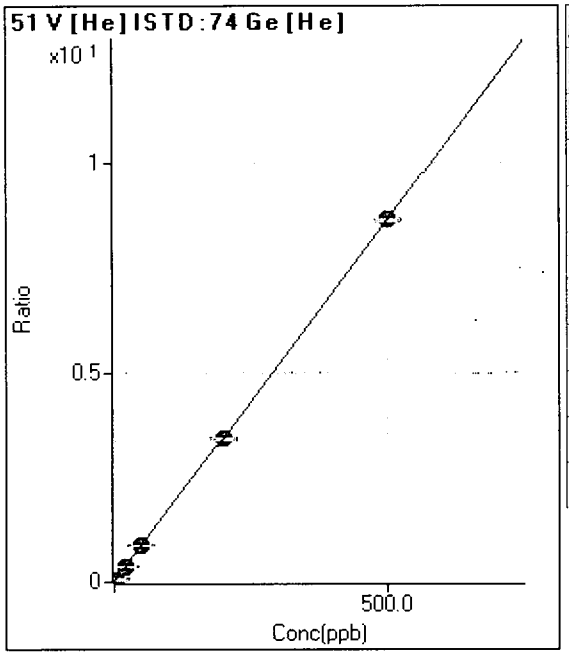
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	68	0.000	P	30.3
2	☑	0.180		227	0.000	P	25.8
3	☐	0.900	0.906	665	0.000	P	13.7
4	☐	1.800	1.772	1223	0.001	P	12.0
5	☐	3.600	3.776	2427	0.001	P	7.0
6	☐	20.000	20.244	13199	0.007	P	2.8
7	☐	50.000	48.196	31601	0.017	P	1.2
8	☐	200.000	193.414	123107	0.069	P	1.0
9	☐	500.000	491.506	305032	0.175	P	1.9
10	☐	2500.000	2502.260	1555869	0.892	A	0.7

y = 3.5666E-004 * x + 3.7652E-005
R = 1.0000
DL = 0.09585
BEC = 0.1056

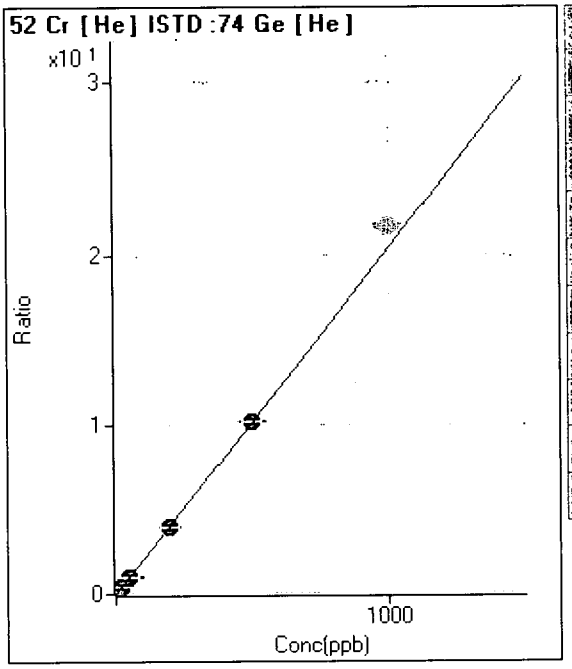
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	709	0.008	P	12.1
2	☐	0.180	0.228	1066	0.012	P	8.6
3	☐	0.900	1.003	2304	0.025	P	3.0
4	☐	1.800	1.765	3499	0.038	P	2.8
5	☐	3.600	3.506	6247	0.068	P	2.5
6	☐	20.000	20.484	32875	0.362	P	0.6
7	☐	50.000	49.735	77748	0.867	P	0.9
8	☐	200.000	198.193	299081	3.430	P	0.8
9	☐	500.000	500.731	733918	8.653	P	0.5
10	☐			720	0.009	P	14.9

y = 0.0173 * x + 0.0079
R = 1.0000
DL = 0.1663
BEC = 0.4565

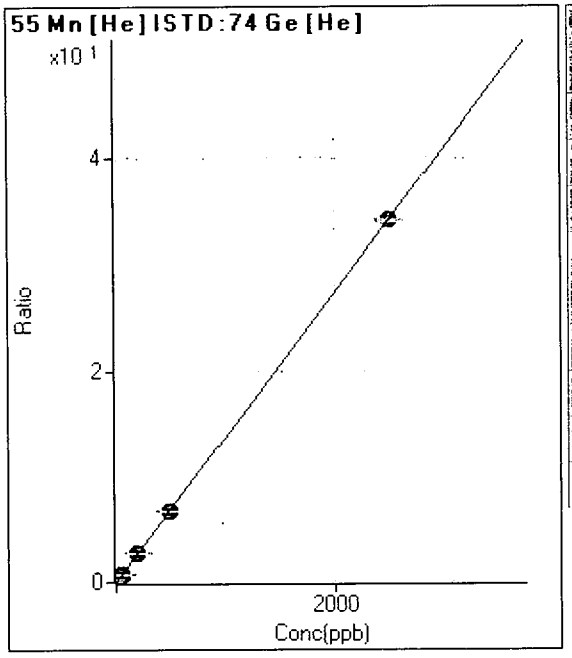
Weight: <None>
Min Conc: <None>



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	138	0.002	P	13.3
2	☐	0.180	0.209	521	0.006	P	10.1
3	☐	0.900	0.920	1851	0.020	P	3.0
4	☐	1.800	1.869	3607	0.040	P	2.8
5	☐	3.600	3.663	6940	0.076	P	1.1
6	☐	20.000	20.098	37299	0.410	P	1.2
7	☐	50.000	49.907	91187	1.016	P	1.2
8	☐	200.000	198.190	351546	4.031	P	0.7
9	☐	500.000	500.728	863673	10.183	P	0.6
10	☑	1000.000		1759307	21.638	A	1.2

y = 0.0203 * x + 0.0015
R = 1.0000
DL = 0.03005
BEC = 0.07527

Weight: <None>
Min Conc: <None>

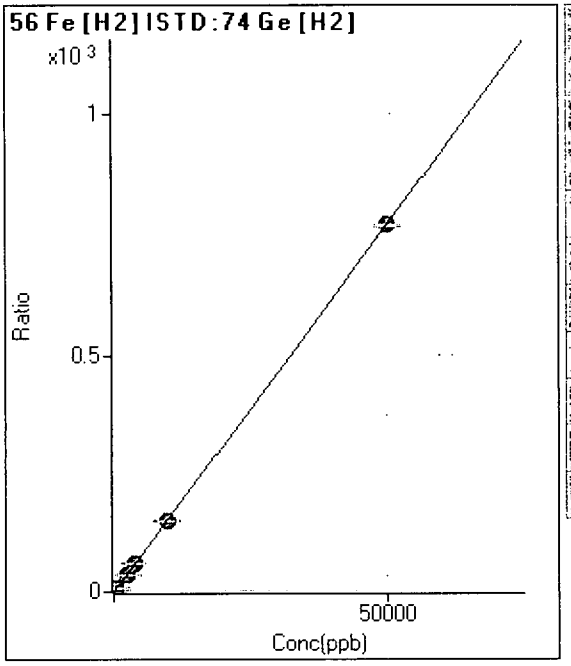


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	82	0.001	P	24.4
2	☐	0.180	0.178	302	0.003	P	7.8
3	☐	0.900	0.870	1170	0.013	P	10.0
4	☐	1.800	1.823	2355	0.026	P	5.1
5	☐	3.600	3.576	4544	0.050	P	1.0
6	☐	20.000	19.753	24616	0.271	P	3.0
7	☐	50.000	48.781	59857	0.667	P	2.1
8	☐	200.000	193.623	230700	2.645	P	0.2
9	☐	500.000	489.602	567254	6.688	P	0.8
10	☐	2500.000	2502.616	2779306	34.181	A	0.6

y = 0.0137 * x + 9.1295E-004
R = 1.0000
DL = 0.04891
BEC = 0.06684

Weight: <None>
Min Conc: <None>

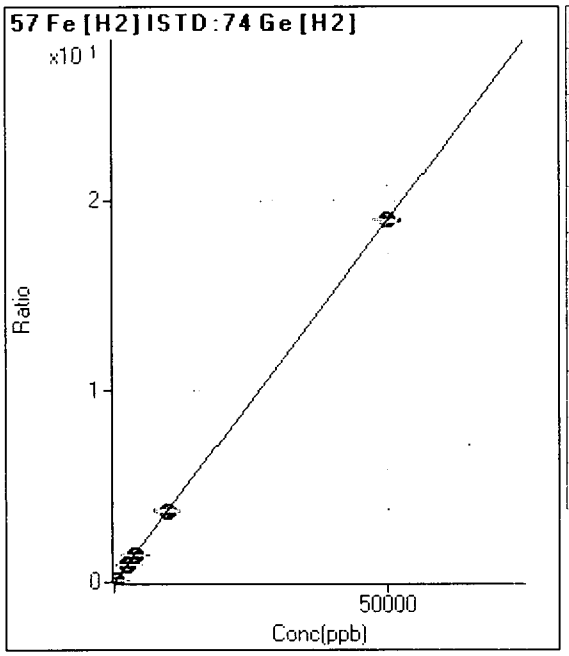
Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	12914	0.029	P	2.7
2		9.000	8.838	73918	0.165	P	0.1
3		45.000	44.599	320621	0.716	P	0.9
4		90.000	88.320	624626	1.390	P	0.1
5		180.000	176.230	1230929	2.744	P	0.2
6		400.000	400.741	2795934	6.204	A	1.0
7		2500.000	2477.145	16887132	38.198	A	0.9
8		4000.000	3911.255	25757209	60.296	A	0.4
9		10000.000	9847.076	62035904	151.759	A	0.2
10		50000.000	50038.838	289376047	771.060	A	0.3

y = 0.0154 * x + 0.0288
R = 1.0000
DL = 0.152
BEC = 1.869

Weight: <None>
Min Conc: <None>

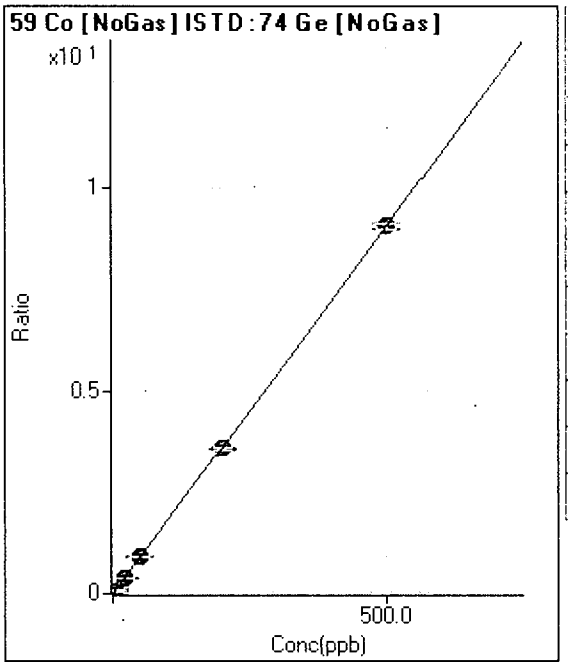


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	814	0.002	P	5.8
2		9.000	8.817	2307	0.005	P	1.7
3		45.000	43.993	8261	0.018	P	2.7
4		90.000	87.032	15604	0.035	P	1.3
5		180.000	176.952	30821	0.069	P	1.1
6		400.000	384.887	66395	0.147	P	0.9
7		2500.000	2392.233	400610	0.906	P	0.7
8		4000.000	3766.418	609003	1.426	P	0.5
9		10000.000	9927.383	1534879	3.755	A	0.5
10		50000.000	50038.736	7099989	18.918	A	0.7

y = 3.7804E-004 * x + 0.0018
R = 1.0000
DL = 0.8341
BEC = 4.801

Weight: <None>
Min Conc: <None>

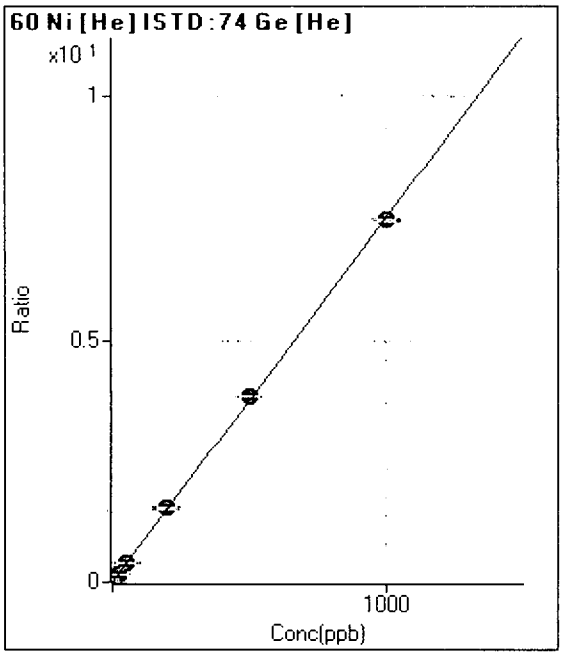
Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	358	0.001	P	3.4
2		0.180	0.165	1808	0.004	P	1.4
3		0.900	0.902	8346	0.017	P	3.6
4		1.800	1.805	16267	0.033	P	4.0
5		3.600	3.858	33007	0.071	P	6.5
6		20.000	20.164	178669	0.366	P	0.9
7		50.000	49.808	431085	0.902	P	0.8
8		200.000	198.055	1674894	3.585	A	1.2
9		500.000	500.789	4103840	9.063	A	1.5
10				2864	0.006	P	3.7

y = 0.0181 * x + 7.3695E-004
R = 1.0000
DL = 0.004206
BEC = 0.04072

Weight: <None>
Min Conc: <None>

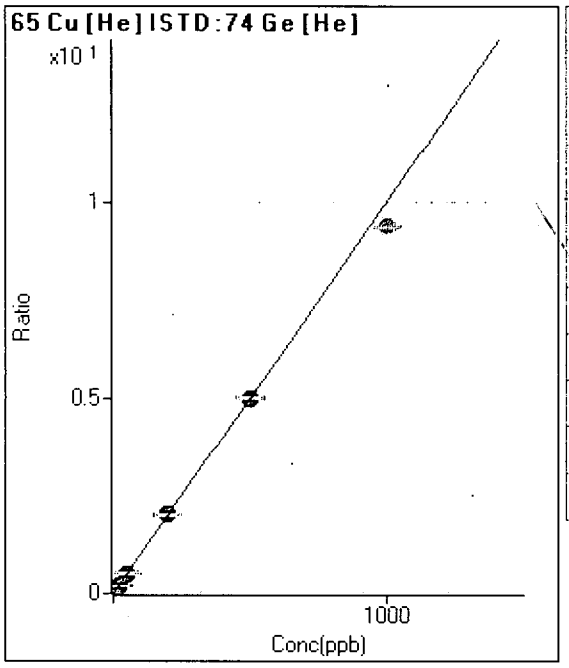


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	306	0.003	P	12.5
2		0.180	0.150	408	0.005	P	14.8
3		0.900	0.785	850	0.009	P	7.1
4		1.800	1.997	1679	0.018	P	4.5
5		3.600	3.665	2825	0.031	P	2.2
6		20.000	21.063	14701	0.162	P	0.4
7		50.000	52.219	35511	0.396	P	0.9
8		200.000	203.399	133575	1.532	P	1.0
9		500.000	511.205	326100	3.845	P	0.1
10		1000.000	993.585	607296	7.469	P	0.6

y = 0.0075 * x + 0.0034
R = 0.9999
DL = 0.1696
BEC = 0.452

Weight: <None>
Min Conc: <None>

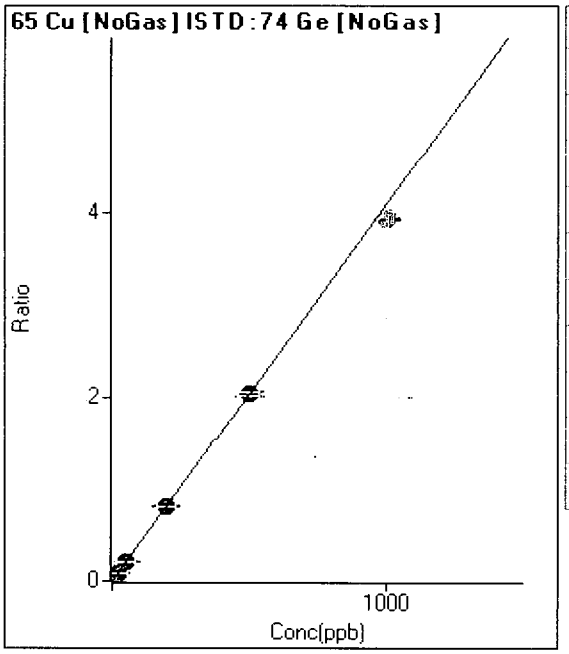
Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc		CPS	Ratio	Det	%RSD
1	☐	0.000	0.000		268	0.003	P	13.1
2	☐	0.180	0.220	✓	467	0.005	P	17.1
3	☐	0.900	0.917	✓	1111	0.012	P	12.5
4	☐	1.800	1.960	✓	2060	0.023	P	10.4
5	☐	3.600	3.920	✓	3853	0.042	P	1.3
6	☐	20.000	21.498	✓	19829	0.218	P	0.2
7	☐	50.000	51.679	✓	46655	0.520	P	1.6
8	☐	200.000	201.830	✓	176348	2.022	P	0.5
9	☐	500.000	499.037	✓	423723	4.996	P	0.5
10	☑	1000.000			764055	9.397	P	0.8

y = 0.0100 * x + 0.0030
R = 1.0000 ✓
DL = 0.1169
BEC = 0.2975

Weight: <None>
Min Conc: <None>

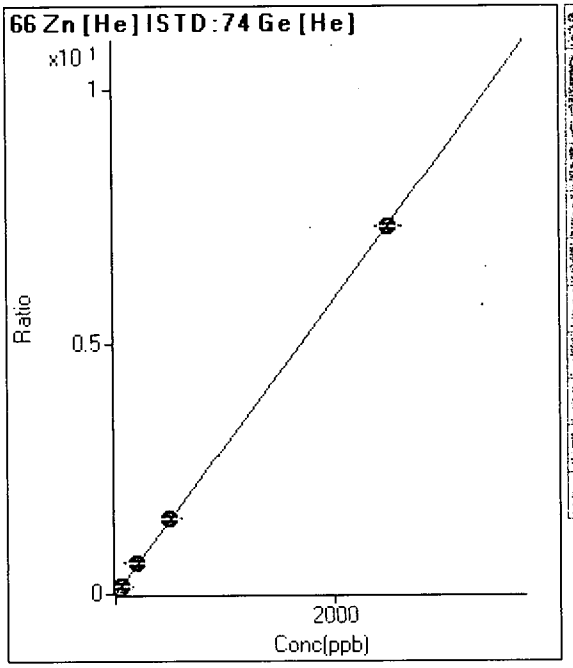


	Rjct	Conc	Calc Conc		CPS	Ratio	Det	%RSD
1	☐	0.000	0.000		600	0.001	P	10.5
2	☐	0.180	0.239		1075	0.002	P	11.6
3	☐	0.900	1.010	✓	2624	0.005	P	9.3
4	☐	1.800	1.863	✓	4310	0.009	P	3.3
5	☐	3.600	4.142	✓	8505	0.018	P	6.1
6	☐	20.000	21.301	✓	43137	0.088	P	2.3
7	☐	50.000	52.081	✓	102293	0.214	P	0.7
8	☐	200.000	200.375	✓	383143	0.820	P	0.7
9	☐	500.000	499.586	✓	924946	2.043	P	1.6
10	☑	1000.000			1749006	3.932	A	0.7

y = 0.0041 * x + 0.0012
R = 1.0000
DL = 0.0952
BEC = 0.3022

Weight: <None>
Min Conc: <None>

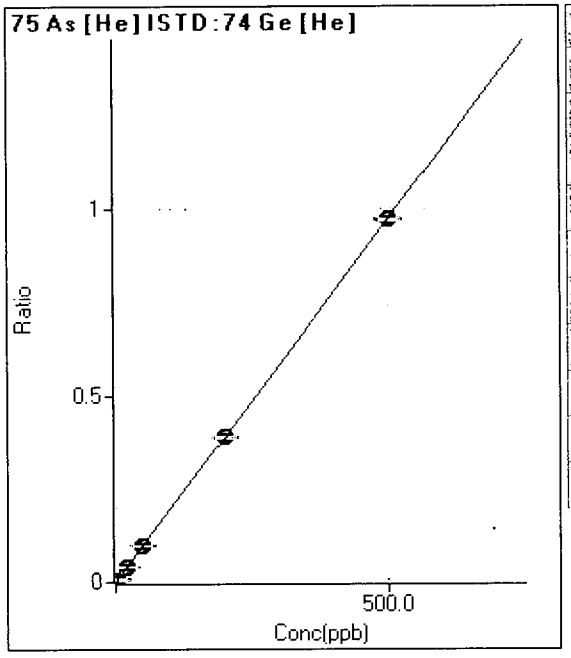
Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	96	0.001	P	17.5
2		0.180	0.180	143	0.002	P	30.8
3		0.900	0.944	350	0.004	P	8.6
4		1.800	2.085	654	0.007	P	1.4
5		3.600	3.943	1152	0.013	P	7.8
6		20.000	21.871	5927	0.065	P	1.7
7		50.000	52.174	13818	0.154	P	3.0
8		200.000	209.642	53689	0.616	P	1.2
9		500.000	518.747	129074	1.522	P	0.3
10		2500.000	2495.420	594871	7.316	P	0.1

y = 0.0029 * x + 0.0011
R = 1.0000
DL = 0.1898
BEC = 0.362

Weight: <None>
Min Conc: <None>

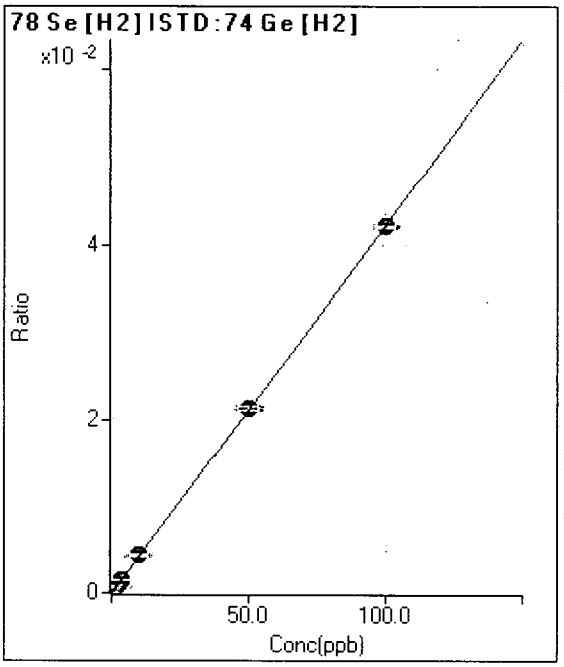


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	13	0.000	P	30.2
2		0.180	0.160	41	0.000	P	12.3
3		0.900	0.887	171	0.002	P	11.0
4		1.800	1.859	343	0.004	P	8.5
5		3.600	3.842	694	0.008	P	5.3
6		20.000	20.863	3695	0.041	P	2.8
7		50.000	50.413	8790	0.098	P	1.9
8		200.000	200.178	33886	0.389	P	0.6
9		500.000	499.851	82278	0.970	P	0.8
10				38	0.000	P	44.0

y = 0.0019 * x + 1.4812E-004
R = 1.0000
DL = 0.06911
BEC = 0.07634

Weight: <None>
Min Conc: <None>

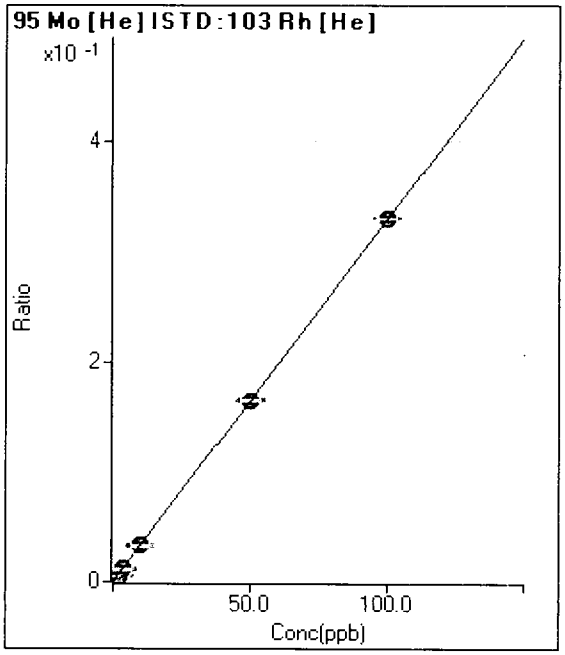
Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	2	0.000	P	132.9
2		0.180	0.190	38	0.000	P	5.6
3		0.900	0.879	168	0.000	P	3.6
4		1.800	1.864	356	0.001	P	7.3
5		3.600	3.656	695	0.002	P	4.7
6		10.000	10.388	1981	0.004	P	3.3
7		50.000	50.261	9394	0.021	P	1.5
8		100.000	99.828	18026	0.042	P	0.5
9				32	0.000	P	29.7
10				20	0.000	P	24.6

y = 4.2267E-004 * x + 4.4801E-006
R = 1.0000
DL = 0.04226
BEC = 0.0106

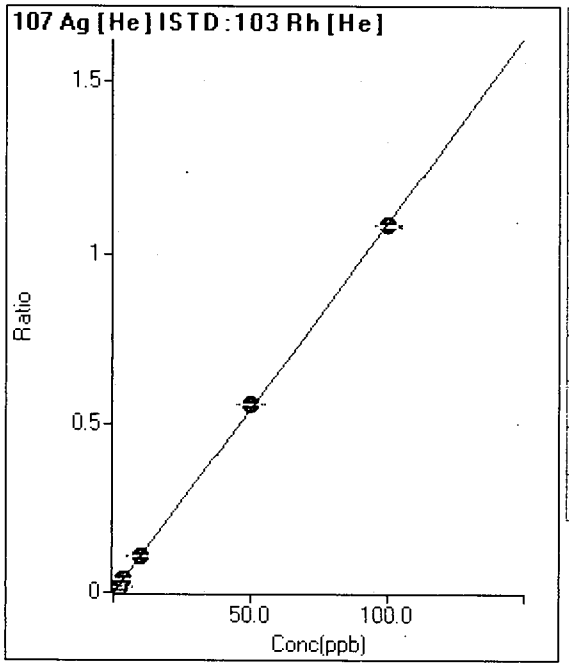
Weight: <None>
Min Conc: <None>



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	10	0.000	P	33.5
2		0.180	0.178	167	0.001	P	11.9
3		0.900	0.908	822	0.003	P	9.6
4		1.800	1.695	1517	0.006	P	7.9
5		3.600	3.537	3128	0.012	P	8.6
6		10.000	9.815	8759	0.032	P	3.4
7		50.000	49.958	43126	0.165	P	0.9
8		100.000	100.044	84223	0.330	P	0.2
9				120	0.000	P	5.4
10				122	0.001	P	34.7

y = 0.0033 * x + 3.7189E-005
R = 1.0000
DL = 0.01132
BEC = 0.01127

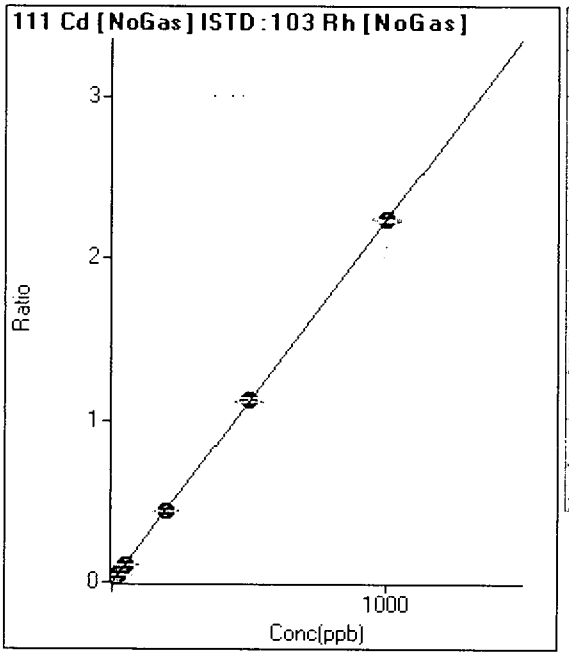
Weight: <None>
Min Conc: <None>



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	1	0.000	P	173.2
2		0.180	0.192	559	0.002	P	14.1
3		0.900	0.934	2757	0.010	P	3.5
4		1.800	1.835	5375	0.020	P	0.4
5		3.600	3.659	10634	0.040	P	1.8
6		10.000	10.198	29969	0.111	P	1.4
7		50.000	50.987	145058	0.554	P	0.4
8		100.000	99.484	276040	1.082	P	0.6
9				186	0.001	P	16.7
10				298	0.001	P	14.1

y = 0.0109 * x + 4.1326E-006
R = 0.9999
DL = 0.001975
BEC = 0.00038

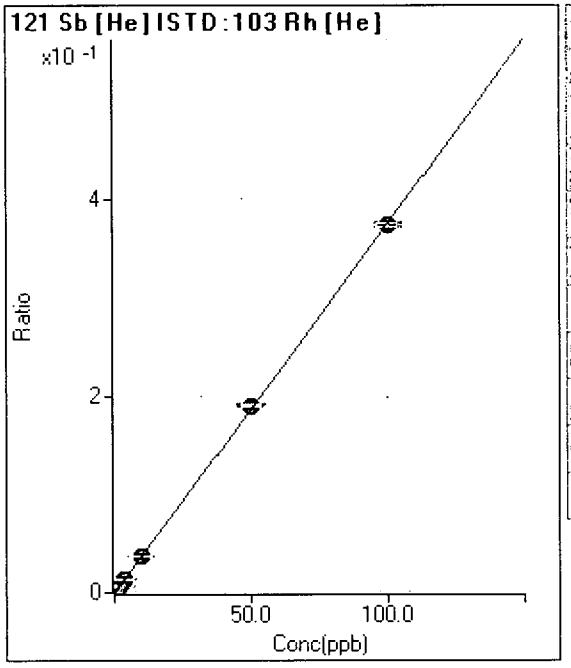
Weight: <None>
Min Conc: <None>



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	3	0.000	P	303.1
2		0.180	0.146	172	0.000	P	12.6
3		0.900	0.978	1149	0.002	P	9.0
4		1.800	1.740	2022	0.004	P	11.3
5		3.600	3.719	4136	0.008	P	5.6
6		20.000	19.813	23072	0.044	P	0.4
7		50.000	48.962	55335	0.110	P	0.5
8		200.000	194.050	212535	0.434	P	0.3
9		500.000	503.038	526426	1.126	P	1.3
10		1000.000	999.727	997052	2.237	P	0.8

y = 0.0022 * x + 4.9359E-006
R = 1.0000
DL = 0.02006
BEC = 0.002206

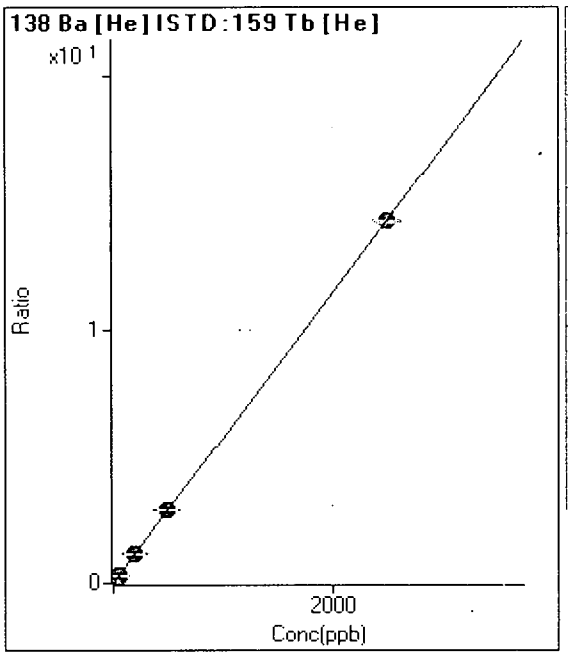
Weight: <None>
Min Conc: <None>



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	2	0.000	P	173.2
2		0.180	0.194	197	0.001	P	13.0
3		0.900	0.926	944	0.003	P	10.3
4		1.800	1.847	1868	0.007	P	2.4
5		3.600	3.702	3712	0.014	P	1.2
6		10.000	9.940	10073	0.037	P	1.4
7		50.000	50.791	49822	0.190	P	1.2
8		100.000	99.606	95296	0.373	P	1.1
9				109	0.000	P	22.3
10				51	0.000	P	32.7

y = 0.0037 * x + 8.2776E-006
R = 1.0000
DL = 0.01147
BEC = 0.002208

Weight: <None>
Min Conc: <None>

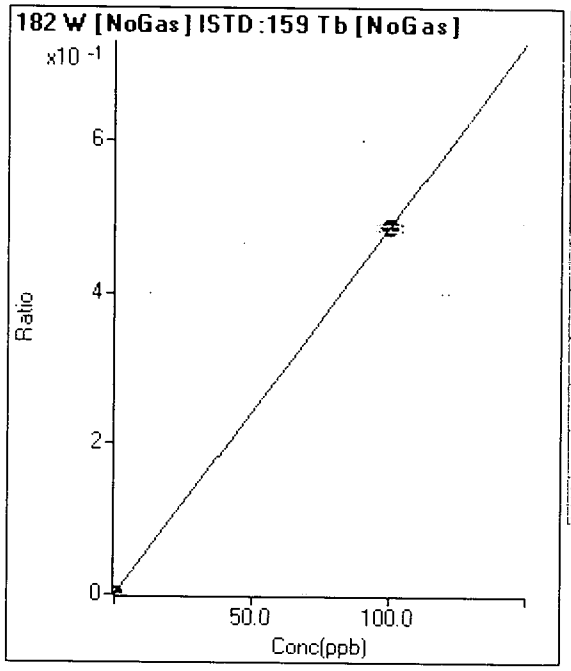


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	118	0.000	P	6.6
2		0.180	0.173	504	0.001	P	4.6
3		0.900	0.926	2234	0.006	P	3.8
4		1.800	1.853	4300	0.011	P	2.0
5		3.600	3.804	8655	0.022	P	1.4
6		20.000	21.091	47920	0.121	P	0.5
7		50.000	51.524	115817	0.294	P	0.5
8		200.000	204.374	448284	1.167	P	0.9
9		500.000	500.129	1091886	2.855	P	0.5
10		2500.000	2499.585	5277689	14.268	A	0.2

y = 0.0057 * x + 2.9768E-004
R = 1.0000
DL = 0.01033
BEC = 0.05215

Weight: <None>
Min Conc: <None>

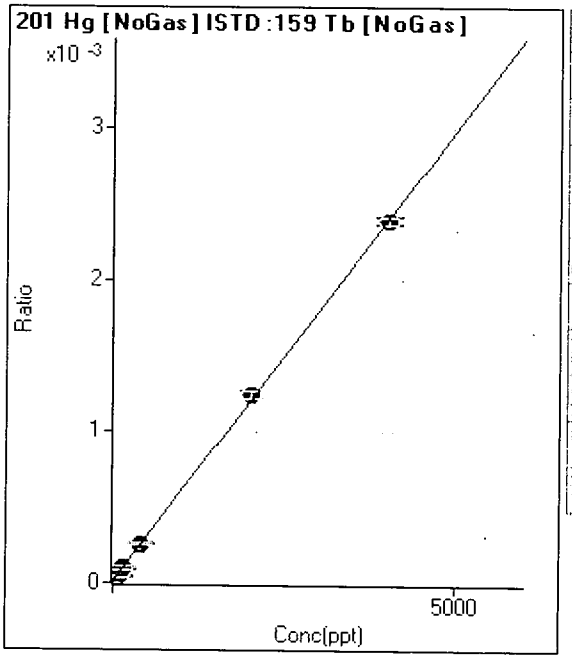
Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	44	0.000	P	30.6
2				47	0.000	P	19.5
3				39	0.000	P	13.6
4				39	0.000	P	20.0
5				33	0.000	P	20.9
6				57	0.000	P	41.2
7				77	0.000	P	15.5
8				98	0.000	P	16.1
9		100.000	100.000	389399	0.486	P	1.4
10				898	0.001	P	6.0

y = 0.0049 * x + 5.2961E-005
R = 1.0000
DL = 0.01001
BEC = 0.0109

Weight: <None>
Min Conc: <None>

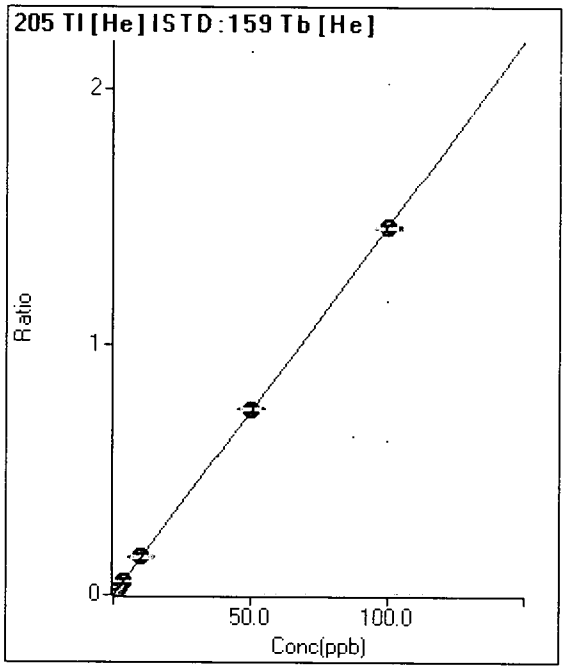


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	-8.908	9	0.000	P	64.1
2				12	0.000	P	25.1
3		36.000	33.243	30	0.000	P	1.6
4		72.000	54.938	41	0.000	P	22.3
5		144.000	142.052	81	0.000	P	14.9
6		400.000	405.440	220	0.000	P	5.0
7		2000.000	2050.754	1040	0.001	P	3.8
8		4000.000	3974.481	1975	0.002	P	2.1
9				70	0.000	P	8.4
10				33	0.000	P	4.5

y = 5.976365E-007 * x + 1.588007E-005
R = 0.9999
DL = 33.98
BEC = 26.57

Weight: <None>
Min Conc: <None>

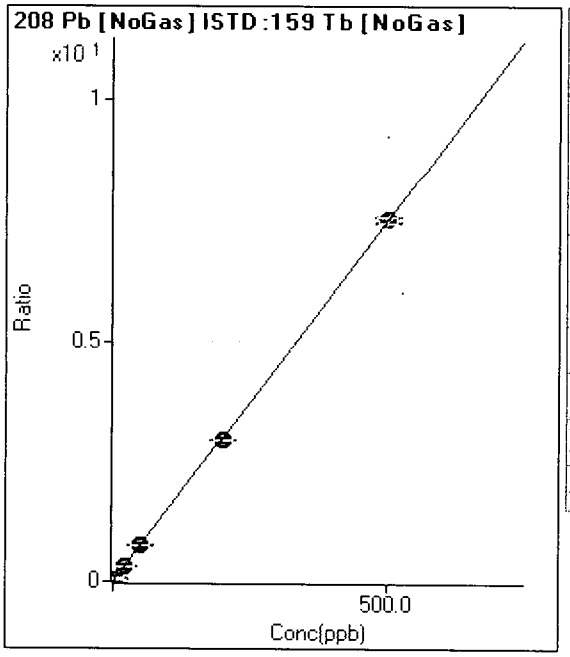
Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	66	0.000	P	17.3
2		0.180	0.188	1138	0.003	P	14.7
3		0.900	0.937	5536	0.014	P	3.3
4		1.800	1.864	10826	0.027	P	0.5
5		3.600	3.686	21226	0.054	P	2.2
6		10.000	10.307	59815	0.151	P	0.3
7		50.000	50.352	289266	0.735	P	0.8
8		100.000	99.789	559789	1.457	P	0.6
9				284	0.001	P	11.7
10				146	0.000	P	20.4

y = 0.0146 * x + 1.6554E-004
R = 1.0000
DL = 0.005887
BEC = 0.01134

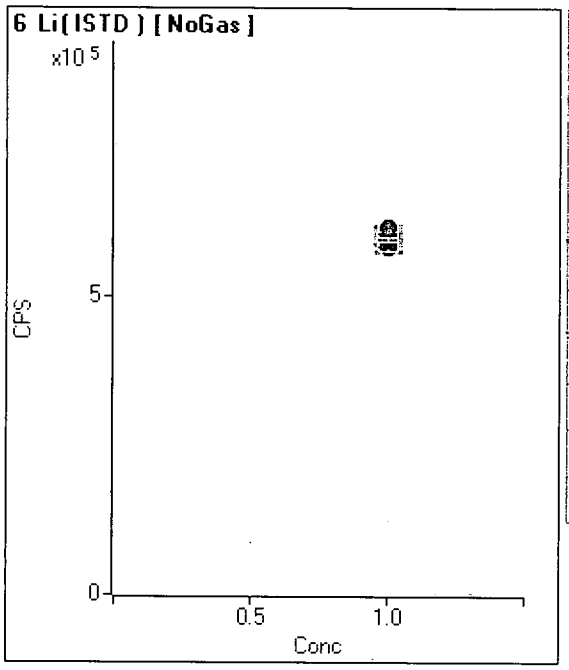
Weight: <None>
Min Conc: <None>



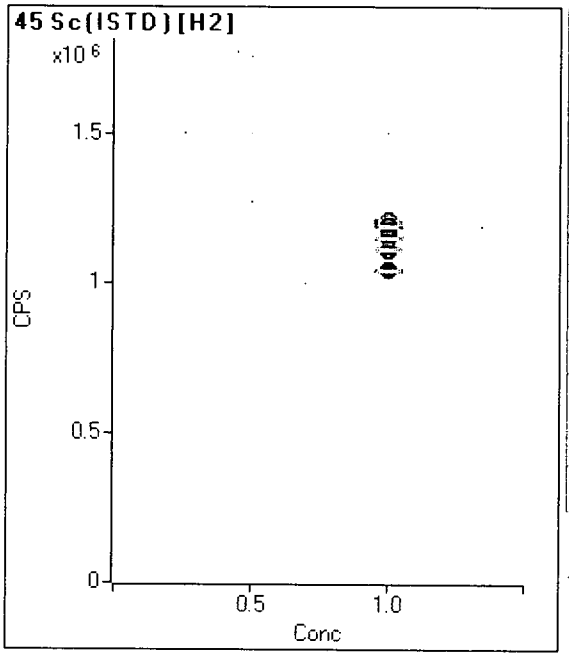
	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1		0.000	0.000	630	0.001	P	6.9
2		0.180	0.181	2912	0.003	P	5.7
3		0.900	0.905	12171	0.014	P	0.4
4		1.800	1.798	23463	0.028	P	0.7
5		3.600	3.920	48066	0.060	P	4.9
6		20.000	20.502	262657	0.309	P	0.8
7		50.000	49.924	628706	0.751	P	1.3
8		200.000	196.754	2441087	2.956	P	0.2
9		500.000	501.284	6036363	7.531	A	1.6
10				3125	0.004	P	4.0

y = 0.0150 * x + 7.5151E-004
R = 1.0000
DL = 0.01031
BEC = 0.05003

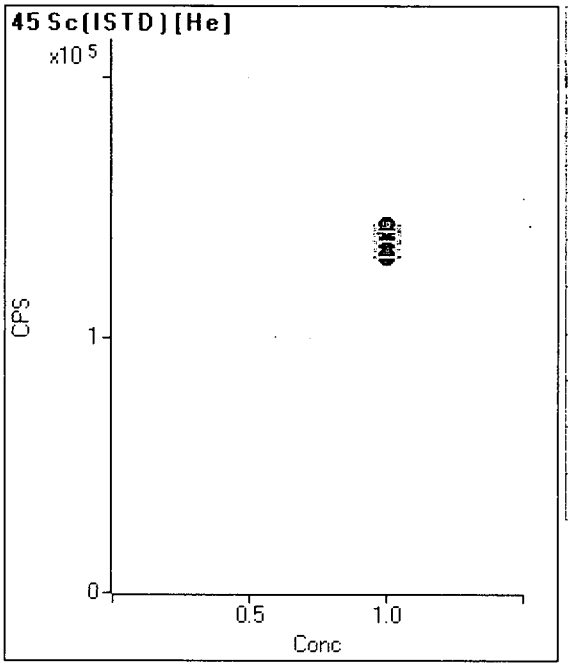
Weight: <None>
Min Conc: <None>



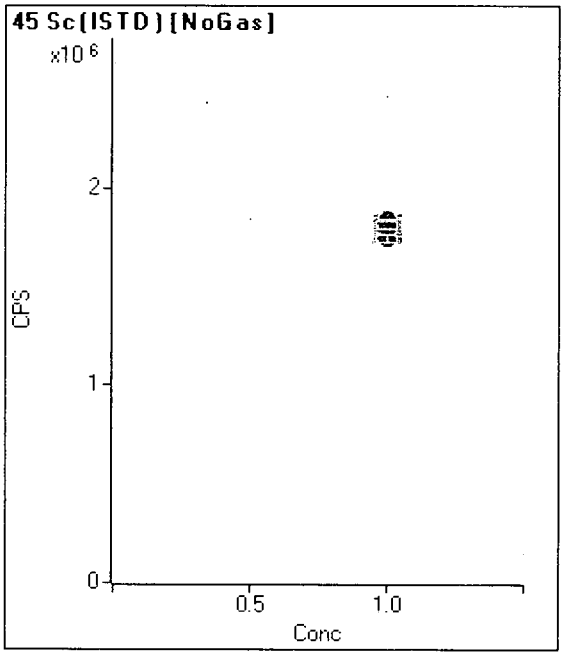
	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		612114		P	1.6
2	☐	1.000		609167		P	1.2
3	☐	1.000		607970		P	1.1
4	☐	1.000		606351		P	1.2
5	☐	1.000		582311		P	3.7
6	☐	1.000		603110		P	1.0
7	☐	1.000		598469		P	0.7
8	☐	1.000		585958		P	1.0
9	☐	1.000		581332		P	2.0
10	☐	1.000		592397		P	1.0



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		1188984		P	0.7
2	☐	1.000		1184489		P	0.6
3	☐	1.000		1187514		P	0.3
4	☐	1.000		1198928		P	0.4
5	☐	1.000		1193790		P	0.5
6	☐	1.000		1207291		M	0.1
7	☐	1.000		1188672		P	0.7
8	☐	1.000		1149033		P	0.3
9	☐	1.000		1108316		P	0.5
10	☐	1.000		1040160		P	0.6

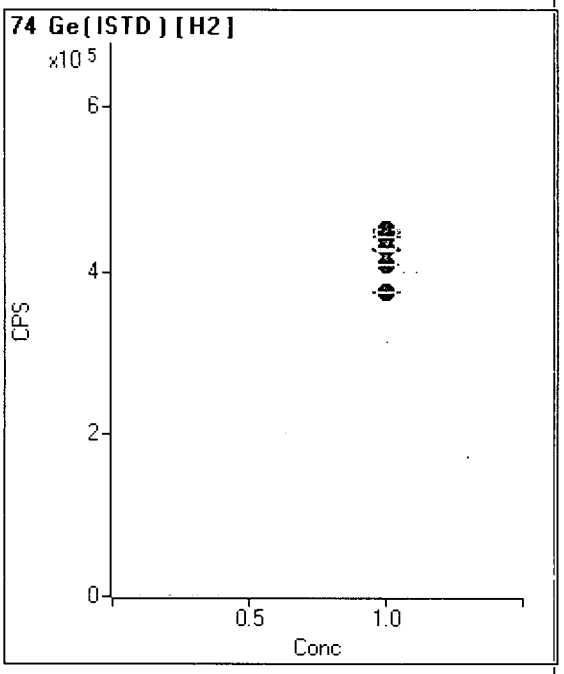


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		140140		P	1.2
2	☐	1.000		140892		P	1.0
3	☐	1.000		142733		P	0.8
4	☐	1.000		142456		P	0.6
5	☐	1.000		142980		P	0.6
6	☐	1.000		141783		P	0.5
7	☐	1.000		140300		P	0.7
8	☐	1.000		136562		P	0.7
9	☐	1.000		133712		P	0.4
10	☐	1.000		131228		P	0.3

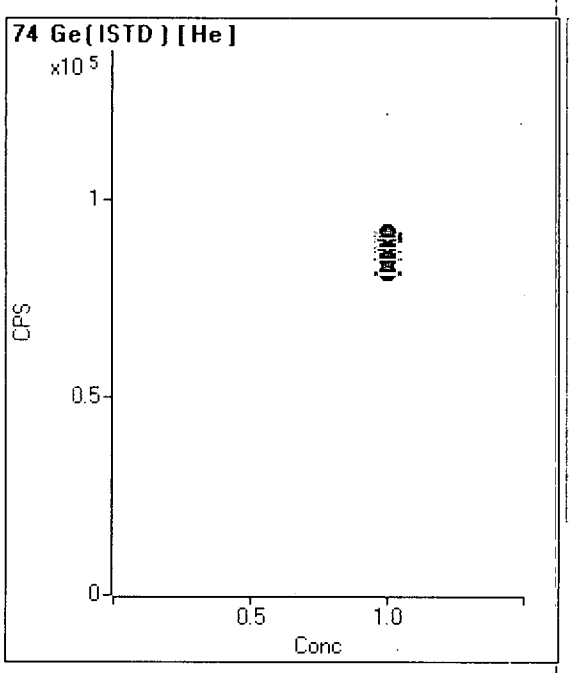


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		1816935		A	1.0
2	☐	1.000		1798657		A	0.4
3	☐	1.000		1837477		A	2.6
4	☐	1.000		1827659		A	1.1
5	☐	1.000		1756280		A	3.4
6	☐	1.000		1818518		A	1.3
7	☐	1.000		1834384		A	0.8
8	☐	1.000		1783737		A	1.0
9	☐	1.000		1739794		A	0.7
10	☐	1.000		1743445		A	2.1

Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		448606		P	1.0
2	☐	1.000		448064		P	0.5
3	☐	1.000		447811		P	0.6
4	☐	1.000		449473		P	0.2
5	☐	1.000		448551		P	0.5
6	☐	1.000		450694		P	0.1
7	☐	1.000		442095		P	0.3
8	☐	1.000		427177		P	0.4
9	☐	1.000		408780		P	0.4
10	☐	1.000		375296		P	0.4



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		89994		P	0.6
2	☐	1.000		90194		P	0.6
3	☐	1.000		91440		P	0.1
4	☐	1.000		91230		P	0.2
5	☐	1.000		91321		P	0.2
6	☐	1.000		90936		P	0.1
7	☐	1.000		89728		P	0.7
8	☐	1.000		87209		P	0.8
9	☐	1.000		84821		P	0.6
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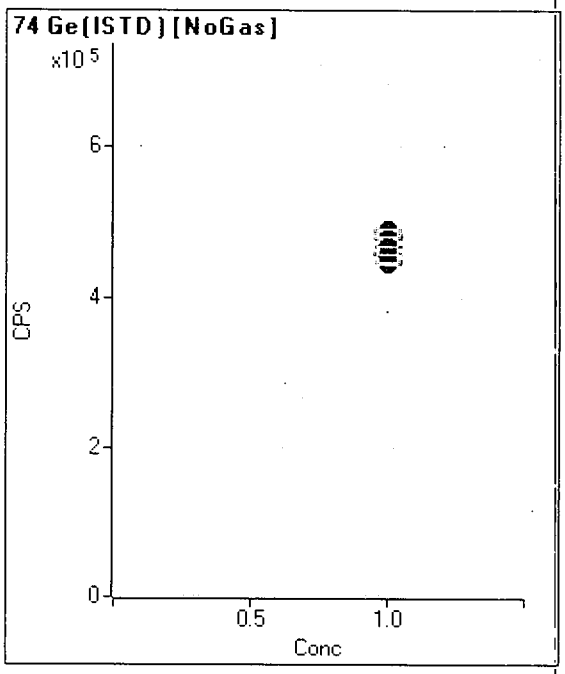
Calibration for 014_ICV.d



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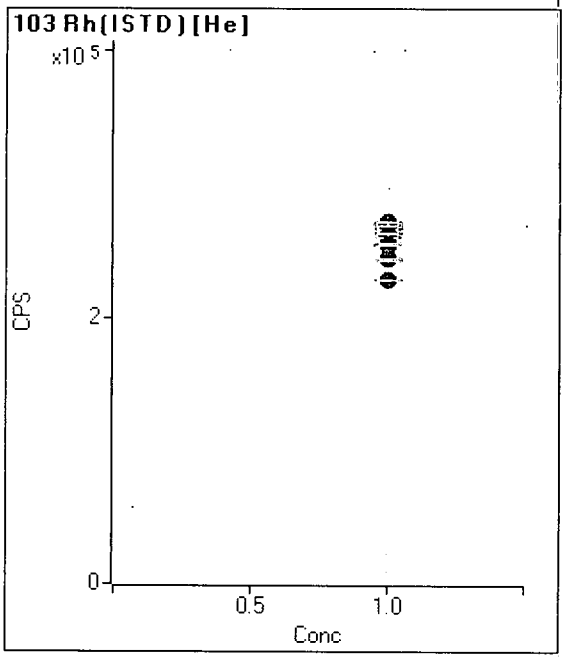
1	☐	1.000		485934		P	1.1
2	☐	1.000		486373		P	1.3
3	☐	1.000		489364		P	0.8
4	☐	1.000		487116		P	0.3
5	☐	1.000		468604		P	3.7
6	☐	1.000		488660		P	0.2
7	☐	1.000		477865		P	0.4
8	☐	1.000		467232		P	0.3
9	☐	1.000		452884		P	1.7
10	☐	1.000		444811		P	0.9



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		269021		P	0.2
2	☐	1.000		267212		P	0.7
3	☐	1.000		271297		P	0.8
4	☐	1.000		269350		P	0.4
5	☐	1.000		267212		P	0.5
6	☐	1.000		270249		P	0.7
7	☐	1.000		261628		P	0.9
8	☐	1.000		255167		P	0.5
9	☐	1.000		243989		P	0.6
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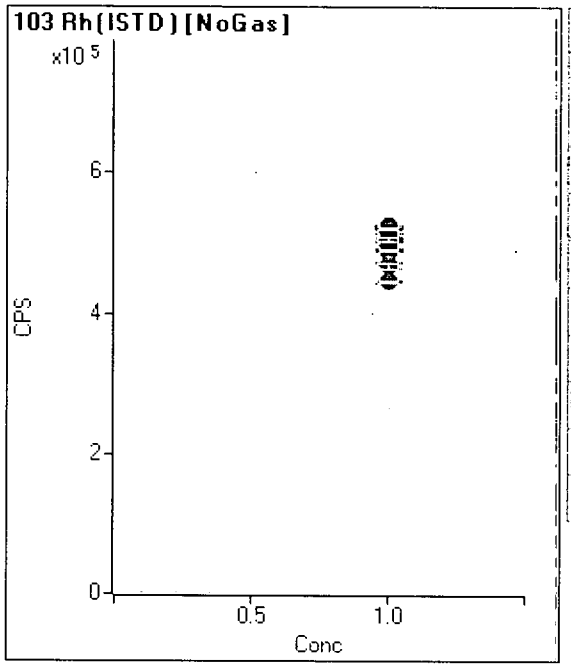
Calibration for 014_ICV.d



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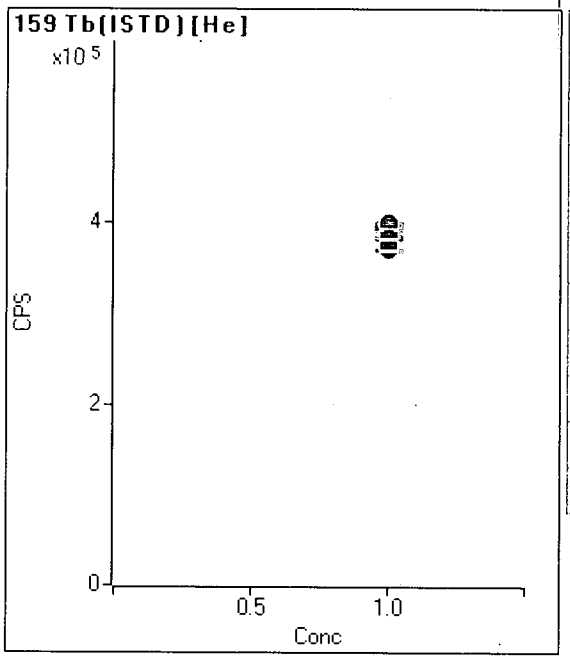
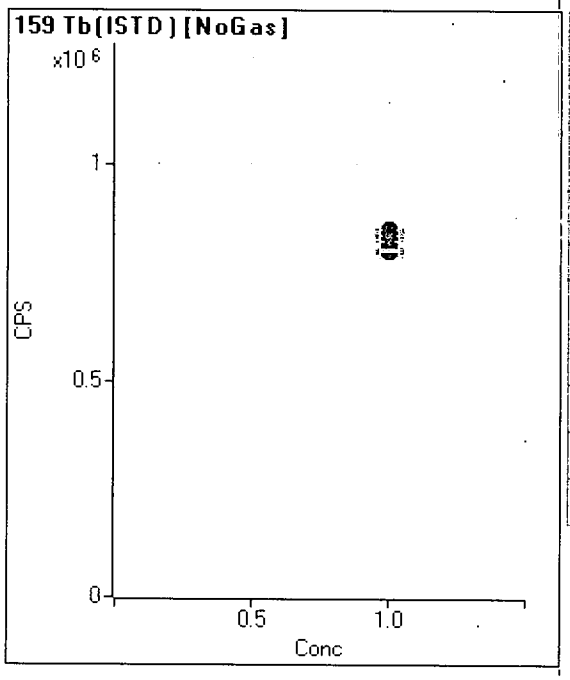
2	☐	1.000		516983		P	1.4
3	☐	1.000		523448		P	0.4
4	☐	1.000		518501		P	0.1
5	☐	1.000		497265		P	3.4
6	☐	1.000		520318		P	1.0
7	☐	1.000		505034		P	0.6
8	☐	1.000		489456		P	0.2
9	☐	1.000		467734		P	1.7
10	☐	1.000		445716		P	1.0



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		395791		P	0.8
2	☐	1.000		391990		P	0.5
3	☐	1.000		399921		P	0.6
4	☐	1.000		395369		P	0.7
5	☐	1.000		393244		P	0.6
6	☐	1.000		397076		P	0.5
7	☐	1.000		393426		P	0.9
8	☐	1.000		384215		P	1.2
9	☐	1.000		382465		P	0.9
10	☐	1.000		369911		P	0.5

Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		838151		P	0.6
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3	☐	1.000		848604		P	0.7
4	☐	1.000		845341		P	0.3
5	☐	1.000		807120		P	4.0
6	☐	1.000		850785		P	0.2
7	☐	1.000		837554		P	0.7
8	☐	1.000		825735		P	0.2
9	☐	1.000		801677		P	1.4
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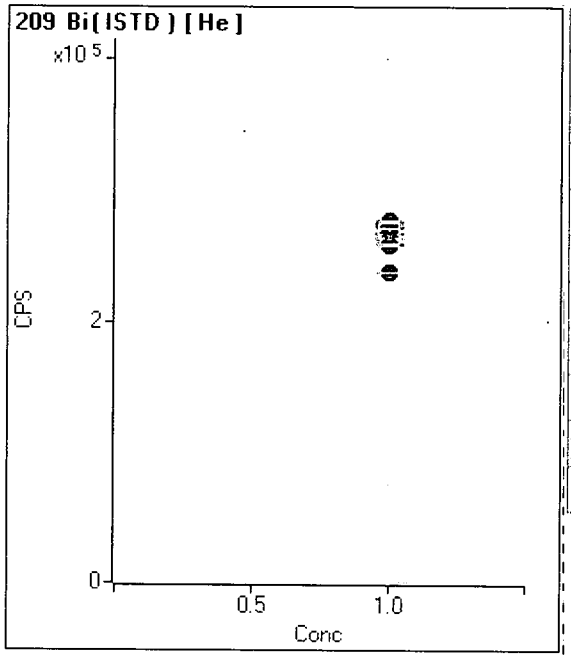
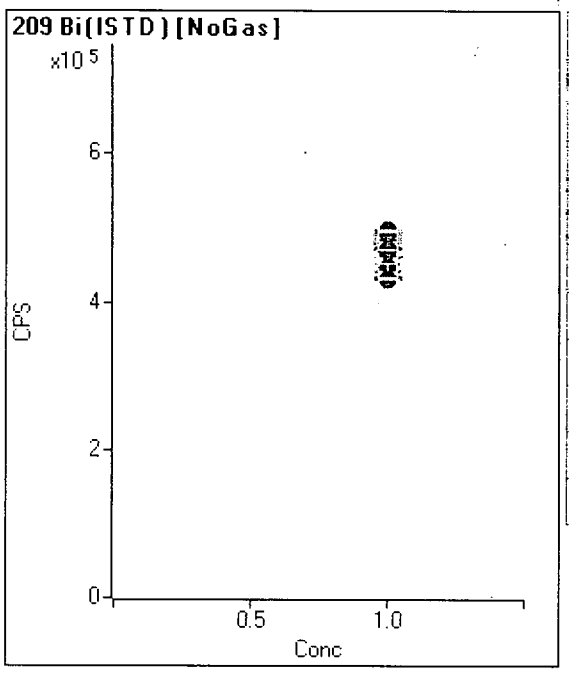


	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		274187		P	0.3
2	☐	1.000		273128		P	0.1
3	☐	1.000		276845		P	0.7
4	☐	1.000		272704		P	0.6
5	☐	1.000		273027		P	0.7
6	☐	1.000		276614		P	0.8
7	☐	1.000		269200		P	1.5
8	☐	1.000		263079		P	0.8
9	☐	1.000		258912		P	1.0
10	☐	1.000		237771		P	0.3

Calibration for 014_ICV.d



	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	☐	1.000		489836		P	1.6
2	☐	1.000		488513		P	0.9
3	☐	1.000		493479		P	0.6
4	☐	1.000		486482		P	0.7
5	☐	1.000		467636		P	3.1
6	☐	1.000		496744		P	0.7
7	☐	1.000		479860		P	0.4
8	☐	1.000		471176		P	0.4
9	☐	1.000		448872		P	2.4
10	☐	1.000		432720		P	0.7

Initial Calibration Verification (ICV) Report ICPMS5

Sample Name	9E22036-ICV1
File Name	014_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 14:23:36
Sample Type	ICV
Total Dilution	1.0000
Comment	A19E109 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	Det.	CPS	Ratio	Integ Time	QC Flag
Na	23	45	1	H2	3928.167	ppb	Analog	9717839	7.774	0.2001	
Ca	44	45	1	H2	3888.112	ppb	Pulse	466463	0.373	0.2001	
Fe	56	74	1	H2	4012.580	ppb	Analog	27690432	61.857	0.3000	
Fe	57	74	1	H2	3865.874	ppb	Pulse	655007	1.463	0.3000	
Se	78	74	1	H2	40.374	ppb	Pulse	7641	0.017	0.9999	
Mg	24	45	2	He	4014.113	ppb	Pulse	921067	6.279	0.0999	
Al	27	45	2	He	3949.965	ppb	Pulse	464552	3.167	0.0999	
K	39	45	2	He	4120.996	ppb	Pulse	882026	6.012	0.0999	
V	51	74	2	He	96.686	ppb	Pulse	156443	1.677	0.3000	
Cr	52	74	2	He	98.096	ppb	Pulse	186189	1.996	0.3000	
Mn	55	74	2	He	96.693	ppb	Pulse	123269	1.322	0.3000	
Ni	60	74	2	He	102.201	ppb	Pulse	71950	0.771	0.3000	
Cu	65	74	2	He	98.182	ppb	Pulse	91903	0.985	0.3000	
Zn	66	74	2	He	101.313	ppb	Pulse	27801	0.298	0.3000	
As	75	74	2	He	95.523	ppb	Pulse	17304	0.185	0.9999	
Mo	95	103	2	He	40.096	ppb	Pulse	35139	0.132	0.3000	
Ag	107	103	2	He	39.348	ppb	Pulse	113623	0.428	0.3000	
Sb	121	103	2	He	41.564	ppb	Pulse	41386	0.156	0.3000	
Ba	138	159	2	He	102.581	ppb	Pulse	228973	0.586	0.3000	
Tl	205	159	2	He	38.305	ppb	Pulse	218643	0.559	0.3000	
Be	9	6	3	NoGas	39.110	ppb	Pulse	69827	0.113	0.3000	
Ti	47	45	3	NoGas	95.732	ppb	Pulse	63009	0.034	0.2001	
Co	59	74	3	NoGas	101.147	ppb	Pulse	877796	1.831	0.2001	
Cu	65	74	3	NoGas	100.620	ppb	Pulse	197702	0.412	0.2001	
Cd	111	103	3	NoGas	95.678	ppb	Pulse	106604	0.214	0.3000	
W	182	159	3	NoGas	0.042	ppb	Pulse	211	0.000	0.3000	
Hg	201	159	3	NoGas	776.918	ppt	Pulse	395	0.000	2.0001	
Pb	208	159	3	NoGas	94.116	ppb	Pulse	1162488	1.415	0.2001	

QC ISTD Table

Name	Mass	Det.	Tune Mode	CPS RSD	ISTD Ref CPS	CPS	ISTD Recovery %	QC flag
Sc	45	Mix	H2	1.9	1188983.99	1250238	105.2	
Ge	74	Pulse	H2	0.7	448606.056666667	447653	99.8	
Sc	45	Pulse	He	0.8	140139.606666667	146710	104.7	
Ge	74	Pulse	He	0.5	89993.8966666667	93279	103.7	
Rh	103	Pulse	He	1.1	269020.95	265558	98.7	
Tb	159	Pulse	He	1.3	395791.276666667	390870	98.8	
Bi	209	Pulse	He	0.7	274186.866666667	262005	95.6	
Li	6	Pulse	NoGas	1.3	612114.496666667	617385	100.9	

Initial Calibration Verification (ICV) Report ICPMS5

Name	Mass	Det.	Tune Mode	CPS RSD	ISTD Ref CPS	CPS	ISTD Recovery %	QC flag
Sc	45	Analog	NoGas	2.0	1816935.23333333	1843435	101.5	
Ge	74	Pulse	NoGas	0.5	485933.593333333	479374	98.7	
Rh	103	Pulse	NoGas	1.2	517869.783333333	497957	96.2	
Tb	159	Pulse	NoGas	0.4	838151.383333333	821840	98.1	
Bi	209	Pulse	NoGas	0.6	489835.583333333	466705	95.3	

Initial Calibration Blank (ICB) Report ICPMS5

Sample Name	9E22036-ICB1
File Name	015_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 14:30:06
Sample Type	ICB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	ICPMS Analyst

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QC Analyte Table

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	Det.	CPS	Ratio	Integ Time	QC flag
Na	23	45	1	H2	0.489	ppb	Pulse	24565	0.019	0.2001	
Ca	44	45	1	H2	0.949	ppb	Pulse	1070	0.001	0.2001	
Fe	56	74	1	H2	0.205	ppb	Pulse	14531	0.032	0.3000	
Fe	57	74	1	H2	0.091	ppb	Pulse	841	0.002	0.3000	
Se	78	74	1	H2	0.026	ppb	Pulse	7	0.000	0.9999	
Mg	24	45	2	He	0.025	ppb	Pulse	464	0.003	0.0999	
Al	27	45	2	He	0.032	ppb	Pulse	103	0.001	0.0999	
K	39	45	2	He	4.376	ppb	Pulse	18442	0.126	0.0999	
V	51	74	2	He	0.038	ppb	Pulse	672	0.007	0.3000	
Cr	52	74	2	He	0.019	ppb	Pulse	178	0.002	0.3000	
Mn	55	74	2	He	0.016	ppb	Pulse	64	0.001	0.3000	
Ni	60	74	2	He	0.133	ppb	Pulse	223	0.002	0.3000	
Cu	65	74	2	He	0.047	ppb	Pulse	320	0.003	0.3000	
Zn	66	74	2	He	0.180	ppb	Pulse	148	0.002	0.3000	
As	75	74	2	He	0.029	ppb	Pulse	19	0.000	0.9999	
Mo	95	103	2	He	0.022	ppb	Pulse	30	0.000	0.3000	
Ag	107	103	2	He	0.009	ppb	Pulse	29	0.000	0.3000	
Sb	121	103	2	He	0.008	ppb	Pulse	10	0.000	0.3000	
Ba	138	159	2	He	0.012	ppb	Pulse	144	0.000	0.3000	
Tl	205	159	2	He	0.003	ppb	Pulse	84	0.000	0.3000	
Be	9	6	3	NoGas	-0.003	ppb	Pulse	28	0.000	0.3000	
Ti	47	45	3	NoGas	0.096	ppb	Pulse	133	0.000	0.2001	
Co	59	74	3	NoGas	0.003	ppb	Pulse	386	0.001	0.2001	
Cu	65	74	3	NoGas	0.090	ppb	Pulse	783	0.002	0.2001	
Cd	111	103	3	NoGas	0.039	ppb	Pulse	47	0.000	0.3000	
W	182	159	3	NoGas	0.019	ppb	Pulse	121	0.000	0.3000	
Hg	201	159	3	NoGas	5.574	ppt	Pulse	16	0.000	2.0001	
Pb	208	159	3	NoGas	0.020	ppb	Pulse	880	0.001	0.2001	

QC ISTD Table

Name	Mass	Det.	Tune Mode	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	Analog	H2	1.1	1262139	1188983.99	106.2	
Ge	74	Pulse	H2	0.7	454710	448606.056666667	101.4	
Sc	45	Pulse	He	1.4	145936	140139.606666667	104.1	
Ge	74	Pulse	He	1.0	93044	89993.8966666667	103.4	
Rh	103	Pulse	He	0.8	273055	269020.95	101.5	
Tb	159	Pulse	He	1.1	394872	395791.276666667	99.8	
Bi	209	Pulse	He	1.3	269114	274186.866666667	98.1	

Initial Calibration Blank (ICB) Report ICPMS5

Name	Mass	Det.	Tune Mode	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	Pulse	NoGas	1.2	618198	612114.496666667	101.0	
Sc	45	Analog	NoGas	2.5	1864637	1816935.23333333	102.6	
Ge	74	Pulse	NoGas	0.4	488875	485933.593333333	100.6	
Rh	103	Pulse	NoGas	0.4	519387	517869.783333333	100.3	
Tb	159	Pulse	NoGas	0.5	833234	838151.383333333	99.4	
Bi	209	Pulse	NoGas	0.7	480056	489835.583333333	98.0	

CRL Verification ICPMS5

Sample Name	9E22036-CRL1
File Name	016CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 14:35:13
Sample Type	CRL1
Total Dilution	1.0000
Comment	A19D348 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	8.545	ppb	7.1	44044	94.94	70	130	
Ca	44	45	H2	9.914	ppb	6.6	2127	110.16	70	130	
Fe	56	74	H2	8.678	ppb	0.8	73727	96.42	70	130	
Fe	57	74	H2	8.461	ppb	5.5	2275	94.01	70	130	
Se	78	74	H2	0.205	ppb	14.1	41	113.89	70	130	
Mg	24	45	He	9.847	ppb	4.4	2720	109.41	70	130	
Al	27	45	He	8.389	ppb	8.3	1095	93.21	70	130	
K	39	45	He	4.383	ppb	23.4	20380	48.7	70	130	<>CRL1 NR<MRL<R-11
V	51	74	He	0.153	ppb	16.1	978	85	70	130	
Cr	52	74	He	0.212	ppb	5.7	542	117.78	70	130	
Mn	55	74	He	0.157	ppb	11.9	284	87.22	70	130	
Ni	60	74	He	0.030	ppb	273.7	337	16.67	70	130	<>CRL1 NR<MRL<R-11
Cu	65	74	He	0.219	ppb	23.0	480	121.67	70	130	
Zn	66	74	He	0.315	ppb	21.9	184	175	70	130	<>CRL1 NR<MRL<R-11
As	75	74	He	0.197	ppb	30.4	49	109.44	70	130	
Mo	95	103	He	0.147	ppb	13.0	143	81.67	70	130	
Ag	107	103	He	0.180	ppb	12.9	537	100	70	130	
Sb	121	103	He	0.181	ppb	2.8	188	100.56	70	130	
Ba	138	159	He	0.172	ppb	22.4	508	95.56	70	130	
Tl	205	159	He	0.182	ppb	4.7	1126	101.11	70	130	
Be	9	6	NoGas	0.185	ppb	12.3	366	102.78	70	130	
Ti	47	45	NoGas	0.261	ppb	28.8	247	145	70	130	<>CRL1 NR<MRL<R-11
Co	59	74	NoGas	0.169	ppb	5.3	1868	93.89	70	130	
Cu	65	74	NoGas	0.202	ppb	17.0	1015	112.22	70	130	
Cd	111	103	NoGas	0.195	ppb	2.7	231	108.33	70	130	
Hg	201	159	NoGas	3.949	ppt	93.0	15	54.85	70	130	<>CRL1 NR<MRL<R-11
Pb	208	159	NoGas	0.193	ppb	5.5	3070	107.22	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	3.5	1246226	1188983.99	104.8	
Ge	74	H2	Pulse	0.4	453706	448606.056666667	101.1	
Sc	45	He	Pulse	0.3	146740	140139.606666667	104.7	
Ge	74	He	Pulse	0.4	92977	89993.8966666667	103.3	
Rh	103	He	Pulse	0.4	274094	269020.95	101.9	

JB 5/23/19

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	1.1	397848	395791.276666667	100.5	
Bi	209	He	Pulse	1.6	271684	274186.866666667	99.1	
Li	6	NoGas	Pulse	0.6	621702	612114.496666667	101.6	
Sc	45	NoGas	Analog	1.4	1882317	1816935.23333333	103.6	
Ge	74	NoGas	Pulse	0.3	492372	485933.593333333	101.3	
Rh	103	NoGas	Pulse	0.6	522600	517869.783333333	100.9	
Tb	159	NoGas	Pulse	0.6	841042	838151.383333333	100.3	
Bi	209	NoGas	Pulse	0.1	484062	489835.583333333	98.8	

CRL Verification ICPMS5

Sample Name	9E22036-CRL2
File Name	017_CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 14:39:28
Sample Type	CRL2
Total Dilution	1.0000
Comment	A19D349 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	ICPMS Analyst

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	43.035	ppb	1.8	127500	95.63	70	130	
Ca	44	45	H2	46.123	ppb	6.3	6378	102.5	70	130	
Fe	57	74	H2	42.506	ppb	1.9	8061	94.46	70	130	
Se	78	74	H2	0.892	ppb	4.5	172	99.11	70	130	
Mg	24	45	He	49.187	ppb	10.1	10932	109.3	70	130	
Al	27	45	He	44.934	ppb	14.6	5009	99.85	70	130	
K	39	45	He	52.974	ppb	30.6	28419	117.72	70	130	
V	51	74	He	0.953	ppb	3.8	2127	105.89	70	130	
Cr	52	74	He	0.956	ppb	11.1	1827	106.22	70	130	
Mn	55	74	He	0.925	ppb	4.5	1185	102.78	70	130	
Ni	60	74	He	0.972	ppb	15.5	931	108	70	130	
Cu	65	74	He	1.094	ppb	4.9	1217	121.56	70	130	
Zn	66	74	He	1.025	ppb	26.3	352	113.89	70	130	
As	75	74	He	0.936	ppb	14.2	171	104	70	130	
Mo	95	103	He	0.957	ppb	19.3	819	106.33	70	130	
Ag	107	103	He	1.014	ppb	6.1	2849	112.67	70	130	
Sb	121	103	He	0.950	ppb	12.2	919	105.56	70	130	
Ba	138	159	He	0.939	ppb	6.1	2132	104.33	70	130	
Tl	205	159	He	0.959	ppb	11.6	5324	106.56	70	130	
Be	9	6	NoGas	0.903	ppb	3.8	1643	100.33	70	130	
Ti	47	45	NoGas	0.974	ppb	4.2	720	108.22	70	130	
Co	59	74	NoGas	0.926	ppb	1.5	8601	102.89	70	130	
Cu	65	74	NoGas	0.993	ppb	4.2	2601	110.33	70	130	
Cd	111	103	NoGas	0.845	ppb	5.6	989	93.89	70	130	
Hg	201	159	NoGas	36.220	ppt	13.1	32	100.61	70	130	
Pb	208	159	NoGas	0.891	ppb	0.5	11861	99	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Mix	2.1	1232528	1188983.99	103.7	
Ge	74	H2	Pulse	0.3	450749	448606.056666667	100.5	
Sc	45	He	Pulse	8.6	137342	140139.606666667	98.0	
Ge	74	He	Pulse	8.7	87530	89993.8966666667	97.3	
Rh	103	He	Pulse	9.2	259187	269020.95	96.3	
Tb	159	He	Pulse	7.9	378085	395791.276666667	95.5	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	8.2	259328	274186.866666667	94.6	
Li	6	NoGas	Pulse	1.5	616531	612114.496666667	100.7	
Sc	45	NoGas	Analog	1.1	1867791	1816935.23333333	102.8	
Ge	74	NoGas	Pulse	0.5	491523	485933.593333333	101.2	
Rh	103	NoGas	Pulse	0.4	521563	517869.783333333	100.7	
Tb	159	NoGas	Pulse	0.3	839522	838151.383333333	100.2	
Bi	209	NoGas	Pulse	0.7	488317	489835.583333333	99.7	

CRL Verification ICPMS5

Sample Name	9E22036-CRL3
File Name	018CRL_.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036:b
Acq Time	5/22/2019 14:43:42
Sample Type	CRL3
Total Dilution	1.0000
Comment	A19D350 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	88.485	ppb	0.4	234008	98.32	70	130	
Ca	44	45	H2	91.570	ppb	3.8	11542	101.74	70	130	
Fe	57	74	H2	87.411	ppb	3.8	15645	97.12	70	130	
Se	78	74	H2	1.806	ppb	5.5	345	100.33	70	130	
Mg	24	45	He	88.057	ppb	2.5	20209	97.84	70	130	
Al	27	45	He	89.237	ppb	4.9	10367	99.15	70	130	
K	39	45	He	87.666	ppb	1.9	36984	97.41	70	130	
V	51	74	He	1.763	ppb	3.4	3515	97.94	70	130	
Cr	52	74	He	1.810	ppb	2.0	3516	100.56	70	130	
Mn	55	74	He	1.815	ppb	6.5	2357	100.83	70	130	
Ni	60	74	He	1.705	ppb	7.8	1487	94.72	70	130	
Cu	65	74	He	1.855	ppb	1.2	1976	103.06	70	130	
Zn	66	74	He	1.914	ppb	10.5	612	106.33	70	130	
As	75	74	He	1.673	ppb	11.3	311	92.94	70	130	
Mo	95	103	He	1.717	ppb	8.4	1530	95.39	70	130	
Ag	107	103	He	1.833	ppb	1.9	5351	101.83	70	130	
Sb	121	103	He	1.823	ppb	6.2	1837	101.28	70	130	
Ba	138	159	He	1.847	ppb	3.7	4276	102.61	70	130	
Tl	205	159	He	1.825	ppb	1.8	10578	101.39	70	130	
Be	9	6	NoGas	1.788	ppb	5.2	3216	99.33	70	130	
Ti	47	45	NoGas	1.691	ppb	7.7	1198	93.94	70	130	
Co	59	74	NoGas	1.836	ppb	2.2	16602	102	70	130	
Cu	65	74	NoGas	1.885	ppb	5.0	4369	104.72	70	130	
Cd	111	103	NoGas	1.829	ppb	3.7	2117	101.61	70	130	
Hg	201	159	NoGas	65.807	ppt	21.2	47	91.4	70	130	
Pb	208	159	NoGas	1.821	ppb	0.4	23673	101.17	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Mix	0.6	1211222	1188983.99	101.9	
Ge	74	H2	Pulse	0.2	448784	448606.056666667	100.0	
Sc	45	He	Pulse	1.1	143521	140139.606666667	102.4	
Ge	74	He	Pulse	0.5	91728	89993.8966666667	101.9	
Rh	103	He	Pulse	0.1	268339	269020.95	99.7	
Tb	159	He	Pulse	0.5	394498	395791.276666667	99.7	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.3	271656	274186.866666667	99.1	
Li	6	NoGas	Pulse	1.1	615909	612114.496666667	100.6	
Sc	45	NoGas	Analog	1.7	1869586	1816935.23333333	102.9	
Ge	74	NoGas	Pulse	0.4	488847	485933.593333333	100.6	
Rh	103	NoGas	Pulse	0.4	516463	517869.783333333	99.7	
Tb	159	NoGas	Pulse	0.1	842279	838151.383333333	100.5	
Bi	209	NoGas	Pulse	0.1	484277	489835.583333333	98.9	

Quantitation Report ICPMS5

File Name	019ICSA.d		
File Path	C:\Agilent\ICPMH\1\DATA\9E22036.b		
Acq Time	5/22/2019 14:50:20	Sample Type	ICSA
Sample Name	**9E22036-IFA1**	Last Calib	05/22/2019 14:24:18
Comment	**A19E234**		
Prep Dilution	1.0000	Vial:	1111
Total Dilution	**1.0000**	Operator Name	ICPMS

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc.	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas	0.001	0.001	ppb	382.8		
Na	23	45	H2	248840.762	248840.762	ppb	0.6		
Mg	24	45	He	100802.689	100802.689	ppb	1.1	100000	
Al	27	45	He	101872.725	101872.725	ppb	0.8	100000	
K	39	45	He	102049.722	102049.722	ppb	1.0	100000	
Ca	44	45	H2	303902.027	303902.027	ppb	0.3		
Ti	47	45	NoGas	2117.687	2117.687	ppb	0.8		
V	51	74	He	0.245	0.245	ppb	16.8	2	
Cr	52	74	He	1.836	1.836	ppb	4.3	2	
Mn	55	74	He	14.338	14.338	ppb	1.7	2	
Fe	56	74	H2	251555.563	251555.563	ppb	0.4		
Fe	57	74	H2	250917.994	250917.994	ppb	0.1		
Co	59	74	NoGas	1.377	1.377	ppb	4.1		
Ni	60	74	He	0.784	0.784	ppb	11.4	2	
Cu	65	74	He	0.494	0.494	ppb	22.4	2	
Cu	65	74	NoGas	2.07	2.070	ppb	4.4		
Zn	66	74	He	2.73	2.730	ppb	25.2	2	
As	75	74	He	0.299	0.299	ppb	15.9	0.9	
Se	78	74	H2	0.187	0.187	ppb	27.9	0.9	
Mo	95	103	He	2373.06	2373.060	ppb	0.6	2000	
Ag	107	103	He	0.331	0.331	ppb	12.6		
Cd	111	103	NoGas	0.464	0.464	ppb	69.9		
Sb	121	103	He	0.161	0.161	ppb	20.4	0.9	
Ba	138	159	He	1.642	1.642	ppb	4.5	2	
W	182	159	NoGas	64.998	64.998	ppb	1.6		
Hg	201	159	NoGas	95.057	95.057	ppt	11.1		
Tl	205	159	He	-0.002	-0.002	ppb	N/A	0.9	
Pb	208	159	NoGas	0.757	0.757	ppb	0.4		

Caution evaluating low Mn > CRI Samples in High Matrix: probably KO+ > CRI JB 05/23/19

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	568948	0.3	612114.496666667	Pulse	92.9	
Sc	45	H2	952867	0.4	1188983.99	Pulse	80.1	
Sc	45	He	123227	0.5	140139.606666667	Pulse	87.9	
Sc	45	NoGas	1705022	1.6	1816935.23333333	Analog	93.8	
Ge	74	H2	327565	0.4	448606.056666667	Pulse	73.0	
Ge	74	He	73699	0.8	89993.8966666667	Pulse	81.9	
Ge	74	NoGas	419654	0.3	485933.593333333	Pulse	86.4	
Rh	103	He	197961	0.9	269020.95	Pulse	73.6	
Rh	103	NoGas	398985	0.4	517869.783333333	Pulse	77.0	
Tb	159	He	336137	0.7	395791.276666667	Pulse	84.9	
Tb	159	NoGas	768356	0.6	838151.383333333	Pulse	91.7	
Bi	209	He	200450	0.9	274186.866666667	Pulse	73.1	
Bi	209	NoGas	381094	0.7	489835.583333333	Pulse	77.8	

Quantitation Report ICPMS5

File Name	020ICSB.d		
File Path	C:\Agilent\ICPMH\1\DATA\9E22036.b		
Acq Time	5/22/2019 14:54:30	Sample Type	
Sample Name	**9E22036-IFB1**	ICSB	
Comment	**A19E235**	Last Calib	05/22/2019 14:24:18
Prep Dilution	1.0000	Vial:	1112
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas	0	0.000	ppb	943.0		
Na	23	45	H2	262149.389	262149.389	ppb	1.4		
Mg	24	45	He	102222.21	102222.210	ppb	1.3	100000	
Al	27	45	He	102882.376	102882.376	ppb	1.5	100000	
K	39	45	He	98806.786	98806.786	ppb	1.3	100000	
Ca	44	45	H2	308436.298	308436.298	ppb	1.7		
Ti	47	45	NoGas	2033.544	2033.544	ppb	4.8		
V	51	74	He	218.19	218.190	ppb	1.2	200	
Cr	52	74	He	210.98	210.980	ppb	0.7	200	
Mn	55	74	He	217.208	217.208	ppb	1.0	200	
Fe	56	74	H2	263110.401	263110.401	ppb	1.6		
Fe	57	74	H2	261760.101	261760.101	ppb	1.2		
Co	59	74	NoGas	201.977	201.977	ppb	1.7		
Ni	60	74	He	197.46	197.460	ppb	0.3	200	
Cu	65	74	He	184.161	184.161	ppb	0.4	200	
Cu	65	74	NoGas	180.562	180.562	ppb	3.3		
Zn	66	74	He	95.407	95.407	ppb	2.1	100	
As	75	74	He	101.523	101.523	ppb	1.8	100	
Se	78	74	H2	99.705	99.705	ppb	2.0	100	
Mo	95	103	He	2306.485	2306.485	ppb	0.9	2000	
Ag	107	103	He	47.437	47.437	ppb	1.5	50	
Cd	111	103	NoGas	96.313	96.313	ppb	4.6		
Sb	121	103	He	0.152	0.152	ppb	10.9	0.9	
Ba	138	159	He	2.084	2.084	ppb	5.7	2	> +/- 10%
W	182	159	NoGas	64.067	64.067	ppb	3.8		
Hg	201	159	NoGas	2018.104	2018.104	ppt	6.1		
Tl	205	159	He	0.003	0.003	ppb	82.6	0.9	
Pb	208	159	NoGas	0.756	0.756	ppb	3.1		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	589126	0.9	612114.496666667	Pulse	96.2	
Sc	45	H2	956453	1.1	1188983.99	Pulse	80.4	
Sc	45	He	126960	0.6	140139.606666667	Pulse	90.6	
Sc	45	NoGas	1734258	4.1	1816935.23333333	Analog	95.4	
Ge	74	H2	334407	1.2	448606.056666667	Pulse	74.5	
Ge	74	He	75364	0.7	89993.8966666667	Pulse	83.7	
Ge	74	NoGas	425818	1.5	485933.593333333	Pulse	87.6	
Rh	103	He	205116	0.5	269020.95	Pulse	76.2	
Rh	103	NoGas	405501	2.0	517869.783333333	Pulse	78.3	
Tb	159	He	344686	2.3	395791.276666667	Pulse	87.1	
Tb	159	NoGas	770970	2.0	838151.383333333	Pulse	92.0	
Bi	209	He	204740	1.7	274186.866666667	Pulse	74.7	
Bi	209	NoGas	383612	1.8	489835.583333333	Pulse	78.3	

Quantitation Report ICPMS5

File Name	021RINS.d		
File Path	C:\Agilent\ICPMH\1\DATA\9E22036.b		
Acq Time	5/22/2019 15:03:17	Sample Type	
Sample Name	**rinse**		Rinse
Comment	**IFA/IFB rinse**	Last Calib	05/22/2019 14:24:18
Prep Dilution	1.0000	Vial:	3
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas	-0.009	-0.009	ppb	N/A		
Na	23	45	H2	32.94	32.940	ppb	1.6		
Mg	24	45	He	4.19	4.190	ppb	27.1	22.5	
Al	27	45	He	3.699	3.699	ppb	25.6	22.5	
K	39	45	He	-1.435	-1.435	ppb	N/A		
Ca	44	45	H2	14.042	14.042	ppb	7.2		
Ti	47	45	NoGas	0.204	0.204	ppb	36.3		
V	51	74	He	-0.076	-0.076	ppb	N/A		
Cr	52	74	He	0.016	0.016	ppb	72.8		
Mn	55	74	He	0.027	0.027	ppb	98.5	1	
Fe	56	74	H2	11.772	11.772	ppb	2.2		
Fe	57	74	H2	11.679	11.679	ppb	17.7		
Co	59	74	NoGas	0.002	0.002	ppb	528.7		
Ni	60	74	He	0.08	0.080	ppb	293.8		
Cu	65	74	He	0.052	0.052	ppb	52.5	1	
Cu	65	74	NoGas	0.031	0.031	ppb	85.3		
Zn	66	74	He	0.459	0.459	ppb	23.5		
As	75	74	He	0.002	0.002	ppb	1170.3		
Se	78	74	H2	0.057	0.057	ppb	6.5		
Mo	95	103	He	0.477	0.477	ppb	5.4		
Ag	107	103	He	0.005	0.005	ppb	75.8		
Cd	111	103	NoGas	0.017	0.017	ppb	35.2		
Sb	121	103	He	0.008	0.008	ppb	42.8		
Ba	138	159	He	0.037	0.037	ppb	48.0		
W	182	159	NoGas	0.034	0.034	ppb	12.8		
Hg	201	159	NoGas	-3.274	-3.274	ppt	N/A		
Tl	205	159	He	-0.002	-0.002	ppb	N/A	1	
Pb	208	159	NoGas	0.006	0.006	ppb	82.3		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	570371	1.6	612114.496666667	Pulse	93.2	
Sc	45	H2	1165197	0.8	1188983.99	Pulse	98.0	
Sc	45	He	138153	0.7	140139.606666667	Pulse	98.6	
Sc	45	NoGas	1751700	0.8	1816935.23333333	Analog	96.4	
Ge	74	H2	429405	0.8	448606.056666667	Pulse	95.7	
Ge	74	He	87694	0.3	89993.8966666667	Pulse	97.4	
Ge	74	NoGas	455060	0.7	485933.593333333	Pulse	93.6	
Rh	103	He	255306	0.6	269020.95	Pulse	94.9	
Rh	103	NoGas	489711	0.8	517869.783333333	Pulse	94.6	
Tb	159	He	379721	1.0	395791.276666667	Pulse	95.9	
Tb	159	NoGas	801621	0.3	838151.383333333	Pulse	95.6	
Bi	209	He	263930	1.1	274186.866666667	Pulse	96.3	
Bi	209	NoGas	465047	0.2	489835.583333333	Pulse	94.9	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV 1 05/23/19	**Total Dilution**	1.0000
File Name	032_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 15:49:48	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3925.055	ppb	1.0	8969658	4000	90	110	98.13	
Ca	44	45	H2	3947.905	ppb	0.4	437533	4000	90	110	98.7	
Fe	56	74	H2	3978.423	ppb	0.4	26130013	4000	90	110	99.46	
Fe	57	74	H2	3776.378	ppb	0.4	609003	4000	90	110	94.41	
Se	78	74	H2	38.819	ppb	2.5	6992	40	90	110	97.05	
Mg	24	45	He	4060.184	ppb	3.4	857752	4000	90	110	101.5	
Al	27	45	He	3992.928	ppb	2.3	432416	4000	90	110	99.82	
K	39	45	He	4138.587	ppb	4.1	815353	4000	90	110	103.46	
V	51	74	He	99.195	ppb	3.1	148106	100	90	110	99.2	
Cr	52	74	He	100.314	ppb	3.4	175705	100	90	110	100.31	
Mn	55	74	He	97.490	ppb	3.3	114697	100	90	110	97.49	
Ni	60	74	He	104.537	ppb	4.0	67902	100	90	110	104.54	
Cu	65	74	He	100.547	ppb	2.2	86868	100	90	110	100.55	
Zn	66	74	He	105.189	ppb	3.1	26636	100	90	110	105.19	
As	75	74	He	99.817	ppb	2.3	16689	100	90	110	99.82	
Mo	95	103	He	41.078	ppb	5.0	33855	40	90	110	102.7	
Ag	107	103	He	41.088	ppb	4.5	111611	40	90	110	102.72	
Sb	121	103	He	43.071	ppb	5.4	40331	40	90	110	107.68	
Ba	138	159	He	103.986	ppb	3.4	227007	100	90	110	103.99	
Tl	205	159	He	40.233	ppb	4.1	224572	40	90	110	100.58	
Be	9	6	NoGas	39.404	ppb	0.3	64933	40	90	110	98.51	
Ti	47	45	NoGas	98.040	ppb	1.6	61099	100	90	110	98.04	
Co	59	74	NoGas	99.049	ppb	0.9	837112	100	90	110	99.05	
Cu	65	74	NoGas	99.555	ppb	0.6	190496	100	90	110	99.56	
Cd	111	103	NoGas	94.888	ppb	0.8	103751	100	90	110	94.89	
Hg	201	159	NoGas	807.695	ppt	2.2	406	800	90	110	100.96	
Pb	208	159	NoGas	94.034	ppb	0.6	1151347	100	90	110	94.03	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.2	1154693	1188983.99	97.1	
Ge	74	H2	Pulse	0.3	426049	448606.056666667	95.0	
Sc	45	He	Pulse	2.7	135147	140139.606666667	96.4	
Ge	74	He	Pulse	3.1	86142	89993.8966666667	95.7	
Rh	103	He	Pulse	4.3	250119	269020.95	93.0	
Tb	159	He	Pulse	3.7	382589	395791.276666667	96.7	
Bi	209	He	Pulse	4.0	261068	274186.866666667	95.2	
Li	6	NoGas	Pulse	1.2	569891	612114.496666667	93.1	
Sc	45	NoGas	Analog	0.4	1745387	1816935.23333333	96.1	
Ge	74	NoGas	Pulse	0.4	466836	485933.593333333	96.1	
Rh	103	NoGas	Pulse	0.5	488621	517869.783333333	94.4	
Tb	159	NoGas	Pulse	0.6	814678	838151.383333333	97.2	
Bi	209	NoGas	Pulse	0.9	461851	489835.583333333	94.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB
File Name	033_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 15:54:02
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

JB 05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	9.541	ppb	1.0	43130	45	
Ca	44	45	H2	3.257	ppb	21.5	1234	45	
Fe	56	74	H2	1.515	ppb	2.8	22274	22.5	
Fe	57	74	H2	1.365	ppb	29.7	996	22.5	
Se	78	74	H2	0.052	ppb	26.8	11	0.45	
Mg	24	45	He	0.644	ppb	30.0	574	45	
Al	27	45	He	0.195	ppb	91.8	123	22.5	
K	39	45	He	-4.179	ppb	N/A	17534	45	
V	51	74	He	-0.023	ppb	N/A	666	0.45	
Cr	52	74	He	0.009	ppb	333.2	152	0.45	
Mn	55	74	He	-0.017	ppb	N/A	60	0.45	
Ni	60	74	He	-0.164	ppb	N/A	192	0.45	
Cu	65	74	He	0.046	ppb	70.5	306	0.45	
Zn	66	74	He	0.014	ppb	797.6	98	1.8	
As	75	74	He	0.018	ppb	16.1	16	0.45	
Mo	95	103	He	0.036	ppb	37.0	41	0.45	
Ag	107	103	He	0.013	ppb	13.6	39	0.09	
Sb	121	103	He	0.026	ppb	7.8	28	0.45	
Ba	138	159	He	0.000	ppb	6334.0	117	0.45	
Tl	205	159	He	0.013	ppb	25.0	138	0.09	
Be	9	6	NoGas	0.009	ppb	65.1	46	0.09	
Ti	47	45	NoGas	0.033	ppb	9.5	87	0.45	
Co	59	74	NoGas	0.000	ppb	2356.1	348	0.09	
Cu	65	74	NoGas	0.074	ppb	47.0	720	0.45	
Cd	111	103	NoGas	0.012	ppb	39.0	16	0.09	
Hg	201	159	NoGas	9.375	ppt	21.1	18	36	
Pb	208	159	NoGas	0.013	ppb	6.4	771	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Pulse	0.7	1155183	1188983.99	97.2	
Ge	74	H2	Pulse	0.2	427182	448606.056666667	95.2	
Sc	45	He	Pulse	0.8	138403	140139.606666667	98.8	
Ge	74	He	Pulse	0.4	88816	89993.8966666667	98.7	
Rh	103	He	Pulse	0.3	261855	269020.95	97.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.7	390492	395791.276666667	98.7	
Bi	209	He	Pulse	1.2	271095	274186.866666667	98.9	
Li	6	NoGas	Pulse	1.3	567064	612114.496666667	92.6	
Sc	45	NoGas	Analog	1.2	1751115	1816935.23333333	96.4	
Ge	74	NoGas	Pulse	1.3	468035	485933.593333333	96.3	
Rh	103	NoGas	Pulse	0.9	502730	517869.783333333	97.1	
Tb	159	NoGas	Pulse	0.4	814541	838151.383333333	97.2	
Bi	209	NoGas	Pulse	0.8	470805	489835.583333333	96.1	

CRL Verification ICPMS5

1102

Sample Name	9E22036-CRL4
File Name	034CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 16:02:16
Sample Type	CRL1
Total Dilution	1.0000
Comment	A19D348 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	14.952	ppb	1.6	56752	166.13	70	130	<>CRL1 NR<MRL<R-11
Ca	44	45	H2	11.117	ppb	7.6	2152	123.52	70	130	
Fe	56	74	H2	9.374	ppb	0.9	75535	104.16	70	130	
Fe	57	74	H2	9.274	ppb	10.0	2321	103.04	70	130	
Se	78	74	H2	0.145	ppb	43.7	29	80.56	70	130	
Mg	24	45	He	9.124	ppb	8.5	2443	101.38	70	130	
Al	27	45	He	8.993	ppb	3.4	1115	99.92	70	130	
K	39	45	He	6.491	ppb	31.6	19909	72.12	70	130	
V	51	74	He	0.174	ppb	11.7	981	96.67	70	130	
Cr	52	74	He	0.178	ppb	12.6	464	98.89	70	130	
Mn	55	74	He	0.162	ppb	10.3	282	90	70	130	
Ni	60	74	He	-0.001	ppb	N/A	306	-0.56	70	130	<>CRL1 NR<MRL<R-11
Cu	65	74	He	0.244	ppb	17.4	488	135.56	70	130	<>CRL1 NR<MRL<R-11
Zn	66	74	He	0.147	ppb	94.9	134	81.67	70	130	
As	75	74	He	0.213	ppb	35.5	51	118.33	70	130	
Mo	95	103	He	0.228	ppb	6.3	208	126.67	70	130	
Ag	107	103	He	0.190	ppb	6.5	547	105.56	70	130	
Sb	121	103	He	0.199	ppb	21.0	199	110.56	70	130	
Ba	138	159	He	0.150	ppb	19.8	452	83.33	70	130	
Tl	205	159	He	0.175	ppb	5.3	1065	97.22	70	130	
Be	9	6	NoGas	0.170	ppb	7.8	310	94.44	70	130	
Ti	47	45	NoGas	0.154	ppb	30.1	163	85.56	70	130	
Co	59	74	NoGas	0.170	ppb	8.8	1793	94.44	70	130	
Cu	65	74	NoGas	0.227	ppb	11.0	1018	126.11	70	130	
Cd	111	103	NoGas	0.156	ppb	21.5	178	86.67	70	130	
Hg	201	159	NoGas	11.371	ppt	30.8	19	157.93	70	130	<>CRL1 NR<MRL<R-11
Pb	208	159	NoGas	0.187	ppb	0.5	2900	103.89	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	1.8	1181983	1188983.99	99.4	
Ge	74	H2	Pulse	1.2	436039	448606.056666667	97.2	
Sc	45	He	Pulse	0.6	140320	140139.606666667	100.1	
Ge	74	He	Pulse	0.3	90108	89993.8966666667	100.1	
Rh	103	He	Pulse	0.5	263592	269020.95	98.0	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.9	391937	395791.276666667	99.0	
Bi	209	He	Pulse	0.5	271795	274186.866666667	99.1	
Li	6	NoGas	Pulse	0.9	568673	612114.496666667	92.9	
Sc	45	NoGas	Analog	0.3	1763927	1816935.23333333	97.1	
Ge	74	NoGas	Pulse	0.4	470923	485933.593333333	96.9	
Rh	103	NoGas	Pulse	0.6	503571	517869.783333333	97.2	
Tb	159	NoGas	Pulse	0.2	815779	838151.383333333	97.3	
Bi	209	NoGas	Pulse	0.4	470300	489835.583333333	96.0	

CRL Verification ICPMS5

Sample Name	9E22036-CRL5
File Name	035_CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 16:14:26
Sample Type	CRL2
Total Dilution	1.0000
Comment	A19D349 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	47.818	ppb	0.6	133083	106.26	70	130	
Ca	44	45	H2	44.375	ppb	2.7	5902	98.61	70	130	
Fe	57	74	H2	42.991	ppb	3.1	7811	95.54	70	130	
Se	78	74	H2	0.931	ppb	3.9	172	103.44	70	130	
Mg	24	45	He	42.403	ppb	0.3	9776	94.23	70	130	
Al	27	45	He	44.109	ppb	8.7	5079	98.02	70	130	
K	39	45	He	38.621	ppb	5.6	26434	85.82	70	130	
V	51	74	He	0.933	ppb	5.3	2134	103.67	70	130	
Cr	52	74	He	0.885	ppb	8.7	1738	98.33	70	130	
Mn	55	74	He	0.892	ppb	3.9	1165	99.11	70	130	
Ni	60	74	He	0.790	ppb	8.5	830	87.78	70	130	
Cu	65	74	He	0.945	ppb	4.6	1106	105	70	130	
Zn	66	74	He	0.912	ppb	11.0	332	101.33	70	130	
As	75	74	He	0.958	ppb	12.5	178	106.44	70	130	
Mo	95	103	He	0.898	ppb	4.5	781	99.78	70	130	
Ag	107	103	He	0.895	ppb	2.7	2535	99.44	70	130	
Sb	121	103	He	0.920	ppb	2.1	900	102.22	70	130	
Ba	138	159	He	0.943	ppb	3.5	2206	104.78	70	130	
Tl	205	159	He	0.909	ppb	3.7	5218	101	70	130	
Be	9	6	NoGas	0.921	ppb	5.0	1530	102.33	70	130	
Ti	47	45	NoGas	0.840	ppb	7.7	585	93.33	70	130	
Co	59	74	NoGas	0.913	ppb	1.1	7960	101.44	70	130	
Cu	65	74	NoGas	0.926	ppb	12.2	2316	102.89	70	130	
Cd	111	103	NoGas	0.851	ppb	3.1	942	94.56	70	130	
Hg	201	159	NoGas	24.811	ppt	6.8	25	68.92	70	130	<>CRL2 NR<MRL<R-01
Pb	208	159	NoGas	0.910	ppb	1.5	11656	101.11	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.2	1178643	1188983.99	99.1	
Ge	74	H2	Pulse	0.3	432346	448606.056666667	96.4	
Sc	45	He	Pulse	1.3	140799	140139.606666667	100.5	
Ge	74	He	Pulse	0.7	88948	89993.8966666667	98.8	
Rh	103	He	Pulse	0.7	260259	269020.95	96.7	
Tb	159	He	Pulse	1.3	388432	395791.276666667	98.1	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.0	266662	274186.866666667	97.3	
Li	6	NoGas	Pulse	1.4	563658	612114.496666667	92.1	
Sc	45	NoGas	Analog	2.1	1732781	1816935.23333333	95.4	
Ge	74	NoGas	Pulse	0.7	461386	485933.593333333	94.9	
Rh	103	NoGas	Pulse	0.8	493451	517869.783333333	95.3	
Tb	159	NoGas	Pulse	0.5	808728	838151.383333333	96.5	
Bi	209	NoGas	Pulse	1.0	461906	489835.583333333	94.3	

CRL Verification ICPMS5

Sample Name	9E22036-CRL6
File Name	036CRL_.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 16:18:41
Sample Type	CRL3
Total Dilution	1.0000
Comment	A19D350 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	91.342	ppb	0.6	224133	101.49	70	130	
Ca	44	45	H2	90.794	ppb	3.2	10657	100.88	70	130	
Fe	57	74	H2	86.198	ppb	1.7	14391	95.78	70	130	
Se	78	74	H2	1.835	ppb	7.0	326	101.94	70	130	
Mg	24	45	He	89.190	ppb	5.2	19324	99.1	70	130	
Al	27	45	He	90.840	ppb	1.7	9972	100.93	70	130	
K	39	45	He	86.227	ppb	5.3	34653	95.81	70	130	
V	51	74	He	1.758	ppb	5.5	3340	97.67	70	130	
Cr	52	74	He	1.781	ppb	5.0	3299	98.94	70	130	
Mn	55	74	He	1.721	ppb	8.0	2134	95.61	70	130	
Ni	60	74	He	1.634	ppb	11.4	1370	90.78	70	130	
Cu	65	74	He	1.858	ppb	6.0	1885	103.22	70	130	
Zn	66	74	He	1.785	ppb	4.2	550	99.17	70	130	
As	75	74	He	1.970	ppb	6.4	347	109.44	70	130	
Mo	95	103	He	1.859	ppb	4.2	1596	103.28	70	130	
Ag	107	103	He	1.822	ppb	5.2	5122	101.22	70	130	
Sb	121	103	He	2.004	ppb	0.6	1945	111.33	70	130	
Ba	138	159	He	1.958	ppb	5.7	4437	108.78	70	130	
Tl	205	159	He	1.841	ppb	2.2	10458	102.28	70	130	
Be	9	6	NoGas	1.811	ppb	6.4	2976	100.61	70	130	
Ti	47	45	NoGas	1.762	ppb	9.6	1160	97.89	70	130	
Co	59	74	NoGas	1.802	ppb	1.7	15363	100.11	70	130	
Cu	65	74	NoGas	1.987	ppb	5.9	4310	110.39	70	130	
Cd	111	103	NoGas	1.826	ppb	4.8	2026	101.44	70	130	
Hg	201	159	NoGas	77.198	ppt	20.7	50	107.22	70	130	
Pb	208	159	NoGas	1.839	ppb	3.2	23013	102.17	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.4	1127171	1188983.99	94.8	
Ge	74	H2	Pulse	0.4	418322	448606.056666667	93.2	
Sc	45	He	Pulse	1.3	135577	140139.606666667	96.7	
Ge	74	He	Pulse	0.6	87399	89993.8966666667	97.1	
Rh	103	He	Pulse	1.0	258513	269020.95	96.1	
Tb	159	He	Pulse	0.5	386794	395791.276666667	97.7	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.0	267662	274186.866666667	97.6	
Li	6	NoGas	Pulse	1.2	562495	612114.496666667	91.9	
Sc	45	NoGas	Analog	1.5	1738931	1816935.23333333	95.7	
Ge	74	NoGas	Pulse	0.4	460712	485933.593333333	94.8	
Rh	103	NoGas	Pulse	0.4	495309	517869.783333333	95.6	
Tb	159	NoGas	Pulse	0.5	811215	838151.383333333	96.8	
Bi	209	NoGas	Pulse	1.4	466577	489835.583333333	95.3	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV 2 JPB 05/23/19	**Total Dilution**	1.0000
File Name	047_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 17:29:32	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3905.876	ppb	0.3	8322431	4000	90	110	97.65	
Ca	44	45	H2	3989.020	ppb	0.4	412186	4000	90	110	99.73	
Fe	56	74	H2	3911.500	ppb	0.1	24032416	4000	90	110	97.79	
Fe	57	74	H2	3748.927	ppb	0.4	565562	4000	90	110	93.72	
Se	78	74	H2	38.863	ppb	2.9	6549	40	90	110	97.16	
Mg	24	45	He	3994.439	ppb	0.8	806631	4000	90	110	99.86	
Al	27	45	He	3929.374	ppb	1.6	406664	4000	90	110	98.23	
K	39	45	He	4137.947	ppb	0.7	779334	4000	90	110	103.45	
V	51	74	He	94.875	ppb	1.6	136858	100	90	110	94.88	
Cr	52	74	He	96.660	ppb	0.1	163555	100	90	110	96.66	
Mn	55	74	He	95.166	ppb	0.5	108158	100	90	110	95.17	
Ni	60	74	He	100.833	ppb	0.8	63285	100	90	110	100.83	
Cu	65	74	He	97.294	ppb	1.2	81187	100	90	110	97.29	
Zn	66	74	He	102.030	ppb	0.8	24959	100	90	110	102.03	
As	75	74	He	98.841	ppb	1.1	15961	100	90	110	98.84	
Mo	95	103	He	39.769	ppb	2.4	31682	40	90	110	99.42	
Ag	107	103	He	39.747	ppb	0.4	104354	40	90	110	99.37	
Sb	121	103	He	42.036	ppb	0.2	38055	40	90	110	105.09	
Ba	138	159	He	101.086	ppb	0.5	215605	100	90	110	101.09	
Tl	205	159	He	38.340	ppb	1.1	209115	40	90	110	95.85	
Be	9	6	NoGas	39.557	ppb	1.1	63061	40	90	110	98.89	
Ti	47	45	NoGas	96.140	ppb	1.8	57576	100	90	110	96.14	
Co	59	74	NoGas	98.323	ppb	1.1	786361	100	90	110	98.32	
Cu	65	74	NoGas	98.785	ppb	0.4	178879	100	90	110	98.78	
Cd	111	103	NoGas	97.244	ppb	1.2	101572	100	90	110	97.24	
Hg	201	159	NoGas	795.505	ppt	1.8	393	800	90	110	99.44	
Pb	208	159	NoGas	94.134	ppb	0.5	1130689	100	90	110	94.13	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.3	1076608	1188983.99	90.5	
Ge	74	H2	Pulse	0.6	398550	448606.056666667	88.8	
Sc	45	He	Pulse	0.8	129111	140139.606666667	92.1	
Ge	74	He	Pulse	0.3	83155	89993.8966666667	92.4	
Rh	103	He	Pulse	0.5	241438	269020.95	89.7	
Tb	159	He	Pulse	0.9	373485	395791.276666667	94.4	
Bi	209	He	Pulse	1.1	257429	274186.866666667	93.9	
Li	6	NoGas	Pulse	1.4	551288	612114.496666667	90.1	
Sc	45	NoGas	Analog	1.7	1677557	1816935.23333333	92.3	
Ge	74	NoGas	Pulse	0.4	441777	485933.593333333	90.9	
Rh	103	NoGas	Pulse	0.8	466787	517869.783333333	90.1	
Tb	159	NoGas	Pulse	0.2	799207	838151.383333333	95.4	
Bi	209	NoGas	Pulse	0.2	452061	489835.583333333	92.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB 2
File Name	048_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 17:33:47
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

JB 05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	6.414	ppb	4.3	33523	45	
Ca	44	45	H2	3.061	ppb	42.5	1130	45	
Fe	56	74	H2	2.255	ppb	7.5	25332	22.5	
Fe	57	74	H2	1.783	ppb	18.3	992	22.5	
Se	78	74	H2	0.074	ppb	24.2	14	0.45	
Mg	24	45	He	0.268	ppb	287.9	460	45	
Al	27	45	He	0.985	ppb	49.4	197	22.5	
K	39	45	He	-9.458	ppb	N/A	15393	45	
V	51	74	He	-0.068	ppb	N/A	559	0.45	
Cr	52	74	He	0.013	ppb	74.9	150	0.45	
Mn	55	74	He	0.001	ppb	310.9	78	0.45	
Ni	60	74	He	-0.133	ppb	N/A	200	0.45	
Cu	65	74	He	-0.034	ppb	N/A	220	0.45	
Zn	66	74	He	0.129	ppb	49.6	120	1.8	
As	75	74	He	0.024	ppb	318.9	16	0.45	
Mo	95	103	He	0.041	ppb	48.1	42	0.45	
Ag	107	103	He	0.008	ppb	68.6	23	0.09	
Sb	121	103	He	0.015	ppb	50.9	16	0.45	
Ba	138	159	He	0.007	ppb	58.6	127	0.45	
Tl	205	159	He	0.013	ppb	47.1	133	0.09	
Be	9	6	NoGas	0.012	ppb	222.6	49	0.09	
Ti	47	45	NoGas	0.101	ppb	40.5	125	0.45	
Co	59	74	NoGas	0.003	ppb	115.7	352	0.09	
Cu	65	74	NoGas	0.019	ppb	210.2	586	0.45	
Cd	111	103	NoGas	0.013	ppb	67.6	16	0.09	
Hg	201	159	NoGas	-3.600	ppt	N/A	11	36	
Pb	208	159	NoGas	0.016	ppb	22.0	796	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Pulse	0.6	1075773	1188983.99	90.5	
Ge	74	H2	Pulse	0.2	398721	448606.056666667	88.9	
Sc	45	He	Pulse	0.3	129213	140139.606666667	92.2	
Ge	74	He	Pulse	0.6	83343	89993.8966666667	92.6	
Rh	103	He	Pulse	0.4	246822	269020.95	91.7	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.8	374778	395791.276666667	94.7	
Bi	209	He	Pulse	0.5	261026	274186.866666667	95.2	
Li	6	NoGas	Pulse	1.3	552794	612114.496666667	90.3	
Sc	45	NoGas	Analog	1.6	1702133	1816935.23333333	93.7	
Ge	74	NoGas	Pulse	0.5	446043	485933.593333333	91.8	
Rh	103	NoGas	Pulse	0.4	477180	517869.783333333	92.1	
Tb	159	NoGas	Pulse	0.3	800953	838151.383333333	95.6	
Bi	209	NoGas	Pulse	0.5	458701	489835.583333333	93.6	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV 3 JB 05/23/19	**Total Dilution**	1.0000
File Name	059_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 18:20:07	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3650.642	ppb	2.0	9433226	4000	90	110	91.27	
Ca	44	45	H2	3673.176	ppb	1.6	460310	4000	90	110	91.83	
Fe	56	74	H2	3868.635	ppb	0.8	27361367	4000	90	110	96.72	
Fe	57	74	H2	3687.008	ppb	0.5	640296	4000	90	110	92.18	
Se	78	74	H2	38.740	ppb	1.7	7514	40	90	110	96.85	
Mg	24	45	He	3922.314	ppb	0.6	883600	4000	90	110	98.06	
Al	27	45	He	3789.305	ppb	1.0	437494	4000	90	110	94.73	
K	39	45	He	4042.402	ppb	0.7	849741	4000	90	110	101.06	
V	51	74	He	97.020	ppb	1.0	152584	100	90	110	97.02	
Cr	52	74	He	97.809	ppb	0.4	180467	100	90	110	97.81	
Mn	55	74	He	94.811	ppb	1.1	117490	100	90	110	94.81	
Ni	60	74	He	102.231	ppb	2.1	69972	100	90	110	102.23	
Cu	65	74	He	99.077	ppb	0.3	90146	100	90	110	99.08	
Zn	66	74	He	103.074	ppb	1.0	27495	100	90	110	103.07	
As	75	74	He	98.968	ppb	1.0	17426	100	90	110	98.97	
Mo	95	103	He	39.176	ppb	2.1	34293	40	90	110	97.94	
Ag	107	103	He	39.238	ppb	1.7	113195	40	90	110	98.1	
Sb	121	103	He	40.724	ppb	2.7	40505	40	90	110	101.81	
Ba	138	159	He	101.148	ppb	1.2	227693	100	90	110	101.15	
Tl	205	159	He	37.896	ppb	1.4	218148	40	90	110	94.74	
Be	9	6	NoGas	41.345	ppb	8.8	67746	40	90	110	103.36	
Ti	47	45	NoGas	102.838	ppb	9.0	65071	100	90	110	102.84	
Co	59	74	NoGas	104.035	ppb	8.1	865040	100	90	110	104.03	
Cu	65	74	NoGas	104.199	ppb	9.0	196041	100	90	110	104.2	
Cd	111	103	NoGas	100.186	ppb	10.0	106550	100	90	110	100.19	
Hg	201	159	NoGas	840.858	ppt	13.7	408	800	90	110	105.11	
Pb	208	159	NoGas	99.747	ppb	8.1	1183472	100	90	110	99.75	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.4	1305656	1188983.99	109.8	
Ge	74	H2	Pulse	0.5	458789	448606.056666667	102.3	
Sc	45	He	Pulse	0.7	144022	140139.606666667	102.8	
Ge	74	He	Pulse	1.3	90675	89993.8966666667	100.8	
Rh	103	He	Pulse	1.9	265297	269020.95	98.6	
Tb	159	He	Pulse	2.2	394228	395791.276666667	99.6	
Bi	209	He	Pulse	2.0	267574	274186.866666667	97.6	
Li	6	NoGas	Pulse	8.2	569374	612114.496666667	93.0	
Sc	45	NoGas	Analog	7.5	1780286	1816935.23333333	98.0	
Ge	74	NoGas	Pulse	7.6	461192	485933.593333333	94.9	
Rh	103	NoGas	Pulse	8.4	477956	517869.783333333	92.3	
Tb	159	NoGas	Pulse	8.0	792866	838151.383333333	94.6	
Bi	209	NoGas	Pulse	8.2	452224	489835.583333333	92.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB 3
File Name	060_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 18:24:21
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

JB 05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-0.912	ppb	N/A	21032	45	
Ca	44	45	H2	1.326	ppb	35.4	1113	45	
Fe	56	74	H2	2.340	ppb	2.6	29240	22.5	
Fe	57	74	H2	2.482	ppb	19.3	1241	22.5	
Se	78	74	H2	0.052	ppb	26.0	12	0.45	
Mg	24	45	He	0.005	ppb	7964.5	454	45	
Al	27	45	He	0.850	ppb	89.2	204	22.5	
K	39	45	He	-3.898	ppb	N/A	18306	45	
V	51	74	He	0.016	ppb	325.9	738	0.45	
Cr	52	74	He	-0.003	ppb	N/A	132	0.45	
Mn	55	74	He	0.025	ppb	31.4	113	0.45	
Ni	60	74	He	-0.202	ppb	N/A	170	0.45	
Cu	65	74	He	-0.002	ppb	N/A	268	0.45	
Zn	66	74	He	0.006	ppb	355.0	98	1.8	
As	75	74	He	0.032	ppb	74.5	19	0.45	
Mo	95	103	He	0.013	ppb	91.9	21	0.45	
Ag	107	103	He	0.005	ppb	57.3	14	0.09	
Sb	121	103	He	0.009	ppb	85.9	11	0.45	
Ba	138	159	He	0.003	ppb	155.9	123	0.45	
Tl	205	159	He	0.009	ppb	98.8	117	0.09	
Be	9	6	NoGas	-0.002	ppb	N/A	29	0.09	
Ti	47	45	NoGas	0.113	ppb	9.3	147	0.45	
Co	59	74	NoGas	-0.001	ppb	N/A	350	0.09	
Cu	65	74	NoGas	-0.016	ppb	N/A	566	0.45	
Cd	111	103	NoGas	0.012	ppb	30.3	16	0.09	
Hg	201	159	NoGas	3.606	ppt	181.9	15	36	
Pb	208	159	NoGas	0.006	ppb	177.0	701	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.8	1259988	1188983.99	106.0	
Ge	74	H2	Pulse	0.4	450887	448606.056666667	100.5	
Sc	45	He	Pulse	1.2	144104	140139.606666667	102.8	
Ge	74	He	Pulse	1.0	90503	89993.8966666667	100.6	
Rh	103	He	Pulse	1.1	266007	269020.95	98.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.5	389416	395791.276666667	98.4	
Bi	209	He	Pulse	0.6	267692	274186.866666667	97.6	
Li	6	NoGas	Pulse	1.3	597460	612114.496666667	97.6	
Sc	45	NoGas	Analog	1.6	1885190	1816935.23333333	103.8	
Ge	74	NoGas	Pulse	0.3	484779	485933.593333333	99.8	
Rh	103	NoGas	Pulse	0.4	510565	517869.783333333	98.6	
Tb	159	NoGas	Pulse	0.4	831619	838151.383333333	99.2	
Bi	209	NoGas	Pulse	0.3	476475	489835.583333333	97.3	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV 4 JB 05/23/19	**Total Dilution**	1.0000
File Name	071_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 19:13:09	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3802.643	ppb	2.0	9369486	4000	90	110	95.07	
Ca	44	45	H2	3806.632	ppb	0.9	454929	4000	90	110	95.17	
Fe	56	74	H2	4037.589	ppb	0.1	27489270	4000	90	110	100.94	
Fe	57	74	H2	3786.259	ppb	0.5	632943	4000	90	110	94.66	
Se	78	74	H2	39.104	ppb	0.5	7302	40	90	110	97.76	
Mg	24	45	He	3990.820	ppb	0.4	873673	4000	90	110	99.77	
Al	27	45	He	3860.930	ppb	0.5	433203	4000	90	110	96.52	
K	39	45	He	4077.149	ppb	0.0	832741	4000	90	110	101.93	
V	51	74	He	98.962	ppb	0.7	151611	100	90	110	98.96	
Cr	52	74	He	98.883	ppb	0.6	177727	100	90	110	98.88	
Mn	55	74	He	96.946	ppb	0.6	117038	100	90	110	96.95	
Ni	60	74	He	102.692	ppb	0.9	68460	100	90	110	102.69	
Cu	65	74	He	100.667	ppb	0.3	89223	100	90	110	100.67	
Zn	66	74	He	103.571	ppb	0.5	26912	100	90	110	103.57	
As	75	74	He	99.933	ppb	0.7	17142	100	90	110	99.93	
Mo	95	103	He	40.025	ppb	0.5	34129	40	90	110	100.06	
Ag	107	103	He	39.930	ppb	0.7	112198	40	90	110	99.82	
Sb	121	103	He	41.566	ppb	1.3	40273	40	90	110	103.92	
Ba	138	159	He	102.707	ppb	0.9	227486	100	90	110	102.71	
Tl	205	159	He	38.104	ppb	0.7	215835	40	90	110	95.26	
Be	9	6	NoGas	39.157	ppb	1.1	65676	40	90	110	97.89	
Ti	47	45	NoGas	95.496	ppb	1.5	63549	100	90	110	95.5	
Co	59	74	NoGas	99.422	ppb	1.3	851227	100	90	110	99.42	
Cu	65	74	NoGas	99.781	ppb	1.0	193419	100	90	110	99.78	
Cd	111	103	NoGas	95.055	ppb	1.1	104987	100	90	110	95.06	
Hg	201	159	NoGas	785.894	ppt	5.8	397	800	90	110	98.24	
Pb	208	159	NoGas	94.284	ppb	0.5	1157717	100	90	110	94.28	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	2.1	1245219	1188983.99	104.7	
Ge	74	H2	Pulse	0.4	441646	448606.056666667	98.4	
Sc	45	He	Pulse	0.7	139965	140139.606666667	99.9	
Ge	74	He	Pulse	0.2	88332	89993.8966666667	98.2	
Rh	103	He	Pulse	0.7	258399	269020.95	96.1	
Tb	159	He	Pulse	0.8	387859	395791.276666667	98.0	
Bi	209	He	Pulse	0.7	260885	274186.866666667	95.1	
Li	6	NoGas	Pulse	1.5	580052	612114.496666667	94.8	
Sc	45	NoGas	Analog	1.0	1863880	1816935.23333333	102.6	
Ge	74	NoGas	Pulse	0.3	472941	485933.593333333	97.3	
Rh	103	NoGas	Pulse	0.9	493585	517869.783333333	95.3	
Tb	159	NoGas	Pulse	0.5	817008	838151.383333333	97.5	
Bi	209	NoGas	Pulse	0.7	461971	489835.583333333	94.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB 4 05/23/19
File Name	072_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 19:17:23
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	1.202	ppb	27.5	27204	45	
Ca	44	45	H2	2.650	ppb	30.5	1316	45	
Fe	56	74	H2	6.222	ppb	0.7	56315	22.5	
Fe	57	74	H2	6.040	ppb	6.9	1851	22.5	
Se	78	74	H2	0.063	ppb	7.9	14	0.45	
Mg	24	45	He	1.000	ppb	59.5	664	45	
Al	27	45	He	2.034	ppb	15.2	334	22.5	
K	39	45	He	-2.731	ppb	N/A	18159	45	
V	51	74	He	-0.025	ppb	N/A	662	0.45	
Cr	52	74	He	0.014	ppb	48.2	161	0.45	
Mn	55	74	He	0.084	ppb	34.5	183	0.45	
Ni	60	74	He	-0.185	ppb	N/A	179	0.45	
Cu	65	74	He	-0.021	ppb	N/A	246	0.45	
Zn	66	74	He	0.051	ppb	229.2	108	1.8	
As	75	74	He	0.022	ppb	48.4	17	0.45	
Mo	95	103	He	0.036	ppb	76.4	41	0.45	
Ag	107	103	He	0.001	ppb	152.9	4	0.09	
Sb	121	103	He	0.020	ppb	20.1	22	0.45	
Ba	138	159	He	0.025	ppb	54.7	172	0.45	
Tl	205	159	He	0.004	ppb	95.2	87	0.09	
Be	9	6	NoGas	0.001	ppb	979.0	33	0.09	
Ti	47	45	NoGas	0.292	ppb	75.4	263	0.45	
Co	59	74	NoGas	0.007	ppb	118.4	410	0.09	
Cu	65	74	NoGas	0.004	ppb	422.4	596	0.45	
Cd	111	103	NoGas	0.021	ppb	41.8	26	0.09	
Hg	201	159	NoGas	-7.802	ppt	N/A	9	36	
Pb	208	159	NoGas	0.008	ppb	95.2	713	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	2.4	1303907	1188983.99	109.7	
Ge	74	H2	Pulse	0.4	451716	448606.056666667	100.7	
Sc	45	He	Pulse	1.1	141032	140139.606666667	100.6	
Ge	74	He	Pulse	1.3	88985	89993.8966666667	98.9	
Rh	103	He	Pulse	1.5	263436	269020.95	97.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	1.3	389942	395791.276666667	98.5	
Bi	209	He	Pulse	1.4	266383	274186.866666667	97.2	
Li	6	NoGas	Pulse	1.5	577274	612114.496666667	94.3	
Sc	45	NoGas	Analog	1.5	1854450	1816935.23333333	102.1	
Ge	74	NoGas	Pulse	1.1	475762	485933.593333333	97.9	
Rh	103	NoGas	Pulse	0.8	501209	517869.783333333	96.8	
Tb	159	NoGas	Pulse	0.5	816899	838151.383333333	97.5	
Bi	209	NoGas	Pulse	0.6	463399	489835.583333333	94.6	

CRL Verification ICPMS5

Sample Name	9E22036-CRL7
File Name	073CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 19:41:49
Sample Type	CRL1
Total Dilution	1.0000
Comment	A19D348 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	ICPMS Analyst

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	6.703	ppb	7.9	39755	74.48	70	130	
Ca	44	45	H2	10.682	ppb	15.2	2229	118.69	70	130	
Fe	56	74	H2	10.280	ppb	0.5	83519	114.22	70	130	
Fe	57	74	H2	10.579	ppb	13.3	2595	117.54	70	130	
Se	78	74	H2	0.161	ppb	18.4	32	89.44	70	130	
Mg	24	45	He	8.625	ppb	5.2	2416	95.83	70	130	
Al	27	45	He	9.486	ppb	15.4	1211	105.4	70	130	
K	39	45	He	4.722	ppb	86.7	20253	52.47	70	130	<>CRL1 NR<MRL<R-11
V	51	74	He	0.152	ppb	17.1	969	84.44	70	130	
Cr	52	74	He	0.196	ppb	3.5	509	108.89	70	130	
Mn	55	74	He	0.199	ppb	14.0	334	110.56	70	130	
Ni	60	74	He	-0.083	ppb	N/A	256	-46.11	70	130	<>CRL1 NR<MRL<R-11
Cu	65	74	He	0.176	ppb	8.3	437	97.78	70	130	
Zn	66	74	He	0.230	ppb	19.5	160	127.78	70	130	
As	75	74	He	0.228	ppb	20.9	54	126.67	70	130	
Mo	95	103	He	0.185	ppb	15.1	172	102.78	70	130	
Ag	107	103	He	0.194	ppb	4.8	561	107.78	70	130	
Sb	121	103	He	0.173	ppb	7.7	174	96.11	70	130	
Ba	138	159	He	0.190	ppb	12.8	524	105.56	70	130	
Tl	205	159	He	0.171	ppb	2.5	1007	95	70	130	
Be	9	6	NoGas	0.185	ppb	15.6	348	102.78	70	130	
Ti	47	45	NoGas	0.299	ppb	1.9	267	166.11	70	130	<>CRL1 NR<MRL<R-11
Co	59	74	NoGas	0.170	ppb	15.5	1824	94.44	70	130	
Cu	65	74	NoGas	0.194	ppb	15.0	970	107.78	70	130	
Cd	111	103	NoGas	0.152	ppb	20.8	174	84.44	70	130	
Hg	201	159	NoGas	0.738	ppt	907.6	13	10.25	70	130	<>CRL1 NR<MRL<R-11
Pb	208	159	NoGas	0.175	ppb	4.3	2724	97.22	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	3.5	1253753	1188983.99	105.4	
Ge	74	H2	Pulse	0.7	446164	448606.056666667	99.5	
Sc	45	He	Pulse	0.2	145315	140139.606666667	103.7	
Ge	74	He	Pulse	0.5	92208	89993.8966666667	102.5	
Rh	103	He	Pulse	0.6	265398	269020.95	98.7	

JPB 05/23/19

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	1.3	379159	395791.276666667	95.8	
Bi	209	He	Pulse	1.9	255973	274186.866666667	93.4	
Li	6	NoGas	Pulse	0.7	589794	612114.496666667	96.4	
Sc	45	NoGas	Analog	2.5	1845471	1816935.23333333	101.6	
Ge	74	NoGas	Pulse	0.9	478110	485933.593333333	98.4	
Rh	103	NoGas	Pulse	0.0	505865	517869.783333333	97.7	
Tb	159	NoGas	Pulse	1.0	806690	838151.383333333	96.2	
Bi	209	NoGas	Pulse	0.6	459141	489835.583333333	93.7	

CRL Verification ICPMS5

Sample Name	9E22036-CRL8
File Name	074_CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 19:50:37
Sample Type	CRL2
Total Dilution	1.0000
Comment	A19D349 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	40.927	ppb	2.3	124323	90.95	70	130	
Ca	44	45	H2	45.749	ppb	3.0	6433	101.66	70	130	
Fe	57	74	H2	43.353	ppb	0.2	8149	96.34	70	130	
Se	78	74	H2	0.906	ppb	7.3	173	100.67	70	130	
Mg	24	45	He	42.388	ppb	8.4	10084	94.2	70	130	
Al	27	45	He	45.025	ppb	1.2	5350	100.06	70	130	
K	39	45	He	40.276	ppb	3.7	27617	89.5	70	130	
V	51	74	He	0.950	ppb	7.9	2228	105.56	70	130	
Cr	52	74	He	0.936	ppb	4.9	1885	104	70	130	
Mn	55	74	He	0.869	ppb	7.9	1172	96.56	70	130	
Ni	60	74	He	0.637	ppb	16.0	750	70.78	70	130	
Cu	65	74	He	0.913	ppb	10.0	1111	101.44	70	130	
Zn	66	74	He	0.791	ppb	8.6	310	87.89	70	130	
As	75	74	He	0.915	ppb	10.1	176	101.67	70	130	
Mo	95	103	He	0.951	ppb	4.1	848	105.67	70	130	
Ag	107	103	He	0.967	ppb	3.1	2811	107.44	70	130	
Sb	121	103	He	0.924	ppb	10.2	928	102.67	70	130	
Ba	138	159	He	0.905	ppb	1.7	2121	100.56	70	130	
Tl	205	159	He	0.927	ppb	1.4	5320	103	70	130	
Be	9	6	NoGas	0.879	ppb	3.5	1525	97.67	70	130	
Ti	47	45	NoGas	0.956	ppb	16.3	698	106.22	70	130	
Co	59	74	NoGas	0.905	ppb	3.7	8283	100.56	70	130	
Cu	65	74	NoGas	0.953	ppb	8.8	2484	105.89	70	130	
Cd	111	103	NoGas	0.897	ppb	3.1	1032	99.67	70	130	
Hg	201	159	NoGas	18.178	ppt	47.6	22	50.49	70	130	<>CRL2 NR<MRL<R-M
Pb	208	159	NoGas	0.902	ppb	4.2	11681	100.22	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.6	1252193	1188983.99	105.3	
Ge	74	H2	Pulse	0.3	447635	448606.056666667	99.8	
Sc	45	He	Pulse	0.4	145287	140139.606666667	103.7	
Ge	74	He	Pulse	0.7	91711	89993.8966666667	101.9	
Rh	103	He	Pulse	0.5	267110	269020.95	99.3	
Tb	159	He	Pulse	0.6	388220	395791.276666667	98.1	

JB 05/23/19

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.5	262708	274186.866666667	95.8	
Li	6	NoGas	Pulse	1.7	587957	612114.496666667	96.1	
Sc	45	NoGas	Analog	1.0	1845355	1816935.23333333	101.6	
Ge	74	NoGas	Pulse	0.2	484113	485933.593333333	99.6	
Rh	103	NoGas	Pulse	0.6	513180	517869.783333333	99.1	
Tb	159	NoGas	Pulse	0.2	816549	838151.383333333	97.4	
Bi	209	NoGas	Pulse	0.4	464240	489835.583333333	94.8	

CRL Verification ICPMS5

Sample Name	9E22036-CRL9
File Name	075CRL_.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 19:54:52
Sample Type	CRL3
Total Dilution	1.0000
Comment	A19D350 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	85.786	ppb	0.6	223281	95.32	70	130	
Ca	44	45	H2	90.728	ppb	4.4	11228	100.81	70	130	
Fe	57	74	H2	88.282	ppb	0.9	15319	98.09	70	130	
Se	78	74	H2	1.892	ppb	1.5	350	105.11	70	130	
Mg	24	45	He	87.293	ppb	1.3	19675	96.99	70	130	
Al	27	45	He	89.019	ppb	3.2	10157	98.91	70	130	
K	39	45	He	92.447	ppb	1.2	37278	102.72	70	130	
V	51	74	He	1.757	ppb	8.3	3455	97.61	70	130	
Cr	52	74	He	1.779	ppb	3.3	3409	98.83	70	130	
Mn	55	74	He	1.794	ppb	2.1	2298	99.67	70	130	
Ni	60	74	He	1.690	ppb	3.6	1456	93.89	70	130	
Cu	65	74	He	1.838	ppb	6.4	1932	102.11	70	130	
Zn	66	74	He	2.203	ppb	6.6	680	122.39	70	130	
As	75	74	He	1.765	ppb	7.3	323	98.06	70	130	
Mo	95	103	He	1.869	ppb	5.6	1632	103.83	70	130	
Ag	107	103	He	1.804	ppb	3.3	5162	100.22	70	130	
Sb	121	103	He	1.788	ppb	4.5	1766	99.33	70	130	
Ba	138	159	He	2.009	ppb	5.6	4505	111.61	70	130	
Tl	205	159	He	1.883	ppb	1.3	10597	104.61	70	130	
Be	9	6	NoGas	1.794	ppb	5.0	3043	99.67	70	130	
Ti	47	45	NoGas	1.806	ppb	11.8	1259	100.33	70	130	
Co	59	74	NoGas	1.782	ppb	1.9	15781	99	70	130	
Cu	65	74	NoGas	1.885	ppb	3.3	4277	104.72	70	130	
Cd	111	103	NoGas	1.777	ppb	3.7	2020	98.72	70	130	
Hg	201	159	NoGas	62.000	ppt	10.6	43	86.11	70	130	
Pb	208	159	NoGas	1.831	ppb	3.0	23046	101.72	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.3	1188474	1188983.99	100.0	
Ge	74	H2	Pulse	0.1	435339	448606.056666667	97.0	
Sc	45	He	Pulse	0.7	140927	140139.606666667	100.6	
Ge	74	He	Pulse	0.5	90416	89993.8966666667	100.5	
Rh	103	He	Pulse	0.8	263095	269020.95	97.8	
Tb	159	He	Pulse	1.3	383050	395791.276666667	96.8	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.2	262216	274186.866666667	95.6	
Li	6	NoGas	Pulse	0.9	580669	612114.496666667	94.9	
Sc	45	NoGas	Analog	0.7	1847430	1816935.23333333	101.7	
Ge	74	NoGas	Pulse	0.3	478411	485933.593333333	98.5	
Rh	103	NoGas	Pulse	0.7	507503	517869.783333333	98.0	
Tb	159	NoGas	Pulse	0.3	815494	838151.383333333	97.3	
Bi	209	NoGas	Pulse	0.9	464316	489835.583333333	94.8	

Quantitation Report - ICPMS5

Sample Name:	**9051056-BLK2**	Total Dilution:	**10.0000**
File Name:	080SMPL.d	Vial:	3408
File Path:	C:\Agilent\ICPMH\1\DATA\9E22036.b	Sample Type:	Sample
Acq Time:	5/22/2019 20:25:32	Last Calib:	05/22/2019 14:24:18
Comment:	**9051056 Solid Biglist-CoMo**		

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	-0.012	ppb	N/A	11	100	
Na	23	45	H2	-2.747	ppb	N/A	16395	50000	
Mg	24	45	He	-0.486	ppb	N/A	340	50000	
Al	27	45	He	1.465	ppb	7.0	274	50000	
K	39	45	He	-0.355	ppb	N/A	18930	50000	
Ca	44	45	H2	5.487	ppb	13.5	1608	50000	
Ti	47	45	NoGas	0.2	ppb	26.0	207	2500	
V	51	74	He	0.027	ppb	136.0	756	500	
Cr	52	74	He	-0.009	ppb	N/A	122	500	
Mn	55	74	He	0.004	ppb	530.5	88	2500	
Fe	56	74	H2	2.011	ppb	6.0	26622	50000	
Fe	57	74	H2	2.474	ppb	24.6	1225	50000	
Co	59	74	NoGas	-0.001	ppb	N/A	350	500	
Ni	60	74	He	-0.187	ppb	N/A	180	1000	
Cu	65	74	He	-0.003	ppb	N/A	267	500	
Cu	65	74	NoGas	0.003	ppb	445.3	606	500	
Zn	66	74	He	0.048	ppb	93.3	109	2500	
As	75	74	He	0.028	ppb	134.0	18	500	
Se	78	74	H2	0.011	ppb	149.9	4	100	
Mo	95	103	He	0.012	ppb	118.5	20	100	
Ag	107	103	He	0.007	ppb	39.7	22	100	
Cd	111	103	NoGas	0.008	ppb	195.7	12	1000	
Sb	121	103	He	0.014	ppb	100.5	17	100	
Ba	138	159	He	0.006	ppb	173.0	128	2500	
W	182	159	NoGas	-0.002	ppb	N/A	36	40	
Hg	201	159	NoGas	-5.73	ppt	N/A	10	4000	
Tl	205	159	He	0	ppb	N/A	63	100	
Pb	208	159	NoGas	0	ppb	N/A	618	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	590125	0.9	612114.496666667	Pulse	96.4	
Sc	45	H2	1254352	1.6	1188983.99	Analog	105.5	
Sc	45	He	143281	1.3	140139.606666667	Pulse	102.2	
Sc	45	NoGas	1896335	1.3	1816935.23333333	Analog	104.4	
Ge	74	H2	445333	0.3	448606.056666667	Pulse	99.3	
Ge	74	He	90576	0.5	89993.8966666667	Pulse	100.6	
Ge	74	NoGas	485596	0.9	485933.593333333	Pulse	99.9	
Rh	103	He	266000	1.0	269020.95	Pulse	98.9	
Rh	103	NoGas	515017	0.3	517869.783333333	Pulse	99.4	
Tb	159	He	386789	0.8	395791.276666667	Pulse	97.7	
Tb	159	NoGas	829681	0.7	838151.383333333	Pulse	99.0	
Bi	209	He	260945	0.7	274186.866666667	Pulse	95.2	
Bi	209	NoGas	469392	0.2	489835.583333333	Pulse	95.8	

Quantitation Report - ICPMS5

Sample Name:	**9051056-BS2**		
File Name:	081SMPL.d	Total Dilution:	**10.0000**
File Path:	C:\Agilent\ICPMH\1\DATA\9E22036.b	Vial:	3409
Acq Time:	5/22/2019 20:29:45	Sample Type:	Sample
Comment:	**9051056 Solid Biglist-CoMo**	Last Calib:	05/22/2019 14:24:18

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	21.876	ppb	1.7	37026	100	
Na	23	45	H2	2242.613	ppb	2.0	5455501	50000	
Mg	24	45	He	2230.271	ppb	0.6	492776	50000	
Al	27	45	He	2218.304	ppb	0.4	251156	50000	
K	39	45	He	2402.61	ppb	1.1	502748	50000	
Ca	44	45	H2	2202.175	ppb	1.5	259763	50000	
Ti	47	45	NoGas	45.904	ppb	2.6	30739	2500	
V	51	74	He	45.896	ppb	0.4	70978	500	
Cr	52	74	He	46.41	ppb	1.5	83829	500	
Mn	55	74	He	45.447	ppb	0.2	55135	2500	
Fe	56	74	H2	2278.909	ppb	0.3	15440710	50000	
Fe	57	74	H2	2160.983	ppb	0.4	359723	50000	
Co	59	74	NoGas	46.026	ppb	0.5	396178	500	
Ni	60	74	He	47.455	ppb	1.0	31927	1000	
Cu	65	74	He	46.357	ppb	2.0	41398	500	
Cu	65	74	NoGas	46.081	ppb	0.7	90077	500	
Zn	66	74	He	46.987	ppb	2.7	12310	2500	
As	75	74	He	46.362	ppb	1.3	7992	500	
Se	78	74	H2	21.509	ppb	1.1	3996	100	
Mo	95	103	He	22.724	ppb	1.1	19406	100	
Ag	107	103	He	22.652	ppb	0.7	63738	100	
Cd	111	103	NoGas	45.03	ppb	0.7	50243	1000	
Sb	121	103	He	21.43	ppb	1.4	20792	100	
Ba	138	159	He	48.198	ppb	0.5	105651	2500	
W	182	159	NoGas	0.008	ppb	41.8	73	40	
Hg	201	159	NoGas	878.954	ppt	3.2	444	4000	
Tl	205	159	He	21.895	ppb	0.9	122692	100	
Pb	208	159	NoGas	44.267	ppb	0.5	546394	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	585171	1.1	612114.496666667	Pulse	95.6	
Sc	45	H2	1227266	1.8	1188983.99	Mix	103.2	
Sc	45	He	141207	0.7	140139.606666667	Pulse	100.8	
Sc	45	NoGas	1873351	0.5	1816935.23333333	Analog	103.1	
Ge	74	H2	439363	0.5	448606.056666667	Pulse	97.9	
Ge	74	He	88695	0.4	89993.8966666667	Pulse	98.6	
Ge	74	NoGas	475233	0.3	485933.593333333	Pulse	97.8	
Rh	103	He	258747	0.2	269020.95	Pulse	96.2	
Rh	103	NoGas	498614	0.9	517869.783333333	Pulse	96.3	
Tb	159	He	383625	0.9	395791.276666667	Pulse	96.9	
Tb	159	NoGas	820789	0.8	838151.383333333	Pulse	97.9	
Bi	209	He	257769	0.9	274186.866666667	Pulse	94.0	
Bi	209	NoGas	463377	0.8	489835.583333333	Pulse	94.6	

Quantitation Report - ICPMS5

Sample Name:	**A9E0582-01RE1**	Total Dilution:	**10.0000**
File Name:	082SMPL.d	Vial:	3410
File Path:	C:\Agilent\ICPMH\1\DATA\9E22036.b	Sample Type:	Sample
Acq Time:	5/22/2019 20:33:58	Last Calib:	05/22/2019 14:24:18
Comment:	**9051056 Solid Biglist-CoMo**		

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.102	ppb	8.8	208	100	
Na	23	45	H2	38.209	ppb	1.5	110798	50000	
Mg	24	45	He	134.103	ppb	0.5	29732	50000	
Al	27	45	He	881.283	ppb	0.9	98786	50000	
K	39	45	He	17.591	ppb	28.9	22047	50000	
Ca	44	45	H2	450.844	ppb	2.1	51834	50000	
Ti	47	45	NoGas	34.627	ppb	0.9	23866	2500	
V	51	74	He	40.517	ppb	0.8	62335	500	
Cr	52	74	He	2.281	ppb	4.1	4222	500	
Mn	55	74	He	194.836	ppb	0.6	234565	2500	
Fe	56	74	H2	34338.482	ppb	0.1	226876072	50000	
Fe	57	74	H2	34125.431	ppb	1.0	5532212	50000	
Co	59	74	NoGas	7.333	ppb	2.0	64468	500	
Ni	60	74	He	7.678	ppb	1.3	5383	1000	
Cu	65	74	He	9.608	ppb	5.5	8731	500	
Cu	65	74	NoGas	9.43	ppb	2.1	19215	500	
Zn	66	74	He	39.555	ppb	3.1	10310	2500	
As	75	74	He	2.804	ppb	8.4	492	500	
Se	78	74	H2	0.199	ppb	36.4	38	100	
Mo	95	103	He	0.471	ppb	5.0	411	100	
Ag	107	103	He	0.015	ppb	23.6	43	100	
Cd	111	103	NoGas	0.232	ppb	3.2	265	1000	
Sb	121	103	He	0.263	ppb	34.0	257	100	
Ba	138	159	He	9.396	ppb	1.8	20732	2500	
W	182	159	NoGas	0.122	ppb	1.9	542	40	
Hg	201	159	NoGas	53.376	ppt	16.2	40	4000	
Tl	205	159	He	0.026	ppb	19.0	209	100	
Pb	208	159	NoGas	16.892	ppb	1.0	213052	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	594682	0.9	612114.496666667	Pulse	97.2	
Sc	45	H2	1179493	0.6	1188983.99	Pulse	99.2	
Sc	45	He	139724	1.3	140139.606666667	Pulse	99.7	
Sc	45	NoGas	1926760	1.1	1816935.23333333	Analog	106.0	
Ge	74	H2	428765	0.2	448606.056666667	Pulse	95.6	
Ge	74	He	88120	0.6	89993.8966666667	Pulse	97.9	
Ge	74	NoGas	483141	0.2	485933.593333333	Pulse	99.4	
Rh	103	He	258555	0.7	269020.95	Pulse	96.1	
Rh	103	NoGas	506203	0.5	517869.783333333	Pulse	97.7	
Tb	159	He	384476	0.7	395791.276666667	Pulse	97.1	
Tb	159	NoGas	837150	0.2	838151.383333333	Pulse	99.9	
Bi	209	He	267208	0.9	274186.866666667	Pulse	97.5	
Bi	209	NoGas	480916	0.6	489835.583333333	Pulse	98.2	

Quantitation Report - ICPMS5

Sample Name:	**9051056-DUP2**	Total Dilution:	**10.0000**
File Name:	083SMPL.d	Vial:	3411
File Path:	C:\Agilent\ICPMH\1\DATA\9E22036.b	Sample Type:	Sample
Acq Time:	5/22/2019 20:38:11	Last Calib:	05/22/2019 14:24:18
Comment:	**9051056 Solid Biglist-CoMo**		

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.159	ppb	20.0	313	100	
Na	23	45	H2	74.328	ppb	1.6	195334	50000	
Mg	24	45	He	190.093	ppb	0.2	43862	50000	
Al	27	45	He	1370.838	ppb	0.1	160571	50000	
K	39	45	He	36.691	ppb	1.2	27016	50000	
Ca	44	45	H2	705.252	ppb	0.3	80752	50000	
Ti	47	45	NoGas	58.393	ppb	1.0	41893	2500	
V	51	74	He	26.236	ppb	1.3	42305	500	
Cr	52	74	He	2.246	ppb	4.4	4334	500	
Mn	55	74	He	218.071	ppb	0.8	273514	2500	
Fe	56	74	H2	37517.888	ppb	1.7	248493967	50000	
Fe	57	74	H2	37169.302	ppb	1.4	6040482	50000	
Co	59	74	NoGas	9.52	ppb	1.4	87752	500	
Ni	60	74	He	6.449	ppb	4.5	4761	1000	
Cu	65	74	He	9.254	ppb	1.3	8772	500	
Cu	65	74	NoGas	9.125	ppb	4.3	19535	500	
Zn	66	74	He	55.554	ppb	1.3	15049	2500	
As	75	74	He	1.58	ppb	4.6	295	500	
Se	78	74	H2	0.175	ppb	14.0	34	100	
Mo	95	103	He	0.417	ppb	9.6	380	100	
Ag	107	103	He	0.013	ppb	47.3	38	100	
Cd	111	103	NoGas	0.208	ppb	10.2	250	1000	
Sb	121	103	He	0.092	ppb	16.8	94	100	
Ba	138	159	He	11.504	ppb	1.2	26085	2500	
W	182	159	NoGas	0.078	ppb	6.9	372	40	
Hg	201	159	NoGas	40.365	ppt	20.2	34	4000	
Tl	205	159	He	0.021	ppb	9.1	186	100	
Pb	208	159	NoGas	21.015	ppb	0.7	271481	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	609993	0.8	612114.496666667	Pulse	99.7	
Sc	45	H2	1182145	1.2	1188983.99	Pulse	99.4	
Sc	45	He	146050	0.6	140139.606666667	Pulse	104.2	
Sc	45	NoGas	2007714	1.4	1816935.23333333	Analog	110.5	
Ge	74	H2	429871	1.0	448606.056666667	Pulse	95.8	
Ge	74	He	91806	0.6	89993.8966666667	Pulse	102.0	
Ge	74	NoGas	507228	0.9	485933.593333333	Pulse	104.4	
Rh	103	He	268896	0.8	269020.95	Pulse	100.0	
Rh	103	NoGas	530887	0.6	517869.783333333	Pulse	102.5	
Tb	159	He	395458	0.6	395791.276666667	Pulse	99.9	
Tb	159	NoGas	857984	1.0	838151.383333333	Pulse	102.4	
Bi	209	He	273121	0.9	274186.866666667	Pulse	99.6	
Bi	209	NoGas	494823	0.7	489835.583333333	Pulse	101.0	

Quantitation Report - ICPMS5

Sample Name:	**9051056-MS2**	Total Dilution:	**10.0000**
File Name:	084SMPL.d	Vial:	3412
File Path:	C:\Agilent\ICPMH\1\DATA\9E22036.b	Sample Type:	Sample
Acq Time:	5/22/2019 20:42:25	Last Calib:	05/22/2019 14:24:18
Comment:	**9051056 Solid Biglist-CoMo**		

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	21.744	ppb	1.9	38455	100	
Na	23	45	H2	2327	ppb	2.7	5612987	50000	
Mg	24	45	He	2432.906	ppb	0.7	553503	50000	
Al	27	45	He	3497.858	ppb	1.8	407712	50000	
K	39	45	He	2390.474	ppb	1.2	515205	50000	
Ca	44	45	H2	3426.94	ppb	2.8	400332	50000	
Ti	47	45	NoGas	91.616	ppb	1.3	66293	2500	
V	51	74	He	74.678	ppb	0.7	118041	500	
Cr	52	74	He	50.43	ppb	0.9	93446	500	
Mn	55	74	He	331.204	ppb	1.6	411710	2500	
Fe	56	74	H2	43271.176	ppb	0.5	289457085	50000	
Fe	57	74	H2	43099.264	ppb	0.6	7073818	50000	
Co	59	74	NoGas	53.78	ppb	0.4	492206	500	
Ni	60	74	He	59.499	ppb	1.0	40993	1000	
Cu	65	74	He	59.898	ppb	0.3	54804	500	
Cu	65	74	NoGas	59.253	ppb	0.8	122987	500	
Zn	66	74	He	104.719	ppb	0.5	28032	2500	
As	75	74	He	46.23	ppb	1.3	8176	500	
Se	78	74	H2	20.614	ppb	1.4	3784	100	
Mo	95	103	He	23.177	ppb	1.4	20305	100	
Ag	107	103	He	22.265	ppb	0.6	64262	100	
Cd	111	103	NoGas	44.657	ppb	0.6	52011	1000	
Sb	121	103	He	19.748	ppb	1.0	19654	100	
Ba	138	159	He	61	ppb	1.0	137573	2500	
W	182	159	NoGas	0.084	ppb	12.7	397	40	
Hg	201	159	NoGas	923	ppt	3.8	486	4000	
Tl	205	159	He	19.929	ppb	1.4	114935	100	
Pb	208	159	NoGas	69.733	ppb	0.6	898684	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	611318	0.7	612114.496666667	Pulse	99.9	
Sc	45	H2	1217208	2.0	1188983.99	Mix	102.4	
Sc	45	He	145412	1.1	140139.606666667	Pulse	103.8	
Sc	45	NoGas	2026764	2.0	1816935.23333333	Analog	111.5	
Ge	74	H2	434119	0.5	448606.056666667	Pulse	96.8	
Ge	74	He	91003	0.7	89993.8966666667	Pulse	101.1	
Ge	74	NoGas	505364	0.3	485933.593333333	Pulse	104.0	
Rh	103	He	265427	0.7	269020.95	Pulse	98.7	
Rh	103	NoGas	520452	0.6	517869.783333333	Pulse	100.5	
Tb	159	He	394790	0.4	395791.276666667	Pulse	99.7	
Tb	159	NoGas	857340	0.5	838151.383333333	Pulse	102.3	
Bi	209	He	270509	0.8	274186.866666667	Pulse	98.7	
Bi	209	NoGas	492506	0.3	489835.583333333	Pulse	100.5	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV 5	**Total Dilution**	1.0000
File Name	086_CCV.d JB 05/23/19	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 20:50:53	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3722.186	ppb	0.5	9697614	4000	90	110	93.05	
Ca	44	45	H2	3747.046	ppb	0.9	473417	4000	90	110	93.68	
Fe	56	74	H2	4025.048	ppb	0.1	28464860	4000	90	110	100.63	
Fe	57	74	H2	3798.791	ppb	0.2	659629	4000	90	110	94.97	
Se	78	74	H2	39.787	ppb	0.6	7717	40	90	110	99.47	
Mg	24	45	He	4028.079	ppb	1.3	904761	4000	90	110	100.7	
Al	27	45	He	3897.184	ppb	0.4	448669	4000	90	110	97.43	
K	39	45	He	4128.657	ppb	0.8	864963	4000	90	110	103.22	
V	51	74	He	99.243	ppb	1.0	156095	100	90	110	99.24	
Cr	52	74	He	100.361	ppb	0.6	185183	100	90	110	100.36	
Mn	55	74	He	95.409	ppb	0.5	118249	100	90	110	95.41	
Ni	60	74	He	105.289	ppb	0.6	72053	100	90	110	105.29	
Cu	65	74	He	101.375	ppb	0.4	92244	100	90	110	101.38	
Zn	66	74	He	103.732	ppb	1.7	27673	100	90	110	103.73	
As	75	74	He	99.112	ppb	0.5	17454	100	90	110	99.11	
Mo	95	103	He	40.324	ppb	0.5	34968	40	90	110	100.81	
Ag	107	103	He	39.877	ppb	0.3	113958	40	90	110	99.69	
Sb	121	103	He	41.557	ppb	0.4	40949	40	90	110	103.89	
Ba	138	159	He	103.212	ppb	0.6	229123	100	90	110	103.21	
Tl	205	159	He	38.732	ppb	0.5	219882	40	90	110	96.83	
Be	9	6	NoGas	39.804	ppb	1.2	68164	40	90	110	99.51	
Ti	47	45	NoGas	95.958	ppb	1.1	65684	100	90	110	95.96	
Co	59	74	NoGas	99.361	ppb	0.7	873060	100	90	110	99.36	
Cu	65	74	NoGas	99.507	ppb	1.1	197949	100	90	110	99.51	
Cd	111	103	NoGas	95.506	ppb	0.3	106563	100	90	110	95.51	
Hg	201	159	NoGas	801.686	ppt	1.8	409	800	90	110	100.21	
Pb	208	159	NoGas	94.288	ppb	0.5	1170932	100	90	110	94.29	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.8	1316285	1188983.99	110.7	
Ge	74	H2	Pulse	0.3	458746	448606.056666667	102.3	
Sc	45	He	Pulse	0.8	143613	140139.606666667	102.5	
Ge	74	He	Pulse	0.6	90684	89993.8966666667	100.8	
Rh	103	He	Pulse	0.9	262797	269020.95	97.7	
Tb	159	He	Pulse	1.0	388745	395791.276666667	98.2	
Bi	209	He	Pulse	0.8	260287	274186.866666667	94.9	
Li	6	NoGas	Pulse	1.2	592176	612114.496666667	96.7	
Sc	45	NoGas	Analog	1.6	1917252	1816935.23333333	105.5	
Ge	74	NoGas	Pulse	0.8	485360	485933.593333333	99.9	
Rh	103	NoGas	Pulse	0.8	498607	517869.783333333	96.3	
Tb	159	NoGas	Pulse	0.5	826298	838151.383333333	98.6	
Bi	209	NoGas	Pulse	0.5	465981	489835.583333333	95.1	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB 5
File Name	087_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 20:55:07
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

5/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-2.320	ppb	N/A	17884	45	
Ca	44	45	H2	1.020	ppb	214.2	1100	45	
Fe	56	74	H2	1.706	ppb	7.8	24761	22.5	
Fe	57	74	H2	1.952	ppb	20.0	1148	22.5	
Se	78	74	H2	0.053	ppb	43.9	12	0.45	
Mg	24	45	He	-0.541	ppb	N/A	330	45	
Al	27	45	He	0.182	ppb	103.3	127	22.5	
K	39	45	He	-1.537	ppb	N/A	18740	45	
V	51	74	He	-0.080	ppb	N/A	592	0.45	
Cr	52	74	He	-0.003	ppb	N/A	134	0.45	
Mn	55	74	He	-0.007	ppb	N/A	74	0.45	
Ni	60	74	He	-0.241	ppb	N/A	144	0.45	
Cu	65	74	He	0.009	ppb	630.3	280	0.45	
Zn	66	74	He	0.017	ppb	422.2	101	1.8	
As	75	74	He	0.061	ppb	95.0	24	0.45	
Mo	95	103	He	0.035	ppb	79.4	41	0.45	
Ag	107	103	He	0.004	ppb	1.3	13	0.09	
Sb	121	103	He	0.020	ppb	24.3	22	0.45	
Ba	138	159	He	0.007	ppb	9.5	131	0.45	
Tl	205	159	He	0.013	ppb	56.1	140	0.09	
Be	9	6	NoGas	-0.004	ppb	N/A	26	0.09	
Ti	47	45	NoGas	0.002	ppb	500.2	73	0.45	
Co	59	74	NoGas	-0.001	ppb	N/A	348	0.09	
Cu	65	74	NoGas	-0.028	ppb	N/A	545	0.45	
Cd	111	103	NoGas	0.023	ppb	62.8	29	0.09	
Hg	201	159	NoGas	4.024	ppt	90.4	15	36	
Pb	208	159	NoGas	0.002	ppb	219.5	641	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.1	1285193	1188983.99	108.1	
Ge	74	H2	Pulse	0.5	449599	448606.056666667	100.2	
Sc	45	He	Pulse	1.2	143738	140139.606666667	102.6	
Ge	74	He	Pulse	0.7	91122	89993.8966666667	101.3	
Rh	103	He	Pulse	1.2	268976	269020.95	100.0	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	1.3	386254	395791.276666667	97.6	
Bi	209	He	Pulse	1.6	263878	274186.866666667	96.2	
Li	6	NoGas	Pulse	1.2	591476	612114.496666667	96.6	
Sc	45	NoGas	Analog	1.3	1909021	1816935.23333333	105.1	
Ge	74	NoGas	Pulse	0.2	485849	485933.593333333	100.0	
Rh	103	NoGas	Pulse	0.9	512438	517869.783333333	99.0	
Tb	159	NoGas	Pulse	0.2	820246	838151.383333333	97.9	
Bi	209	NoGas	Pulse	0.4	472891	489835.583333333	96.5	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV	**Total Dilution**	1.0000
File Name	098_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 21:41:45	**Comment**	A19E109 JPB 05/22

6 JB 05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3759.637	ppb	1.1	9469719	4000	90	110	93.99	
Ca	44	45	H2	3750.733	ppb	2.2	458115	4000	90	110	93.77	
Fe	56	74	H2	4027.650	ppb	0.6	27490557	4000	90	110	100.69	
Fe	57	74	H2	3786.646	ppb	0.5	634592	4000	90	110	94.67	
Se	78	74	H2	39.142	ppb	0.7	7327	40	90	110	97.86	
Mg	24	45	He	4020.884	ppb	0.6	887378	4000	90	110	100.52	
Al	27	45	He	3849.321	ppb	0.7	435398	4000	90	110	96.23	
K	39	45	He	4099.860	ppb	1.3	844011	4000	90	110	102.5	
V	51	74	He	98.958	ppb	0.4	153800	100	90	110	98.96	
Cr	52	74	He	99.313	ppb	0.2	181085	100	90	110	99.31	
Mn	55	74	He	95.933	ppb	1.0	117488	100	90	110	95.93	
Ni	60	74	He	103.702	ppb	1.2	70129	100	90	110	103.7	
Cu	65	74	He	100.345	ppb	0.6	90228	100	90	110	100.34	
Zn	66	74	He	101.938	ppb	0.6	26872	100	90	110	101.94	
As	75	74	He	98.346	ppb	0.9	17113	100	90	110	98.35	
Mo	95	103	He	40.176	ppb	0.6	34249	40	90	110	100.44	
Ag	107	103	He	39.877	ppb	0.3	112023	40	90	110	99.69	
Sb	121	103	He	41.523	ppb	0.5	40222	40	90	110	103.81	
Ba	138	159	He	104.103	ppb	1.3	228157	100	90	110	104.1	
Tl	205	159	He	39.225	ppb	1.0	219851	40	90	110	98.06	
Be	9	6	NoGas	40.048	ppb	1.0	67496	40	90	110	100.12	
Ti	47	45	NoGas	96.135	ppb	1.3	63743	100	90	110	96.14	
Co	59	74	NoGas	99.615	ppb	0.8	854783	100	90	110	99.62	
Cu	65	74	NoGas	99.888	ppb	0.8	194055	100	90	110	99.89	
Cd	111	103	NoGas	95.069	ppb	0.7	104624	100	90	110	95.07	
Hg	201	159	NoGas	780.831	ppt	8.0	392	800	90	110	97.6	
Pb	208	159	NoGas	93.715	ppb	0.5	1146002	100	90	110	93.72	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.5	1272687	1188983.99	107.0	
Ge	74	H2	Pulse	0.6	442754	448606.056666667	98.7	
Sc	45	He	Pulse	0.7	141099	140139.606666667	100.7	
Ge	74	He	Pulse	0.6	89610	89993.8966666667	99.6	
Rh	103	He	Pulse	0.2	258337	269020.95	96.0	
Tb	159	He	Pulse	1.7	383835	395791.276666667	97.0	
Bi	209	He	Pulse	1.7	260376	274186.866666667	95.0	
Li	6	NoGas	Pulse	1.4	582896	612114.496666667	95.2	
Sc	45	NoGas	Analog	1.0	1857048	1816935.23333333	102.2	
Ge	74	NoGas	Pulse	0.3	473989	485933.593333333	97.5	
Rh	103	NoGas	Pulse	0.7	491805	517869.783333333	95.0	
Tb	159	NoGas	Pulse	0.6	813662	838151.383333333	97.1	
Bi	209	NoGas	Pulse	1.0	457844	489835.583333333	93.5	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB
File Name	099_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 21:45:59
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

Ce 05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-2.473	ppb	N/A	16651	45	
Ca	44	45	H2	1.052	ppb	63.0	1050	45	
Fe	56	74	H2	2.436	ppb	1.2	29052	22.5	
Fe	57	74	H2	2.649	ppb	8.9	1233	22.5	
Se	78	74	H2	0.044	ppb	65.4	10	0.45	
Mg	24	45	He	-0.336	ppb	N/A	367	45	
Al	27	45	He	1.130	ppb	12.2	230	22.5	
K	39	45	He	-2.030	ppb	N/A	18202	45	
V	51	74	He	-0.047	ppb	N/A	630	0.45	
Cr	52	74	He	-0.005	ppb	N/A	127	0.45	
Mn	55	74	He	0.024	ppb	43.9	111	0.45	
Ni	60	74	He	-0.232	ppb	N/A	148	0.45	
Cu	65	74	He	-0.012	ppb	N/A	254	0.45	
Zn	66	74	He	0.050	ppb	190.2	108	1.8	
As	75	74	He	0.020	ppb	18.1	17	0.45	
Mo	95	103	He	0.027	ppb	51.1	33	0.45	
Ag	107	103	He	0.005	ppb	37.0	17	0.09	
Sb	121	103	He	0.018	ppb	67.3	20	0.45	
Ba	138	159	He	-0.002	ppb	N/A	109	0.45	
Tl	205	159	He	0.008	ppb	56.2	107	0.09	
Be	9	6	NoGas	-0.003	ppb	N/A	27	0.09	
Ti	47	45	NoGas	0.127	ppb	74.6	155	0.45	
Co	59	74	NoGas	-0.004	ppb	N/A	317	0.09	
Cu	65	74	NoGas	-0.008	ppb	N/A	573	0.45	
Cd	111	103	NoGas	0.001	ppb	1522.7	3	0.09	
Hg	201	159	NoGas	-3.121	ppt	N/A	11	36	
Pb	208	159	NoGas	0.004	ppb	135.7	661	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Mix	2.5	1223238	1188983.99	102.9	
Ge	74	H2	Pulse	0.7	437983	448606.056666667	97.6	
Sc	45	He	Pulse	0.8	140322	140139.606666667	100.1	
Ge	74	He	Pulse	0.4	89163	89993.8966666667	99.1	
Rh	103	He	Pulse	0.1	262214	269020.95	97.5	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	1.3	383380	395791.276666667	96.9	
Bi	209	He	Pulse	0.8	260713	274186.866666667	95.1	
Li	6	NoGas	Pulse	0.9	577513	612114.496666667	94.3	
Sc	45	NoGas	Analog	2.4	1868358	1816935.23333333	102.8	
Ge	74	NoGas	Pulse	0.4	477281	485933.593333333	98.2	
Rh	103	NoGas	Pulse	0.1	501461	517869.783333333	96.8	
Tb	159	NoGas	Pulse	0.1	808580	838151.383333333	96.5	
Bi	209	NoGas	Pulse	0.2	460560	489835.583333333	94.0	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV 7 JD 05/23/19	**Total Dilution**	1.0000
File Name	108_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 22:23:52	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3863.676	ppb	1.7	9083961	4000	90	110	96.59	
Ca	44	45	H2	3917.609	ppb	0.9	446707	4000	90	110	97.94	
Fe	56	74	H2	4058.748	ppb	0.5	26898035	4000	90	110	101.47	
Fe	57	74	H2	3786.333	ppb	0.6	616126	4000	90	110	94.66	
Se	78	74	H2	40.037	ppb	0.8	7277	40	90	110	100.09	
Mg	24	45	He	3970.510	ppb	1.0	853709	4000	90	110	99.26	
Al	27	45	He	3850.602	ppb	0.8	424333	4000	90	110	96.27	
K	39	45	He	4146.343	ppb	0.7	831438	4000	90	110	103.66	
V	51	74	He	98.919	ppb	1.5	149076	100	90	110	98.92	
Cr	52	74	He	99.834	ppb	0.3	176508	100	90	110	99.83	
Mn	55	74	He	96.285	ppb	1.3	114343	100	90	110	96.28	
Ni	60	74	He	103.287	ppb	0.6	67731	100	90	110	103.29	
Cu	65	74	He	100.190	ppb	0.7	87354	100	90	110	100.19	
Zn	66	74	He	102.724	ppb	1.4	26258	100	90	110	102.72	
As	75	74	He	97.930	ppb	0.9	16524	100	90	110	97.93	
Mo	95	103	He	40.684	ppb	2.2	33839	40	90	110	101.71	
Ag	107	103	He	39.767	ppb	0.7	109008	40	90	110	99.42	
Sb	121	103	He	42.009	ppb	1.3	39705	40	90	110	105.02	
Ba	138	159	He	104.951	ppb	0.9	225337	100	90	110	104.95	
Tl	205	159	He	39.166	ppb	0.7	215048	40	90	110	97.92	
Be	9	6	NoGas	40.107	ppb	1.0	65183	40	90	110	100.27	
Ti	47	45	NoGas	96.113	ppb	1.2	62557	100	90	110	96.11	
Co	59	74	NoGas	99.816	ppb	1.0	834278	100	90	110	99.82	
Cu	65	74	NoGas	99.877	ppb	0.9	188998	100	90	110	99.88	
Cd	111	103	NoGas	95.371	ppb	0.5	102219	100	90	110	95.37	
Hg	201	159	NoGas	818.506	ppt	0.8	401	800	90	110	102.31	
Pb	208	159	NoGas	93.632	ppb	0.5	1116811	100	90	110	93.63	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Mix	1.6	1188109	1188983.99	99.9	
Ge	74	H2	Pulse	0.8	429903	448606.056666667	95.8	
Sc	45	He	Pulse	0.2	137466	140139.606666667	98.1	
Ge	74	He	Pulse	0.3	86891	89993.8966666667	96.6	
Rh	103	He	Pulse	0.7	252082	269020.95	93.7	
Tb	159	He	Pulse	0.3	375971	395791.276666667	95.0	
Bi	209	He	Pulse	1.2	254944	274186.866666667	93.0	
Li	6	NoGas	Pulse	1.4	562105	612114.496666667	91.8	
Sc	45	NoGas	Analog	0.9	1823016	1816935.23333333	100.3	
Ge	74	NoGas	Pulse	0.4	461691	485933.593333333	95.0	
Rh	103	NoGas	Pulse	0.3	478967	517869.783333333	92.5	
Tb	159	NoGas	Pulse	0.2	793626	838151.383333333	94.7	
Bi	209	NoGas	Pulse	0.8	443672	489835.583333333	90.6	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB
File Name	109_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 22:28:06
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

7. JM 05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-2.088	ppb	N/A	16805	45	
Ca	44	45	H2	0.687	ppb	134.0	961	45	
Fe	56	74	H2	3.116	ppb	10.4	32757	22.5	
Fe	57	74	H2	3.276	ppb	17.2	1302	22.5	
Se	78	74	H2	0.074	ppb	19.5	15	0.45	
Mg	24	45	He	-0.120	ppb	N/A	407	45	
Al	27	45	He	1.168	ppb	21.0	230	22.5	
K	39	45	He	-0.772	ppb	N/A	18132	45	
V	51	74	He	-0.042	ppb	N/A	626	0.45	
Cr	52	74	He	-0.012	ppb	N/A	112	0.45	
Mn	55	74	He	0.010	ppb	83.6	91	0.45	
Ni	60	74	He	-0.230	ppb	N/A	146	0.45	
Cu	65	74	He	-0.029	ppb	N/A	234	0.45	
Zn	66	74	He	0.085	ppb	36.1	114	1.8	
As	75	74	He	0.038	ppb	117.4	19	0.45	
Mo	95	103	He	0.030	ppb	50.6	34	0.45	
Ag	107	103	He	0.014	ppb	68.2	40	0.09	
Sb	121	103	He	0.020	ppb	36.3	21	0.45	
Ba	138	159	He	0.020	ppb	16.1	156	0.45	
Tl	205	159	He	0.011	ppb	46.4	122	0.09	
Be	9	6	NoGas	0.001	ppb	588.9	32	0.09	
Ti	47	45	NoGas	0.084	ppb	69.3	122	0.45	
Co	59	74	NoGas	0.004	ppb	224.0	376	0.09	
Cu	65	74	NoGas	-0.033	ppb	N/A	508	0.45	
Cd	111	103	NoGas	0.016	ppb	43.8	20	0.09	
Hg	201	159	NoGas	0.013	ppt	71417.5	13	36	
Pb	208	159	NoGas	0.016	ppb	40.6	785	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Pulse	0.4	1168988	1188983.99	98.3	
Ge	74	H2	Pulse	0.7	426653	448606.056666667	95.1	
Sc	45	He	Pulse	0.3	137843	140139.606666667	98.4	
Ge	74	He	Pulse	0.3	87322	89993.8966666667	97.0	
Rh	103	He	Pulse	0.3	254858	269020.95	94.7	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.9	376174	395791.276666667	95.0	
Bi	209	He	Pulse	0.4	258104	274186.866666667	94.1	
Li	6	NoGas	Pulse	0.7	556492	612114.496666667	90.9	
Sc	45	NoGas	Analog	2.5	1808791	1816935.23333333	99.6	
Ge	74	NoGas	Pulse	0.4	462267	485933.593333333	95.1	
Rh	103	NoGas	Pulse	0.6	489053	517869.783333333	94.4	
Tb	159	NoGas	Pulse	0.4	787431	838151.383333333	93.9	
Bi	209	NoGas	Pulse	1.0	445248	489835.583333333	90.9	

CRL Verification ICPMS5

Sample Name	9E22036-CRLA
File Name	110CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 22:32:22
Sample Type	CRL1
Total Dilution	1.0000
Comment	A19D348 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	ICPMS Analyst

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	5.862	ppb	7.0	35191	65.13	70	130	<>CRL1 NR<MRL<R-11
Ca	44	45	H2	10.275	ppb	1.9	2037	114.17	70	130	
Fe	56	74	H2	10.589	ppb	2.0	82421	117.66	70	130	
Fe	57	74	H2	10.550	ppb	9.2	2491	117.22	70	130	
Se	78	74	H2	0.155	ppb	4.7	30	86.11	70	130	
Mg	24	45	He	7.356	ppb	17.2	2052	81.73	70	130	
Al	27	45	He	8.438	ppb	10.8	1051	93.76	70	130	
K	39	45	He	9.770	ppb	40.3	20540	108.56	70	130	
V	51	74	He	0.135	ppb	18.1	902	75	70	130	
Cr	52	74	He	0.183	ppb	16.5	464	101.67	70	130	
Mn	55	74	He	0.178	ppb	2.9	296	98.89	70	130	
Ni	60	74	He	-0.027	ppb	N/A	282	-15	70	130	<>CRL1 NR<MRL<R-11
Cu	65	74	He	0.182	ppb	9.9	424	101.11	70	130	
Zn	66	74	He	0.179	ppb	71.9	140	99.44	70	130	
As	75	74	He	0.194	ppb	35.3	46	107.78	70	130	
Mo	95	103	He	0.194	ppb	4.7	176	107.78	70	130	
Ag	107	103	He	0.182	ppb	3.0	513	101.11	70	130	
Sb	121	103	He	0.176	ppb	4.7	173	97.78	70	130	
Ba	138	159	He	0.206	ppb	4.1	560	114.44	70	130	
Tl	205	159	He	0.172	ppb	11.0	1019	95.56	70	130	
Be	9	6	NoGas	0.170	ppb	5.8	303	94.44	70	130	
Ti	47	45	NoGas	0.316	ppb	21.3	273	175.56	70	130	<>CRL1 NR<MRL<R-11
Co	59	74	NoGas	0.176	ppb	2.6	1836	97.78	70	130	
Cu	65	74	NoGas	0.170	ppb	17.3	903	94.44	70	130	
Cd	111	103	NoGas	0.195	ppb	13.4	216	108.33	70	130	
Hg	201	159	NoGas	5.646	ppt	127.5	15	78.42	70	130	
Pb	208	159	NoGas	0.188	ppb	9.8	2812	104.44	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	1.8	1170549	1188983.99	98.4	
Ge	74	H2	Pulse	1.4	429425	448606.056666667	95.7	
Sc	45	He	Pulse	0.7	140164	140139.606666667	100.0	
Ge	74	He	Pulse	0.7	88407	89993.8966666667	98.2	
Rh	103	He	Pulse	0.5	259352	269020.95	96.4	

JB 05/23/19

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.0	380574	395791.276666667	96.2	
Bi	209	He	Pulse	0.2	261167	274186.866666667	95.3	
Li	6	NoGas	Pulse	1.0	555502	612114.496666667	90.8	
Sc	45	NoGas	Analog	1.9	1815157	1816935.23333333	99.9	
Ge	74	NoGas	Pulse	0.5	468287	485933.593333333	96.4	
Rh	103	NoGas	Pulse	0.3	491011	517869.783333333	94.8	
Tb	159	NoGas	Pulse	0.2	787581	838151.383333333	94.0	
Bi	209	NoGas	Pulse	0.5	448747	489835.583333333	91.6	

CRL Verification ICPMS5

Sample Name	9E22036-CRLB
File Name	111_CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 22:36:37
Sample Type	CRL2
Total Dilution	1.0000
Comment	A19D349 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	ICPMS Analyst

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	40.442	ppb	0.3	116130	89.87	70	130	
Ca	44	45	H2	46.916	ppb	3.5	6200	104.26	70	130	
Fe	57	74	H2	52.688	ppb	1.7	9384	117.08	70	130	
Se	78	74	H2	0.863	ppb	16.5	159	95.89	70	130	
Mg	24	45	He	44.130	ppb	2.5	9953	98.07	70	130	
Al	27	45	He	49.440	ppb	6.7	5573	109.87	70	130	
K	39	45	He	50.559	ppb	13.3	28262	112.35	70	130	
V	51	74	He	0.868	ppb	2.7	2012	96.44	70	130	
Cr	52	74	He	0.882	ppb	4.3	1713	98	70	130	
Mn	55	74	He	0.978	ppb	5.2	1256	108.67	70	130	
Ni	60	74	He	0.756	ppb	12.2	799	84	70	130	
Cu	65	74	He	0.976	ppb	10.7	1121	108.44	70	130	
Zn	66	74	He	0.991	ppb	3.2	349	110.11	70	130	
As	75	74	He	0.958	ppb	13.5	177	106.44	70	130	
Mo	95	103	He	0.931	ppb	6.3	798	103.44	70	130	
Ag	107	103	He	0.927	ppb	0.7	2587	103	70	130	
Sb	121	103	He	0.934	ppb	4.6	901	103.78	70	130	
Ba	138	159	He	0.974	ppb	2.3	2211	108.22	70	130	
Tl	205	159	He	0.946	ppb	0.5	5273	105.11	70	130	
Be	9	6	NoGas	0.881	ppb	5.1	1459	97.89	70	130	
Ti	47	45	NoGas	1.264	ppb	4.2	896	140.44	70	130	<>CRL2 NR<MRL<R-11
Co	59	74	NoGas	0.893	ppb	0.8	7920	99.22	70	130	
Cu	65	74	NoGas	0.928	ppb	5.1	2357	103.11	70	130	
Cd	111	103	NoGas	0.845	ppb	4.4	937	93.89	70	130	
Hg	201	159	NoGas	35.004	ppt	29.8	29	97.23	70	130	
Pb	208	159	NoGas	0.898	ppb	2.6	11288	99.78	70	130	

JB 05/23/19

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.2	1180816	1188983.99	99.3	
Ge	74	H2	Pulse	0.3	431764	448606.056666667	96.2	
Sc	45	He	Pulse	1.3	138017	140139.606666667	98.5	
Ge	74	He	Pulse	0.1	87995	89993.8966666667	97.8	
Rh	103	He	Pulse	0.6	256654	269020.95	95.4	
Tb	159	He	Pulse	0.8	377339	395791.276666667	95.3	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	0.8	256732	274186.866666667	93.6	
Li	6	NoGas	Pulse	1.3	561205	612114.496666667	91.7	
Sc	45	NoGas	Analog	1.5	1835565	1816935.23333333	101.0	
Ge	74	NoGas	Pulse	0.1	468886	485933.593333333	96.5	
Rh	103	NoGas	Pulse	0.7	494367	517869.783333333	95.5	
Tb	159	NoGas	Pulse	0.5	793028	838151.383333333	94.6	
Bi	209	NoGas	Pulse	0.6	451328	489835.583333333	92.1	

CRL Verification ICPMS5

Sample Name	9E22036-CRLC
File Name	112CRL_.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 22:40:52
Sample Type	CRL3
Total Dilution	1.0000
Comment	A19D350 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	82.906	ppb	1.2	216318	92.12	70	130	
Ca	44	45	H2	90.077	ppb	1.0	11143	100.09	70	130	
Fe	57	74	H2	91.849	ppb	3.6	15816	102.05	70	130	
Se	78	74	H2	1.837	ppb	5.4	338	102.06	70	130	
Mg	24	45	He	89.097	ppb	0.9	19655	99	70	130	
Al	27	45	He	91.860	ppb	2.2	10260	102.07	70	130	
K	39	45	He	95.542	ppb	2.4	37111	106.16	70	130	
V	51	74	He	1.678	ppb	2.7	3243	93.22	70	130	
Cr	52	74	He	1.832	ppb	4.3	3411	101.78	70	130	
Mn	55	74	He	1.824	ppb	8.5	2272	101.33	70	130	
Ni	60	74	He	1.785	ppb	4.2	1479	99.17	70	130	
Cu	65	74	He	1.769	ppb	5.2	1819	98.28	70	130	
Zn	66	74	He	1.904	ppb	5.2	584	105.78	70	130	
As	75	74	He	1.662	ppb	7.0	297	92.33	70	130	
Mo	95	103	He	1.800	ppb	4.9	1529	100	70	130	
Ag	107	103	He	1.816	ppb	4.6	5053	100.89	70	130	
Sb	121	103	He	1.830	ppb	3.4	1758	101.67	70	130	
Ba	138	159	He	1.919	ppb	4.2	4228	106.61	70	130	
Tl	205	159	He	1.821	ppb	0.3	10056	101.17	70	130	
Be	9	6	NoGas	1.855	ppb	5.2	3027	103.06	70	130	
Ti	47	45	NoGas	1.837	ppb	14.0	1268	102.06	70	130	
Co	59	74	NoGas	1.770	ppb	3.8	15349	98.33	70	130	
Cu	65	74	NoGas	2.002	ppb	7.1	4410	111.22	70	130	
Cd	111	103	NoGas	1.739	ppb	3.3	1922	96.61	70	130	
Hg	201	159	NoGas	72.086	ppt	11.1	47	100.12	70	130	
Pb	208	159	NoGas	1.825	ppb	1.4	22299	101.39	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Mix	1.2	1187438	1188983.99	99.9	
Ge	74	H2	Pulse	0.4	432908	448606.056666667	96.5	
Sc	45	He	Pulse	0.6	137992	140139.606666667	98.5	
Ge	74	He	Pulse	0.3	87985	89993.8966666667	97.8	
Rh	103	He	Pulse	0.2	255855	269020.95	95.1	
Tb	159	He	Pulse	0.2	375911	395791.276666667	95.0	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.1	256528	274186.866666667	93.6	
Li	6	NoGas	Pulse	1.1	558804	612114.496666667	91.3	
Sc	45	NoGas	Analog	0.9	1831288	1816935.23333333	100.8	
Ge	74	NoGas	Pulse	0.5	468380	485933.593333333	96.4	
Rh	103	NoGas	Pulse	0.2	493279	517869.783333333	95.3	
Tb	159	NoGas	Pulse	0.5	791637	838151.383333333	94.5	
Bi	209	NoGas	Pulse	0.3	448185	489835.583333333	91.5	

CRL Verification ICPMS5

Sample Name	9E22036-CRLD
File Name	113CRL4.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 22:45:07
Sample Type	CRL4
Total Dilution	1.0000
Comment	A19D351 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	172.578	ppb	0.9	420982	95.88	70	130	
Ca	44	45	H2	184.095	ppb	2.8	21551	102.28	70	130	
Fe	56	74	H2	176.782	ppb	0.2	1180703	98.21	70	130	
Fe	57	74	H2	176.838	ppb	0.9	29452	98.24	70	130	
Se	78	74	H2	3.794	ppb	6.9	690	105.39	70	130	
Mg	24	45	He	173.795	ppb	2.4	38107	96.55	70	130	
Al	27	45	He	175.763	ppb	2.1	19638	97.65	70	130	
K	39	45	He	189.863	ppb	2.1	55962	105.48	70	130	
V	51	74	He	3.520	ppb	4.2	6069	97.78	70	130	
Cr	52	74	He	3.561	ppb	0.6	6537	98.92	70	130	
Mn	55	74	He	3.424	ppb	1.6	4215	95.11	70	130	
Ni	60	74	He	3.444	ppb	4.1	2588	95.67	70	130	
Cu	65	74	He	3.823	ppb	7.7	3644	106.19	70	130	
Zn	66	74	He	3.715	ppb	4.5	1057	103.19	70	130	
As	75	74	He	3.666	ppb	0.7	642	101.83	70	130	
Mo	95	103	He	3.761	ppb	2.8	3214	104.47	70	130	
Ag	107	103	He	3.656	ppb	3.5	10268	101.56	70	130	
Sb	121	103	He	3.695	ppb	5.3	3580	102.64	70	130	
Ba	138	159	He	3.793	ppb	0.9	8346	105.36	70	130	
Tl	205	159	He	3.675	ppb	1.1	20466	102.08	70	130	
Be	9	6	NoGas	3.615	ppb	3.7	5877	100.42	70	130	
Ti	47	45	NoGas	3.603	ppb	2.6	2442	100.08	70	130	
Co	59	74	NoGas	3.582	ppb	0.6	30691	99.5	70	130	
Cu	65	74	NoGas	3.808	ppb	7.2	7861	105.78	70	130	
Cd	111	103	NoGas	3.411	ppb	3.7	3782	94.75	70	130	
Hg	201	159	NoGas	126.365	ppt	13.3	73	87.75	70	130	
Pb	208	159	NoGas	3.618	ppb	1.5	43812	100.5	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.3	1171891	1188983.99	98.6	
Ge	74	H2	Pulse	0.3	428915	448606.056666667	95.6	
Sc	45	He	Pulse	1.1	138672	140139.606666667	99.0	
Ge	74	He	Pulse	0.5	88419	89993.8966666667	98.3	
Rh	103	He	Pulse	0.6	258229	269020.95	96.0	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.5	380241	395791.276666667	96.1	
Bi	209	He	Pulse	0.6	259066	274186.866666667	94.5	
Li	6	NoGas	Pulse	1.1	559528	612114.496666667	91.4	
Sc	45	NoGas	Analog	1.4	1846638	1816935.23333333	101.6	
Ge	74	NoGas	Pulse	0.2	468145	485933.593333333	96.3	
Rh	103	NoGas	Pulse	0.4	495120	517869.783333333	95.6	
Tb	159	NoGas	Pulse	0.3	795139	838151.383333333	94.9	
Bi	209	NoGas	Pulse	0.7	453283	489835.583333333	92.5	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV	**Total Dilution**	1.0000
File Name	124_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/22/2019 23:31:41	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3931.569	ppb	0.4	8921470	4000	90	110	98.29	
Ca	44	45	H2	3963.147	ppb	0.1	436131	4000	90	110	99.08	
Fe	56	74	H2	4045.569	ppb	0.5	26115740	4000	90	110	101.14	
Fe	57	74	H2	3790.950	ppb	0.2	600879	4000	90	110	94.77	
Se	78	74	H2	39.973	ppb	0.6	7077	40	90	110	99.93	
Mg	24	45	He	4000.832	ppb	0.7	839619	4000	90	110	100.02	
Al	27	45	He	3903.876	ppb	1.7	419862	4000	90	110	97.6	
K	39	45	He	4128.102	ppb	1.1	807998	4000	90	110	103.2	
V	51	74	He	98.983	ppb	0.1	145926	100	90	110	98.98	
Cr	52	74	He	99.421	ppb	0.2	171958	100	90	110	99.42	
Mn	55	74	He	95.711	ppb	0.3	111191	100	90	110	95.71	
Ni	60	74	He	102.878	ppb	1.4	65997	100	90	110	102.88	
Cu	65	74	He	100.807	ppb	0.5	85979	100	90	110	100.81	
Zn	66	74	He	101.359	ppb	2.6	25344	100	90	110	101.36	
As	75	74	He	98.322	ppb	0.1	16229	100	90	110	98.32	
Mo	95	103	He	40.576	ppb	0.8	32948	40	90	110	101.44	
Ag	107	103	He	40.272	ppb	1.7	107757	40	90	110	100.68	
Sb	121	103	He	42.662	ppb	1.5	39358	40	90	110	106.65	
Ba	138	159	He	103.860	ppb	0.8	220058	100	90	110	103.86	
Tl	205	159	He	38.960	ppb	0.8	211106	40	90	110	97.4	
Be	9	6	NoGas	40.667	ppb	4.2	64715	40	90	110	101.67	
Ti	47	45	NoGas	95.147	ppb	4.1	60704	100	90	110	95.15	
Co	59	74	NoGas	101.349	ppb	3.1	827508	100	90	110	101.35	
Cu	65	74	NoGas	101.508	ppb	2.9	187647	100	90	110	101.51	
Cd	111	103	NoGas	97.766	ppb	3.8	101894	100	90	110	97.77	
Hg	201	159	NoGas	747.651	ppt	3.3	355	800	90	110	93.46	
Pb	208	159	NoGas	95.634	ppb	3.7	1103620	100	90	110	95.63	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.7	1146574	1188983.99	96.4	
Ge	74	H2	Pulse	0.4	418752	448606.056666667	93.3	
Sc	45	He	Pulse	1.4	134180	140139.606666667	95.7	
Ge	74	He	Pulse	0.5	85001	89993.8966666667	94.5	
Rh	103	He	Pulse	1.1	246065	269020.95	91.5	
Tb	159	He	Pulse	1.3	371041	395791.276666667	93.7	
Bi	209	He	Pulse	1.4	250527	274186.866666667	91.4	
Li	6	NoGas	Pulse	3.6	550874	612114.496666667	90.0	
Sc	45	NoGas	Analog	3.3	1788452	1816935.23333333	98.4	
Ge	74	NoGas	Pulse	2.7	451267	485933.593333333	92.9	
Rh	103	NoGas	Pulse	3.0	466100	517869.783333333	90.0	
Tb	159	NoGas	Pulse	3.0	768401	838151.383333333	91.7	
Bi	209	NoGas	Pulse	2.8	430484	489835.583333333	87.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB
File Name	125_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/22/2019 23:35:55
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-2.749	ppb	N/A	14991	45	
Ca	44	45	H2	0.564	ppb	68.8	930	45	
Fe	56	74	H2	0.359	ppb	11.4	14445	22.5	
Fe	57	74	H2	0.365	ppb	114.2	822	22.5	
Se	78	74	H2	0.048	ppb	71.0	10	0.45	
Mg	24	45	He	0.315	ppb	185.8	491	45	
Al	27	45	He	-0.115	ppb	N/A	87	22.5	
K	39	45	He	2.483	ppb	43.1	18366	45	
V	51	74	He	-0.019	ppb	N/A	648	0.45	
Cr	52	74	He	-0.021	ppb	N/A	96	0.45	
Mn	55	74	He	-0.012	ppb	N/A	64	0.45	
Ni	60	74	He	-0.242	ppb	N/A	136	0.45	
Cu	65	74	He	0.122	ppb	54.9	360	0.45	
Zn	66	74	He	-0.004	ppb	N/A	90	1.8	
As	75	74	He	0.000	ppb	N/A	13	0.45	
Mo	95	103	He	0.018	ppb	113.9	24	0.45	
Ag	107	103	He	0.007	ppb	58.2	21	0.09	
Sb	121	103	He	0.032	ppb	35.8	32	0.45	
Ba	138	159	He	0.003	ppb	291.9	117	0.45	
Tl	205	159	He	0.006	ppb	25.8	97	0.09	
Be	9	6	NoGas	-0.008	ppb	N/A	18	0.09	
Ti	47	45	NoGas	0.024	ppb	135.8	83	0.45	
Co	59	74	NoGas	-0.008	ppb	N/A	270	0.09	
Cu	65	74	NoGas	0.121	ppb	15.7	795	0.45	
Cd	111	103	NoGas	0.006	ppb	97.6	9	0.09	
Hg	201	159	NoGas	-2.458	ppt	N/A	11	36	
Pb	208	159	NoGas	0.000	ppb	1522.7	593	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Pulse	2.2	1147094	1188983.99	96.5	
Ge	74	H2	Pulse	1.3	420778	448606.056666667	93.8	
Sc	45	He	Pulse	0.5	134875	140139.606666667	96.2	
Ge	74	He	Pulse	0.2	85809	89993.8966666667	95.3	
Rh	103	He	Pulse	1.0	252927	269020.95	94.0	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.5	372621	395791.276666667	94.1	
Bi	209	He	Pulse	0.8	252360	274186.866666667	92.0	
Li	6	NoGas	Pulse	1.1	559060	612114.496666667	91.3	
Sc	45	NoGas	Analog	2.1	1797107	1816935.23333333	98.9	
Ge	74	NoGas	Pulse	0.1	459534	485933.593333333	94.6	
Rh	103	NoGas	Pulse	0.6	487857	517869.783333333	94.2	
Tb	159	NoGas	Pulse	0.1	786303	838151.383333333	93.8	
Bi	209	NoGas	Pulse	1.0	446057	489835.583333333	91.1	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV	**Total Dilution**	1.0000
File Name	137_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/23/2019 00:26:39	**Comment**	A19E109 JPB 05/22

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3907.346	ppb	1.9	10186222	4000	90	110	97.68	
Ca	44	45	H2	3800.873	ppb	1.2	480589	4000	90	110	95.02	
Fe	56	74	H2	4175.891	ppb	0.9	28664755	4000	90	110	104.4	
Fe	57	74	H2	3885.609	ppb	0.5	654896	4000	90	110	97.14	
Se	78	74	H2	40.383	ppb	0.5	7603	40	90	110	100.96	
Mg	24	45	He	4111.741	ppb	0.8	935943	4000	90	110	102.79	
Al	27	45	He	3952.571	ppb	0.8	461128	4000	90	110	98.81	
K	39	45	He	4151.072	ppb	1.1	881199	4000	90	110	103.78	
V	51	74	He	100.796	ppb	0.4	156198	100	90	110	100.8	
Cr	52	74	He	101.762	ppb	0.1	185022	100	90	110	101.76	
Mn	55	74	He	97.663	ppb	1.0	119276	100	90	110	97.66	
Ni	60	74	He	105.204	ppb	0.5	70938	100	90	110	105.2	
Cu	65	74	He	101.223	ppb	0.7	90756	100	90	110	101.22	
Zn	66	74	He	104.478	ppb	0.9	27461	100	90	110	104.48	
As	75	74	He	98.032	ppb	0.7	17010	100	90	110	98.03	
Mo	95	103	He	40.157	ppb	1.2	33789	40	90	110	100.39	
Ag	107	103	He	39.803	ppb	0.7	110377	40	90	110	99.51	
Sb	121	103	He	41.484	ppb	1.4	39667	40	90	110	103.71	
Ba	138	159	He	104.178	ppb	0.7	220368	100	90	110	104.18	
Tl	205	159	He	38.588	ppb	0.8	208746	40	90	110	96.47	
Be	9	6	NoGas	38.880	ppb	1.1	71329	40	90	110	97.2	
Ti	47	45	NoGas	94.703	ppb	1.4	65300	100	90	110	94.7	
Co	59	74	NoGas	100.952	ppb	1.5	856257	100	90	110	100.95	
Cu	65	74	NoGas	100.095	ppb	1.1	192215	100	90	110	100.1	
Cd	111	103	NoGas	97.649	ppb	0.3	104755	100	90	110	97.65	
Hg	201	159	NoGas	795.994	ppt	6.3	393	800	90	110	99.5	
Pb	208	159	NoGas	94.784	ppb	0.3	1138268	100	90	110	94.78	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.8	1317352	1188983.99	110.8	
Ge	74	H2	Pulse	0.6	445299	448606.056666667	99.3	
Sc	45	He	Pulse	1.0	145538	140139.606666667	103.9	
Ge	74	He	Pulse	0.8	89357	89993.8966666667	99.3	
Rh	103	He	Pulse	1.0	255011	269020.95	94.8	
Tb	159	He	Pulse	0.6	370413	395791.276666667	93.6	
Bi	209	He	Pulse	0.6	246540	274186.866666667	89.9	
Li	6	NoGas	Pulse	1.4	634501	612114.496666667	103.7	
Sc	45	NoGas	Analog	0.8	1931018	1816935.23333333	106.3	
Ge	74	NoGas	Pulse	0.3	468528	485933.593333333	96.4	
Rh	103	NoGas	Pulse	0.7	479397	517869.783333333	92.6	
Tb	159	NoGas	Pulse	0.5	799052	838151.383333333	95.3	
Bi	209	NoGas	Pulse	0.6	447782	489835.583333333	91.4	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB
File Name	138_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/23/2019 00:30:53
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	4.870	ppb	5.5	36913	45	
Ca	44	45	H2	1.430	ppb	83.0	1174	45	
Fe	56	74	H2	0.371	ppb	11.6	15320	22.5	
Fe	57	74	H2	0.470	ppb	101.9	884	22.5	
Se	78	74	H2	0.078	ppb	32.1	17	0.45	
Mg	24	45	He	-0.263	ppb	N/A	397	45	
Al	27	45	He	0.371	ppb	23.8	150	22.5	
K	39	45	He	-1.447	ppb	N/A	19000	45	
V	51	74	He	0.009	ppb	379.2	722	0.45	
Cr	52	74	He	-0.005	ppb	N/A	129	0.45	
Mn	55	74	He	-0.027	ppb	N/A	49	0.45	
Ni	60	74	He	-0.283	ppb	N/A	114	0.45	
Cu	65	74	He	0.032	ppb	161.2	297	0.45	
Zn	66	74	He	0.026	ppb	569.3	102	1.8	
As	75	74	He	0.040	ppb	34.6	20	0.45	
Mo	95	103	He	0.037	ppb	32.1	41	0.45	
Ag	107	103	He	0.007	ppb	51.7	20	0.09	
Sb	121	103	He	0.030	ppb	16.3	31	0.45	
Ba	138	159	He	0.004	ppb	244.7	119	0.45	
Tl	205	159	He	0.009	ppb	1.5	111	0.09	
Be	9	6	NoGas	-0.005	ppb	N/A	24	0.09	
Ti	47	45	NoGas	0.051	ppb	120.6	108	0.45	
Co	59	74	NoGas	0.000	ppb	N/A	347	0.09	
Cu	65	74	NoGas	0.033	ppb	10.7	650	0.45	
Cd	111	103	NoGas	0.018	ppb	63.3	22	0.09	
Hg	201	159	NoGas	5.524	ppt	192.0	15	36	
Pb	208	159	NoGas	0.008	ppb	33.9	701	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.2	1313069	1188983.99	110.4	
Ge	74	H2	Pulse	0.5	443962	448606.056666667	99.0	
Sc	45	He	Pulse	1.0	145545	140139.606666667	103.9	
Ge	74	He	Pulse	0.6	89936	89993.8966666667	99.9	
Rh	103	He	Pulse	1.5	260191	269020.95	96.7	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	1.1	371636	395791.276666667	93.9	
Bi	209	He	Pulse	1.3	248055	274186.866666667	90.5	
Li	6	NoGas	Pulse	1.0	631946	612114.496666667	103.2	
Sc	45	NoGas	Analog	2.1	1941006	1816935.23333333	106.8	
Ge	74	NoGas	Pulse	0.7	473917	485933.593333333	97.5	
Rh	103	NoGas	Pulse	0.5	490551	517869.783333333	94.7	
Tb	159	NoGas	Pulse	0.4	799558	838151.383333333	95.4	
Bi	209	NoGas	Pulse	0.3	454057	489835.583333333	92.7	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV B	**Total Dilution**	1.0000
File Name	149_CCV.d JB 05/23/19	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/23/2019 01:17:11	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	4013.130	ppb	0.7	9355328	4000	90	110	100.33	
Ca	44	45	H2	3947.217	ppb	0.5	446278	4000	90	110	98.68	
Fe	56	74	H2	4130.603	ppb	0.6	27060070	4000	90	110	103.27	
Fe	57	74	H2	3813.120	ppb	1.0	613365	4000	90	110	95.33	
Se	78	74	H2	39.677	ppb	1.2	7129	40	90	110	99.19	
Mg	24	45	He	3968.051	ppb	3.5	870531	4000	90	110	99.2	
Al	27	45	He	3819.139	ppb	2.9	429455	4000	90	110	95.48	
K	39	45	He	4012.295	ppb	3.1	821563	4000	90	110	100.31	
V	51	74	He	98.229	ppb	4.1	147938	100	90	110	98.23	
Cr	52	74	He	98.700	ppb	3.0	174403	100	90	110	98.7	
Mn	55	74	He	94.471	ppb	3.7	112118	100	90	110	94.47	
Ni	60	74	He	101.637	ppb	3.1	66614	100	90	110	101.64	
Cu	65	74	He	99.086	ppb	3.4	86340	100	90	110	99.09	
Zn	66	74	He	101.507	ppb	4.7	25928	100	90	110	101.51	
As	75	74	He	95.979	ppb	2.7	16186	100	90	110	95.98	
Mo	95	103	He	39.270	ppb	4.6	32636	40	90	110	98.18	
Ag	107	103	He	38.840	ppb	4.6	106368	40	90	110	97.1	
Sb	121	103	He	40.528	ppb	3.3	38277	40	90	110	101.32	
Ba	138	159	He	100.338	ppb	3.2	215073	100	90	110	100.34	
Tl	205	159	He	38.023	ppb	3.5	208423	40	90	110	95.06	
Be	9	6	NoGas	39.575	ppb	1.0	68030	40	90	110	98.94	
Ti	47	45	NoGas	93.051	ppb	1.4	62471	100	90	110	93.05	
Co	59	74	NoGas	99.932	ppb	1.1	832860	100	90	110	99.93	
Cu	65	74	NoGas	100.137	ppb	0.5	188952	100	90	110	100.14	
Cd	111	103	NoGas	96.034	ppb	0.5	102277	100	90	110	96.03	
Hg	201	159	NoGas	790.996	ppt	6.3	388	800	90	110	98.87	
Pb	208	159	NoGas	93.602	ppb	0.6	1117565	100	90	110	93.6	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.3	1177958	1188983.99	99.1	
Ge	74	H2	Pulse	0.2	424962	448606.056666667	94.7	
Sc	45	He	Pulse	1.8	140319	140139.606666667	100.1	
Ge	74	He	Pulse	1.5	86866	89993.8966666667	96.5	
Rh	103	He	Pulse	2.3	252009	269020.95	93.7	
Tb	159	He	Pulse	1.8	375479	395791.276666667	94.9	
Bi	209	He	Pulse	1.4	250256	274186.866666667	91.3	
Li	6	NoGas	Pulse	0.9	594462	612114.496666667	97.1	
Sc	45	NoGas	Analog	1.0	1880413	1816935.23333333	103.5	
Ge	74	NoGas	Pulse	0.6	460384	485933.593333333	94.7	
Rh	103	NoGas	Pulse	0.6	475931	517869.783333333	91.9	
Tb	159	NoGas	Pulse	0.1	794409	838151.383333333	94.8	
Bi	209	NoGas	Pulse	0.1	445020	489835.583333333	90.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB
File Name	150_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/23/2019 01:21:25
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	0.441	ppb	247.4	21913	45	
Ca	44	45	H2	1.054	ppb	136.5	968	45	
Fe	56	74	H2	4.412	ppb	47.6	37465	22.5	
Fe	57	74	H2	4.284	ppb	48.9	1341	22.5	
Se	78	74	H2	0.097	ppb	67.4	17	0.45	
Mg	24	45	He	-0.408	ppb	N/A	347	45	
Al	27	45	He	0.915	ppb	63.2	204	22.5	
K	39	45	He	-5.058	ppb	N/A	17367	45	
V	51	74	He	-0.011	ppb	N/A	662	0.45	
Cr	52	74	He	-0.002	ppb	N/A	129	0.45	
Mn	55	74	He	0.039	ppb	66.1	124	0.45	
Ni	60	74	He	-0.208	ppb	N/A	158	0.45	
Cu	65	74	He	0.033	ppb	149.2	284	0.45	
Zn	66	74	He	0.043	ppb	132.0	102	1.8	
As	75	74	He	0.030	ppb	205.3	18	0.45	
Mo	95	103	He	0.019	ppb	41.8	26	0.45	
Ag	107	103	He	0.008	ppb	17.4	22	0.09	
Sb	121	103	He	0.019	ppb	19.2	20	0.45	
Ba	138	159	He	0.011	ppb	56.3	131	0.45	
Tl	205	159	He	0.010	ppb	70.8	112	0.09	
Be	9	6	NoGas	-0.005	ppb	N/A	23	0.09	
Ti	47	45	NoGas	0.126	ppb	47.7	153	0.45	
Co	59	74	NoGas	-0.010	ppb	N/A	260	0.09	
Cu	65	74	NoGas	-0.018	ppb	N/A	536	0.45	
Cd	111	103	NoGas	0.002	ppb	791.9	4	0.09	
Hg	201	159	NoGas	3.546	ppt	31.3	14	36	
Pb	208	159	NoGas	0.003	ppb	126.4	621	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Mix	12.6	1141971	1188983.99	96.0	
Ge	74	H2	Pulse	11.9	397676	448606.056666667	88.6	
Sc	45	He	Pulse	0.5	138502	140139.606666667	98.8	
Ge	74	He	Pulse	0.9	86127	89993.8966666667	95.7	
Rh	103	He	Pulse	0.7	252746	269020.95	94.0	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	1.2	363934	395791.276666667	92.0	
Bi	209	He	Pulse	1.2	247343	274186.866666667	90.2	
Li	6	NoGas	Pulse	1.1	587894	612114.496666667	96.0	
Sc	45	NoGas	Analog	1.8	1864696	1816935.23333333	102.6	
Ge	74	NoGas	Pulse	0.9	461512	485933.593333333	95.0	
Rh	103	NoGas	Pulse	0.5	485624	517869.783333333	93.8	
Tb	159	NoGas	Pulse	0.4	787003	838151.383333333	93.9	
Bi	209	NoGas	Pulse	0.4	447547	489835.583333333	91.4	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9E22036-CCV C 05/23/19	**Total Dilution**	1.0000
File Name	160_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	**ISTD Ref FileName**	004CALB.d
Acq Time	5/23/2019 02:03:40	**Comment**	A19E109 JPB 05/22

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	4040.870	ppb	1.0	9237466	4000	90	110	101.02	
Ca	44	45	H2	3962.024	ppb	0.8	439268	4000	90	110	99.05	
Fe	56	74	H2	4118.465	ppb	0.5	26525408	4000	90	110	102.96	
Fe	57	74	H2	3803.260	ppb	0.6	601449	4000	90	110	95.08	
Se	78	74	H2	39.774	ppb	0.7	7026	40	90	110	99.44	
Mg	24	45	He	4030.721	ppb	0.4	851516	4000	90	110	100.77	
Al	27	45	He	3886.894	ppb	0.2	420855	4000	90	110	97.17	
K	39	45	He	4140.802	ppb	0.1	815851	4000	90	110	103.52	
V	51	74	He	98.863	ppb	1.0	145134	100	90	110	98.86	
Cr	52	74	He	99.689	ppb	0.2	171694	100	90	110	99.69	
Mn	55	74	He	96.153	ppb	1.4	111240	100	90	110	96.15	
Ni	60	74	He	102.325	ppb	1.4	65362	100	90	110	102.32	
Cu	65	74	He	99.947	ppb	0.4	84889	100	90	110	99.95	
Zn	66	74	He	101.511	ppb	0.6	25277	100	90	110	101.51	
As	75	74	He	98.065	ppb	0.2	16119	100	90	110	98.06	
Mo	95	103	He	40.598	ppb	2.1	32493	40	90	110	101.5	
Ag	107	103	He	39.552	ppb	0.5	104335	40	90	110	98.88	
Sb	121	103	He	41.590	ppb	0.3	37831	40	90	110	103.98	
Ba	138	159	He	104.628	ppb	1.7	216088	100	90	110	104.63	
Tl	205	159	He	38.662	ppb	1.5	204198	40	90	110	96.66	
Be	9	6	NoGas	39.947	ppb	1.7	65091	40	90	110	99.87	
Ti	47	45	NoGas	95.405	ppb	2.0	61308	100	90	110	95.4	
Co	59	74	NoGas	100.492	ppb	1.4	812425	100	90	110	100.49	
Cu	65	74	NoGas	101.078	ppb	1.8	184999	100	90	110	101.08	
Cd	111	103	NoGas	97.123	ppb	1.1	100136	100	90	110	97.12	
Hg	201	159	NoGas	803.640	ppt	1.9	382	800	90	110	100.46	
Pb	208	159	NoGas	94.670	ppb	2.0	1095317	100	90	110	94.67	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.3	1155154	1188983.99	97.2	
Ge	74	H2	Pulse	0.9	417807	448606.056666667	93.1	
Sc	45	He	Pulse	0.2	135064	140139.606666667	96.4	
Ge	74	He	Pulse	0.7	84643	89993.8966666667	94.1	
Rh	103	He	Pulse	1.4	242588	269020.95	90.2	
Tb	159	He	Pulse	1.8	361725	395791.276666667	91.4	
Bi	209	He	Pulse	1.7	243376	274186.866666667	88.8	
Li	6	NoGas	Pulse	0.4	563502	612114.496666667	92.1	
Sc	45	NoGas	Analog	2.5	1800111	1816935.23333333	99.1	
Ge	74	NoGas	Pulse	0.6	446589	485933.593333333	91.9	
Rh	103	NoGas	Pulse	0.8	460767	517869.783333333	89.0	
Tb	159	NoGas	Pulse	1.6	769980	838151.383333333	91.9	
Bi	209	NoGas	Pulse	1.1	432554	489835.583333333	88.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9E22036-CCB
File Name	161_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/23/2019 02:07:54
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

05/23/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-1.671	ppb	N/A	17725	45	
Ca	44	45	H2	0.701	ppb	105.0	961	45	
Fe	56	74	H2	0.349	ppb	11.5	14301	22.5	
Fe	57	74	H2	0.264	ppb	419.2	801	22.5	
Se	78	74	H2	0.055	ppb	31.0	12	0.45	
Mg	24	45	He	-0.381	ppb	N/A	344	45	
Al	27	45	He	0.071	ppb	497.4	107	22.5	
K	39	45	He	0.803	ppb	248.2	18055	45	
V	51	74	He	-0.031	ppb	N/A	626	0.45	
Cr	52	74	He	-0.026	ppb	N/A	84	0.45	
Mn	55	74	He	-0.003	ppb	N/A	74	0.45	
Ni	60	74	He	-0.259	ppb	N/A	123	0.45	
Cu	65	74	He	0.089	ppb	25.0	329	0.45	
Zn	66	74	He	0.101	ppb	44.8	116	1.8	
As	75	74	He	0.025	ppb	49.3	17	0.45	
Mo	95	103	He	0.021	ppb	83.7	27	0.45	
Ag	107	103	He	0.004	ppb	97.7	13	0.09	
Sb	121	103	He	0.010	ppb	129.5	11	0.45	
Ba	138	159	He	-0.018	ppb	N/A	70	0.45	
Ti	205	159	He	0.007	ppb	76.3	96	0.09	
Be	9	6	NoGas	0.003	ppb	358.2	36	0.09	
Ti	47	45	NoGas	0.088	ppb	65.3	127	0.45	
Co	59	74	NoGas	-0.006	ppb	N/A	287	0.09	
Cu	65	74	NoGas	0.221	ppb	30.6	975	0.45	
Cd	111	103	NoGas	0.009	ppb	66.1	12	0.09	
Hg	201	159	NoGas	-0.561	ppt	N/A	12	36	
Pb	208	159	NoGas	0.001	ppb	957.6	595	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Mix	2.1	1166747	1188983.99	98.1	
Ge	74	H2	Pulse	0.7	418492	448606.056666667	93.3	
Sc	45	He	Pulse	0.2	134968	140139.606666667	96.3	
Ge	74	He	Pulse	0.6	85128	89993.8966666667	94.6	
Rh	103	He	Pulse	0.2	252084	269020.95	93.7	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.6	363029	395791.276666667	91.7	
Bi	209	He	Pulse	1.1	244536	274186.866666667	89.2	
Li	6	NoGas	Pulse	2.4	573762	612114.496666667	93.7	
Sc	45	NoGas	Analog	0.6	1831011	1816935.23333333	100.8	
Ge	74	NoGas	Pulse	1.3	455552	485933.593333333	93.7	
Rh	103	NoGas	Pulse	1.7	481854	517869.783333333	93.0	
Tb	159	NoGas	Pulse	1.2	782006	838151.383333333	93.3	
Bi	209	NoGas	Pulse	1.5	441463	489835.583333333	90.1	

CRL Verification ICPMS5

Sample Name	9E22036-CRLE	1102
File Name	162CRL.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/23/2019 02:12:10	
Sample Type	CRL1	
Total Dilution	1.0000	
Comment	A19D348 JPB 05/22	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Fail	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	5.764	ppb	19.9	37416	64.04	70	130	<>CRL1 NR<MRL<R-11
Ca	44	45	H2	8.529	ppb	13.5	1976	94.77	70	130	
Fe	56	74	H2	10.362	ppb	5.3	81255	115.13	70	130	
Fe	57	74	H2	10.881	ppb	5.6	2558	120.9	70	130	
Se	78	74	H2	0.225	ppb	7.7	43	125	70	130	
Mg	24	45	He	7.969	ppb	5.2	2086	88.54	70	130	
Al	27	45	He	9.454	ppb	3.8	1111	105.04	70	130	
K	39	45	He	8.732	ppb	41.3	19391	97.02	70	130	
V	51	74	He	0.162	ppb	19.0	903	90	70	130	
Cr	52	74	He	0.175	ppb	7.0	431	97.22	70	130	
Mn	55	74	He	0.193	ppb	8.0	300	107.22	70	130	
Ni	60	74	He	-0.108	ppb	N/A	219	-60	70	130	<>CRL1 NR<MRL<R-11
Cu	65	74	He	0.317	ppb	14.1	520	176.11	70	130	<>CRL1 NR<MRL<R-11
Zn	66	74	He	0.262	ppb	49.2	154	145.56	70	130	<>CRL1 NR<MRL<R-11
As	75	74	He	0.175	ppb	13.0	41	97.22	70	130	
Mo	95	103	He	0.184	ppb	5.8	159	102.22	70	130	
Ag	107	103	He	0.184	ppb	12.1	496	102.22	70	130	
Sb	121	103	He	0.194	ppb	3.8	182	107.78	70	130	
Ba	138	159	He	0.191	ppb	11.7	502	106.11	70	130	
Tl	205	159	He	0.188	ppb	7.8	1052	104.44	70	130	
Be	9	6	NoGas	0.173	ppb	8.6	313	96.11	70	130	
Ti	47	45	NoGas	0.305	ppb	28.5	265	169.44	70	130	<>CRL1 NR<MRL<R-11
Co	59	74	NoGas	0.182	ppb	2.9	1819	101.11	70	130	
Cu	65	74	NoGas	0.391	ppb	15.6	1278	217.22	70	130	<>CRL1 NR<MRL<R-11
Cd	111	103	NoGas	0.180	ppb	26.7	193	100	70	130	
Hg	201	159	NoGas	11.412	ppt	81.7	18	158.5	70	130	<>CRL1 NR<MRL<R-11
Pb	208	159	NoGas	0.178	ppb	8.7	2642	98.89	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Mix	7.2	1256737	1188983.99	105.7	
Ge	74	H2	Pulse	3.7	431625	448606.056666667	96.2	
Sc	45	He	Pulse	2.0	133630	140139.606666667	95.4	
Ge	74	He	Pulse	1.6	84644	89993.8966666667	94.1	
Rh	103	He	Pulse	1.7	247111	269020.95	91.9	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	2.0	361463	395791.276666667	91.3	
Bi	209	He	Pulse	2.5	245690	274186.866666667	89.6	
Li	6	NoGas	Pulse	0.2	566195	612114.496666667	92.5	
Sc	45	NoGas	Analog	2.5	1814141	1816935.23333333	99.8	
Ge	74	NoGas	Pulse	0.8	451542	485933.593333333	92.9	
Rh	103	NoGas	Pulse	0.9	474255	517869.783333333	91.6	
Tb	159	NoGas	Pulse	0.9	771283	838151.383333333	92.0	
Bi	209	NoGas	Pulse	1.2	436003	489835.583333333	89.0	

CRL Verification ICPMS5

Sample Name	9E22036-CRLF	1103
File Name	163_CRL.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/23/2019 02:16:24	
Sample Type	CRL2	
Total Dilution	1.0000	
Comment	A19D349 JPB 05/22	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	39.754	ppb	7.0	116534	88.34	70	130	
Ca	44	45	H2	43.189	ppb	9.2	5877	95.98	70	130	
Fe	57	74	H2	44.255	ppb	5.9	7759	98.34	70	130	
Se	78	74	H2	0.875	ppb	21.4	156	97.22	70	130	
Mg	24	45	He	46.443	ppb	6.1	10237	103.21	70	130	
Al	27	45	He	47.121	ppb	7.4	5203	104.71	70	130	
K	39	45	He	49.393	ppb	4.0	27453	109.76	70	130	
V	51	74	He	0.908	ppb	10.5	1998	100.89	70	130	
Cr	52	74	He	0.920	ppb	7.9	1717	102.22	70	130	
Mn	55	74	He	0.907	ppb	5.2	1128	100.78	70	130	
Ni	60	74	He	0.704	ppb	11.1	737	78.22	70	130	
Cu	65	74	He	1.065	ppb	4.3	1156	118.33	70	130	
Zn	66	74	He	1.166	ppb	18.0	380	129.56	70	130	
As	75	74	He	0.864	ppb	4.1	155	96	70	130	
Mo	95	103	He	0.928	ppb	12.0	770	103.11	70	130	
Ag	107	103	He	0.914	ppb	3.9	2472	101.56	70	130	
Sb	121	103	He	0.931	ppb	9.6	870	103.44	70	130	
Ba	138	159	He	1.024	ppb	5.2	2225	113.78	70	130	
Tl	205	159	He	0.895	ppb	1.0	4796	99.44	70	130	
Be	9	6	NoGas	0.921	ppb	11.7	1538	102.33	70	130	
Ti	47	45	NoGas	0.991	ppb	17.2	708	110.11	70	130	
Co	59	74	NoGas	0.905	ppb	0.8	7720	100.56	70	130	
Cu	65	74	NoGas	1.070	ppb	11.3	2527	118.89	70	130	
Cd	111	103	NoGas	0.900	ppb	7.7	958	100	70	130	
Hg	201	159	NoGas	26.150	ppt	61.4	24	72.64	70	130	
Pb	208	159	NoGas	0.892	ppb	4.2	10931	99.11	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Mix	5.4	1203975	1188983.99	101.3	
Ge	74	H2	Pulse	4.3	418816	448606.056666667	93.4	
Sc	45	He	Pulse	0.6	135179	140139.606666667	96.5	
Ge	74	He	Pulse	0.3	84801	89993.8966666667	94.2	
Rh	103	He	Pulse	0.8	248589	269020.95	92.4	
Tb	159	He	Pulse	0.4	362304	395791.276666667	91.5	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	0.7	245700	274186.866666667	89.6	
Li	6	NoGas	Pulse	1.0	566048	612114.496666667	92.5	
Sc	45	NoGas	Analog	1.4	1811640	1816935.23333333	99.7	
Ge	74	NoGas	Pulse	0.3	450934	485933.593333333	92.8	
Rh	103	NoGas	Pulse	0.5	474475	517869.783333333	91.6	
Tb	159	NoGas	Pulse	0.4	772885	838151.383333333	92.2	
Bi	209	NoGas	Pulse	0.9	436666	489835.583333333	89.1	

CRL Verification ICPMS5

Sample Name	9E22036-CRLG	1104
File Name	164CRL_.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b	
Acq Time	5/23/2019 02:20:38	
Sample Type	CRL3	
Total Dilution	1.0000	
Comment	A19D350 JPB 05/22	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	ICPMS Analyst	

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	85.848	ppb	0.3	214994	95.39	70	130	
Ca	44	45	H2	89.670	ppb	0.9	10688	99.63	70	130	
Fe	57	74	H2	86.837	ppb	1.6	14389	96.49	70	130	
Se	78	74	H2	1.857	ppb	9.4	328	103.17	70	130	
Mg	24	45	He	90.205	ppb	2.0	19221	100.23	70	130	
Al	27	45	He	91.477	ppb	5.1	9870	101.64	70	130	
K	39	45	He	100.325	ppb	3.8	36760	111.47	70	130	
V	51	74	He	1.703	ppb	4.9	3157	94.61	70	130	
Cr	52	74	He	1.854	ppb	10.7	3323	103	70	130	
Mn	55	74	He	1.750	ppb	2.7	2101	97.22	70	130	
Ni	60	74	He	1.678	ppb	6.4	1356	93.22	70	130	
Cu	65	74	He	2.012	ppb	5.0	1957	111.78	70	130	
Zn	66	74	He	2.060	ppb	4.2	601	114.44	70	130	
As	75	74	He	1.820	ppb	12.1	312	101.11	70	130	
Mo	95	103	He	1.868	ppb	7.7	1533	103.78	70	130	
Ag	107	103	He	1.827	ppb	1.2	4916	101.5	70	130	
Sb	121	103	He	1.946	ppb	2.3	1807	108.11	70	130	
Ba	138	159	He	1.858	ppb	1.5	3943	103.22	70	130	
Tl	205	159	He	1.800	ppb	2.5	9562	100	70	130	
Be	9	6	NoGas	1.753	ppb	2.1	2860	97.39	70	130	
Ti	47	45	NoGas	1.774	ppb	7.5	1204	98.56	70	130	
Co	59	74	NoGas	1.840	ppb	3.0	15124	102.22	70	130	
Cu	65	74	NoGas	1.983	ppb	1.5	4152	110.17	70	130	
Cd	111	103	NoGas	1.829	ppb	3.4	1932	101.61	70	130	
Hg	201	159	NoGas	77.120	ppt	9.2	47	107.11	70	130	
Pb	208	159	NoGas	1.788	ppb	1.2	21079	99.33	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Pulse	0.7	1143618	1188983.99	96.2	
Ge	74	H2	Pulse	0.5	415382	448606.056666667	92.6	
Sc	45	He	Pulse	0.8	133314	140139.606666667	95.1	
Ge	74	He	Pulse	0.8	84680	89993.8966666667	94.1	
Rh	103	He	Pulse	0.6	247410	269020.95	92.0	
Tb	159	He	Pulse	1.0	361679	395791.276666667	91.4	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.2	245865	274186.866666667	89.7	
Li	6	NoGas	Pulse	3.6	558813	612114.496666667	91.3	
Sc	45	NoGas	Analog	0.7	1796002	1816935.23333333	98.8	
Ge	74	NoGas	Pulse	3.6	444523	485933.593333333	91.5	
Rh	103	NoGas	Pulse	2.3	471317	517869.783333333	91.0	
Tb	159	NoGas	Pulse	2.0	763635	838151.383333333	91.1	
Bi	209	NoGas	Pulse	2.5	433901	489835.583333333	88.6	

CRL Verification ICPMS5

Sample Name	9E22036-CRLH
File Name	165CRL4.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9E22036.b
Acq Time	5/23/2019 02:24:53
Sample Type	CRL4
Total Dilution	1.0000
Comment	A19D351 JPB 05/22
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

1105

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	173.264	ppb	1.5	416139	96.26	70	130	
Ca	44	45	H2	179.980	ppb	4.0	20764	99.99	70	130	
Fe	56	74	H2	174.780	ppb	0.8	1128308	97.1	70	130	
Fe	57	74	H2	174.433	ppb	2.3	28086	96.91	70	130	
Se	78	74	H2	3.600	ppb	6.6	633	100	70	130	
Mg	24	45	He	177.690	ppb	1.4	37856	98.72	70	130	
Al	27	45	He	171.111	ppb	2.4	18579	95.06	70	130	
K	39	45	He	191.169	ppb	3.7	54620	106.21	70	130	
V	51	74	He	3.444	ppb	1.7	5703	95.67	70	130	
Cr	52	74	He	3.653	ppb	2.9	6420	101.47	70	130	
Mn	55	74	He	3.626	ppb	4.8	4272	100.72	70	130	
Ni	60	74	He	3.550	ppb	8.8	2547	98.61	70	130	
Cu	65	74	He	3.886	ppb	0.3	3545	107.94	70	130	
Zn	66	74	He	3.903	ppb	3.5	1059	108.42	70	130	
As	75	74	He	3.530	ppb	11.2	592	98.06	70	130	
Mo	95	103	He	3.625	ppb	3.9	2959	100.69	70	130	
Ag	107	103	He	3.717	ppb	1.0	9972	103.25	70	130	
Sb	121	103	He	3.705	ppb	4.7	3429	102.92	70	130	
Ba	138	159	He	3.853	ppb	3.3	8068	107.03	70	130	
Tl	205	159	He	3.638	ppb	2.8	19287	101.06	70	130	
Be	9	6	NoGas	3.624	ppb	4.1	5944	100.67	70	130	
Ti	47	45	NoGas	3.524	ppb	8.6	2329	97.89	70	130	
Co	59	74	NoGas	3.612	ppb	3.1	29816	100.33	70	130	
Cu	65	74	NoGas	3.913	ppb	3.6	7770	108.69	70	130	
Cd	111	103	NoGas	3.574	ppb	6.6	3794	99.28	70	130	
Hg	201	159	NoGas	143.257	ppt	16.3	79	99.48	70	130	
Pb	208	159	NoGas	3.566	ppb	0.9	42164	99.06	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Mix	1.9	1154257	1188983.99	97.1	
Ge	74	H2	Pulse	0.8	414541	448606.056666667	92.4	
Sc	45	He	Pulse	0.5	134745	140139.606666667	96.2	
Ge	74	He	Pulse	0.6	84687	89993.8966666667	94.1	
Rh	103	He	Pulse	0.4	246676	269020.95	91.7	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.5	361967	395791.276666667	91.5	
Bi	209	He	Pulse	1.7	245391	274186.866666667	89.5	
Li	6	NoGas	Pulse	0.8	564439	612114.496666667	92.2	
Sc	45	NoGas	Analog	1.1	1800215	1816935.23333333	99.1	
Ge	74	NoGas	Pulse	0.9	451125	485933.593333333	92.8	
Rh	103	NoGas	Pulse	0.5	474181	517869.783333333	91.6	
Tb	159	NoGas	Pulse	0.6	776302	838151.383333333	92.6	
Bi	209	NoGas	Pulse	0.2	437132	489835.583333333	89.2	

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

A9E0582 (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) [NoGas]	45 Sc (ISTD) [H2]	45 Sc (ISTD) [He]	45 Sc (ISTD) [NoGas]	74 Ge (ISTD) [H2]	74 Ge (ISTD) [He]	74 Ge (ISTD) [NoGas]	103 Rh (ISTD) [He]	103 Rh (ISTD) [NoGas]	159 Tb (ISTD) [He]	159 Tb (ISTD) [NoGas]	209 Bi (ISTD) [He]	209 Bi (ISTD) [NoGas]
Acq. Date-Time	Sample Name	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value
05/22/2019 13:09	rinse													
05/22/2019 13:13	rinse													
05/22/2019 13:17	cal blk													
05/22/2019 13:22	9E22036-CAL0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
05/22/2019 13:26	9E22036-CAL1	99.52	99.62	100.54	98.99	99.88	100.22	100.09	99.33	99.83	99.04	100.36	99.61	99.73
05/22/2019 13:30	9E22036-CAL2	99.32	99.88	101.85	101.13	99.82	101.61	100.71	100.85	101.08	101.04	101.25	100.97	100.74
05/22/2019 13:35	9E22036-CAL3	99.06	100.84	101.65	100.59	100.19	101.37	100.24	100.12	100.12	99.89	100.86	99.46	99.32
05/22/2019 13:40	9E22036-CAL4	95.13	100.40	102.03	96.66	99.99	101.47	96.43	99.33	96.02	99.36	96.30	99.58	95.47
05/22/2019 13:44	9E22036-CAL5	98.53	101.54	101.17	100.09	100.47	101.05	100.56	100.46	100.47	100.32	101.51	100.89	101.41
05/22/2019 13:49	9E22036-CAL6	97.77	99.97	100.11	100.96	98.55	99.70	98.34	97.25	97.52	99.40	99.93	98.18	97.96
05/22/2019 13:53	9E22036-CAL7	95.73	96.64	97.45	98.17	95.22	96.91	96.15	94.85	94.51	97.08	98.52	95.95	96.19
05/22/2019 13:58	9E22036-CAL8	94.97	93.22	95.41	95.75	91.12	94.25	93.20	90.70	90.32	96.63	95.65	94.43	91.64
05/22/2019 14:02	9E22036-CAL9	96.78	87.48	93.64	95.96	83.66	90.35	91.54	84.99	86.07	93.46	96.12	86.72	88.34
05/22/2019 14:23	9E22036-ICV1	100.86	105.15	104.69	101.46	99.79	103.65	98.65	98.71	96.15	98.76	98.05	95.56	95.28
05/22/2019 14:30	9E22036-ICB1	100.99	106.15	104.14	102.63	101.36	103.39	100.61	101.50	100.29	99.77	99.41	98.15	98.00
05/22/2019 14:35	9E22036-CRL1	101.57	104.81	104.71	103.60	101.14	103.31	101.33	101.89	100.91	100.52	100.34	99.09	98.82
05/22/2019 14:39	9E22036-CRL2	100.72	103.66	98.00	102.80	100.48	97.26	101.15	96.34	100.71	95.53	100.16	94.58	99.69
05/22/2019 14:43	9E22036-CRL3	100.62	101.87	102.41	102.90	100.04	101.93	100.60	99.75	99.73	99.67	100.49	99.08	98.87
05/22/2019 14:50	9E22036-IFA1	92.95	80.14	87.93	93.84	73.02	81.89	86.36	73.59	77.04	84.93	91.67	73.11	77.80
05/22/2019 14:54	9E22036-IFB1	96.24	80.44	90.60	95.45	74.54	83.74	87.63	76.25	78.30	87.09	91.98	74.67	78.31
05/22/2019 15:03	rinse	93.18	98.00	98.58	96.41	95.72	97.44	93.65	94.90	94.56	95.94	95.64	96.26	94.94
05/22/2019 15:07	9051130-BLK1	90.98	92.92	95.15	93.18	91.09	93.84	92.03	93.55	93.11	94.87	95.76	95.48	94.91
05/22/2019 15:11	9051130-BS1	94.56	95.41	98.68	98.44	93.52	97.48	96.62	95.56	95.50	97.51	98.42	96.46	96.31
05/22/2019 15:16	A9E0704-01	94.58	104.90	100.96	100.61	97.88	99.65	97.52	95.26	95.20	99.18	98.78	96.57	95.78
05/22/2019 15:20	9051130-DUP1	94.39	98.64	97.99	98.13	95.21	97.97	96.00	94.27	92.55	99.13	96.96	97.33	93.73
05/22/2019 15:24	9051130-MS1	96.71	97.46	99.34	101.49	93.61	98.37	96.80	93.48	94.20	99.39	98.30	96.99	95.59
05/22/2019 15:28	9051144-BLK1	98.13	100.14	102.31	100.10	97.48	100.51	98.96	96.84	96.78	100.10	99.97	99.15	97.29
05/22/2019 15:32	9051144-BS1	99.53	99.53	101.15	103.99	96.69	100.06	101.16	96.74	98.97	100.08	101.85	98.39	99.49
05/22/2019 15:37	A9E0682-01	97.06	100.15	102.21	100.19	97.78	101.18	97.89	97.63	96.28	101.00	99.10	99.47	95.91
05/22/2019 15:41	9051144-MS2	95.24	98.89	99.72	98.38	96.44	98.87	97.17	95.07	95.41	99.15	98.31	97.71	95.44
05/22/2019 15:45	A9E0574-01	93.59	95.36	98.31	95.97	94.03	97.92	94.92	93.94	93.03	98.57	95.98	97.00	93.04
05/22/2019 15:49	9E22036-CCV1	93.10	97.12	96.44	96.06	94.97	95.72	96.07	92.97	94.35	96.66	97.20	95.22	94.29
05/22/2019 15:54	9E22036-CCB1	92.64	97.16	98.76	96.38	95.22	98.69	96.32	97.34	97.08	98.66	97.18	98.87	96.11
05/22/2019 16:02	9E22036-CRL4	92.90	99.41	100.13	97.08	97.20	100.13	96.91	97.98	97.24	99.03	97.33	99.13	96.01
05/22/2019 16:14	9E22036-CRL5	92.08	99.13	100.47	95.37	96.38	98.84	94.95	96.74	95.28	98.14	96.49	97.26	94.30
05/22/2019 16:18	9E22036-CRL6	91.89	94.80	96.74	95.71	93.25	97.12	94.81	96.09	95.64	97.73	96.79	97.62	95.25
05/22/2019 16:23	A9E0453-02	95.20	96.78	97.74	101.13	92.05	96.97	96.52	92.32	92.71	97.47	97.11	95.13	92.68
05/22/2019 16:27	A9E0453-06	97.48	98.29	98.32	100.74	94.46	97.50	96.48	93.72	93.85	96.94	97.62	93.56	94.08
05/22/2019 16:31	A9E0670-05	97.09	99.38	102.34	100.11	96.95	100.16	97.97	96.01	94.92	99.56	98.83	96.87	95.04
05/22/2019 16:36	9051144-MS1	95.64	97.53	97.14	97.91	95.29	95.78	96.09	92.06	92.99	95.43	96.94	93.54	93.87
05/22/2019 16:40	9051146-BLK1	95.56	98.33	98.72	98.94	96.20	98.50	97.40	97.57	96.71	98.71	98.24	98.52	96.84
05/22/2019 16:44	9051146-BS1	94.26	96.37	97.79	95.80	94.28	97.30	95.29	96.58	95.24	98.05	96.92	98.83	96.45
05/22/2019 16:48	A9E0453-04	92.93	92.56	95.82	95.87	90.68	94.20	93.69	90.11	89.80	96.01	96.54	93.76	92.58
05/22/2019 16:53	9051146-MS1	94.21	92.56	95.65	97.64	90.50	94.65	93.67	89.99	90.31	95.95	97.35	93.05	92.32
05/22/2019 17:21	9051132-BLK1	93.03	93.46	96.26	94.55	89.55	95.82	92.16	93.41	94.11	95.14	96.11	93.86	93.10
05/22/2019 17:25	9051132-BS1	88.75	89.28	91.85	90.57	87.08	91.75	89.95	89.81	90.25	94.26	94.49	93.96	92.22
05/22/2019 17:29	9E22036-CCV2	90.06	90.55	92.13	92.33	88.84	92.40	90.91	89.75	90.14	94.36	95.35	93.89	92.29
05/22/2019 17:33	9E22036-CCB2	90.31	90.48	92.20	93.68	88.88	92.61	91.79	91.75	92.14	94.69	95.56	95.20	93.64
05/22/2019 17:38	A9E0401-12	93.32	92.08	95.99	100.89	86.93	92.49	94.63	91.47	94.76	96.44	98.88	94.55	96.14
05/22/2019 17:42	A9E0401-16	96.65	99.52	101.01	105.25	92.32	96.89	98.06	95.06	95.99	98.73	100.79	96.40	96.77
05/22/2019 17:46	A9E0401-17	97.76	104.90	106.61	109.09	94.21	99.16	99.06	97.35	96.48	101.23	101.35	98.58	97.24
05/22/2019 17:50	A9E0401-18	98.50	104.84	104.12	108.66	95.48	97.96	99.77	96.00	96.91	98.52	101.11	95.75	97.77
05/22/2019 17:54	9051132-DUP1	98.72	107.69	107.36	108.67	96.35	100.30	100.02	98.38	97.72	101.55	101.83	98.10	98.07
05/22/2019 17:59	9051132-MS1	98.29	109.14	105.24	108.69	96.44	99.09	99.31	96.25	96.16	99.28	100.61	96.16	96.17
05/22/2019 18:03	A9E0401-19	97.87	110.20	105.24	108.76	96.52	99.02	99.02	96.49	96.52	99.61	100.63	96.14	97.25
05/22/2019 18:07	A9E0401-20	98.72	111.37	106.29	110.95	96.68	98.86	100.69	96.68	97.70	99.60	101.99	96.51	97.33
05/22/2019 18:11	A9E0401-21	98.11	109.49	104.85	109.34	96.74	98.39	99.93	96.10	97.35	99.49	100.91	96.04	97.48
05/22/2019 18:15	A9E0401-22	97.62	104.84	102.09	105.32	98.25	99.74	99.83	97.36	98.60	99.32	101.13	96.71	97.84
05/22/2019 18:20	9E22036-CCV3	93.02	109.81	102.77	97.98	102.27	100.76	94.91	98.62	92.29	99.61	94.60	97.59	92.32
05/22/2019 18:24	9E22036-CCB3	97.61	105.97	102.83	103.76	100.51	100.57	99.76	98.88	98.59	98.39	99.22	97.63	97.27
05/22/2019 18:28	A9E0401-23	96.68	104.26	103.87	105.96	96.03	98.54	98.97	96.38	96.84	99.04	100.09	96.35	96.35
05/22/2019 18:32	A9E0401-24	97.24	107.06	104.45	108.42	97.09	98.78	99.53	97.29	97.55	99.62	100.70	96.74	96.67
05/22/2019 18:37	A9E0401-25	96.74	110.61	106.24	109.95	96.80	98.79	98.88	96.23	95.75	99.17	100.65	95.63	96.37
05/22/2019 18:41	A9E0401-26	96.82	109.38	104.60	106.74	97.06	99.22	99.55	97.40	96.75	99.57	100.29	96.33	96.68
05/22/2019 18:45	A9E0401-27	97.77	109.32	107.14	106.94	98.09	102.14	100.20	99.21	97.82	101.60	101.05	98.66	96.28
05/22/2019 18:49	A9E0401-28	96.44	108.95	104.43	108.02	95.79	98.32	98.58	95.92	96.05	98.60	100.23	96.05	96.11
05/22/2019 18:54	A9E0401-29	95.27	109.31	104.95	105.91	95.58	97.94	98.45	95.59	95.98	98.46	99.34	95.71	95.13
05/22/2019 18:59	A9E0401-31	94.32	103.54	101.23	104.91	94.21	96.12	96.37	93.96	94.38	97.67	98.65	95.11	94.92
05/22/2019 19:04	A9E0401-33	94.21	108.45	104.73	108.35	93.98	96.92	96.52	94.71	94.96	98.21	99.59	94.59	93.98
05/22/2019 19:08	A9E0401-34	94.23	101.91	102.67	106.05	93.14	96.36	96.84	94.31	94.71	97.76	98.64	94.67	94.22
05/22/2019 19:13	9E22036-CCV4	94.76	104.73	99.88	102.58	98.45	98.15	97.33	96.05	95.31	98.00	97.48	95.15	94.31
05/22/2019 19:17	9E22036-CCB4	94.31	109.67	100.64	102.06	100.69	98.88	97.91	97.92	96.78	98.52	97.46	97.15	94.60
05/22/2019 19:41	9E22036-CRL7	96.35	105.45	103.69	101.57	99.46	102.46	98.39	98.65	97.68	95.80	96.25	93.36	93.73
05/22/2019 19:50	9E22036-CRL8	96.05	105.32	103.67	101.56	99.78	101.91	99.63	99.29	99.09	98.09	97.42	95.81	94.77
05/22/2019 19:54	9E22036-CRL9	94.86	99.96	100.56	101.68	97.04	100.47	98.45	97.80	98.00	96.78	97.30	95.63	94.79
05/22/2019 20:04	A9E0401-36	95.92	103.60	103.39	105.41	95.15	98.89	98.12	95.97	96.44	97.87	98.38	94.45	93.93
05/22/2019 20:08	9051132-MS2	97.85	102.22	102.61	107.81	95.02	97.63	99.12	94.44	96.20	97.12	100.38	92.79	94.42
05/22/2019 20:17	9051132-MSD1	97.82	109.56	104.46	104.79	100.50	102.33	99.86	98.83	98.45	99.06	98.77	96.44	96.32
05/22/2019 20:21	9051132-MSD2	97.48	107.09	103.03	106.17	99.76	100.95	100.84	98.52	98.20	98.56	99.46	96.14	96.02
05/22/2019 20:25	9051056-BLK2	96.41	105.50	102.24	104.37	99.27	100.65	99.93	98.88	99.45	97.73	98.99	95.17	95.83
05/22/2019 20:29	9051056-BS2	95.60	103.22	100.76	103.10	97.94	98.56	97.80	96.18	96.28	96.93	97.93	94.01	94.60
05/22/2019 20:33	A9E0582-01RE1	97.15	99.20	99.70	106.04	95.58	97.92	99.43	96.11	97.75	97.14	99.88	97.45	98.18
05/22/2019 20:38	9051056-DUP2	99.65	99.42	104.22	110.50	95.82	102.01	104.38	99.95	102.51	99.92	102.37	99.61	101.02
05/22/2019 20:42	9051056-MS2	99.87	102.37	103.76	111.55	96.77	101.12	104.00	98.66	100.50	99.75	102.29	98.66	100.55
05/22/2019 20:46	9051151-BLK1	94.08	114.11	105.87	104.45	104.54	104.45	99.06	102.91	97.97	100.40	96.83	97.80	93.97
05/22/2019 20:50	9E22036-CCV5	96.74	110.71	102.48	105.52	102.26	100.77	99.88	97.69	96.28	98.22	98.59	94.93	95.13
05/22/2019 20:55	9E22036-CCB5	96.63	108.09	102.57	105.07	100.22	101.25	99.98	99.98	98.95	97.59	97.86	96.24	96.54
05/22/2019 20:59	9051151-BS1	97.60	105.89	101.85	106.39	98.76	99.83	100.41	97.47	98.35	96.95	99.92	94.68	96.93
05/22/2019 21:03	A9E0401-37	97.61	107.70	103.47	108.24	96.95	99.01	99.79	97.11	97.24	98.19	99.54	95.12	95.07
05/22/2019 21:07	A9E0401-38	96.23	112.42	106.88	111.93	95.32	98.28	98.75	95.00	95.61	98.27	99.91	93.75	93.82
05/22/2019 21:12	A9E0401-40	96.20	108.94	105.53	109.83	96.01	99.69	98.85	97.51	96.44	98.94	99.44	94.98	94.01
05/22/2019 21:16	A9E0401-41	96.70	108.67	103.30	107.71	97.10	99.44	99.99	96.38	97.29	98.34	99.58	94.79	94.63
05/22/2019 21:20	9051151-DUP1	97.17	108.14	104.20	108.70	97.40	99.26	99.87	97.05	97.89	99.22	99.95	95.50	95.44
05/22/2019 21:24	9051151-MS1	96.81	108.08	102.72	106.96	96.20	98.25	98.45	95.74	95.74	98.22	98.79	93.51	93.40
05/22/2019 21:29	A9E0401-42	95.80	112.41	105.04	110.38	97.09	97.32	97.97	94.87	95.04	97.69	98.87	94.08	93.49
05/22/2019 21:33	A9E0401-44	95.03	109.26	103.14	107.78	95.30	97.55	97.76	95.28	96.04	97.01	99.12	93.57	94.38
05/22/2019 21:37	A9E0401-46	94.73	103.99	102.74	108.44	92.18	95.30	97.21	93.06	94.47	97.40	98.75	93.58	93.07
05/22/2019 21:41	9E22036-CCV6	95.23	107.04	100.68	102.21	98.70	99.57	97.54	96.03	94.97	96.98	97.08	94.96	93.47
05/22/2019 21:45	9E22036-CCB6	94.35	102.88	100.13	102.83	97.63	99.08	98.22	97.47	96.83	96.86	96.47	95.09	94.02
05/22/2019 21:50	A9E0401-48	91.51	99.13	103.23	103.27	92.14	97.00	94.53	95.41	92.44	98.56	94.66	95.36	90.53
05/22/2019 21:54	A9E0401-49	92.85	107.18	100.55	107.80	91.85	93.94	95.71	91.53	92.77	95.46	96.92	91.13	91.01
05/22/2019 21:58	A9E0401-52	92.59	105.62	101.76	106.03	91.10	94.03	95.58	91.51	92.88	96.10	97.06	92.41	91.28
05/22/2019 22:02	A9E0575-06	91.95	101.20	101.05	106.98	91.18	94.64	95.09	92.34	92.81	96.56	96.55	93.19	91.43
05/22/2019 22:07	A9E0575-07	91.33	101.37	102.01	106.43	90.52	94.47	94.84	92.68	92.74	96.02	95.98	93.56	91.25
05/22/2019 22:11	9051151-MS2	91.55	98.34	100.55	105.92	88.95	92.41	93.07	89.49	90.08	94.35	94.52	90.83	89.62
05/22/2019 22:15	9051151-MSD1	89.03	102.33	99.77	98.40	96.49	97.39	92.59	95.88	90.93	96.66	91.85	95.40	89.61
05/22/2019 22:19	9051151-MSD2	91.89	101.61	98.79	102.82	95.48	96.67	96.51	95.19	94.66	95.90	95.70	94.68	92.39
05/22/2019 22:23	9E22036-CCV7	91.83	99.93	98.09	100.33	95.83	96.55	95.01	93.70	92.49	94.99	94.69	92.98	90.58
05/22/2019 22:28	9E22036-CCB7	90.91	98.32	98.36	99.55	95.11	97.03	95.13	94.74	94.44	95.04	93.95	94.13	90.90
05/22/2019 22:32	9E22036-CRLA	90.75	98.45	100.02	99.90	95.72	98.24	96.37	96.41	94.81	96.16	93.97	95.25	91.61
05/22/2019 22:36	9E22036-CRLB	91.68	99.31	98.49	101.03	96.25	97.78	96.49	95.40	95.46	95.34	94.62	93.63	92.14
05/22/2019 22:40	9E22036-CRLC	91.29	99.87	98.47	100.79	96.50	97.77	96.39	95.11	95.25	94.98	94.45	93.56	91.50
05/22/2019 22:45	9E22036-CRLD	91.41	98.56	98.95	101.63	95.61	98.25	96.34	95.99	95.61	96.07	94.87	94.49	92.54
05/22/2019 22:49	9051057-BLK2	92.27	97.46	97.15	102.94	94.09	96.21	96.81	94.76	96.87	94.78	96.16	92.00	92.28
05/22/2019 22:53	9051057-BS2	90.29	89.64	96.85	98.49	86.02	94.62	93.89	92.81	92.28	94.03	93.61	91.82	89.95
05/22/2019 22:57	A9E0370-01RE1	90.29	98.31	98.51	101.08	95.34	97.56	95.13	96.26	94.80	96.00	93.39	96.57	92.23
05/22/2019 23:02	9051057-DUP2	91.50	101.52	97.70	101.33	97.12	97.22	96.23	95.38	96.10	95.35	95.15	95.47	93.07
05/22/2019 23:06	9051057-MS2	90.98	98.16	97.92	100.25	95.30	96.82	95.30	94.01	94.94	95.18	94.37	94.54	92.35
05/22/2019 23:10	A9E0370-01RE2	90.34	86.42	96.26	99.07	84.85	95.91	94.48	94.22	93.39	94.97	93.42	93.64	91.64
05/22/2019 23:14	9051057-DUP3	90.01	96.58	96.55	98.20	93.76	95.37	94.26	94.86	93.71	94.71	93.07	93.88	91.93
05/22/2019 23:18	9051057-MS3	90.74	96.19	96.26	99.92	93.14	95.75	95.01	94.22	94.02	94.20	94.10	94.23	92.33
05/22/2019 23:23	A9E0513-03RE1	98.02	103.19	104.49	107.55	98.71	102.20	102.42	98.02	98.00	97.82	98.08	93.40	92.00
05/22/2019 23:27	9051081-MS3	100.30	111.84	105.75	108.04	102.21	103.40	103.34	99.29	99.35	98.54	98.42	94.11	93.06
05/22/2019 23:31	9E22036-CCV8	90.00	96.43	95.75	98.43	93.35	94.45	92.87	91.47	90.00	93.75	91.68	91.37	87.88
05/22/2019 23:35	9E22036-CCB8	91.33	96.48	96.24	98.91	93.80	95.35	94.57	94.02	94.20	94.15	93.81	92.04	91.06
05/22/2019 23:40	A9E0513-11RE1	102.30	108.26	105.71	112.64	99.97	103.58	105.54	99.25	101.17	98.43	100.62	93.49	94.57
05/22/2019 23:44	A9E0513-12RE1	97.88	100.86	101.24	103.60	94.90	97.78	96.81	93.15	92.58	95.20	95.09	89.72	89.00
05/22/2019 23:48	A9E0513-13RE1	99.51	105.44	102.67	105.16	96.29	98.68	97.68	92.69	92.60	94.78	94.37	88.85	87.49
05/22/2019 23:52	A9E0513-15RE1	100.86	109.01	102.86	104.84	97.70	98.90	97.36	92.71	92.08	95.09	94.39	88.59	87.97
05/22/2019 23:57	A9E0513-16RE1	101.52	104.35	103.63	105.84	97.12	98.77	96.79	93.42	91.45	93.73	93.99	87.31	87.57
05/23/2019 00:01	A9E0513-18RE1	104.02	108.85	105.09	106.68	97.10	99.07	97.89	93.35	91.58	93.43	94.41	86.89	88.02
05/23/2019 00:05	A9E0513-19RE1	104.67	111.33	105.07	105.95	97.61	98.75	96.85	92.94	91.31	93.04	93.44	86.10	87.16
05/23/2019 00:09	Wrong Vial	240.22	288.13	138.92	216.48	265.71	132.03	202.84	127.01	182.97	123.54	192.82	115.62	177.41
05/23/2019 00:14	Wrong Vial	198.83	284.54	165.99	175.12	263.52	160.02	165.01	156.44	154.35	148.17	157.69	139.89	150.67
05/23/2019 00:18	Wrong Vial	105.90	2.36	3.89	90.53	2.27	3.60	84.33	3.25	73.35	3.08	81.83	4.63	75.45
05/23/2019 00:22	9E22036-CCV9	106.89	119.81	107.26	112.08	104.61	101.79	101.05	96.39	95.83	95.76	98.50	90.33	93.92
05/23/2019 00:26	9E22036-CCVA	103.66	110.80	103.85	106.28	99.26	99.29	96.42	94.79	92.57	93.59	95.34	89.92	91.41
05/23/2019 00:30	9E22036-CCB9	103.24	110.44	103.86	106.83	98.96	99.94	97.53	96.72	94.72	93.90	95.40	90.47	92.70
05/23/2019 00:35	Wrong Vial	203.44	220.24	135.24	185.10	200.10	129.58	172.87	130.92	157.76	124.78	164.96	119.65	159.00
05/23/2019 00:39	Wrong Vial	100.92	110.37	102.39	108.58	95.67	95.05	96.21	91.68	92.86	91.76	96.37	87.69	92.02
05/23/2019 00:43	Wrong Vial	100.81	107.58	103.51	108.14	94.26	95.85	96.03	93.01	92.89	94.04	96.19	89.35	91.04
05/23/2019 00:47	Wrong Vial	100.19	111.43	104.75	110.45	94.17	95.87	95.49	92.49	91.96	93.34	96.45	88.47	90.98
05/23/2019 00:51	Wrong Vial	100.27	109.15	102.42	109.01	93.83	95.78	96.45	92.80	93.27	93.90	96.91	89.60	91.88
05/23/2019 00:56	Wrong Vial	99.37	108.29	100.77	106.29	93.56	95.21	95.66	92.34	92.77	93.01	95.63	88.72	90.62
05/23/2019 01:00	Wrong Vial	98.46	108.45	102.72	108.74	92.28	94.37	94.36	92.00	91.38	93.64	95.70	89.13	90.65
05/23/2019 01:04	Wrong Vial	97.79	108.71	102.26	107.81	92.24	94.55	94.55	91.97	91.88	93.13	95.81	89.09	90.82
05/23/2019 01:08	Wrong Vial	96.07	105.44	98.92	104.48	91.10	93.19	93.17	90.14	90.72	92.15	93.96	88.73	89.73
05/23/2019 01:12	Wrong Vial	95.63	106.40	100.62	106.51	90.01	91.53	92.73	89.20	90.93	92.11	95.54	88.17	89.89
05/23/2019 01:17	9E22036-CCVB	97.12	99.07	100.13	103.49	94.73	96.52	94.74	93.68	91.90	94.87	94.78	91.27	90.85
05/23/2019 01:21	9E22036-CCBA	96.04	96.05	98.83	102.63	88.65	95.70	94.97	93.95	93.77	91.95	93.90	90.21	91.37
05/23/2019 01:25	Wrong Vial	95.40	97.92	98.54	107.43	88.38	91.61	93.26	88.59	90.83	91.31	95.83	87.28	90.56
05/23/2019 01:29	Wrong Vial	94.57	97.41	98.94	104.77	89.94	93.43	93.44	91.62	91.36	93.32	94.68	89.17	90.10
05/23/2019 01:34	Wrong Vial	95.21	100.02	98.67	104.11	90.54	92.94	93.12	90.33	90.84	92.57	94.56	87.88	88.98
05/23/2019 01:38	Wrong Vial	96.36	92.65	99.48	104.84	85.73	95.82	95.63	93.11	93.76	93.21	94.95	91.35	91.67
05/23/2019 01:42	Wrong Vial	95.18	103.22	98.35	102.84	94.34	95.48	95.52	92.58	93.54	92.76	93.97	90.30	91.14

05/23/2019 01:46	Wrong Vial	94.69	102.81	98.35	102.37	93.20	95.64	94.49	94.45	94.23	93.21	94.11	90.61	90.98
05/23/2019 01:50	Wrong Vial	93.91	98.82	96.80	101.04	92.59	93.60	93.20	90.84	90.96	91.66	93.36	88.56	89.36
05/23/2019 01:55	Wrong Vial	96.57	100.45	98.21	104.36	94.68	96.05	96.04	93.67	94.70	92.56	95.47	91.70	93.06
05/23/2019 01:59	Wrong Vial	94.15	100.38	98.70	102.70	94.59	95.59	94.77	93.50	93.64	92.46	93.57	91.20	90.95
05/23/2019 02:03	9E22036-CCVC	92.06	97.15	96.38	99.07	93.13	94.05	91.90	90.17	88.97	91.39	91.87	88.76	88.31
05/23/2019 02:07	9E22036-CCBB	93.73	98.13	96.31	100.77	93.29	94.59	93.75	93.70	93.05	91.72	93.30	89.19	90.12
05/23/2019 02:12	9E22036-CRLE	92.50	105.70	95.35	99.85	96.21	94.06	92.92	91.86	91.58	91.33	92.02	89.61	89.01
05/23/2019 02:16	9E22036-CRLF	92.47	101.26	96.46	99.71	93.36	94.23	92.80	92.40	91.62	91.54	92.21	89.61	89.15
05/23/2019 02:20	9E22036-CRLG	91.29	96.18	95.13	98.85	92.59	94.10	91.48	91.97	91.01	91.38	91.11	89.67	88.58
05/23/2019 02:24	9E22036-CRLH	92.21	97.08	96.15	99.08	92.41	94.10	92.84	91.69	91.56	91.45	92.62	89.50	89.24
05/23/2019 02:29	rinse	92.57	96.98	96.12	99.26	91.83	94.05	93.15	91.21	91.73	91.35	92.55	88.93	89.30
05/23/2019 02:33	rinse	91.96	96.23	96.36	98.13	92.32	93.80	92.47	91.53	91.82	91.40	91.76	89.19	89.03

		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
05/21/2019 10:09	rinse								
05/21/2019 10:13	rinse								
05/21/2019 10:18	rinse								
05/21/2019 10:23	9E21030-CAL0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
05/21/2019 10:27	9E21030-CAL1	97.97	99.58	97.01	99.01	98.76	98.22	99.23	98.67
05/21/2019 10:32	9E21030-CAL2	97.63	100.20	97.14	99.96	97.90	98.24	99.49	99.13
05/21/2019 10:37	9E21030-CAL3	95.45	99.26	95.84	98.36	96.26	96.46	98.38	98.59
05/21/2019 10:42	9E21030-CAL4	94.32	100.37	92.14	99.35	96.79	98.32	99.70	99.41
05/21/2019 10:46	9E21030-CAL5	91.85	98.40	91.77	98.57	95.35	95.09	98.05	99.54
05/21/2019 10:51	9E21030-CAL6	89.30	96.34	89.74	97.09	92.96	93.14	97.87	97.92
05/21/2019 10:56	9E21030-CAL7	85.85	91.80	85.43	92.02	88.37	88.35	95.85	95.06
05/21/2019 11:01	9E21030-CAL8	81.66	87.52	82.91	87.63	84.08	83.80	93.12	91.75
05/21/2019 11:05	9E21030-CAL9	73.90	83.79	84.27	81.56	77.87	76.55	88.32	86.01
05/21/2019 11:14	9E21030-ICV1	79.15	85.12	82.40	85.85	82.94	83.77	92.65	92.37
05/21/2019 11:18	9E21030-ICB1	81.97	89.78	82.62	91.04	84.85	87.48	93.94	95.61
05/21/2019 11:23	9E21030-CRL1	82.63	88.23	84.60	89.69	85.36	87.70	93.69	95.31
05/21/2019 11:27	9E21030-CRL2	83.22	89.14	83.87	91.03	85.49	88.49	94.02	95.39
05/21/2019 11:32	9E21030-CRL3	83.63	90.26	83.71	91.96	86.22	88.51	93.70	95.03
05/21/2019 11:40	9E21030-IFA1	54.96	71.57	66.41	69.18	62.50	59.83	75.21	69.17
05/21/2019 11:44	9E21030-IFB1	59.89	68.03	71.02	68.30	66.32	62.57	77.78	71.73
05/21/2019 11:49	rinse	88.54	74.07	83.58	77.39	85.57	88.68	97.55	100.40
05/21/2019 11:53	9051047-BLK1	87.42	74.33	82.01	77.77	83.84	87.78	96.81	98.81
05/21/2019 11:58	9051047-BS1	86.22	77.60	83.05	81.40	86.86	87.68	97.54	99.41
05/21/2019 12:03	9051079-BLK1	83.86	77.06	81.61	79.35	83.11	86.49	95.45	97.47
05/21/2019 12:07	9051079-BS1	84.20	78.70	82.92	81.14	85.51	87.08	96.65	99.00
05/21/2019 12:12	A9E0659-01	85.63	78.79	81.99	81.34	84.54	88.60	97.72	100.85
05/21/2019 12:16	9051079-DUP1	85.21	78.19	82.60	80.84	84.04	88.09	96.99	100.06
05/21/2019 12:21	9051079-MS1	84.10	81.17	83.39	83.79	85.42	88.48	98.06	98.77
05/21/2019 12:26	9051083-BLK1	84.69	80.15	82.16	82.46	84.40	87.02	96.15	98.00
05/21/2019 12:30	9051083-BS1	83.13	80.95	81.60	84.38	85.01	86.11	95.47	96.36
05/21/2019 12:35	A9E0659-02	84.32	81.47	82.62	84.58	84.95	86.73	95.55	98.40
05/21/2019 12:39	9E21030-CCV1	82.43	84.27	83.39	86.20	85.14	85.74	94.67	95.37
05/21/2019 12:44	9E21030-CCB1	81.21	80.95	82.11	83.20	81.49	84.55	93.06	94.84
05/21/2019 12:49	9051083-DUP1	81.11	83.57	82.22	86.31	84.04	84.74	93.38	96.63
05/21/2019 12:53	9051083-MS1	81.65	85.21	82.93	86.50	85.55	86.63	95.55	97.78
05/21/2019 12:58	9051085-BLK1	80.91	83.43	81.52	86.11	83.91	85.52	94.84	95.23
05/21/2019 13:02	9051085-BS1	80.87	82.72	80.26	84.51	82.66	83.81	94.10	93.89
05/21/2019 13:07	A9E0098-01	80.83	85.96	83.94	88.13	86.76	85.98	94.69	94.69
05/21/2019 13:12	9051085-MS1	79.97	88.11	83.78	87.78	85.52	84.63	94.02	93.77
05/21/2019 13:16	A9E0505-01	80.29	84.45	82.87	84.91	83.46	83.46	93.92	93.20
05/21/2019 13:21	9051085-MS2	81.06	87.07	81.33	86.82	83.21	83.13	93.89	93.36
05/21/2019 13:25	A9E0595-01	80.68	86.80	83.00	87.73	84.16	84.18	94.27	94.67
05/21/2019 13:30	A9E0543-01	89.16	91.94	84.23	92.83	87.59	88.42	91.34	93.65
05/21/2019 13:34	9E21030-CCV2	79.44	87.16	83.47	88.20	84.86	85.69	94.74	94.47
05/21/2019 13:39	9E21030-CCB2	79.88	87.39	81.15	88.14	83.45	86.55	93.47	95.59
05/21/2019 13:44	9E21030-CCV3	79.62	90.47	82.80	91.31	86.16	86.78	94.91	94.81
05/21/2019 13:48	9E21030-CRL4	80.70	86.49	81.86	87.77	83.02	85.44	93.03	95.30
05/21/2019 13:53	9E21030-CRL5	80.16	85.90	81.32	86.48	82.84	84.53	92.24	94.65
05/21/2019 13:57	9E21030-CRL6	80.88	85.96	82.87	86.91	82.86	85.21	93.20	95.43
05/21/2019 14:02	9E21030-CRL7	80.39	87.05	81.71	87.14	82.93	84.84	92.19	95.38
05/21/2019 14:07	A9E0279-01	69.03	87.16	82.78	84.59	76.44	74.00	88.66	84.96
05/21/2019 14:11	A9E0298-01	72.77	82.34	82.20	83.16	78.30	77.69	91.39	87.81
05/21/2019 14:16	A9E0344-01	74.08	82.52	82.63	82.16	79.30	77.55	91.62	87.14
05/21/2019 14:21	9051047-DUP1	74.94	81.09	81.64	81.25	79.66	77.80	91.67	87.27
05/21/2019 14:25	9051047-MS1	74.25	80.61	81.19	80.92	79.20	77.00	90.98	86.29
05/21/2019 14:31	9051068-BLK1	87.55	91.59	88.61	92.27	90.59	93.29	98.58	98.64
05/21/2019 14:36	A9E0350-01	69.63	76.06	79.73	80.26	79.78	77.48	91.16	89.13
05/21/2019 14:40	A9E0271-03RE1	88.92	88.85	89.65	90.91	91.34	91.69	98.92	98.32
05/21/2019 14:45	A9E0271-04RE1	86.44	89.47	86.06	91.54	88.05	88.71	96.91	97.73
05/21/2019 14:50	A9E0271-07RE1	82.51	84.61	83.68	86.17	84.26	84.85	96.30	99.02
05/21/2019 14:54	9E21030-CCV4	80.95	85.77	83.49	86.94	83.23	84.41	93.62	95.14
05/21/2019 14:59	9E21030-CCB3	83.05	91.61	83.59	92.82	85.11	87.88	95.05	96.30
05/21/2019 15:03	A9E0289-04RE1	82.00	90.16	83.50	91.57	84.33	85.15	94.60	94.75
05/21/2019 15:08	A9E0289-05RE1	82.15	88.12	82.36	89.65	84.34	84.43	93.74	93.92
05/21/2019 15:13	A9E0328-02RE1	78.73	83.44	81.23	85.42	80.07	80.48	91.37	92.39
05/21/2019 15:17	A9E0328-05RE1	79.69	84.33	82.09	85.26	80.92	81.69	92.15	92.49
05/21/2019 15:22	A9E0342-18RE1	81.67	88.46	81.02	89.53	82.81	84.52	92.46	96.30
05/21/2019 15:26	9051013-MS3	80.69	86.25	82.57	87.40	81.64	83.33	92.29	95.36
05/21/2019 15:31	A9E0397-01RE1	77.32	81.32	82.19	83.91	79.59	80.49	91.00	93.49
05/21/2019 15:35	A9E0397-01RE2	65.65	74.86	76.55	76.92	72.14	71.91	86.41	85.64
05/21/2019 15:40	A9E0439-01RE1	79.51	82.28	83.24	84.26	81.37	81.72	93.41	94.12
05/21/2019 15:45	A9E0499-01RE1	79.25	81.81	83.05	83.53	81.12	82.51	93.06	95.80
05/21/2019 15:49	9E21030-CCV5	79.71	85.83	79.94	86.86	82.30	82.90	93.07	93.63
05/21/2019 15:54	9E21030-CCB4	81.75	85.89	82.63	88.01	83.16	86.06	93.11	95.07
05/21/2019 15:58	A9E0500-01RE1	80.79	86.18	83.38	88.33	82.90	83.90	92.78	95.30
05/21/2019 16:03	9051020-DUP2	80.10	86.35	82.55	87.73	82.75	83.67	92.43	94.88
05/21/2019 16:08	9051020-MS2	79.29	84.94	84.33	87.06	82.20	82.71	92.04	94.83
05/21/2019 16:12	A9E0545-01RE1	78.82	85.25	82.98	87.23	82.25	82.66	92.05	94.93
05/21/2019 16:17	A9E0545-02RE1	79.01	85.40	81.75	86.42	81.21	82.29	91.56	94.85
05/21/2019 16:21	A9E0546-01RE1	78.65	86.07	80.45	87.47	80.74	81.70	91.32	94.02
05/21/2019 16:26	A9E0546-01RE2	74.98	82.19	82.28	83.03	78.04	78.74	90.24	90.06
05/21/2019 16:31	A9E0367-01RE1	75.34	83.56	83.51	84.35	79.51	77.05	89.81	87.53
05/21/2019 16:35	A9E0367-02RE1	76.20	81.43	81.31	83.45	78.77	77.05	93.65	89.16
05/21/2019 16:40	A9E0367-03RE1	77.95	83.71	83.65	84.39	79.93	78.43	91.07	89.47
05/21/2019 16:44	9E21030-CCV6	79.43	83.36	81.71	84.18	80.82	81.07	91.19	92.48
05/21/2019 16:49	9E21030-CCB5	81.57	87.50	81.26	87.53	82.81	84.43	91.65	92.57
05/21/2019 16:54	9051051-DUP2	76.27	82.08	80.93	83.13	77.77	76.04	89.04	88.72
05/21/2019 16:58	9051051-MS3	76.28	80.11	80.00	80.96	76.96	75.65	88.84	87.67
05/21/2019 17:03	A9E0279-01RE1	75.33	79.23	80.05	79.76	76.51	75.45	88.56	88.97
05/21/2019 17:07	A9E0298-01RE1	76.88	80.66	79.85	82.01	77.33	78.76	89.54	91.33
05/21/2019 17:12	A9E0344-01RE1	76.78	81.80	80.90	82.66	77.32	77.86	89.34	90.76
05/21/2019 17:16	9051047-DUP2	76.52	81.14	81.11	82.27	77.13	77.63	89.27	90.23
05/21/2019 17:21	9051047-MS2	75.76	81.83	80.47	82.60	77.16	77.58	89.70	90.40
05/21/2019 17:26	A9E0397-01RE2	73.82	80.62	79.43	82.11	77.28	77.55	89.29	91.35
05/21/2019 17:30	9E21030-CCV7	76.78	83.98	82.70	85.16	79.61	80.44	90.98	92.49
05/21/2019 17:35	9E21030-CCB6	79.66	88.65	81.69	89.85	81.95	85.08	91.78	92.93
05/21/2019 17:39	9E21030-CRL8	79.31	87.37	80.95	88.36	80.91	83.66	90.85	92.57
05/21/2019 17:44	9E21030-CRL9	79.44	86.71	83.00	87.57	79.84	82.90	90.29	92.74
05/21/2019 17:50	9E21030-CRLA	76.80	84.54	80.67	85.78	77.02	79.78	87.61	90.94

05/21/2019 17:55	9051057-BLK1	75.71	83.50	78.96	83.78	75.87	79.28	87.88	90.60
05/21/2019 17:59	9051057-BS1	73.74	81.64	77.20	81.85	74.54	76.35	87.79	90.16
05/21/2019 18:04	A9E0370-01	77.90	83.92	80.44	83.94	75.81	78.60	87.24	91.40
05/21/2019 18:08	9051057-DUP1	76.92	81.82	78.36	83.26	76.66	78.87	86.77	91.90
05/21/2019 18:13	9051057-MS1	78.00	82.13	80.20	82.62	75.55	77.96	86.83	90.46
05/21/2019 18:18	9051056-BLK1	75.92	80.91	77.42	80.72	73.98	77.23	85.75	88.49
05/21/2019 18:22	9051056-BS1	74.81	79.46	76.34	79.92	73.31	74.91	85.84	88.71
05/21/2019 18:27	A9E0582-01	72.42	78.20	75.16	79.21	72.62	75.72	87.05	92.32
05/21/2019 18:31	9051056-DUP1	71.78	78.64	72.23	79.16	71.70	74.11	85.90	93.21
05/21/2019 18:36	9051056-MS1	71.23	75.24	74.35	75.77	72.12	73.99	87.20	94.36
05/21/2019 18:41	9E21030-CCV8	74.79	71.55	76.39	73.22	74.18	75.38	88.13	90.39
05/21/2019 18:45	9E21030-CCB7	74.92	75.03	74.99	76.20	73.44	76.85	87.07	90.64
05/21/2019 18:50	9051081-BLK1	73.55	73.52	74.21	75.26	71.88	76.00	87.03	90.26
05/21/2019 18:54	9051081-BS1	74.12	74.12	75.20	76.26	73.55	75.24	87.95	91.14
05/21/2019 18:59	A9E0513-01	82.08	90.34	79.58	82.94	73.35	67.06	70.48	59.81
05/21/2019 19:04	9051081-DUP1	80.04	92.06	80.39	82.79	71.36	65.01	67.14	56.10
05/21/2019 19:08	A9E0513-02	82.99	95.56	82.36	83.80	71.85	64.20	64.42	53.27
05/21/2019 19:13	9051081-MS2	79.16	93.16	82.71	80.01	68.27	60.14	60.28	50.25
05/21/2019 19:18	A9E0513-03	75.16	88.12	78.59	77.24	63.97	56.48	57.08	47.36
05/21/2019 19:22	9051081-MS1	71.76	84.44	77.49	72.93	61.41	54.31	54.42	44.98
05/21/2019 19:27	A9E0513-04	72.87	86.56	77.21	73.70	60.35	52.67	51.56	42.11
05/21/2019 19:31	A9E0513-05	69.33	82.78	73.55	71.10	57.70	50.15	49.21	40.36
05/21/2019 19:36	9E21030-CCV9	66.15	76.66	69.09	69.87	58.61	54.41	54.53	52.96
05/21/2019 19:41	9E21030-CCB8	69.34	80.23	69.41	73.76	60.15	57.30	54.21	53.13
05/21/2019 19:45	A9E0513-06	65.35	84.51	71.24	72.15	55.49	47.94	46.78	38.03
05/21/2019 19:50	A9E0513-07	62.60	79.29	69.68	66.94	54.04	46.73	45.85	37.45
05/21/2019 19:55	A9E0513-08	56.27	73.03	64.19	62.36	51.14	44.58	44.82	37.00
05/21/2019 19:59	A9E0513-09	56.45	72.26	64.28	61.82	49.88	43.26	42.99	35.34
05/21/2019 20:04	A9E0513-10	55.14	72.95	63.11	62.18	48.78	41.84	41.32	33.78
05/21/2019 20:09	A9E0513-11	53.14	67.90	60.47	58.23	46.90	40.46	39.96	32.81
05/21/2019 20:13	A9E0513-12	44.02	59.06	55.65	55.12	48.20	44.09	48.09	43.69
05/21/2019 20:18	A9E0513-13	46.02	56.48	57.81	54.69	49.53	45.38	49.56	44.85
05/21/2019 20:23	A9E0513-15	48.55	58.00	60.40	55.53	50.98	46.58	49.61	44.52
05/21/2019 20:27	A9E0513-16	45.41	54.09	56.19	48.61	44.07	38.71	39.25	32.40
05/21/2019 20:32	9E21030-CCVA	61.46	75.55	73.44	72.03	62.51	57.62	55.95	51.97
05/21/2019 20:36	9E21030-CCB9	64.53	77.83	76.49	74.33	65.45	61.89	57.77	54.71
05/21/2019 20:41	A9E0513-17	56.15	67.77	66.46	62.92	55.23	48.94	50.15	43.86
05/21/2019 20:46	A9E0513-18	59.26	68.68	69.81	63.82	57.89	51.33	52.18	45.48
05/21/2019 20:50	A9E0513-19	59.81	70.30	69.65	64.95	57.40	50.91	51.61	45.16
05/21/2019 20:55	A9E0513-21	61.28	70.78	70.07	64.46	57.55	50.97	52.02	45.17
05/21/2019 21:00	9051115-BLK1	69.04	80.41	76.73	76.53	67.21	62.35	57.71	54.87
05/21/2019 21:04	9051115-BS1	63.93	79.45	74.68	75.59	65.20	60.21	57.17	54.73
05/21/2019 21:09	A9E0289-02RE1	64.30	78.12	74.24	75.12	64.65	61.22	57.42	56.29
05/21/2019 21:13	A9E0434-01	64.39	77.59	75.48	75.56	66.09	62.09	59.27	56.99
05/21/2019 21:18	A9E0434-03	63.67	75.61	73.52	72.50	64.53	61.53	59.02	56.97
05/21/2019 21:23	A9E0434-04	62.66	76.21	71.14	74.63	63.26	60.01	58.47	57.39
05/21/2019 21:27	9E21030-CCVB	59.55	69.12	68.24	68.65	60.97	57.03	56.81	55.09
05/21/2019 21:32	9E21030-CCBA	62.17	71.49	69.21	71.08	62.07	59.36	57.04	56.24
05/21/2019 21:36	A9E0434-05	62.33	69.99	69.24	69.64	62.26	58.42	58.32	56.61
05/21/2019 21:41	A9E0469-01	57.93	69.11	68.59	67.20	60.71	56.67	57.13	54.55
05/21/2019 21:46	9051115-DUP1	59.44	70.69	69.93	68.34	61.87	57.35	57.94	55.25
05/21/2019 21:50	9051115-MS1	56.49	65.78	65.70	64.74	59.59	55.00	56.69	53.22
05/21/2019 21:55	A9E0469-02	59.07	70.47	69.22	68.95	62.85	58.33	58.31	55.28
05/21/2019 21:59	A9E0469-03	60.13	73.63	70.76	71.49	63.31	58.76	59.02	56.06
05/21/2019 22:04	A9E0469-04	58.75	71.10	70.46	69.28	62.39	57.97	58.03	55.21
05/21/2019 22:09	A9E0469-06	59.41	70.44	70.81	70.17	63.02	58.55	58.47	55.82
05/21/2019 22:13	A9E0469-07	57.94	73.34	68.30	71.90	61.29	56.90	57.49	54.97
05/21/2019 22:18	A9E0469-08	58.56	72.97	69.01	71.70	61.97	58.08	58.63	55.64
05/21/2019 22:22	9E21030-CCVC	59.29	65.16	66.10	65.34	60.35	57.03	57.48	57.03
05/21/2019 22:27	9E21030-CCBB	62.98	70.74	68.45	69.42	62.08	60.14	58.41	58.17
05/21/2019 22:32	A9E0469-09	58.11	72.76	67.96	71.32	61.65	57.58	58.11	56.03
05/21/2019 22:36	A9E0469-10	58.44	71.02	69.03	70.16	61.90	58.05	58.64	56.18
05/21/2019 22:41	A9E0469-11	58.83	71.78	69.27	70.63	62.50	58.61	59.16	57.08
05/21/2019 22:45	9051115-MS2	57.27	68.59	67.30	67.55	62.25	57.76	59.58	57.08
05/21/2019 22:50	A9E0513-44	73.78	71.21	78.91	67.33	70.10	72.42	70.32	66.42
05/21/2019 22:55	A9E0513-56	63.78	74.57	68.43	74.27	63.27	61.70	60.81	60.70
05/21/2019 22:59	9E21030-CCVD	59.18	68.07	63.96	67.85	59.26	57.06	58.54	58.75
05/21/2019 23:04	9E21030-CCBC	60.87	70.12	62.87	69.66	61.07	59.06	58.11	59.17
05/21/2019 23:08	9E21030-CRLB	62.09	67.45	64.78	67.30	59.10	57.93	58.04	58.89
05/21/2019 23:13	9E21030-CRLC	61.84	66.46	62.42	66.01	58.74	57.33	57.66	58.91
05/21/2019 23:18	9E21030-CRLD	60.61	66.76	61.11	66.50	57.45	56.08	56.60	58.61
05/21/2019 23:22	9E21030-CRLE	59.03	65.92	59.74	66.31	56.37	55.27	56.54	58.15
05/21/2019 23:27	rinse	57.71	63.70	58.37	63.80	55.96	55.31	58.52	58.79
05/21/2019 23:32	rinse	60.94	63.54	61.45	63.56	56.86	56.50	57.94	59.58
05/21/2019 23:36	rinse	59.29	63.45	57.20	63.66	57.30	56.20	57.31	59.65

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 9051027

Sequence 9E20027 (A9E0582-01)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051027 (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
	9051027-BLK1		QC	05/20/19 07:51	2.5	50									
	9051027-BS1		QC	05/20/19 07:51	2.5	50	A19B182		100						
	9051027-BS2		QC	05/20/19 07:51	2.5	50	A19C272		1000						
	A9E0508-05	B	Cyanide, Total (ASTM D7511, OIA)	05/20/19 07:51	2.5342	50					COMP1	expedited on 5/17 AM			
	9051027-MS1		QC	05/20/19 07:51	2.504	50	A19A242	A9E0508-05	4000	200					
	9051027-MS2		QC	05/20/19 07:51	2.504	50	A19A242	A9E0508-05	10000	1 CMK 5/21/19		Added 5/20/2019 by wvo			
	9051027-MSD1		QC	05/20/19 07:51	2.5327	50	A19A242	A9E0508-05	4000						
	9051027-MSD2		QC	05/20/19 07:51	2.5327	50	A19A242	A9E0508-05	10000	1		Added 5/20/2019 by wvo			
	A9E0582-01	A	Cyanide, Total (ASTM D7511, OIA)	05/20/19 07:51	2.5537	50					2708-190515-005				

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

WVO 5/20/19
Prepared By: Date

CMK 5/21/19
Reviewed By: Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9051027 (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
	9051027-BLK1		QC	05/20/19 07:51	2.5	50									
	9051027-BS1		QC	05/20/19 07:51	2.5	50	A19B182		100						
	9051027-BS2		QC	05/20/19 07:51	2.5	50	A19C272		1000						
	A9E0508-05	B	Cyanide, Total (ASTM D7511, OIA)	05/20/19 07:51	2.5342	50					COMP1	expedited on 5/17 AM			
	9051027-MS1		QC	05/20/19 07:51	2.5040	50	A19A242	A9E0508-05	200						
	9051027-MSD1		QC	05/20/19 07:51	2.5327	50	A19A242	A9E0508-05	200						
	A9E0582-01	A	Cyanide, Total (ASTM D7511, OIA)	05/20/19 07:51	2.5537	50					2708-190515-005				

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

NVO 5/20/19

Prepared By: Date

Reviewed By: Date

APEX LABORATORIES

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9E20027** Instrument: **OIA FS3000-2** ✓

Date: **05/20/19 08:52** Calibration: **A9E2001** ✓

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9E20027-CAL1	Solid	QC	QC				
2	9E20027-CAL2	Solid	QC	QC				A19A244 ✓
3	9E20027-CAL3	Solid	QC	QC				A19A245 ✓
4	9E20027-CAL4	Solid	QC	QC				A19A246 ✓
5	9E20027-CAL5	Solid	QC	QC				A19A247 ✓
6	9E20027-CAL6	Solid	QC	QC				A19A248 ✓
7	9E20027-CAL7	Solid	QC	QC				A19A249 ✓
8	9E20027-ICV1	Solid	QC	QC				A19C273 ✓
9	9E20027-ICB1	Solid	QC	QC				
10	9051027-BS2	Solid	QC	QC		9051027		
11	9051027-BLK1	Solid	QC	QC		9051027		
12	9051027-BS1	Solid	QC	QC		9051027		
13	A9E0508-05	Solid	Cyanide, Total (ASTM D7511, OIA)	Hahn and Associates	05/21/19	9051027		
14	9051027-MS1 } 20X	Solid	QC	QC		9051027		
15	9051027-MSD1 }	Solid	QC	QC		9051027		
16	A9E0582-01	Solid	Cyanide, Total (ASTM D7511, OIA)	Hahn and Associates	05/23/19	9051027		
17	9E20027-CCV1	Solid	QC	QC				A19C273 ✓
18	9E20027-CCB1	Solid	QC	QC				
19	9E20027-CCV2	Solid	QC	QC				A19C273 ✓
20	9E20027-CCB2	Solid	QC	QC				
21	9051027-MS2 } 50X	Solid	QC	QC		9051027		
22	9051027-MSD2 }	Solid	QC	QC		9051027		
23	9E20027-CCV3	Solid	QC	QC				A19C273 ✓
24	9E20027-CCB3	Solid	QC	QC				

Data Entered By: NVD 5/20/19

Data Reviewed By: CWL 5/21/19

Comments: Dilution acct on Seq. NVD 5/20/19

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	wvo
Operator ID	wvo
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9E20027.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	20-May-19
Time acquired	14:34

TOTAL CN 50ppb

Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
Sync 25 ppb	953267	25.367	OL			
Sync 25 ppb	999943	26.517				
Sync 25 ppb	1000088	26.521				
(Statistics)				1000015	26.519	2.7%
Carryover	204	0.996				
Baseline	-13637	0.630	BL			
Cal 0.0 ppb	-48551	-0.296	LO			
Cal 1.0 ppb	1241	1.024				
Cal 2.0 ppb	26643	1.695				
Cal 5.0 ppb	159757	5.194				
Cal 10.0 ppb	307374	9.036				
Cal 25.0 ppb	955960	25.434				
Cal 50.0 ppb	1988471	49.922				
Blank	7053	1.178				
Read Baseline	-23107	0.379	BL			
9E20027-ICV1	968254	25.737				
9E20027-ICB1	-38025	-0.016	LO			
Read Baseline	-23890	0.358	BL			
9051027-BS2	168354	5.419				
9051027-BLK1	-23055	0.381				
9051027-BS1	781319	21.095				
Read Baseline	-18941	0.490	BL			
A9E0508-05@20	1423731	36.774				
Read Baseline	-56829	-0.516	BL			
9051027-MS1@20	1365510	35.385				
Read Baseline	-75447	-1.011	BL			
9051027-MSD1@20	1311769	34.097				

2 5/0 dam 5/21/19

dm 5/21/19

NR. Possible matrix interference See SOX results. wvo 5/20/19

Result path	C:\FLOW_4\9E20027.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	20-May-19
Time acquired	14:34

	TOTAL CN 50ppb					
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
Read Baseline	-42005	-0.122	BL			
Read Baseline	-89272	-1.378	BL			
A9E0582-01@10	1415877	36.587				
Read Baseline	-34488	0.077	BL			
Read Baseline	-79611	-1.121	BL			
9E20027-CCV1	932573	24.856				
9E20027-CCB1	-51908	-0.385	LO			
Read Baseline	-25210	0.323	BL			

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	wvo
Operator ID	wvo
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9E20027.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	20-May-19
Time acquired	14:34

Date	Time	Cup	Name
20-May-19	13:14	106	Sync 25 ppb
20-May-19	13:16	106	Sync 25 ppb
20-May-19	13:18	106	Sync 25 ppb (Statistics)
20-May-19	13:20	0	Carryover
20-May-19	13:22	0	Baseline
20-May-19	13:24	101	Cal 0.0 ppb
20-May-19	13:26	102	Cal 1.0 ppb
20-May-19	13:28	103	Cal 2.0 ppb
20-May-19	13:30	104	Cal 5.0 ppb
20-May-19	13:32	105	Cal 10.0 ppb
20-May-19	13:34	106	Cal 25.0 ppb
20-May-19	13:36	107	Cal 50.0 ppb
20-May-19	13:38	0	Blank
20-May-19	13:40	0	Read Baseline
20-May-19	13:42	108	9E20027-ICV1
20-May-19	13:44	0	9E20027-ICB1
20-May-19	13:46	0	Read Baseline
20-May-19	13:48	109	9051027-BS2
20-May-19	13:50	110	9051027-BLK1
20-May-19	13:52	111	9051027-BS1
20-May-19	13:54	0	Read Baseline
20-May-19	13:56	112	A9E0508-05@20
20-May-19	13:58	0	Read Baseline
20-May-19	14:00	113	9051027-MS1@20
20-May-19	14:02	0	Read Baseline
20-May-19	14:04	114	9051027-MSD1@20

Result path	C:\FLOW_4\9E20027.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	20-May-19
Time acquired	14:34

Date	Time	Cup	Name
20-May-19	14:06	0	Read Baseline
20-May-19	14:08	0	Read Baseline
20-May-19	14:10	115	A9E0582-01@10
20-May-19	14:12	0	Read Baseline
20-May-19	14:14	0	Read Baseline
20-May-19	14:16	108	9E20027-CCV1
20-May-19	14:18	0	9E20027-CCB1
20-May-19	14:20	0	Read Baseline

TOTAL CN 50ppb:Calibration 1: Peak 6-34

File name: C:\FLOW_4\9E20027.RST
Date: 20-May-19
Operator: wvo

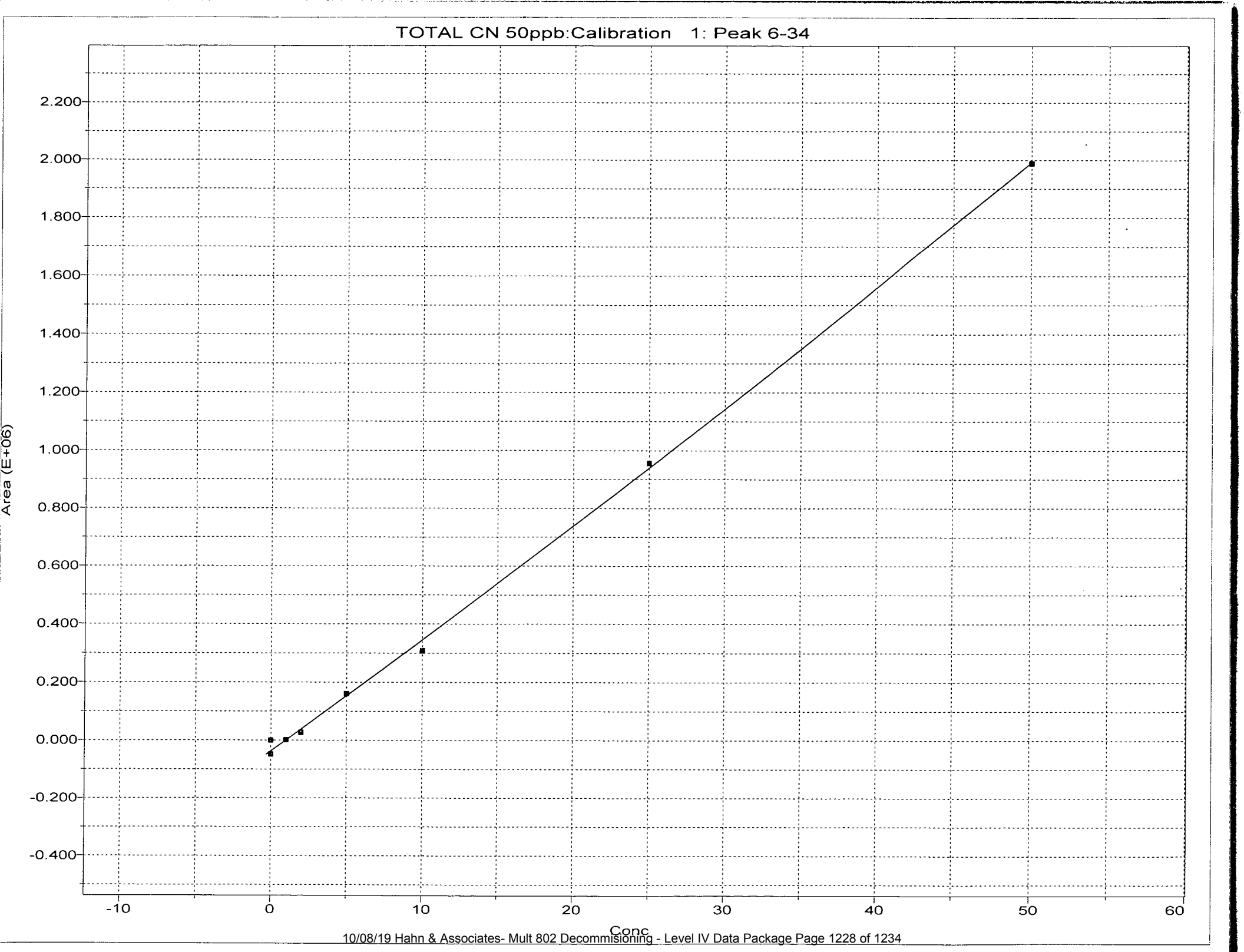
*	Name	Conc	Area
*	Cal 0.0 ppb	0.000000	-48551.023438
*	Cal 1.0 ppb	1.000000	1241.448730
*	Cal 2.0 ppb	2.000000	26642.796875
*	Cal 5.0 ppb	5.000000	159756.968750
*	Cal 10.0 ppb	10.000000	307373.687500
*	Cal 25.0 ppb	25.000000	955960.312500
*	Cal 50.0 ppb	50.000000	1988471.000000

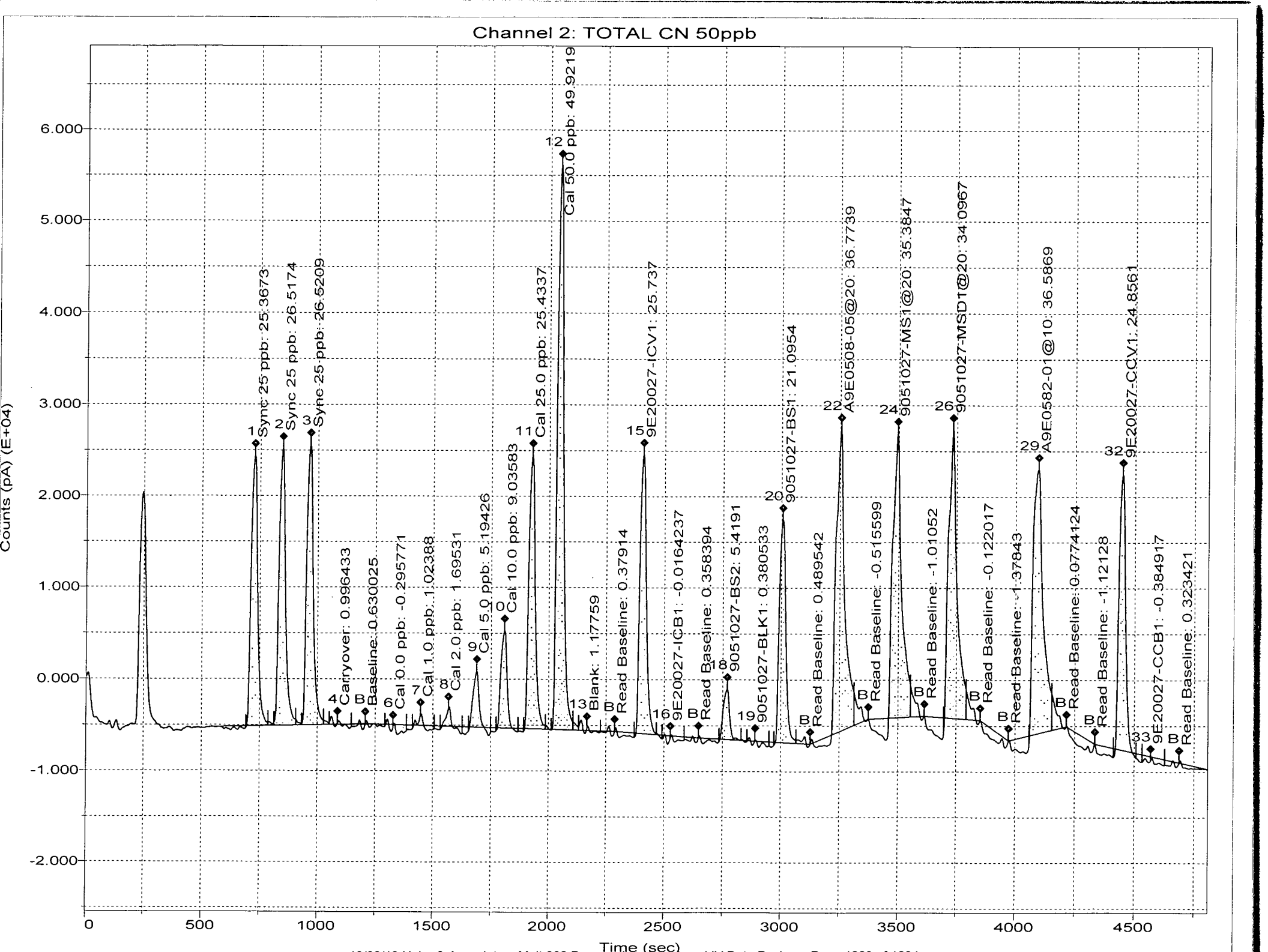
Calib Coef:
x=cyy+by+a
a: (intercept) 9.9103e-01
b: 2.6459e-05
c: -9.3118e-13

Corr Coef: 0.999465

Carryover: n/a

No Drift Peaks


TOTAL CN 50ppb:Calibration 1: Peak 6-34
Area (E+06)
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
-10
0
10
20
30
40
50
60
Conc


Channel 2: TOTAL CN 50ppb
Counts (pA) (E+04)
Time (sec)
6.000
5.000
4.000
3.000
2.000
1.000
0.000
-1.000
-2.000
0
500
1000
1500
2000
2500
3000
3500
4000
4500
1 Sync 25 ppb: 25.3673
2 Sync 25 ppb: 26.5174
3 Sync 25 ppb: 26.5209
4 Carryover: 0.996433
B
Baseline: 0.630025
6 Cal 0.0 ppb: -0.295771
7 Cal 1.0 ppb: 1.02388
8 Cal 2.0 ppb: 1.69531
9 Cal 5.0 ppb: 5.19426
10 Cal 10.0 ppb: 9.03583
11 Cal 25.0 ppb: 25.4337
12 Cal 50.0 ppb: 49.9219
13 Blank: 1.17759
B
Read Baseline: 0.37914
15 9E20027-ICV1: 25.737
16 9E20027-ICB1: -0.0164237
B
Read Baseline: 0.358394
18 9051027-BS2: 5.41191
19 9051027-BLK1: 0.380533
20 9051027-BS1: 21.0954
B
Read Baseline: 0.489542
22 A9E0508-05@20: 36.7739
B
Read Baseline: -0.515599
24 9051027-MS1@20: 35.3847
B
Read Baseline: -1.01052
26 9051027-MSD1@20: 34.0967
B
Read Baseline: -0.122017
B
Read Baseline: -1.37843
29 A9E0582-01@10: 36.5869
B
Read Baseline: 0.0774124
B
Read Baseline: -1.12128
32 9E20027-CCV1: 24.8561
33 9E20027-CCB1: -0.384917
B
Read Baseline: 0.323421

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	WVO
Operator ID	WVO
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9E20027B.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	20-May-19
Time acquired	16:18

	TOTAL CN 50ppb					
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
Sync 25 ppb	923150	24.623				
Sync 25 ppb	934517	24.904				
Sync 25 ppb	913197	24.377				
(Statistics)				923622	24.635	1.16%
Carryover	1925	1.042				
Baseline	-10361	0.717	BL			
Blank	-3951	0.886				
Read Baseline	-20036	0.461	BL			
9E20027-CCV2	905683	24.191				
9E20027-CCB2	-27569	0.261				
Read Baseline	-37102	0.008	BL			
9051027-MS2@50	1204530	31.511				
Read Baseline	-51796	-0.382	BL			
9051027-MSD2@50	1490189	38.352				
Read Baseline	-13858	0.624	BL			
9E20027-CCV3	869735	23.299				
9E20027-CCB3	-44115	-0.178	LO			
Read Baseline	-15826	0.572	BL			

dam 5/21/19

dam 5/21/19

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	WVO
Operator ID	WVO
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9E20027B.RST
Sample table path	C:\FLOW_4\totcn50.tbl
Method path	C:\FLOW_4\totcn50.mth
Date acquired	20-May-19
Time acquired	16:18

Date	Time	Cup	Name
20-May-19	15:31	106	Sync 25 ppb
20-May-19	15:33	106	Sync 25 ppb
20-May-19	15:35	106	Sync 25 ppb (Statistics)
20-May-19	15:37	0	Carryover
20-May-19	15:39	0	Baseline
20-May-19	15:41	0	Blank
20-May-19	15:43	0	Read Baseline
20-May-19	15:45	108	9E20027-CCV2
20-May-19	15:47	0	9E20027-CCB2
20-May-19	15:49	0	Read Baseline
20-May-19	15:51	113	9051027-MS2@50
20-May-19	15:53	0	Read Baseline
20-May-19	15:55	114	9051027-MSD2@50
20-May-19	15:57	0	Read Baseline
20-May-19	15:59	108	9E20027-CCV3
20-May-19	16:01	0	9E20027-CCB3
20-May-19	16:03	0	Read Baseline

TOTAL CN 50ppb:Calibration None

File name: C:\FLOW_4\9E20027B.RST
Date: 20-May-19
Operator: WVO

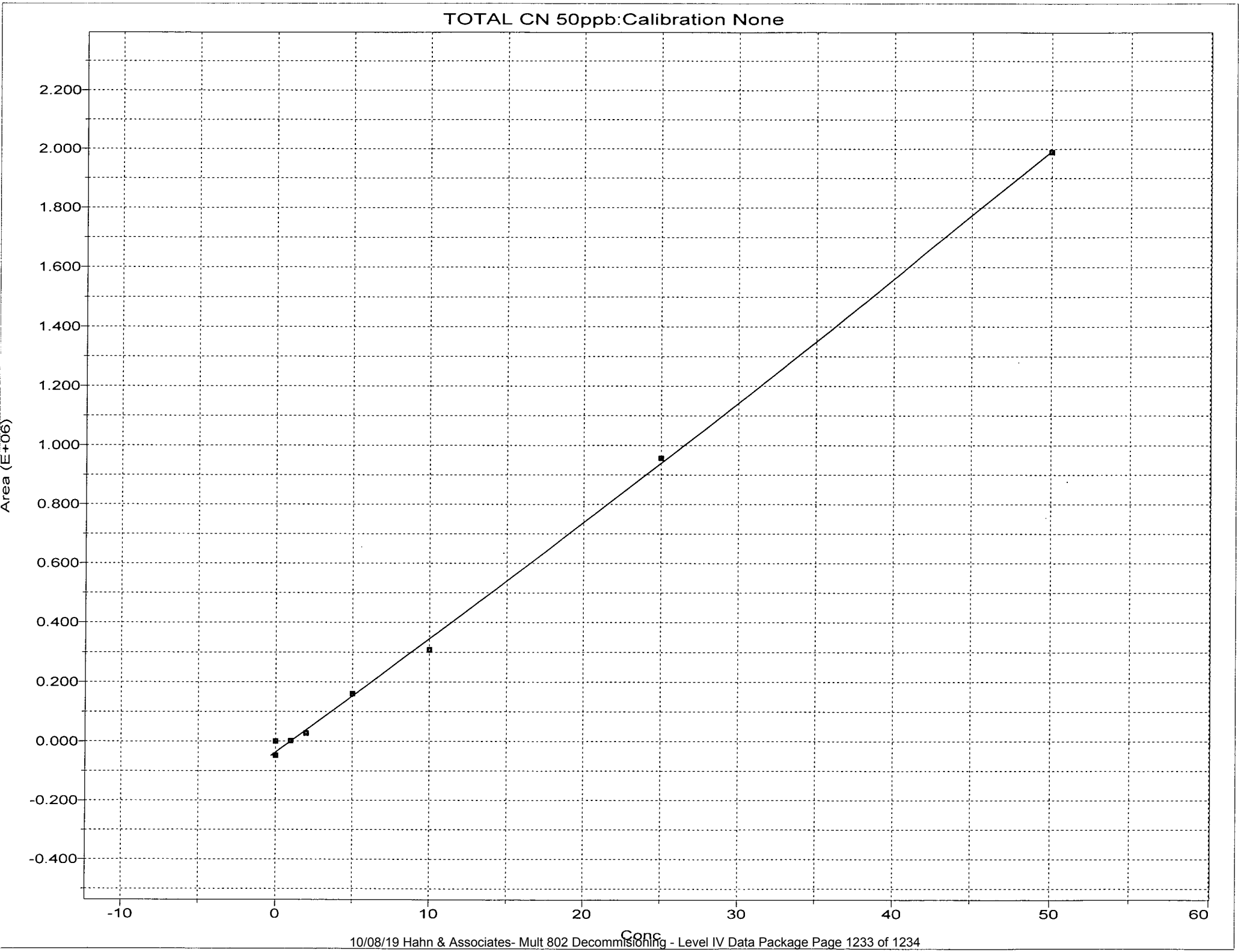
*	Name	Conc	Area
*	<Loaded>	0.000000	-48551.000000
*	<Loaded>	1.000000	1241.449951
*	<Loaded>	2.000000	26642.800781
*	<Loaded>	5.000000	159757.000000
*	<Loaded>	10.000000	307374.000000
*	<Loaded>	25.000000	955960.000000
*	<Loaded>	50.000000	1988470.000000

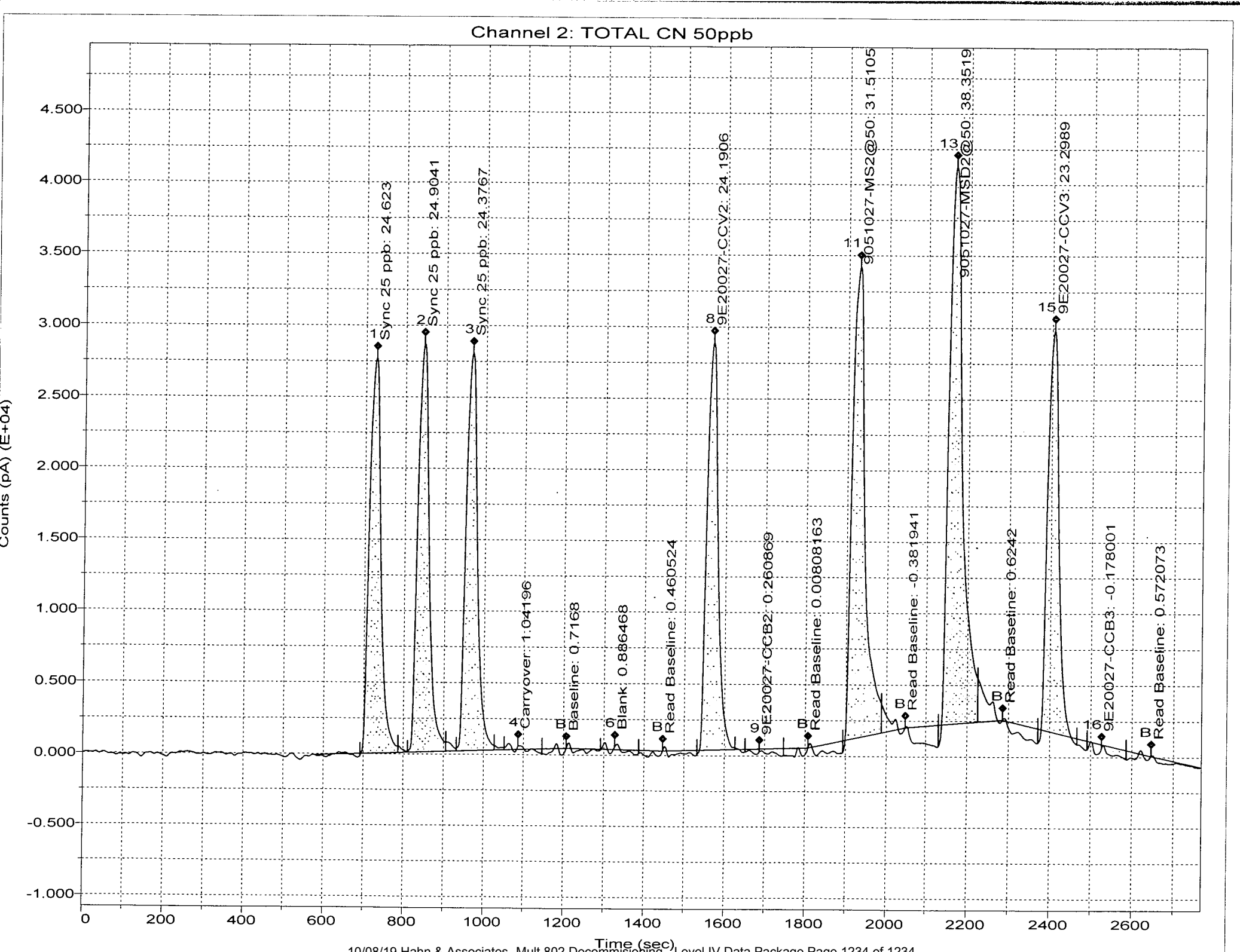
Calib Coef:
x=cyy+by+a
a: (intercept) 9.9103e-01
b: 2.6459e-05
c: -9.3119e-13

Corr Coef: 0.999465

Carryover: n/a

No Drift Peaks


TOTAL CN 50ppb:Calibration None
Area (E+06)
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
-10
0
10
20
30
40
50
60
Conc


Channel 2: TOTAL CN 50ppb
Counts (pA) (E+04)
Time (sec)
1 Sync 25 ppb: 24.623
2 Sync 25 ppb: 24.9041
3 Sync 25 ppb: 24.3767
4 Carryover: 1.04196
B Baseline: 0.7168
6 Blank: 0.886468
B Read Baseline: 0.460524
8 9E20027-CCV2: 24.1906
9 9E20027-CCB2: 0.260869
B Read Baseline: 0.00808163
11 9051027-MS2@50: 31.5105
B Read Baseline: -0.381941
13 9051027-MSD2@50: 38.3519
B Read Baseline: 0.6242
15 9E20027-CCV3: 23.2989
16 9E20027-CCB3: -0.178001
B Read Baseline: 0.572073