

Atmospheric Analysis & Consulting, Inc.

CLIENT : Soil Water Air Protection Enterprise
PROJECT NAME : Bridgeton Sanitary Landfill Air Quality Assessment
AAC PROJECT NO. : 130744
REPORT DATE : 06/20/2013

On June 18, 2013, Atmospheric Analysis & Consulting, Inc. received four (4) Six-Liter Summa Canisters for Volatile Organic Compounds analysis by EPA method TO-15. Upon receipt each sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab ID	Return Pressure (mmHga)
D-1 IN-Canister	130744-63722	446.0
D-2 CM-Canister	130744-63723	694.0
D-3 W5-Canister	130744-63724	395.9
U1 W7-Canister	130744-63725	695.7

An initial reading of each canister's vacuum was taken and recorded. Subsequently, each canister was brought to positive pressure using UHP-He and the final pressure was recorded.

TO-15 Analysis - Up to a 500 mL aliquot of sample is concentrated, put through a water and CO₂ management system, cryofocused and injected into the GC/MS (full scan mode) for analysis following EPA Method TO-15 as specified in the SOW.

No problems were encountered during receiving, preparation and/ or analysis of these samples. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# TO.15.10.

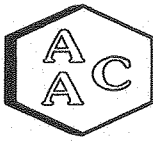
I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized the release of the data contained in this hardcopy data package.

If you have any questions or require further explanation of data results, please contact the undersigned.


Marcus Hueppe
Laboratory Director

This report consists of 61 pages.





SAMPLE RECEIPT / LOG-IN REPORT

AAC Project 130744

Received By: J. Zachman

<u>Sample Receipt Date</u>	<u>Project Desc</u>	<u>Clients ID</u>	<u>Matrix</u>	<u>Sampling Date/Time</u>	<u>Sampled By</u>	<u>Sample #</u>	<u>Analysis Requested</u>
6/18/2013 1430	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-1 IN Canister	Summa Canister	6/13/2013	Client	63722	TO15 ASTM D5504
6/18/2013 1430	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-2 CM Canister	Summa Canister	6/13/2013	Client	63723	TO15 ASTM D5504
6/18/2013 1140	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-3 W5 Canister	Summa Canister	6/13/2013	Client	63724	TO15 ASTM D5504
6/18/2013 1140	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-1 W7 Canister	Summa Canister	6/13/2013	Client	63725	TO15 ASTM D5504

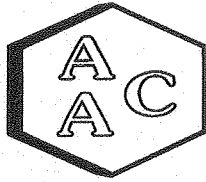
TURN AROUND TIME: Normal (10days)

Lab Due Date: 6/25/2013

Total Samples: 4

REMARKS:

Client returned 4 x Summa canisters + 8 x Flows. "Standard TAT for all analyses. If possible deliver report within 2 weeks. Provide Level IV QC package for all analyses."



CANISTER PRESSURE LOG

Client: Soil Water Air Protection Ent Project No.: 130744
Date:

Canister #	Sample #	Initial Pressure	Final Pressure
801	63722	446.0	1018.7
671	63723	694.0	1014.8
697	63724	395.9	1035.9
668	63725	695.7	1014.8

ARCF# 130744

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE
 Project Manager: PAUL ROSENFELD, PH.D.
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401
 Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT
 Sampled By: John Blank
 Sampler Signature: *John Blank*

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011
 Date: May

Page 1 of 1

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	REQUESTED TESTS / ANALYSES												Special Instructions / Conditions of Receipt	Flow #	
					VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Carbonyls - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009			Odor Evaluation
63722	D-1 IN	Canister	13-Jun	4 Hr	X	X												Canister # 801	710
63723	D-2 CM	Canister	13-Jun	4 Hr	X	X												Canister # 671	807
63724	D-3 W5	Canister	13-Jun	4 Hr	X	X												Canister # 692	717
63725	U-1 W7	Canister	13-Jun	4 Hr	X	X												Canister # 668	806

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.
 QC Requirements: Provide Level IV QC Package for all Analyses.

Relinquished By: *John Blank* Date: 06/13/2013 Time: 12 Noon
 Received By: *[Signature]* Date: 6/18/13 Time: 1:30

Relinquished By: _____ Date: _____ Time: _____
 Received By: _____ Date: _____ Time: _____

Relinquished By: _____ Date: _____ Time: _____
 Received By: _____ Date: _____ Time: _____

AAC # 130744

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE	Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011	Date: May	Page 1 of 1
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Project Manager: PAUL ROSENFELD, PH.D.	REQUESTED TESTS / ANALYSES	Special Instructions / Conditions of Receipt
Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401		

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT	Sampled By: John Blank	Sampler Signature: <i>John Blank</i>
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LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Carbonyls - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation	Flow #	
63722	D-1 IN	Canister	13-Jun	4 Hr	X	X												Canister # 801	710
63723	D-2 CM	Canister	13-Jun	4 Hr	X	X												Canister # 671	807
63724	D-3 W5	Canister	13-Jun	4 Hr	X	X												Canister # 692	717
63725	U-1 W7	Canister	13-Jun	4 Hr	X	X												Canister # 668	806

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.	QC Requirements: Provide Level IV QC Package for all Analyses.
Relinquished By: John Blank	Received By: <i>[Signature]</i>
Date: 5/23/03	Date: 6/18/03
Time: 12 Noon	Time: 1140

Atmospheric Analysis and Consulting Inc.

Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **D-1 IN Canister #801**

AAC Batch ID: 130744 AAC Sample ID: 63722

SAMPLING INFORMATION

Start Date/Time: **June 13th, 2013 – 7:05:00** Stop Date/Time: **June 13th, 2013 – 11:05:00**

Start Temp/Pressure*: **19C / 29.9 psi** Stop Temp/Pressure*: **21C / 29.96 psi**

Initial Can Pressure**: **- 31** Final Can Pressure**: **- 12.5**

* Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)

Comments: _____



John Blank
Sampler Name (Print)

June 13th, 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 – Liter

Sampling Period: 4 – Hour

Canister Serial No.: 801

Flow Controller Serial No: 710

Initial Pressure: 4.2

Certified Flow Rate: 18.0

Return Pressure: 446.0

Certified By/Date: WHA 6/5/2013

Final Pressure: 1018.7

Flow Rate upon Return: 13.5

Date Shipped From Lab: 5/14/2013

Shipped By: 

Date Returned to Lab: 6/18/2013

Received By: 

Flow Controller Certification File ID: 14503/000413260

Canister Certification File ID: 14503/0515329

Certification Type: SIM _____ SCAN NJLL _____ PAMS _____ Other _____


Chemist Signature/Date


Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.

All remaining sections will be completed upon return by the laboratory. Page 6

Atmospheric Analysis and Consulting Inc.

Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **D-2 CM Canister #671**

AAC Batch ID: 130744 AAC Sample ID: 63723

SAMPLING INFORMATION

Start Date/Time: **June 13th, 2013 - 7:25:00** Stop Date/Time: **June 13th, 2013 - 11:25:00**

Start Temp/Pressure*: **19C / 29.9 psi** Stop Temp/Pressure*: **21C / 29.96 psi**

Initial Can Pressure**: **- 32** Final Can Pressure**: **- 8**

* Ambient Barometric Reading where sample is being taken (C/inHg) ** Flow Controller Gauge Reading (inHg)

Comments: **NOTE: The Flow Control Pressure Gauge did not operate correctly.**

Value for vacuum pressure was taken from the Tank Pressure Gauge



John Blank

June 13th, 2013

Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 671

Flow Controller Serial No: 807

Initial Pressure: 2.9

Certified Flow Rate: 18.0

Return Pressure: 690.0

Certified By/Date: WHA 6/5/2013

Final Pressure: 1014.8

Flow Rate upon Return: 25.5

Date Shipped From Lab: 6/5/2013

Shipped By: [Signature]

Date Returned to Lab: 6/18/2013

Received By: [Signature]

Flow Controller Certification File ID: 1303/06091326

Canister Certification File ID: 1303/05301317

Certification Type: SIM SCAN NJLL PAMS Other

[Signature]
Chemist Signature/Date

[Signature]
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.

All remaining sections will be completed upon return by the laboratory. Page 7

Atmospheric Analysis and Consulting Inc.

Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **D-3 W5 Canister #697**

AAC Batch ID: 130744 AAC Sample ID: 63724

SAMPLING INFORMATION

Start Date/Time: **June 13, 2013 - 7:42:00** Stop Date/Time: **June 13, 2013 - 11:42:00**

Start Temp/Pressure*: **19C / 29.9 psi** Stop Temp/Pressure*: **21 C / 29.96 psi**

Initial Can Pressure**: **- 31** Final Can Pressure**: **- 15.5**

* Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)

Comments: _____



John Blank
Sampler Name (Print)

June 13, 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 697

Flow Controller Serial No: 717

Initial Pressure: 3.2

Certified Flow Rate: 18.0

Return Pressure: 395.9

Certified By/Date: WAH 6/5/2013

Final Pressure: 1035.9

Flow Rate upon Return: 12.0

Date Shipped From Lab: 6/5/2013

Shipped By: ZZ

Date Returned to Lab: 6/18/2013

Received By: ZZ

Flow Controller Certification File ID: 4503/00041326

Canister Certification File ID: 1409/05301313

Certification Type: SIM SCAN NJLL PAMS Other

Cherie Kavel 06/19/13

WAH 6/21/13

Chemist Signature/Date

Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.

All remaining sections will be completed upon return by the laboratory. Page 8

Atmospheric Analysis and Consulting Inc.

Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **U- 1 W7** **Canister #668**

AAC Batch ID: 130744 AAC Sample ID: 63725

SAMPLING INFORMATION

Start Date/Time: **June 13th, 2013 -8:22:00** Stop Date/Time: **June 13th, 2013 - 12:22:00**

Start Temp/Pressure*: **19C / 29.9** psi Stop Temp/Pressure*: **21C / 29.96** psi

Initial Can Pressure**: **- 31** Final Can Pressure**: **- 5**

* Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)

Comments: _____



John Blank
Sampler Name (Print)

June 13th, 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 668

Flow Controller Serial No: 806

Initial Pressure: 4.2

Certified Flow Rate: 18.0

Return Pressure: 695.7

Certified By/Date: WH 6/5/2013

Final Pressure: 1018.8

Flow Rate upon Return: 26.3

Date Shipped From Lab: 5/16/2013

Shipped By: JJ

Date Returned to Lab: 6/13/2013

Received By: JJ

Flow Controller Certification File ID: 1603/06041326

Canister Certification File ID: 1603/05151324

Certification Type: SIM SCAN NJLL PAMS Other

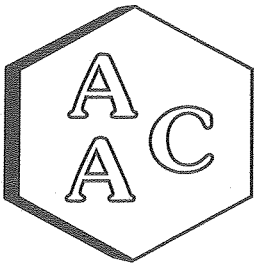

Chemist Signature/Date


Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.

All remaining sections will be completed upon return by the laboratory. Page 9

TO-15 REPORTS



Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

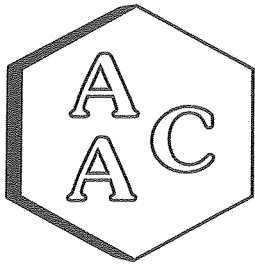
CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130744
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 06/18/2013
DATE REPORTED : 06/20/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID Date Sampled Date Analyzed Can Dilution Factor	D-1 1N-Canister 130744-63722			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 CM-Canister 130744-63723			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	06/13/2013				06/13/2013				
	06/20/2013				06/20/2013				
	2.28				1.46				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.41	J	1.0	1.14	0.29	J	1.0	0.73	0.5
Propene	2.60		1.0	2.28	0.86	J	1.0	1.46	1.0
Dichlorodifluoromethane	0.57	J	1.0	1.14	0.54	J	1.0	0.73	0.5
Chloromethane	0.57	J	1.0	1.14	0.50	J	1.0	0.73	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Vinyl Chloride	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Methanol	29.2		1.0	11.4	45.7		1.0	7.31	5.0
1,3-Butadiene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Bromomethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Chloroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Dichlorofluoromethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Ethanol	7.33		1.0	4.57	5.54		1.0	2.92	2.0
Vinyl Bromide	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Acetone	5.94		1.0	4.57	5.88		1.0	2.92	2.0
Trichlorofluoromethane	0.41	J	1.0	1.14	0.37	J	1.0	0.73	0.5
2-Propanol (IPA)	2.40	J	1.0	4.57	1.59	J	1.0	2.92	2.0
Acrylonitrile	<SRL	U	1.0	2.28	<SRL	U	1.0	1.46	1.0
1,1-Dichloroethene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	2.28	<SRL	U	1.0	1.46	1.0
Allyl Chloride	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Carbon Disulfide	NR	U	1.0	1.14	NR		1.0	0.73	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,1-Dichloroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Vinyl Acetate	<SRL	U	1.0	2.28	<SRL	U	1.0	1.46	1.0
2-Butanone (MEK)	1.19	J	1.0	2.28	1.26	J	1.0	1.46	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Hexane	0.69	J	1.0	1.14	0.63	J	1.0	0.73	0.5
Chloroform	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Ethyl Acetate	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Tetrahydrofuran	0.69	J	1.0	1.14	0.54	J	1.0	0.73	0.5
1,2-Dichloroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report


CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130744
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 06/18/2013
DATE REPORTED : 06/20/2013

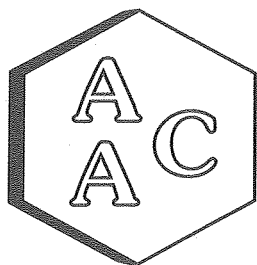
VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	D-1 IN-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 CM-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled	Date Analyzed	Can Dilution Factor		Date Sampled	Date Analyzed	Can Dilution Factor		
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
	1.35		1.0	1.14	1.11		1.0	0.73	0.5
Benzene	<SRL	U	1.0	1.14	0.09	J	1.0	0.73	0.5
Carbon Tetrachloride	0.11	J	1.0	1.14	0.13	J	1.0	0.73	0.5
Cyclohexane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,2-Dichloropropane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Bromodichloromethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,4-Dioxane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Trichloroethene (TCE)	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
2,2,4-Trimethylpentane	0.57	J	1.0	1.14	0.39	J	1.0	0.73	0.5
Heptane	0.21	J	1.0	1.14	0.18	J	1.0	0.73	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	1.14	0.10	J	1.0	0.73	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Toluene	1.53		1.0	1.14	1.48		1.0	0.73	0.5
2-Hexanone (MBK)	<SRL	U	1.0	1.14	0.37	J	1.0	0.73	0.5
Dibromochloromethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,2-Dibromoethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Chlorobenzene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Ethylbenzene	0.21	J	1.0	1.14	0.16	J	1.0	0.73	0.5
m & p-Xylenes	0.59	J	1.0	2.28	0.42	J	1.0	1.46	1.0
Bromoform	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Styrene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
o-Xylene	0.25	J	1.0	1.14	0.18	J	1.0	0.73	0.5
4-Ethyltoluene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,2,4-Trimethylbenzene	0.25	J	1.0	1.14	0.16	J	1.0	0.73	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
Hexachlorobutadiene	<SRL	U	1.0	1.14	<SRL	U	1.0	0.73	0.5
BFB-Surrogate Std. % Recovery	104%				102%			70-130%	

U - Compound was analyzed for, but was not detected at or above the SRL.
 J - Analyte was detected. However the analyte concentration is an estimated value, which is between the Sample Reporting Limit (SRL) and the Sample Quantitation Limit (SQL).
 SQL - Sample Quantitation Limit is the Limit Of Quantitation (LOQ) x Dilution Factors.
 NR - Not Reported on these analysis.


 Marcus Hueppe
 Laboratory Director





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

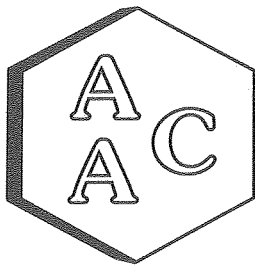
CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130744
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 06/18/2013
DATE REPORTED : 06/20/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	D-1 IN-Canister 130744-63722			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 CM-Canister 130744-63723			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled Date Analyzed	Result	Qualifier		Analysis DF	Date Sampled Date Analyzed	Result		
	06/13/2013 06/20/2013				06/13/2013 06/20/2013				
Can Dilution Factor	2.28				1.46				
Chlorodifluoromethane	1.5	J	1.0	4.0	1.0	J	1.0	2.6	1.8
Propene	4.5		1.0	3.9	1.5	J	1.0	2.5	1.7
Dichlorodifluoromethane	2.8	J	1.0	5.6	2.7	J	1.0	3.6	2.5
Chloromethane	1.2	J	1.0	2.4	1.0	J	1.0	1.5	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	8.0	<SRL	U	1.0	5.1	3.5
Vinyl Chloride	<SRL	U	1.0	2.9	<SRL	U	1.0	1.9	1.3
Methanol	38.2		1.0	15.0	59.8		1.0	9.6	6.6
1,3-Butadiene	<SRL	U	1.0	2.5	<SRL	U	1.0	1.6	1.1
Bromomethane	<SRL	U	1.0	4.4	<SRL	U	1.0	2.8	1.9
Chloroethane	<SRL	U	1.0	3.0	<SRL	U	1.0	1.9	1.3
Dichlorofluoromethane	<SRL	U	1.0	4.8	<SRL	U	1.0	3.1	2.1
Ethanol	13.8		1.0	8.6	10.4		1.0	5.5	3.8
Vinyl Bromide	<SRL	U	1.0	5.0	<SRL	U	1.0	3.2	2.2
Acetone	14.1		1.0	10.9	14.0		1.0	6.9	4.8
Trichlorofluoromethane	2.3	J	1.0	6.4	2.1	J	1.0	4.1	2.8
2-Propanol (IPA)	5.9	J	1.0	11.2	3.9	J	1.0	7.2	4.9
Acrylonitrile	<SRL	U	1.0	5.0	<SRL	U	1.0	3.2	2.2
1,1-Dichloroethene	<SRL	U	1.0	4.5	<SRL	U	1.0	2.9	2.0
Methylene Chloride (DCM)	<SRL	U	1.0	7.9	<SRL	U	1.0	5.1	3.5
Allyl Chloride	<SRL	U	1.0	3.6	<SRL	U	1.0	2.3	1.6
Carbon Disulfide	NR	U	1.0	3.6	NR		1.0	2.3	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	8.8	<SRL	U	1.0	5.6	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	4.5	<SRL	U	1.0	2.9	2.0
1,1-Dichloroethane	<SRL	U	1.0	4.6	<SRL	U	1.0	3.0	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	4.1	<SRL	U	1.0	2.6	1.8
Vinyl Acetate	<SRL	U	1.0	8.0	<SRL	U	1.0	5.1	3.5
2-Butanone (MEK)	3.5	J	1.0	6.7	3.7	J	1.0	4.3	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	4.5	<SRL	U	1.0	2.9	2.0
Hexane	2.4	J	1.0	4.0	2.2	J	1.0	2.6	1.8
Chloroform	<SRL	U	1.0	5.6	<SRL	U	1.0	3.6	2.4
Ethyl Acetate	<SRL	U	1.0	4.1	<SRL	U	1.0	2.6	1.8
Tetrahydrofuran	2.0	J	1.0	3.4	1.6	J	1.0	2.2	1.5
1,2-Dichloroethane	<SRL	U	1.0	4.6	<SRL	U	1.0	3.0	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	6.2	<SRL	U	1.0	4.0	2.7





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Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130744
MATRIX : AIR
UNITS : ug/m3

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VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

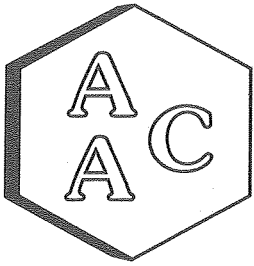
Client ID AAC ID	D-1 IN-Canister 130744-63722			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 CM-Canister 130744-63723			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled	Date Analyzed	Can Dilution Factor		Date Sampled	Date Analyzed	Can Dilution Factor		
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	4.3		1.0	3.6	3.6		1.0	2.3	1.6
Carbon Tetrachloride	<SRL	U	1.0	7.2	0.6	J	1.0	4.6	3.1
Cyclohexane	0.4	J	1.0	3.9	0.5	J	1.0	2.5	1.7
1,2-Dichloropropane	<SRL	U	1.0	5.3	<SRL	U	1.0	3.4	2.3
Bromodichloromethane	<SRL	U	1.0	7.7	<SRL	U	1.0	4.9	3.4
1,4-Dioxane	<SRL	U	1.0	4.1	<SRL	U	1.0	2.6	1.8
Trichloroethene (TCE)	<SRL	U	1.0	6.1	<SRL	U	1.0	3.9	2.7
2,2,4-Trimethylpentane	2.7	J	1.0	5.3	1.8	J	1.0	3.4	2.3
Heptane	0.8	J	1.0	4.7	0.7	J	1.0	3.0	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	5.2	<SRL	U	1.0	3.3	2.3
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	4.7	0.4	J	1.0	3.0	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	5.2	<SRL	U	1.0	3.3	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	6.2	<SRL	U	1.0	4.0	2.7
Toluene	5.8		1.0	4.3	5.6		1.0	2.8	1.9
2-Hexanone (MBK)	<SRL	U	1.0	4.7	1.5	J	1.0	3.0	2.0
Dibromochloromethane	<SRL	U	1.0	9.7	<SRL	U	1.0	6.2	4.3
1,2-Dibromoethane	<SRL	U	1.0	8.8	<SRL	U	1.0	5.6	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	7.7	<SRL	U	1.0	5.0	3.4
Chlorobenzene	<SRL	U	1.0	5.3	<SRL	U	1.0	3.4	2.3
Ethylbenzene	0.9	J	1.0	5.0	0.7	J	1.0	3.2	2.2
m & p-Xylenes	2.6	J	1.0	9.9	1.8	J	1.0	6.3	4.3
Bromoform	<SRL	U	1.0	11.8	<SRL	U	1.0	7.6	5.2
Styrene	<SRL	U	1.0	4.9	<SRL	U	1.0	3.1	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	7.8	<SRL	U	1.0	5.0	3.4
o-Xylene	1.1	J	1.0	5.0	0.8	J	1.0	3.2	2.2
4-Ethyltoluene	<SRL	U	1.0	5.6	<SRL	U	1.0	3.6	2.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	5.6	<SRL	U	1.0	3.6	2.5
1,2,4-Trimethylbenzene	1.2	J	1.0	5.6	0.8	J	1.0	3.6	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	5.9	<SRL	U	1.0	3.8	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	6.9	<SRL	U	1.0	4.4	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	6.9	<SRL	U	1.0	4.4	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	6.9	<SRL	U	1.0	4.4	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	8.5	<SRL	U	1.0	5.4	3.7
Hexachlorobutadiene	<SRL	U	1.0	12.2	<SRL	U	1.0	7.8	5.3
BFB-Surrogate Std. % Recovery	104%				102%				70-130%

U - Compound was analyzed for, but was not detected at or above the SRL.
 J - Analyte was detected. However the analyte concentration is an estimated value,
 which is between the Sample Reporting Limit (SRL) and the Sample Quantitation Limit (SQL).
 SQL - Sample Quantitation Limit is the Limit Of Quantitation (LOQ) x Dilution Factors.
 NR - Not Reported on these analysis.



 Marcus Hueppe
 Laboratory Director





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Laboratory Analysis Report

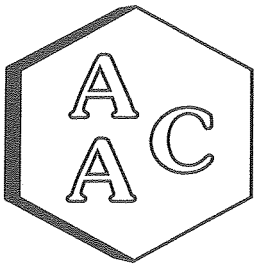
CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130744
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 06/18/2013
DATE REPORTED : 06/20/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-3 W5-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U1 W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Result	Qualifier		Analysis DF	Result	Qualifier		
	130744-63724				130744-63725				
Date Sampled	06/13/2013				06/13/2013				
Date Analyzed	06/20/2013				06/20/2013				
Can Dilution Factor	2.62				1.46				
Chlorodifluoromethane	0.31	J	1.0	1.31	0.26	J	1.0	0.73	0.5
Propene	2.67		1.0	2.62	0.41	J	1.0	1.46	1.0
Dichlorodifluoromethane	0.60	J	1.0	1.31	0.51	J	1.0	0.73	0.5
Chloromethane	0.52	J	1.0	1.31	0.50	J	1.0	0.73	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Vinyl Chloride	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Methanol	49.0		1.0	13.1	70.1		1.0	7.29	5.0
1,3-Butadiene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Bromomethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Chloroethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Dichlorofluoromethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Ethanol	13.7		1.0	5.23	3.03		1.0	2.92	2.0
Vinyl Bromide	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Acetone	13.7		1.0	5.23	4.19		1.0	2.92	2.0
Trichlorofluoromethane	0.34	J	1.0	1.31	0.26	J	1.0	0.73	0.5
2-Propanol (IPA)	3.24	J	1.0	5.23	0.60	J	1.0	2.92	2.0
Acrylonitrile	<SRL	U	1.0	2.62	<SRL	U	1.0	1.46	1.0
1,1-Dichloroethene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	2.62	<SRL	U	1.0	1.46	1.0
Allyl Chloride	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Carbon Disulfide	NR	U	1.0	1.31	NR	U	1.0	0.73	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	1.31	0.09	J	1.0	0.73	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,1-Dichloroethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Vinyl Acetate	<SRL	U	1.0	2.62	<SRL	U	1.0	1.46	1.0
2-Butanone (MEK)	4.71		1.0	2.62	0.34	J	1.0	1.46	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Hexane	0.94	J	1.0	1.31	0.50	J	1.0	0.73	0.5
Chloroform	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Ethyl Acetate	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Tetrahydrofuran	3.69		1.0	1.31	<SRL	U	1.0	0.73	0.5
1,2-Dichloroethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5





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PROJECT NO : 130744
MATRIX : AIR
UNITS : PPB (v/v)

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VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

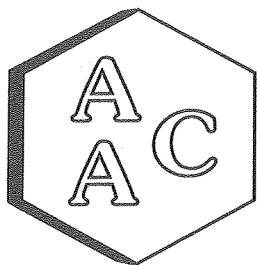
Client ID	D-3 W5-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	UI W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Date Sampled	Date Analyzed		AAC ID	Date Sampled	Date Analyzed		
	130744-63724	06/13/2013	06/20/2013		130744-63725	06/13/2013	06/20/2013		
	Can Dilution Factor				Can Dilution Factor				
	2.62				1.46				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	5.97		1.0	1.31	<SRL	U	1.0	0.73	0.5
Carbon Tetrachloride	<SRL	U	1.0	1.31	0.07	J	1.0	0.73	0.5
Cyclohexane	0.21	J	1.0	1.31	0.10	J	1.0	0.73	0.5
1,2-Dichloropropane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Bromodichloromethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,4-Dioxane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Trichloroethene (TCE)	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
2,2,4-Trimethylpentane	0.60	J	1.0	1.31	0.26	J	1.0	0.73	0.5
Heptane	0.31	J	1.0	1.31	0.13	J	1.0	0.73	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
4-Methyl-2-pentanone (MiBK)	0.16	J	1.0	1.31	<SRL	U	1.0	0.73	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Toluene	3.09		1.0	1.31	1.04		1.0	0.73	0.5
2-Hexanone (MBK)	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Dibromochloromethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,2-Dibromoethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Chlorobenzene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Ethylbenzene	0.52	J	1.0	1.31	0.09	J	1.0	0.73	0.5
m & p-Xylenes	1.26	J	1.0	2.62	0.28	J	1.0	1.46	1.0
Bromoform	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Styrene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
o-Xylene	0.50	J	1.0	1.31	0.12	J	1.0	0.73	0.5
4-Ethyltoluene	0.16	J	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,3,5-Trimethylbenzene	0.10	J	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,2,4-Trimethylbenzene	0.37	J	1.0	1.31	0.12	J	1.0	0.73	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
Hexachlorobutadiene	<SRL	U	1.0	1.31	<SRL	U	1.0	0.73	0.5
BFB-Surrogate Std. % Recovery	105%				105%				70-130%

U - Compound was analyzed for, but was not detected at or above the SRL.
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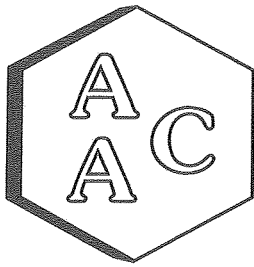
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PROJECT NO : 130744
MATRIX : AIR
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VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-3 W5-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	UI W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	130744-63724			130744-63725				
Date Sampled	06/13/2013				06/13/2013				
Date Analyzed	06/20/2013				06/20/2013				
Can Dilution Factor	2.62				1.46				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	1.1	J	1.0	4.6	0.9	J	1.0	2.6	1.8
Propene	4.6		1.0	4.5	0.7	J	1.0	2.5	1.7
Dichlorodifluoromethane	3.0	J	1.0	6.5	2.5	J	1.0	3.6	2.5
Chloromethane	1.1	J	1.0	2.7	1.0	J	1.0	1.5	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	9.1	<SRL	U	1.0	5.1	3.5
Vinyl Chloride	<SRL	U	1.0	3.3	<SRL	U	1.0	1.9	1.3
Methanol	64.2		1.0	17.1	91.8		1.0	9.6	6.6
1,3-Butadiene	<SRL	U	1.0	2.9	<SRL	U	1.0	1.6	1.1
Bromomethane	<SRL	U	1.0	5.1	<SRL	U	1.0	2.8	1.9
Chloroethane	<SRL	U	1.0	3.5	<SRL	U	1.0	1.9	1.3
Dichlorofluoromethane	<SRL	U	1.0	5.5	<SRL	U	1.0	3.1	2.1
Ethanol	25.8		1.0	9.9	5.7		1.0	5.5	3.8
Vinyl Bromide	<SRL	U	1.0	5.7	<SRL	U	1.0	3.2	2.2
Acetone	32.5		1.0	12.4	9.9		1.0	6.9	4.8
Trichlorofluoromethane	1.9	J	1.0	7.4	1.5	J	1.0	4.1	2.8
2-Propanol (IPA)	8.0	J	1.0	12.9	1.5	J	1.0	7.2	4.9
Acrylonitrile	<SRL	U	1.0	5.7	<SRL	U	1.0	3.2	2.2
1,1-Dichloroethene	<SRL	U	1.0	5.2	<SRL	U	1.0	2.9	2.0
Methylene Chloride (DCM)	<SRL	U	1.0	9.1	<SRL	U	1.0	5.1	3.5
Allyl Chloride	<SRL	U	1.0	4.1	<SRL	U	1.0	2.3	1.6
Carbon Disulfide	NR	U	1.0	4.1	NR	U	1.0	2.3	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	10.0	0.7	J	1.0	5.6	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	5.2	<SRL	U	1.0	2.9	2.0
1,1-Dichloroethane	<SRL	U	1.0	5.3	<SRL	U	1.0	3.0	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	4.7	<SRL	U	1.0	2.6	1.8
Vinyl Acetate	<SRL	U	1.0	9.2	<SRL	U	1.0	5.1	3.5
2-Butanone (MEK)	13.9		1.0	7.7	1.0	J	1.0	4.3	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	5.2	<SRL	U	1.0	2.9	2.0
Hexane	3.3	J	1.0	4.6	1.8	J	1.0	2.6	1.8
Chloroform	<SRL	U	1.0	6.4	<SRL	U	1.0	3.6	2.4
Ethyl Acetate	<SRL	U	1.0	4.7	<SRL	U	1.0	2.6	1.8
Tetrahydrofuran	10.9		1.0	3.9	<SRL	U	1.0	2.2	1.5
1,2-Dichloroethane	<SRL	U	1.0	5.3	<SRL	U	1.0	3.0	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	7.1	<SRL	U	1.0	4.0	2.7





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130744
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 06/18/2013
DATE REPORTED : 06/20/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

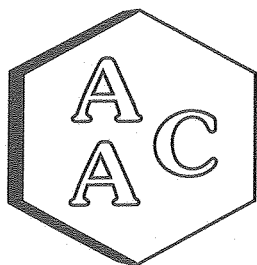
Client ID AAC ID	D-3 W5-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U1 W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	130744-63724				130744-63725				
Date Sampled	06/13/2013			06/13/2013	06/13/2013				
Date Analyzed	06/20/2013			06/20/2013	06/20/2013				
Can Dilution Factor	2.62			1.46	1.46				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	19.1		1.0	4.2	<SRL	U	1.0	2.3	1.6
Carbon Tetrachloride	<SRL	U	1.0	8.2	0.5	J	1.0	4.6	3.1
Cyclohexane	0.7	J	1.0	4.5	0.4	J	1.0	2.5	1.7
1,2-Dichloropropane	<SRL	U	1.0	6.0	<SRL	U	1.0	3.4	2.3
Bromodichloromethane	<SRL	U	1.0	8.8	<SRL	U	1.0	4.9	3.4
1,4-Dioxane	<SRL	U	1.0	4.7	<SRL	U	1.0	2.6	1.8
Trichloroethene (TCE)	<SRL	U	1.0	7.0	<SRL	U	1.0	3.9	2.7
2,2,4-Trimethylpentane	2.8	J	1.0	6.1	1.2	J	1.0	3.4	2.3
Heptane	1.3	J	1.0	5.4	0.5	J	1.0	3.0	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	5.9	<SRL	U	1.0	3.3	2.3
4-Methyl-2-pentanone (MiBK)	0.6	J	1.0	5.4	<SRL	U	1.0	3.0	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	5.9	<SRL	U	1.0	3.3	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	7.1	<SRL	U	1.0	4.0	2.7
Toluene	11.6		1.0	4.9	3.9		1.0	2.7	1.9
2-Hexanone (MBK)	<SRL	U	1.0	5.4	<SRL	U	1.0	3.0	2.0
Dibromochloromethane	<SRL	U	1.0	11.1	<SRL	U	1.0	6.2	4.3
1,2-Dibromoethane	<SRL	U	1.0	10.1	<SRL	U	1.0	5.6	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	8.9	<SRL	U	1.0	4.9	3.4
Chlorobenzene	<SRL	U	1.0	6.0	<SRL	U	1.0	3.4	2.3
Ethylbenzene	2.3	J	1.0	5.7	0.4	J	1.0	3.2	2.2
m & p-Xylenes	5.5	J	1.0	11.4	1.2	J	1.0	6.3	4.3
Bromoform	<SRL	U	1.0	13.5	<SRL	U	1.0	7.5	5.2
Styrene	<SRL	U	1.0	5.6	<SRL	U	1.0	3.1	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	9.0	<SRL	U	1.0	5.0	3.4
o-Xylene	2.2	J	1.0	5.7	0.5	J	1.0	3.2	2.2
4-Ethyltoluene	0.8	J	1.0	6.4	<SRL	U	1.0	3.6	2.5
1,3,5-Trimethylbenzene	0.5	J	1.0	6.4	<SRL	U	1.0	3.6	2.5
1,2,4-Trimethylbenzene	1.8	J	1.0	6.4	0.6	J	1.0	3.6	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	6.8	<SRL	U	1.0	3.8	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	7.9	<SRL	U	1.0	4.4	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	7.9	<SRL	U	1.0	4.4	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	7.9	<SRL	U	1.0	4.4	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	9.7	<SRL	U	1.0	5.4	3.7
Hexachlorobutadiene	<SRL	U	1.0	14.0	<SRL	U	1.0	7.8	5.3
BFB-Surrogate Std. % Recovery	105%				105%				70-130%

U - Compound was analyzed for, but was not detected at or above the SRL.
 J - Analyte was detected. However the analyte concentration is an estimated value, which is between the Sample Reporting Limit (SRL) and the Sample Quantitation Limit (SQL).
 SQL - Sample Quantitation Limit is the Limit Of Quantitation (LOQ) x Dilution Factors.
 NR - Not Reported on these analysis.


 Marcus Hueppe
 Laboratory Director



TO-15
QC
REPORT



Atmospheric Analysis & Consulting, Inc.

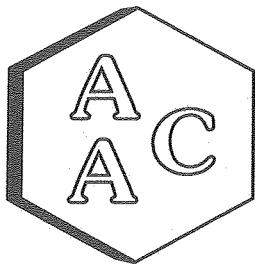
ANALYSIS DATE : 06/20/2013
ANALYST : JJG

INSTRUMENT ID : GC/MS-03
CALIBRATION STD ID : PS041813-01

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15 Continuing Calibration Verification of the 05/15/2013 Calibration

Compounds	Conc	Daily Conc	%REC*
4-BFB (surrogate standard)	10.00	9.90	99
Chlorodifluoromethane	10.10	9.71	96
Propene	11.00	9.99	91
Dichlorodifluoromethane	9.80	9.64	98
Chloromethane	10.10	10.18	101
Dichlorotetrafluoroethane	10.10	10.04	99
Vinyl Chloride	10.20	10.11	99
Methanol	4.90	6.30	129
1,3-Butadiene	10.50	9.57	91
Bromomethane	10.20	8.76	86
Chloroethane	10.00	9.99	100
Dichlorofluoromethane	10.00	10.50	105
Ethanol	9.80	10.90	111
Vinyl Bromide	10.20	10.90	107
Acetone	10.80	10.09	93
Trichlorofluoromethane	10.10	10.91	108
2-Propanol (IPA)	11.00	10.90	99
Acrylonitrile	10.50	11.22	107
1,1-Dichloroethene	10.50	10.17	97
Methylene Chloride (DCM)	10.40	10.06	97
Allyl Chloride	11.00	11.19	102
Carbon Disulfide	10.50	10.21	97
Trichlorotrifluoroethane	10.40	10.47	101
trans-1,2-Dichloroethene	10.40	10.60	102
1,1-Dichloroethane	10.40	10.31	99
Methyl Tert Butyl Ether (MTBE)	10.60	9.89	93
Vinyl Acetate	9.70	10.10	104
2-Butanone (MEK)	10.60	10.61	100
cis-1,2-Dichloroethene	10.60	10.81	102
Hexane	10.70	10.08	94
Chloroform	10.60	10.70	101
Ethyl Acetate	11.00	11.34	103
Tetrahydrofuran	10.80	10.80	100
1,2-Dichloroethane	10.40	10.62	102
1,1,1-Trichloroethane	10.50	10.77	103





Atmospheric Analysis & Consulting, Inc.

ANALYSIS DATE : 06/20/2013
ANALYST : JJG

INSTRUMENT ID : GC/MS-03
CALIBRATION STD ID : PS041813-01

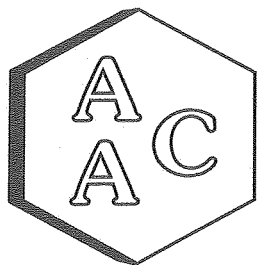
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15 Continuing Calibration Verification of the 05/15/2013 Calibration

Compounds	Conc	Daily Conc	%REC*
Benzene	10.50	9.83	94
Carbon Tetrachloride	10.10	10.43	103
Cyclohexane	10.50	10.30	98
1,2-Dichloropropane	10.50	10.26	98
Bromodichloromethane	10.30	10.71	104
1,4-Dioxane	10.30	10.14	98
Trichloroethene (TCE)	10.30	10.58	103
2,2,4-Trimethylpentane	10.90	10.72	98
Heptane	10.70	10.65	100
cis-1,3-Dichloropropene	11.00	10.91	99
4-Methyl-2-pentanone (MiBK)	10.30	10.35	100
trans-1,3-Dichloropropene	9.80	9.89	101
1,1,2-Trichloroethane	10.60	10.40	98
Toluene	10.60	10.34	98
2-Hexanone (MBK)	10.80	10.76	100
Dibromochloromethane	11.00	11.34	103
1,2-Dibromoethane	10.40	10.26	99
Tetrachloroethene (PCE)	10.40	10.04	97
Chlorobenzene	10.60	10.35	98
Ethylbenzene	10.50	10.10	96
m & p-Xylenes	20.60	19.28	94
Bromoform	10.30	10.29	100
Styrene	10.40	9.67	93
1,1,2,2-Tetrachloroethane	10.60	9.85	93
o-Xylene	10.60	9.84	93
4-Ethyltoluene	10.40	10.09	97
1,3,5-Trimethylbenzene	10.20	9.52	93
1,2,4-Trimethylbenzene	10.20	9.92	97
Benzyl Chloride (a-Chlorotoluene)	10.00	10.55	106
1,3-Dichlorobenzene	10.00	9.71	97
1,4-Dichlorobenzene	10.00	9.33	93
1,2-Dichlorobenzene	10.00	9.19	92
1,2,4-Trichlorobenzene	9.30	8.75	94
Hexachlorobutadiene	9.80	9.38	96

* - %REC should be 70-130%

Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

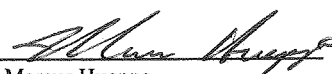
CLIENT ID : Laboratory Control Spike DATE ANALYZED : 06/20/2013
AAC ID : LCS/LCSD DATE REPORTED : 06/20/2013
MEDIA : Air UNITS : ppbv

TO-15 Laboratory Control Spike Recovery

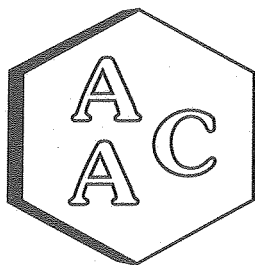
Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
1,1-Dichloroethene	0.0	10.50	10.17	10.18	97	97	0.1
Methylene Chloride (DCM)	0.0	10.40	10.06	10.00	97	96	0.6
Benzene	0.0	10.50	9.83	10.11	94	96	2.8
Trichloroethene (TCE)	0.0	10.30	10.58	10.30	103	100	2.7
Toluene	0.0	10.60	10.34	10.39	98	98	0.5
Tetrachloroethene (PCE)	0.0	10.40	10.04	10.60	97	102	5.4
Chlorobenzene	0.0	10.60	10.35	10.35	98	98	0.0
Ethylbenzene	0.0	10.50	10.10	10.33	96	98	2.3
m & p-Xylenes	0.0	20.60	19.28	19.73	94	96	2.3
o-Xylene	0.0	10.60	9.84	9.87	93	93	0.3

* Must be 70-130%

** Must be < 25%


Marcus Hueppe
Laboratory Director





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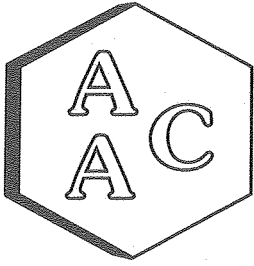
Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 06/20/2013
 UNITS : ppbv REPORT DATE : 06/20/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

<i>Client ID</i> <i>AAC ID</i>	Method Blank MB 062013	RL
Chlorodifluoromethane	<RL	0.5
Propene	<RL	1.0
Dichlorodifluoromethane	<RL	0.5
Chloromethane	<RL	0.5
Dichlorotetrafluoroethane	<RL	0.5
Vinyl Chloride	<RL	0.5
Methanol	<RL	5.0
1,3-Butadiene	<RL	0.5
Bromomethane	<RL	0.5
Chloroethane	<RL	0.5
Dichlorofluoromethane	<RL	0.5
Ethanol	<RL	2.0
Vinyl Bromide	<RL	0.5
Acetone	<RL	2.0
Trichlorofluoromethane	<RL	0.5
2-Propanol (IPA)	<RL	2.0
Acrylonitrile	<RL	1.0
1,1-Dichloroethene	<RL	0.5
Methylene Chloride (DCM)	<RL	1.0
Allyl Chloride	<RL	0.5
Carbon Disulfide	<RL	0.5
Trichlorotrifluoroethane	<RL	0.5
trans-1,2-Dichloroethene	<RL	0.5
1,1-Dichloroethane	<RL	0.5
Methyl Tert Butyl Ether (MTBE)	<RL	0.5
Vinyl Acetate	<RL	1.0
2-Butanone (MEK)	<RL	1.0
cis-1,2-Dichloroethene	<RL	0.5
Hexane	<RL	0.5
Chloroform	<RL	0.5
Ethyl Acetate	<RL	0.5
Tetrahydrofuran	<RL	0.5
1,2-Dichloroethane	<RL	0.5
1,1,1-Trichloroethane	<RL	0.5
Benzene	<RL	0.5
Carbon Tetrachloride	<RL	0.5
Cyclohexane	<RL	0.5
1,2-Dichloropropane	<RL	0.5
Bromodichloromethane	<RL	0.5
1,4-Dioxane	<RL	0.5
Trichloroethene (TCE)	<RL	0.5
2,2,4-Trimethylpentane	<RL	0.5
Heptane	<RL	0.5





Atmospheric Analysis & Consulting, Inc.

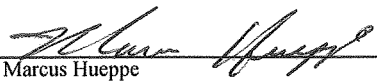
Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 06/20/2013
UNITS : ppbv REPORT DATE : 06/20/2013

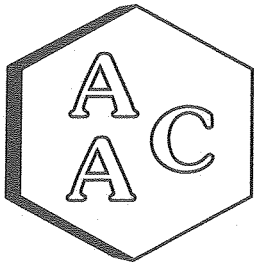
VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

<i>Client ID</i> <i>AAC ID</i>	Method Blank MB 062013	RL
cis-1,3-Dichloropropene	<RL	0.5
4-Methyl-2-pentanone (MiBK)	<RL	0.5
trans-1,3-Dichloropropene	<RL	0.5
1,1,2-Trichloroethane	<RL	0.5
Toluene	<RL	0.5
2-Hexanone (MBK)	<RL	0.5
Dibromochloromethane	<RL	0.5
1,2-Dibromoethane	<RL	0.5
Tetrachloroethene (PCE)	<RL	0.5
Chlorobenzene	<RL	0.5
Ethylbenzene	<RL	0.5
m & p-Xylenes	<RL	1.0
Bromoform	<RL	0.5
Styrene	<RL	0.5
1,1,2,2-Tetrachloroethane	<RL	0.5
o-Xylene	<RL	0.5
4-Ethyltoluene	<RL	0.5
1,3,5-Trimethylbenzene	<RL	0.5
1,2,4-Trimethylbenzene	<RL	0.5
Benzyl Chloride (o-Chlorotoluene)	<RL	0.5
1,3-Dichlorobenzene	<RL	0.5
1,4-Dichlorobenzene	<RL	0.5
1,2-Dichlorobenzene	<RL	0.5
1,2,4-Trichlorobenzene	<RL	0.5
Hexachlorobutadiene	<RL	0.5
System Monitoring Compounds		
BFB-Surrogate Std. % Recovery	103%	--

RL - Reporting Limit


Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

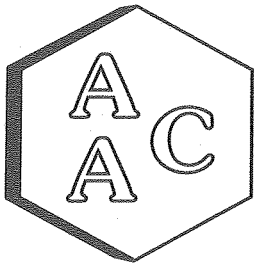
Quality Control/Quality Assurance Report

AAC ID : 130748-63731 DATE ANALYZED : 06/20/2013
MATRIX : Air DATE REPORTED : 06/20/2013
UNITS : ppbv

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane	<SRL	<SRL	0.0
Propene	1560	1560	0.0
Dichlorodifluoromethane	<SRL	<SRL	0.0
Chloromethane	<SRL	<SRL	0.0
Dichlorotetrafluoroethane	<SRL	<SRL	0.0
Vinyl Chloride	<SRL	<SRL	0.0
Methanol	<SRL	<SRL	0.0
1,3-Butadiene	<SRL	<SRL	0.0
Bromomethane	<SRL	<SRL	0.0
Chloroethane	<SRL	<SRL	0.0
Dichlorofluoromethane	<SRL	<SRL	0.0
Ethanol	<SRL	<SRL	0.0
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	477	476	0.2
Trichlorofluoromethane	<SRL	<SRL	0.0
2-Propanol (IPA)	<SRL	<SRL	0.0
Acrylonitrile	<SRL	<SRL	0.0
1,1-Dichloroethene	<SRL	<SRL	0.0
Methylene Chloride (DCM)	<SRL	<SRL	0.0
Allyl Chloride	<SRL	<SRL	0.0
Carbon Disulfide	<SRL	<SRL	0.0
Trichlorotrifluoroethane	<SRL	<SRL	0.0
trans-1,2-Dichloroethene	<SRL	<SRL	0.0
1,1-Dichloroethane	<SRL	<SRL	0.0
Methyl Tert Butyl Ether (MTBE)	<SRL	<SRL	0.0
Vinyl Acetate	<SRL	<SRL	0.0
2-Butanone (MEK)	313	307	1.9
cis-1,2-Dichloroethene	<SRL	<SRL	0.0
Hexane	<SRL	<SRL	0.0
Chloroform	<SRL	<SRL	0.0
Ethyl Acetate	<SRL	<SRL	0.0
Tetrahydrofuran	<SRL	<SRL	0.0
1,2-Dichloroethane	<SRL	<SRL	0.0
1,1,1-Trichloroethane	<SRL	<SRL	0.0
Benzene	<SRL	<SRL	0.0
Carbon Tetrachloride	<SRL	<SRL	0.0





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

AAC ID : 130748-63731 DATE ANALYZED : 06/20/2013
MATRIX : Air DATE REPORTED : 06/20/2013
UNITS : ppbv

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Cyclohexane	<SRL	<SRL	0.0
1,2-Dichloropropane	<SRL	<SRL	0.0
Bromodichloromethane	<SRL	<SRL	0.0
1,4-Dioxane	<SRL	<SRL	0.0
Trichloroethene (TCE)	<SRL	<SRL	0.0
2,2,4-Trimethylpentane	<SRL	<SRL	0.0
Heptane	<SRL	<SRL	0.0
cis-1,3-Dichloropropene	<SRL	<SRL	0.0
4-Methyl-2-pentanone (MiBK)	<SRL	<SRL	0.0
trans-1,3-Dichloropropene	<SRL	<SRL	0.0
1,1,2-Trichloroethane	<SRL	<SRL	0.0
Toluene	2080	2100	1.0
2-Hexanone (MBK)	<SRL	<SRL	0.0
Dibromochloromethane	<SRL	<SRL	0.0
1,2-Dibromoethane	<SRL	<SRL	0.0
Tetrachloroethene (PCE)	<SRL	<SRL	0.0
Chlorobenzene	<SRL	<SRL	0.0
Ethylbenzene	<SRL	<SRL	0.0
m & p-Xylenes	<SRL	<SRL	0.0
Bromoform	<SRL	<SRL	0.0
Styrene	<SRL	<SRL	0.0
1,1,2,2-Tetrachloroethane	<SRL	<SRL	0.0
o-Xylene	<SRL	<SRL	0.0
4-Ethyltoluene	<SRL	<SRL	0.0
1,3,5-Trimethylbenzene	<SRL	<SRL	0.0
1,2,4-Trimethylbenzene	<SRL	<SRL	0.0
Benzyl Chloride (a-Chlorotoluene)	<SRL	<SRL	0.0
1,3-Dichlorobenzene	<SRL	<SRL	0.0
1,4-Dichlorobenzene	<SRL	<SRL	0.0
1,2-Dichlorobenzene	<SRL	<SRL	0.0
1,2,4-Trichlorobenzene	<SRL	<SRL	0.0
Hexachlorobutadiene	<SRL	<SRL	0.0
System Monitoring Compounds			
BFB-Surrogate Std. % Recovery	103%	108%	4.5

SRL - Sample Reporting Limit


Marcus Hueppe
Laboratory Director



**TO-15
RAW
DATA**

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201305.D
 Acq On : 20 Jun 2013 12:01
 Operator : JJG
 Sample : 130744-63722 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 20 15:00:07 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	147706	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	821178	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	767617	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	499161	10.39	ppbv	0.00

Spiked Amount 10.000 Recovery = 103.90%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.835	51	5144	0.18	ppbv #	94
3) Propene	4.799	42	8727	1.14	ppbv #	82
4) Dichlorodifluoromethane	4.908	85	12767	0.25	ppbv	98
5) Chloromethane	5.306	52	1191	0.25	ppbv #	12
6) Dichlorotetrafluoroethane	0.000		0	N.D.		
7) VinylChloride	0.000		0	N.D.	Dev (Min)	
8) Methanol	5.867	31	59360	12.77	ppbv	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D.	dev	0.00
11) Chloroethane	0.000		0	N.D.	dev	0.00
12) Dichlorofluoromethane	0.000		0	N.D.	dev	0.00
13) Ethanol	7.116	45	20225	3.21	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	7.984	58	20813	2.60	ppbv	0.00
16) Trichlorofluoromethane	7.658	103	5287	0.18	ppbv #	97
17) 2-Propanol (IPA)	8.201	45	28680	1.05	ppbv	
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.	Qvalue	
20) MethyleneChloride (DCM)	0.000		0	N.D.	d	94
21) AllylChloride	9.251	39	413	N.D.	ppbv #	82
22) CarbonDisulfide	0.000		0	N.D.	d	98
23) Trichlorotrifluoroethane	8.998	103	942	N.D.	ppbv #	12
24) trans-1,2-Dichloroethene	0.000		0	N.D.	Dev (Min)	
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylether (M...)	0.000		0	N.D.		
27) VinylAcetate	0.000		0	N.D.	d	
28) 2-Butanone (MEK)	11.476	72	4254	0.52	ppbv #	01
29) cis-1,2-Dichloroethene	0.000		0	N.D.		00
30) Hexane	11.458	86	1157	0.30	ppbv #	45
31) Chloroform	12.493	83	643	N.D.		
32) EthylAcetate	0.000		0	N.D.	d	

Signature

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201305.D
 Acq On : 20 Jun 2013 12:01
 Operator : JJG
 Sample : 130744-63722 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

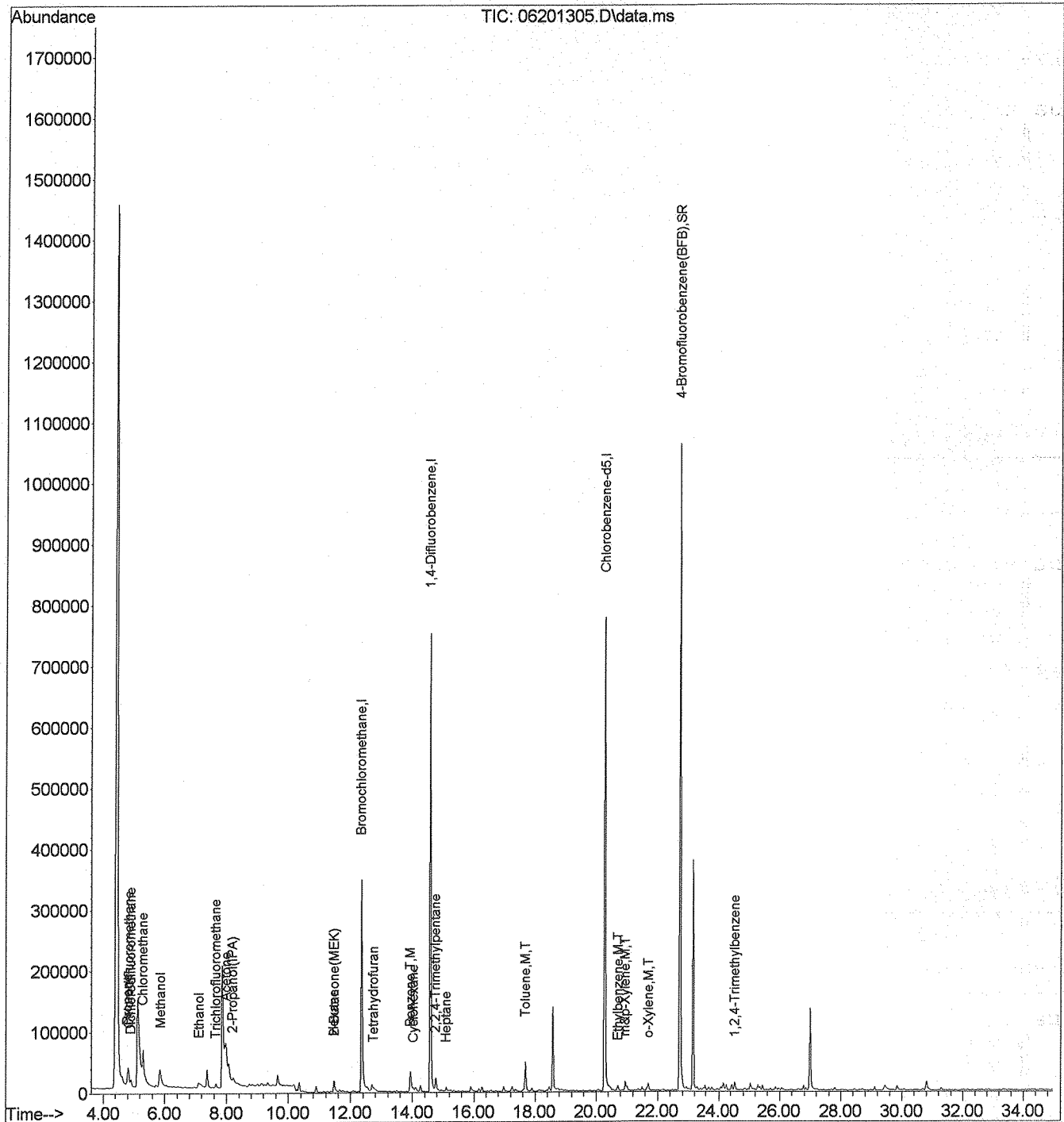
Quant Time: Jun 20 15:00:07 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.742	72	2486	0.30	ppbv	93
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	35748	0.59	ppbv	98
38) CarbonTetrachloride	13.955	117	1840	N.D.		
39) Cyclohexane	14.026	69	433	0.05	ppbv #	1
40) 1,2-Dichloropropane	0.000		0	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	27078	0.25	ppbv	93
45) Heptane	15.096	71	1761	0.09	ppbv #	71
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.594	58	425	N.D.		
48) trans-1,3-Dichloropropene	17.682	75	607	N.D.		
49) 1,1,2-Trichloroethane	17.860	97	595	N.D.		
50) Toluene	17.682	91	51306m	0.67	ppbv Dev (Min)	
51) 2-Hexanone (MBK)	18.252	58	108	N.D.		
52) Dibromochloromethane	0.000		0	N.D.		93
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.001	166	278	N.D.		
56) Chlorobenzene	20.285	114	232	N.D.		98
57) Ethylbenzene	20.713	91	9338	0.09	ppbv #	98
58) m&p-Xylene	20.945	106	10256	0.26	ppbv #	83
59) Bromoform	0.000		0	N.D.		65
60) Styrene	21.694	104	1191	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	9123	0.11	ppbv #	95
64) 4-Ethyltoluene	23.691	120	1228	N.D.		93
65) 1,3,5-Trimethylbenzene	23.780	120	1886	N.D.		71
66) 1,2,4-Trimethylbenzene	24.529	120	5293	0.11	ppbv #	87
67) BenzylChloride (a-Chlor...)	25.207	91	830	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	863	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	1815	N.D.		
70) 1,2-Dichlorobenzene	25.849	146	915	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	2737	N.D.		
72) Hexachlorobutadiene	30.075	225	903	N.D.		93

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201305.D
 Acq On : 20 Jun 2013 12:01
 Operator : JJG
 Sample : 130744-63722 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 20 15:00:07 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



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Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201306.D
 Acq On : 20 Jun 2013 12:50
 Operator : JJG
 Sample : 130744-63723 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 20 15:02:41 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	142997	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	800396	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	775794	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	496210	10.22	ppbv	0.00

Spiked Amount 10.000 Recovery = 102.20%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.836	51	5750	0.20	ppbv #	94
3) Propene	4.799	42	4413	0.59	ppbv #	70
4) Dichlorodifluoromethane	4.908	85	17924	0.37	ppbv	97
5) Chloromethane	5.306	52	1582	0.34	ppbv #	1
6) Dichlorotetrafluoroethane	5.324	135	331	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.831	31	131675	31.23	ppbv	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D. d		0.00
11) Chloroethane	0.000		0	N.D. d		0.00
12) Dichlorofluoromethane	0.000		0	N.D.		0.00
13) Ethanol	7.080	45	23093	3.79	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	7.984	58	31096	4.02	ppbv	0.00
16) Trichlorofluoromethane	7.659	103	7005	0.25	ppbv	93
17) 2-Propanol (IPA)	8.201	45	28790	1.09	ppbv	
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		
20) MethyleneChloride (DCM)	0.000		0	N.D. d		94
21) AllylChloride	0.000		0	N.D. d		70
22) CarbonDisulfide	9.486	76	24781	0.51	ppbv	97
23) Trichlorotrifluoroethane	0.000		0	N.D. d		
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylEther (M...)	0.000		0	N.D.		
27) VinylAcetate	0.000		0	N.D. d		
28) 2-Butanone (MEK)	11.458	72	6776	0.86	ppbv #	1
29) cis-1,2-Dichloroethene	0.000		0	N.D.		0.00
30) Hexane	11.476	86	1634	0.43	ppbv	95
31) Chloroform	12.511	83	1088	N.D.		
32) EthylAcetate	0.000		0	N.D. d		

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201306.D
 Acq On : 20 Jun 2013 12:50
 Operator : JJG
 Sample : 130744-63723 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 3 Sample Multiplier: 1

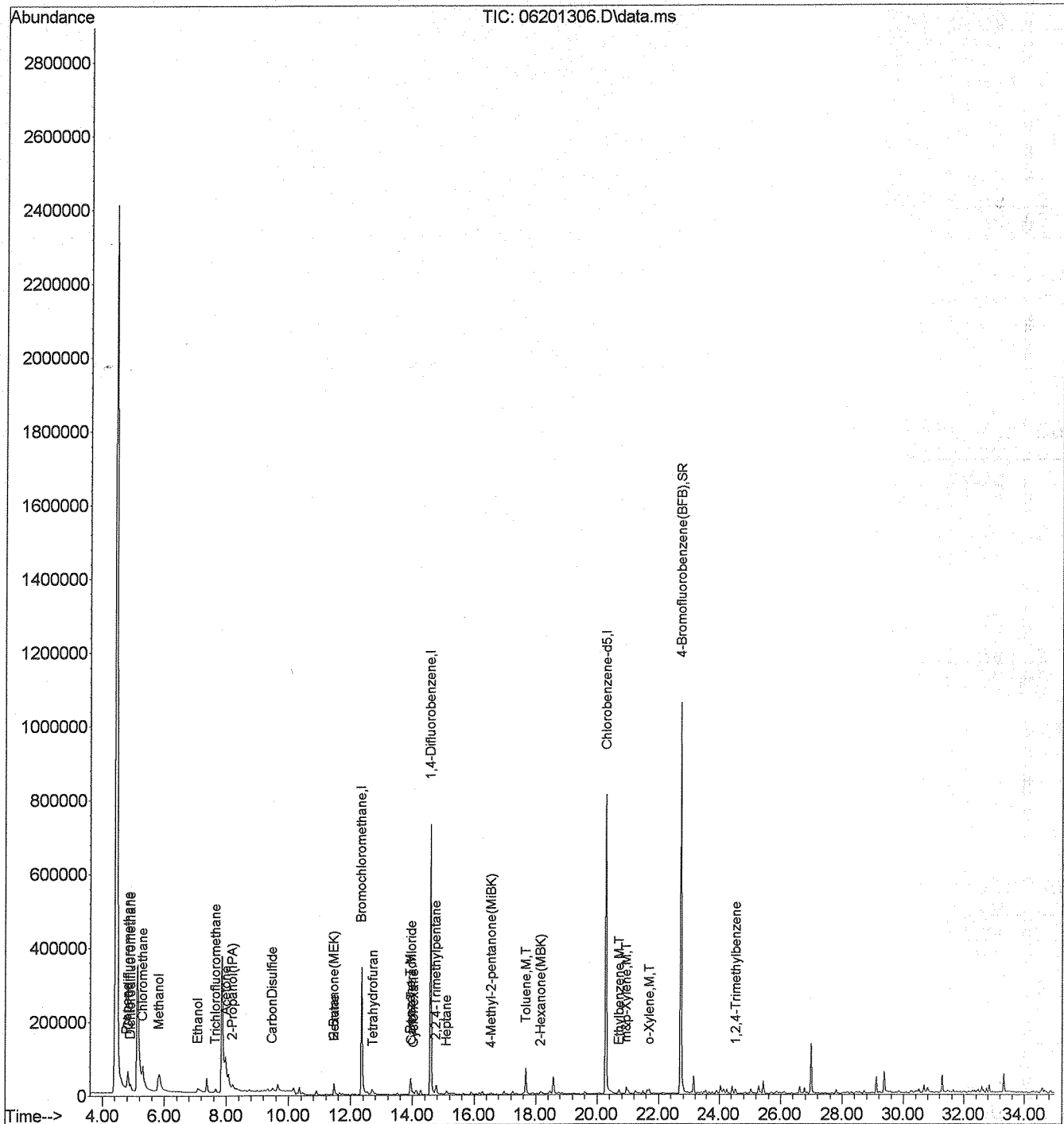
Quant Time: Jun 20 15:02:41 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.724	72	2974	0.37	ppbv #	69
34) 1,2-Dichloroethane	13.616	62	244	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	45087	0.76	ppbv	98
38) CarbonTetrachloride	13.973	117	2889	0.06	ppbv	91
39) Cyclohexane	14.026	69	829	0.09	ppbv #	12
40) 1,2-Dichloropropane	15.417	63	228	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	15.292	130	432	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	28782	0.27	ppbv #	90
45) Heptane	15.096	71	2248	0.12	ppbv #	43
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.558	58	1557	0.07	ppbv #	88
48) trans-1,3-Dichloropropene	17.682	75	703	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.	d	
50) Toluene	17.682	91	75502m	1.01	ppbv	
51) 2-Hexanone (MBK)	18.163	58	6620	0.25	ppbv #	84
52) Dibromochloromethane	19.019	129	250	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	166	N.D.		
56) Chlorobenzene	20.285	114	125	N.D.		
57) Ethylbenzene	20.713	91	11748	0.11	ppbv	96
58) m&p-Xylene	20.945	106	11580	0.29	ppbv #	96
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	1326	N.D.		
61) 1,1,2,2-Tetrachloroethane	22.354	83	120	N.D.		
62) o-Xylene	21.694	91	9765	0.12	ppbv #	97
64) 4-Ethyltoluene	23.691	120	1197	N.D.		
65) 1,3,5-Trimethylbenzene	23.780	120	1578	N.D.		
66) 1,2,4-Trimethylbenzene	24.547	120	5195	0.11	ppbv	96
67) BenzylChloride (a-Chlor...)	25.189	91	472	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	582	N.D.		
69) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
70) 1,2-Dichlorobenzene	25.849	146	788	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	2002	N.D.		
72) Hexachlorobutadiene	30.075	225	456	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201306.D
 Acq On : 20 Jun 2013 12:50
 Operator : JJG
 Sample : 130744-63723 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 20 15:02:41 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201307.D
 Acq On : 20 Jun 2013 13:38
 Operator : JJG
 Sample : 130744-63724 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 20 15:05:39 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	12.350	128	146121	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	795330	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	753613	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	496024	10.52	ppbv	0.00

Spiked Amount 10.000 Recovery = 105.20%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)	Qvalue
2) Chlorodifluoromethane	4.835	51	3533	0.12	ppbv	#	92
3) Propene	4.799	42	7777	1.02	ppbv		87
4) Dichlorodifluoromethane	4.908	85	11266	0.23	ppbv		100
5) Chloromethane	5.306	52	932	0.20	ppbv	#	1
6) Dichlorotetrafluoroethane	0.000		0	N.D.			
7) VinylChloride	0.000		0	N.D.			
8) Methanol	5.849	31	84335	18.72	ppbv		
9) 1,3-Butadiene	0.000		0	N.D.			
10) Bromomethane	0.000		0	N.D.	d		0.00
11) Chloroethane	0.000		0	N.D.			0.00
12) Dichlorofluoromethane	0.000		0	N.D.			0.00
13) Ethanol	7.079	45	32576	5.23	ppbv		
14) VinylBromide	0.000		0	N.D.			
15) Acetone	7.984	58	41390	5.23	ppbv		0.00
16) Trichlorofluoromethane	7.658	103	3799	0.13	ppbv	#	94
17) 2-Propanol (IPA)	8.201	45	33484	1.24	ppbv		
18) Acrylonitrile	0.000		0	N.D.			
19) 1,1-Dichloroethene	0.000		0	N.D.			
20) MethyleneChloride (DCM)	0.000		0	N.D.	d		32
21) AllylChloride	0.000		0	N.D.	d		87
22) CarbonDisulfide	0.000		0	N.D.	d		100
23) Trichlorotrifluoroethane	8.998	103	951	N.D.			
24) trans-1,2-Dichloroethene	0.000		0	N.D.			
25) 1,1-Dichloroethane	0.000		0	N.D.			
26) MethylTertButylEther (M...)	0.000		0	N.D.			
27) VinylAcetate	0.000		0	N.D.	d		
28) 2-Butanone (MEK)	11.441	72	14574	1.80	ppbv		0.00
29) cis-1,2-Dichloroethene	0.000		0	N.D.			0.00
30) Hexane	11.459	86	1403	0.36	ppbv	#	29
31) Chloroform	12.511	83	857	N.D.			
32) EthylAcetate	0.000		0	N.D.	d		

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Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201307.D
 Acq On : 20 Jun 2013 13:38
 Operator : JJG
 Sample : 130744-63724 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 4 Sample Multiplier: 1

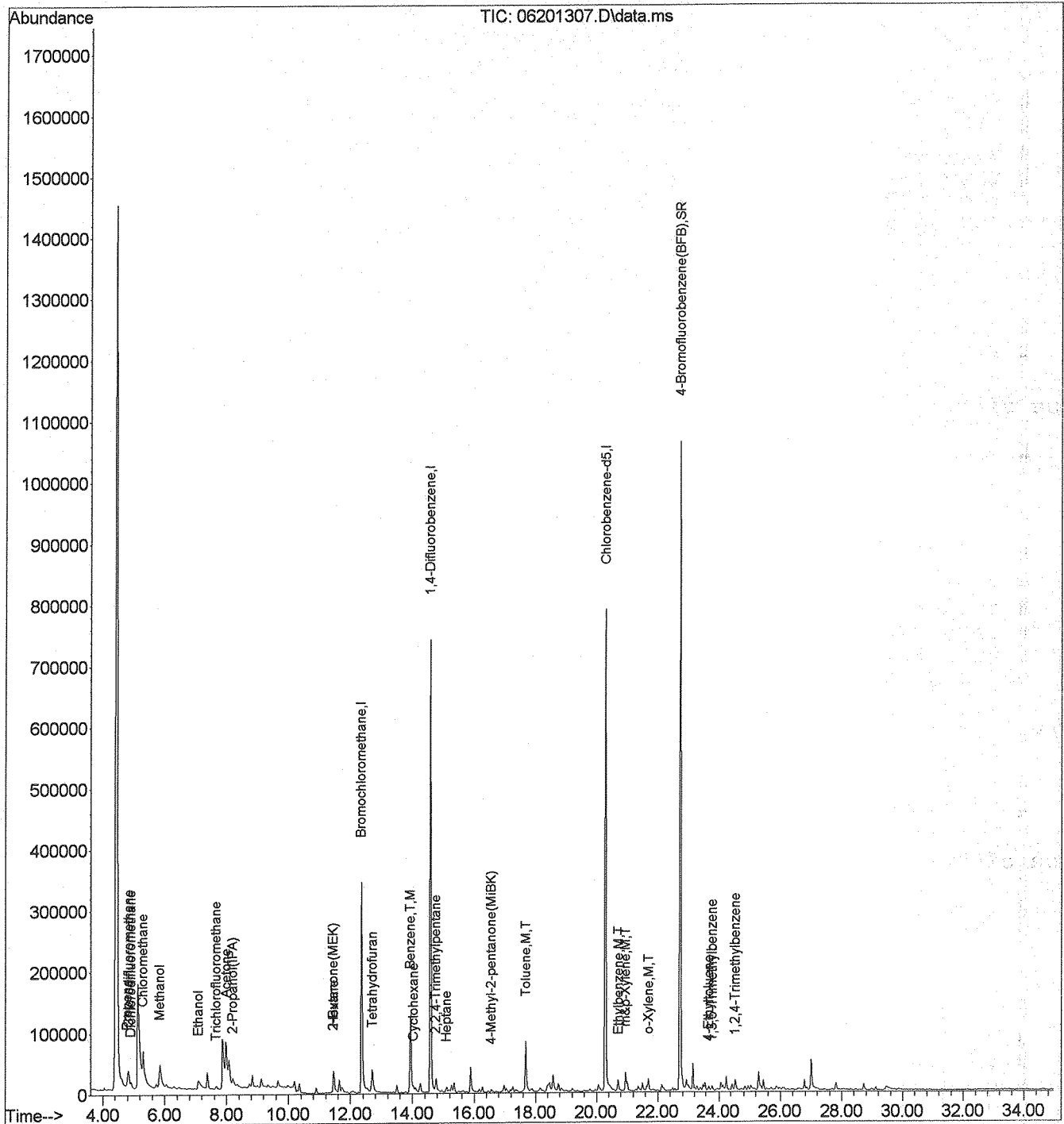
Quant Time: Jun 20 15:05:39 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.707	72	11493	1.41	ppbv #	72
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	133621(m)	2.28	ppbv	
38) CarbonTetrachloride	13.973	117	1649	N.D.		
39) Cyclohexane	14.026	69	704	0.08	ppbv #	1
40) 1,2-Dichloropropane	15.399	63	108	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	15.292	130	260	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	23655	0.23	ppbv #	91
45) Heptane	15.096	71	2238	0.12	ppbv #	53
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.558	58	1370	0.06	ppbv #	81
48) trans-1,3-Dichloropropene	17.682	75	689	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.	d	
50) Toluene	17.682	91	87639(m)	1.18	ppbv	Dev (Min)
51) 2-Hexanone (MBK)	18.199	58	770	N.D.		
52) Dibromochloromethane	19.019	129	139	N.D.		72
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	128	N.D.		
56) Chlorobenzene	20.285	114	229	N.D.		
57) Ethylbenzene	20.713	91	20231	0.20	ppbv #	98
58) m&p-Xylene	20.945	106	18635	0.48	ppbv #	89
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	1748	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	14744	0.19	ppbv #	98
64) 4-Ethyltoluene	23.691	120	1846	0.06	ppbv #	87
65) 1,3,5-Trimethylbenzene	23.780	120	2032	0.04	ppbv #	72
66) 1,2,4-Trimethylbenzene	24.529	120	6388	0.14	ppbv #	87
67) BenzylChloride (a-Chlor...)	25.100	91	326	N.D.		81
68) 1,3-Dichlorobenzene	25.064	146	311	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	2826	N.D.		
70) 1,2-Dichlorobenzene	25.849	146	344	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	1073	N.D.		
72) Hexachlorobutadiene	30.075	225	239	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201307.D
 Acq On : 20 Jun 2013 13:38
 Operator : JJG
 Sample : 130744-63724 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 20 15:05:39 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201308.D
 Acq On : 20 Jun 2013 14:27
 Operator : JJG
 Sample : 130744-63725 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 20 15:23:16 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	145942	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	817324	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	762131	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	499483	10.47	ppbv	0.00
Spiked Amount	10.000		Recovery	= 104.70%		

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.836	51	5212	0.18	ppbv #	94
3) Propene	4.799	42	2153	0.28	ppbv #	75
4) Dichlorodifluoromethane	4.908	85	17675	0.35	ppbv	98
5) Chloromethane	5.288	52	1591	0.34	ppbv #	60
6) Dichlorotetrafluoroethane	5.342	135	344	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.795	31	194134	48.05	ppbv	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D.	d	0.00
11) Chloroethane	0.000		0	N.D.	d	0.00
12) Dichlorofluoromethane	0.000		0	N.D.		0.00
13) Ethanol	7.098	45	129370	2.08	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	7.984	58	22722	2.87	ppbv	0.00
16) Trichlorofluoromethane	7.659	103	5300	0.18	ppbv #	97
17) 2-Propanol (IPA)	8.238	45	11226	0.41	ppbv	
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		Qvalue
20) MethyleneChloride (DCM)	0.000		0	N.D.	d	# 94
21) AllylChloride	9.251	39	407	N.D.	d	# 75
22) CarbonDisulfide	0.000		0	N.D.	d	# 98
23) Trichlorotrifluoroethane	8.998	103	1368	0.06	ppbv #	92
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylether (M...)	0.000		0	N.D.		
27) VinylAcetate	0.000		0	N.D.	d	
28) 2-Butanone (MEK)	11.476	72	1889	0.23	ppbv #	1
29) cis-1,2-Dichloroethene	0.000		0	N.D.		
30) Hexane	11.476	86	1304	0.34	ppbv	92
31) Chloroform	12.493	83	1034	N.D.		
32) EthylAcetate	0.000		0	N.D.	d	

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201308.D
 Acq On : 20 Jun 2013 14:27
 Operator : JJG
 Sample : 130744-63725 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 5 Sample Multiplier: 1

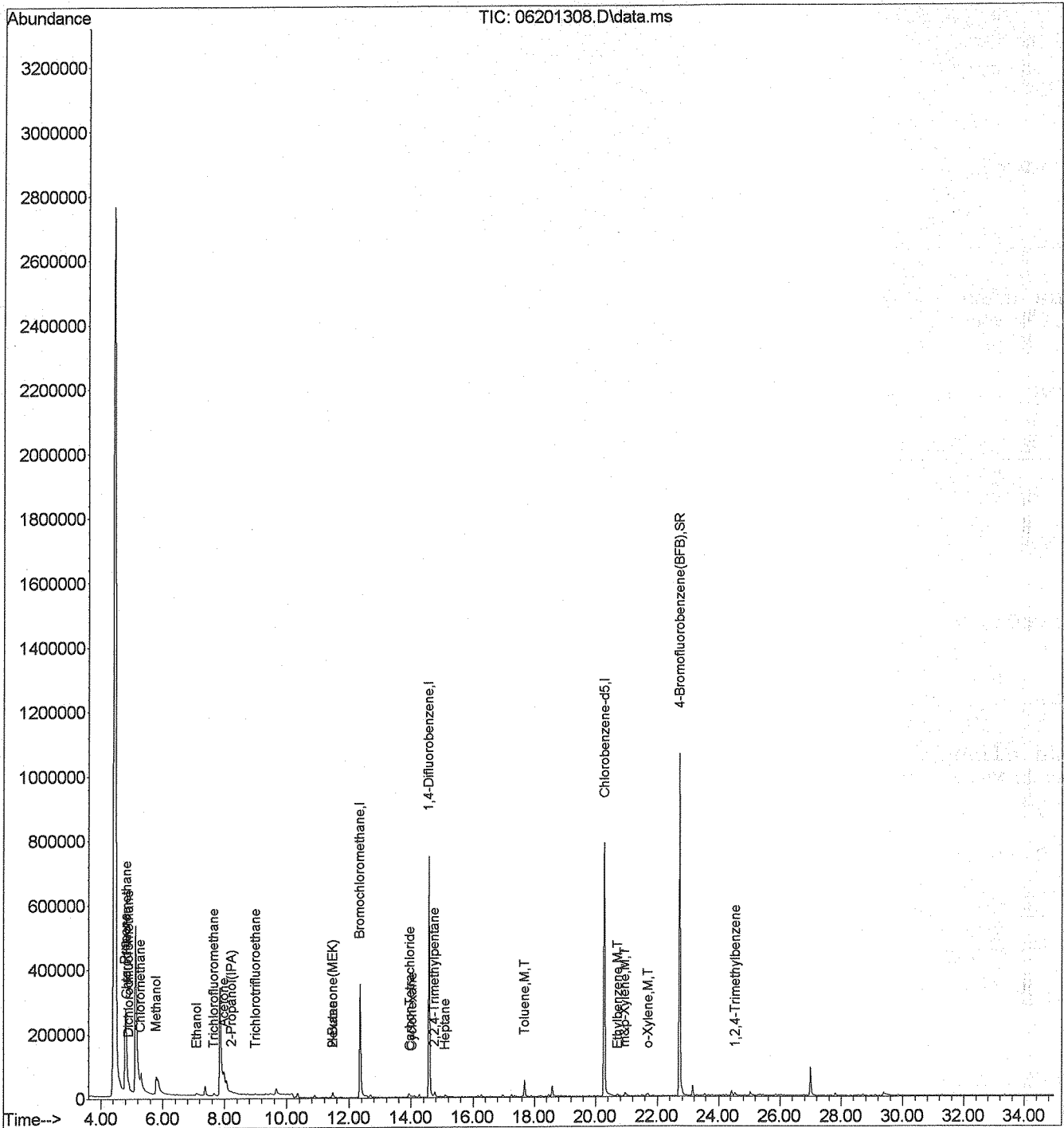
Quant Time: Jun 20 15:23:16 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.760	72	108	N.D.		
34) 1,2-Dichloroethane	13.598	62	113	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	0.000		0	N.D.	d	
38) CarbonTetrachloride	13.973	117	2640	0.05	ppbv	87
39) Cyclohexane	14.026	69	657	0.07	ppbv #	47
40) 1,2-Dichloropropane	15.417	63	113	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	15.310	130	393	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	19403	0.18	ppbv	96
45) Heptane	15.096	71	1780	0.09	ppbv #	80
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	0.000		0	N.D.		
48) trans-1,3-Dichloropropene	17.682	75	389	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	543790	0.71	ppbv	
51) 2-Hexanone (MBK)	0.000		0	N.D.		
52) Dibromochloromethane	0.000		0	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	133	N.D.		
56) Chlorobenzene	0.000		0	N.D.		
57) Ethylbenzene	20.713	91	6385	0.06	ppbv #	97
58) m&p-Xylene	20.945	106	7596	0.19	ppbv #	93
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.694	104	955	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	6180	0.08	ppbv #	90
64) 4-Ethyltoluene	23.691	120	1018	N.D.		
65) 1,3,5-Trimethylbenzene	23.780	120	1153	N.D.		
66) 1,2,4-Trimethylbenzene	24.547	120	3654	0.08	ppbv #	94
67) BenzylChloride (a-Chlor...)	25.296	91	272	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	250	N.D.		
69) 1,4-Dichlorobenzene	25.296	146	922	N.D.		
70) 1,2-Dichlorobenzene	25.867	146	229	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	795	N.D.		
72) Hexachlorobutadiene	30.075	225	150	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201308.D
 Acq On : 20 Jun 2013 14:27
 Operator : JJG
 Sample : 130744-63725 x1
 Misc : IS/Surr: PS082712-02 + 500mL
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 20 15:23:16 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



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TO-15
RAW QC
& ICAL
SUMMARY

MS #3 Instrument Logbook

06/20/13

Sequence Name: C:\msdchem\1\sequence\2013\062013.S

Comment: GCMS-03

Operator: JJG

Data Path: C:\MSDCHEM\1\MS03\2013\062013\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Line	Sample Name/Misc Info
1) Sample	1 06201301 TO15-5MS TO15 BFB 062013
2) Sample	1 06201302 TO15-5MS TO15 CCV 062013
3) Sample	1 06201303 TO15-5MS TO15 LCSD 062013
4) Sample	1 06201304 TO15-5MS TO15 MB 062013
5) Sample	2 06201305 TO15-5MS 130744-63722 x1
6) Sample	3 06201306 TO15-5MS 130744-63723 x1
7) Sample	4 06201307 TO15-5MS 130744-63724 x1
8) Sample	5 06201308 TO15-5MS 130744-63725 x1
9) Sample	5 06201309 TO15-5MS 130744-63725 x1 dp
10) Sample	7 06201310 TO15-5MS 130748-63731 x100
11) Sample	7 06201311 TO15-5MS 130748-63731 x100 dp
12) Sample	8 06201312 TO15-5MS 130748-63731 x20
13) Sample	8 06201313 TO15-5MS 130748-63731 x50
14) Sample	7 06201314 TO15-5MS Lab Air 062013 x1
15) Sample	8 06201315 TO15-5MS 130748-63731 x100
16) Sample	5 06201316 TO15-5MS 130744-63725 x5
17) Sample	1 06201317 TO15-5MS Can Check#000367
18) Sample	2 06201318 TO15-5MS Can Check#000316
19) Sample	3 06201319 TO15-5MS Can Check#000299
20) Sample	4 06201320 TO15-5MS Can Check#000681
21) Sample	5 06201321 TO15-5MS Can Check#000682
22) Sample	6 06201322 TO15-5MS Can Check#000627
23) Sample	7 06201323 TO15-5MS Can Check#000677
24) Sample	8 06201324 TO15-5MS Can Check#000679
25) Sample	9 06201325 TO15-5MS Can Check#000301
26) Sample	10 06201326 TO15-5MS Can Check#000296
27) Sample	11 06201327 TO15-5MS Can Check#000366
28) Sample	12 06201328 TO15-5MS Can Check#000297
29) Sample	13 06201329 TO15-5MS Can Check#000315
30) Sample	14 06201330 TO15-5MS Can Check#000320
31) Sample	15 06201331 TO15-5MS Can Check#000308
32) Sample	16 06201332 TO15-5MS Can Check#000289

Logbook

Comments: _____

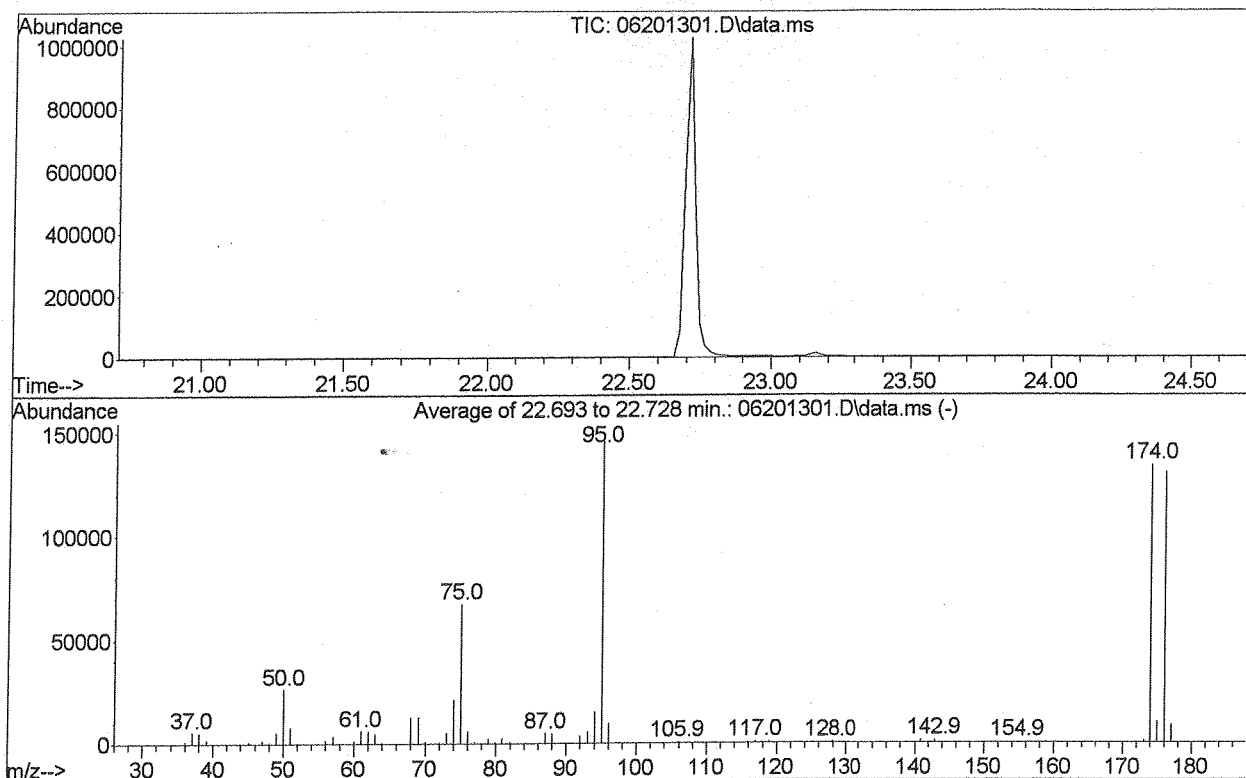
Analyst: *JJG*

Date: *06/20/13*

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201301.D
 Acq On : 20 Jun 2013 8:51 am
 Operator : JJG
 Sample : TO15 BFB 062013
 Misc : IS/Surr: PS082712-02 + 500mL cc#000519
 ALS Vial : 1 Sample Multiplier: 1

Integration File: PAMS.P

Method : C:\msdchem\1\METHODS\2013\051513.M
 Title : TO-15/TO-14
 Last Update : Thu May 16 10:13:39 2013



AutoFind: Scans 1064, 1065, 1066; Background Corrected with Scan 1059

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.8	26226	PASS
75	95	30	60	45.6	67261	PASS
95	95	100	100	100.0	147557	PASS
96	95	5	9	6.6	9681	PASS
173	174	0.00	2	0.9	1161	PASS
174	95	50	100	90.9	134131	PASS
175	174	5	9	7.6	10143	PASS
176	174	95	101	97.5	130728	PASS
177	176	5	9	6.7	8697	PASS

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Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201302.D
 Acq On : 20 Jun 2013 9:37
 Operator : JJG
 Sample : TO15 CCV 062013
 Misc : IS/Surr: PS082712-02 + Cal: PS041813-01
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 20 14:44:39 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	152276	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	791812	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	761762	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.711	174	471982	9.90	ppbv	0.00

Spiked Amount 10.000 Recovery = 99.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.817	51	293080m	9.71	ppbv	
3) Propene	4.781	42	79168m	9.99	ppbv	
4) Dichlorodifluoromethane	4.908	85	501600	9.64	ppbv	100
5) Chloromethane	5.288	52	49747m	10.18	ppbv	
6) Dichlorotetrafluoroethane	5.342	135	356235	10.04	ppbv	99
7) VinylChloride	5.668	62	175085m	10.11	ppbv	
8) Methanol	5.867	31	30865m	6.30	ppbv	
9) 1,3-Butadiene	5.867	54	105257m	9.57	ppbv	
10) Bromomethane	6.446	96	109194m	8.76	ppbv	0.00
11) Chloroethane	6.736	66	28140	9.99	ppbv	0.98
12) Dichlorofluoromethane	7.025	67	391253	10.50	ppbv	0.99
13) Ethanol	7.061	45	70762m	10.90	ppbv	
14) VinylBromide	7.260	108	159612m	10.90	ppbv	
15) Acetone	7.966	58	83201m	10.09	ppbv	
16) Trichlorofluoromethane	7.677	103	331794	10.91	ppbv	99
17) 2-Propanol (IPA)	8.165	45	307656m	10.90	ppbv	
18) Acrylonitrile	8.962	52	138480m	11.22	ppbv	
19) 1,1-Dichloroethene	8.726	96	176338	10.17	ppbv	0.96
20) MethyleneChloride (DCM)	9.323	84	160179m	10.06	ppbv	
21) AllylChloride	9.305	39	156125m	11.19	ppbv	
22) CarbonDisulfide	9.486	76	525911m	10.21	ppbv	
23) Trichlorotrifluoroethane	8.998	103	261266	10.47	ppbv	97
24) trans-1,2-Dichloroethene	10.424	96	197723m	10.60	ppbv	
25) 1,1-Dichloroethane	10.906	63	392038	10.31	ppbv	100
26) MethylTertButylEther (M...)	10.442	73	499252	9.89	ppbv	98
27) VinylAcetate	10.888	43	474592	10.10	ppbv	99
28) 2-Butanone (MEK)	11.423	72	89541m	10.61	ppbv	
29) cis-1,2-Dichloroethene	11.904	96	217180	10.81	ppbv	99
30) Hexane	11.476	86	40575	10.08	ppbv	71
31) Chloroform	12.493	83	452184	10.70	ppbv	97
32) EthylAcetate	12.011	43	481912	11.34	ppbv	96

Accelab

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201302.D
 Acq On : 20 Jun 2013 9:37
 Operator : JJG
 Sample : TO15 CCV 062013
 Misc : IS/Surr: PS082712-02 + Cal: PS041813-01
 ALS Vial : 1 Sample Multiplier: 1

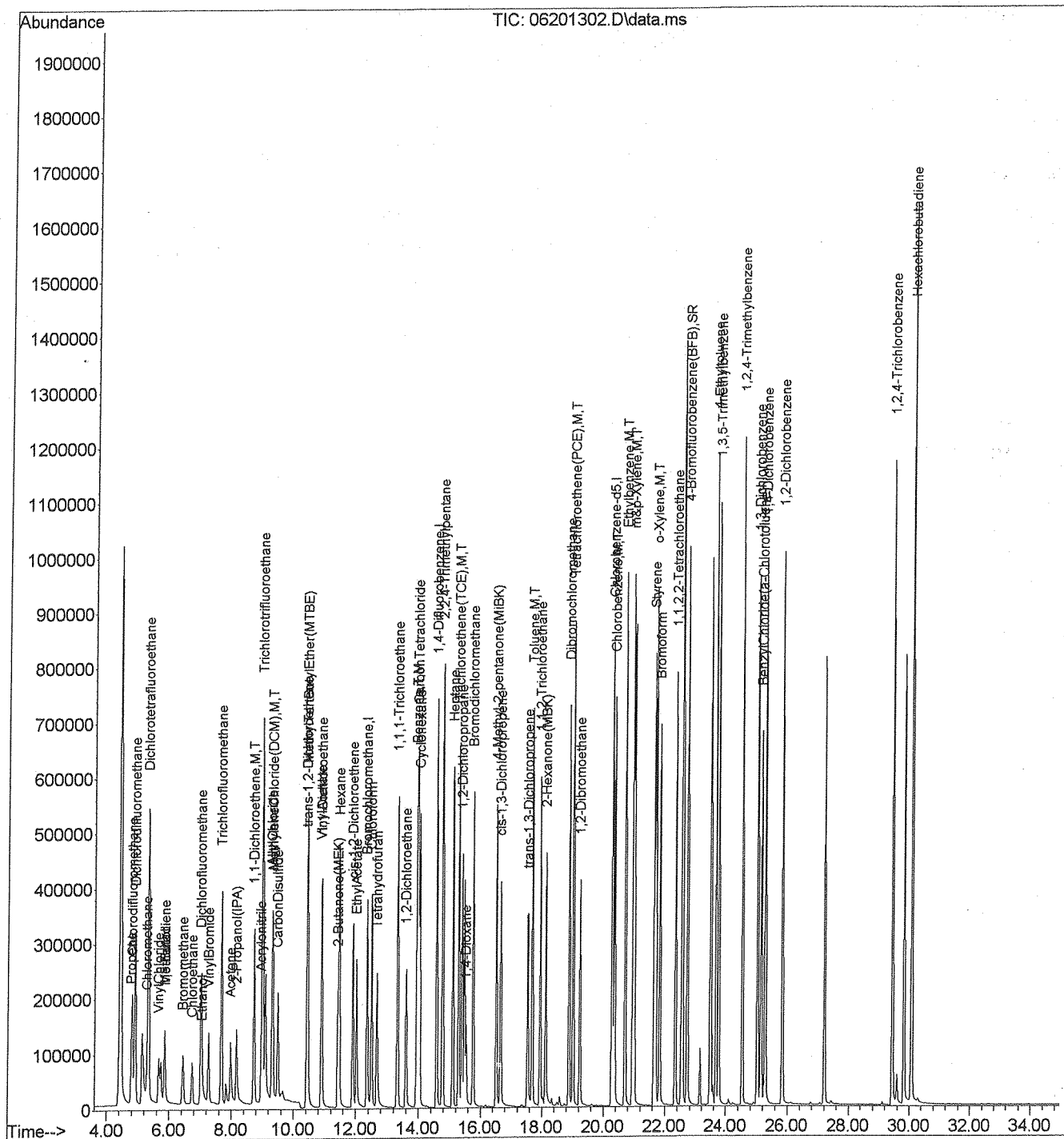
Quant Time: Jun 20 14:44:39 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.671	72	91773	10.80	ppbv	92
34) 1,2-Dichloroethane	13.598	62	325553	10.62	ppbv	99
35) 1,1,1-Trichloroethane	13.331	97	504100	10.77	ppbv	100
37) Benzene	13.937	78	573472	9.83	ppbv	99
38) CarbonTetrachloride	13.973	117	502688	10.43	ppbv	98
39) Cyclohexane	14.026	69	89056	10.30	ppbv	99
40) 1,2-Dichloropropane	15.400	63	240603	10.26	ppbv	97
41) Bromodichloromethane	15.756	85	322171	10.71	ppbv	99
42) 1,4-Dioxane	15.524	88	1394640m	10.14	ppbv	
43) Trichloroethene (TCE)	15.293	130	299149	10.58	ppbv	99
44) 2,2,4-Trimethylpentane	14.775	57	1112771	10.72	ppbv	98
45) Heptane	15.114	71	197367	10.65	ppbv	98
46) cis-1,3-Dichloropropene	16.648	75	364454	10.91	ppbv	99
47) 4-Methyl-2-pentanone (M...)	16.523	58	220132	10.35	ppbv	97
48) trans-1,3-Dichloropropene	17.539	75	336319	9.89	ppbv	99
49) 1,1,2-Trichloroethane	17.932	97	270916	10.40	ppbv	99
50) Toluene	17.682	91	765194	10.34	ppbv	99
51) 2-Hexanone (MBK)	18.128	58	283597	10.76	ppbv	97
52) Dibromochloromethane	18.877	129	566883	11.34	ppbv	99
53) 1,2-Dibromoethane	19.233	107	437883	10.26	ppbv	99
54) Tetrachloroethene (PCE)	19.019	166	416330	10.04	ppbv	98
56) Chlorobenzene	20.357	114	204988	10.35	ppbv	99
57) Ethylbenzene	20.696	91	1015340	10.10	ppbv	100
58) m&p-Xylene	20.945	106	762848	19.28	ppbv	97
59) Bromoform	21.819	173	546017	10.29	ppbv #	96
60) Styrene	21.641	104	618485	9.67	ppbv	99
61) 1,1,2,2-Tetrachloroethane	22.336	83	564491	9.85	ppbv	99
62) o-Xylene	21.694	91	791047	9.84	ppbv	99
64) 4-Ethyltoluene	23.673	120	333056	10.09	ppbv	99
65) 1,3,5-Trimethylbenzene	23.780	120	459424	9.52	ppbv	99
66) 1,2,4-Trimethylbenzene	24.529	120	466039	9.92	ppbv	98
67) BenzylChloride (a-Chlor...)	25.154	91	746518	10.55	ppbv	99
68) 1,3-Dichlorobenzene	25.047	146	718435	9.71	ppbv	99
69) 1,4-Dichlorobenzene	25.261	146	694025m	9.33	ppbv	
70) 1,2-Dichlorobenzene	25.831	146	711029m	9.19	ppbv	
71) 1,2,4-Trichlorobenzene	29.433	180	669419m	8.75	ppbv	
72) Hexachlorobutadiene	30.075	225	581254m	9.38	ppbv	

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201302.D
 Acq On : 20 Jun 2013 9:37
 Operator : JJG
 Sample : TO15 CCV 062013
 Misc : IS/Surr: PS082712-02 + Cal: PS041813-01
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 20 14:44:39 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201303.D
 Acq On : 20 Jun 2013 10:25
 Operator : JJG
 Sample : TO15 LCSD 062013
 Misc : IS/Surr: PS082712-02 + Cal: PS041813-01
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 20 14:57:12 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	149595	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	791122	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	760179	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.711	174	468187	9.84	ppbv	0.00

Spiked Amount 10.000 Recovery = 98.40%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.817	51	288630m	9.74	ppbv	
3) Propene	4.781	42	77829m	10.00	ppbv	
4) Dichlorodifluoromethane	4.908	85	493080	9.64	ppbv	99
5) Chloromethane	5.306	52	49195m	10.25	ppbv	
6) Dichlorotetrafluoroethane	5.342	135	353681	10.15	ppbv	99
7) VinylChloride	5.668	62	178239m	10.47	ppbv	
8) Methanol	5.867	31	30086m	6.25	ppbv	
9) 1,3-Butadiene	5.867	54	106786m	9.89	ppbv	
10) Bromomethane	6.446	96	112413m	9.18	ppbv	
11) Chloroethane	6.736	66	27238	9.84	ppbv	93
12) Dichlorofluoromethane	7.025	67	387032	10.57	ppbv	100
13) Ethanol	7.061	45	68878m	10.80	ppbv	
14) VinylBromide	7.260	108	162588m	11.30	ppbv	
15) Acetone	7.966	58	81049m	10.00	ppbv	
16) Trichlorofluoromethane	7.677	103	324251	10.85	ppbv	100
17) 2-Propanol (IPA)	8.165	45	301283m	10.86	ppbv	
18) Acrylonitrile	8.962	52	132528m	10.93	ppbv	
19) 1,1-Dichloroethene	8.726	96	173520	10.18	ppbv	96
20) MethyleneChloride (DCM)	9.323	84	156416m	10.00	ppbv	
21) AllylChloride	9.305	39	151414m	11.04	ppbv	
22) CarbonDisulfide	9.486	76	513645m	10.15	ppbv	
23) Trichlorotrifluoroethane	8.998	103	255504	10.42	ppbv	96
24) trans-1,2-Dichloroethene	10.424	96	198927m	10.86	ppbv	
25) 1,1-Dichloroethane	10.906	63	379769	10.16	ppbv	99
26) MethylTertButylEther (M...)	10.460	73	490670	9.89	ppbv	99
27) VinylAcetate	10.888	43	462483	10.02	ppbv	100
28) 2-Butanone (MEK)	11.423	72	88489m	10.68	ppbv	
29) cis-1,2-Dichloroethene	11.904	96	208166	10.55	ppbv	99
30) Hexane	11.477	86	40494	10.25	ppbv	85
31) Chloroform	12.511	83	449441	10.83	ppbv	100
32) EthylAcetate	12.011	43	473641	11.34	ppbv	97

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201303.D
 Acq On : 20 Jun 2013 10:25
 Operator : JJG
 Sample : TO15 LCSD 062013
 Misc : IS/Surr: PS082712-02 + Cal: PS041813-01
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 20 14:57:12 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

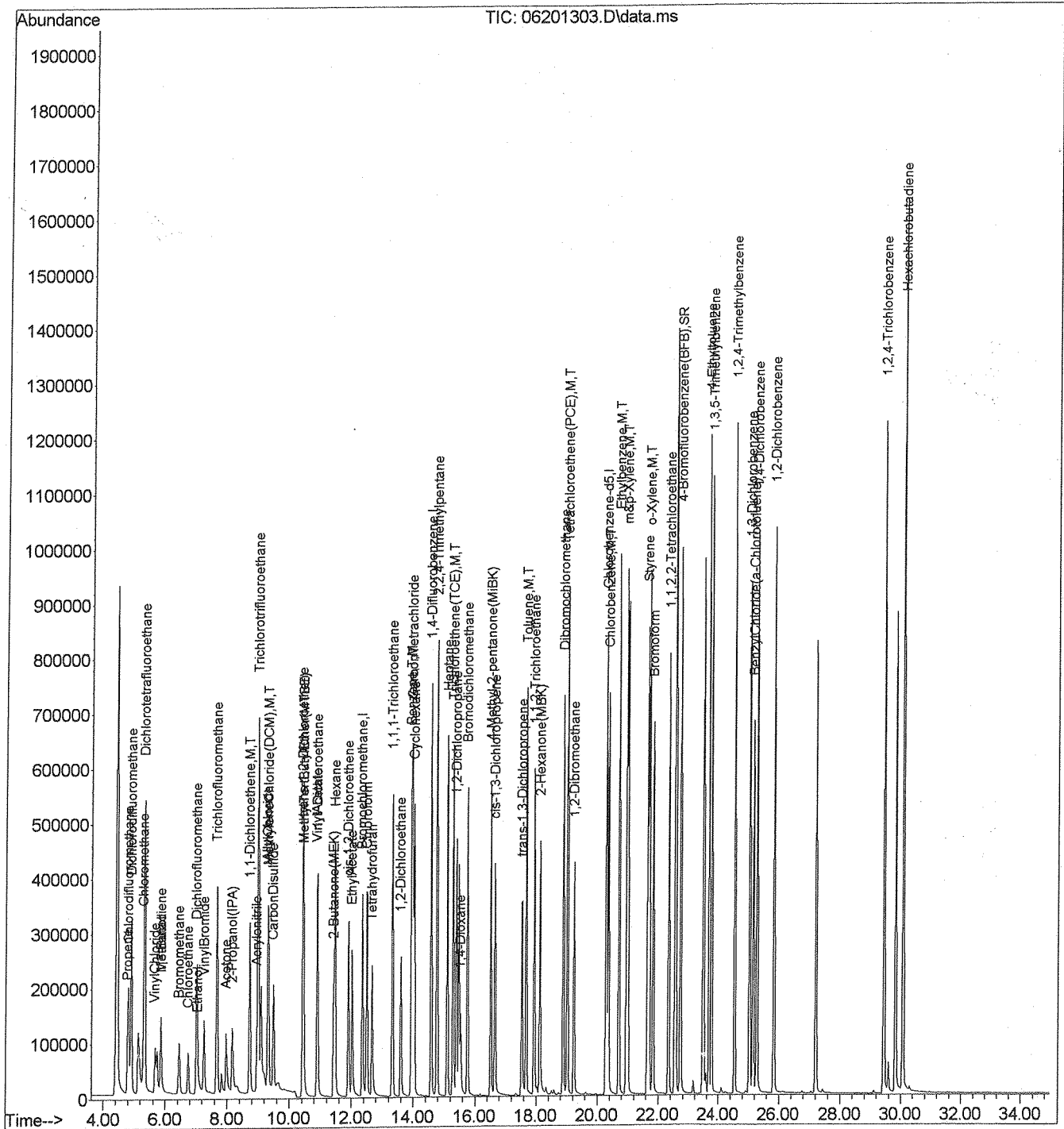
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.671	72	92889	11.12	ppbv	99
34) 1,2-Dichloroethane	13.598	62	329416	10.94	ppbv	98
35) 1,1,1-Trichloroethane	13.331	97	492454	10.71	ppbv	100
37) Benzene	13.937	78	589181	10.11	ppbv	99
38) CarbonTetrachloride	13.973	117	495100	10.28	ppbv	99
39) Cyclohexane	14.026	69	87290	10.11	ppbv	97
40) 1,2-Dichloropropane	15.400	63	240617	10.27	ppbv	97
41) Bromodichloromethane	15.756	85	316473	10.53	ppbv	97
42) 1,4-Dioxane	15.524	88	1437520	10.46	ppbv	
43) Trichloroethene (TCE)	15.293	130	290766	10.30	ppbv	99
44) 2,2,4-Trimethylpentane	14.775	57	1129350	10.88	ppbv	99
45) Heptane	15.114	71	199796	10.79	ppbv	99
46) cis-1,3-Dichloropropene	16.648	75	367450	11.01	ppbv	99
47) 4-Methyl-2-pentanone (M...	16.523	58	222956	10.49	ppbv	98
48) trans-1,3-Dichloropropene	17.539	75	341194	10.04	ppbv	99
49) 1,1,2-Trichloroethane	17.932	97	275442	10.59	ppbv	99
50) Toluene	17.682	91	768189	10.39	ppbv	100
51) 2-Hexanone (MBK)	18.128	58	285783	10.85	ppbv	98
52) Dibromochloromethane	18.877	129	577743	11.56	ppbv	99
53) 1,2-Dibromoethane	19.233	107	445980	10.46	ppbv	100
54) Tetrachloroethene (PCE)	19.019	166	439420	10.60	ppbv	100
56) Chlorobenzene	20.357	114	204523	10.35	ppbv	99
57) Ethylbenzene	20.696	91	1036001	10.33	ppbv	100
58) m&p-Xylene	20.945	106	778837	19.73	ppbv	96
59) Bromoform	21.819	173	550200	10.39	ppbv #	96
60) Styrene	21.641	104	631397	9.89	ppbv	100
61) 1,1,2,2-Tetrachloroethane	22.336	83	577325	10.09	ppbv	99
62) o-Xylene	21.694	91	792403	9.87	ppbv	99
64) 4-Ethyltoluene	23.673	120	336823	10.22	ppbv	99
65) 1,3,5-Trimethylbenzene	23.780	120	460266	9.56	ppbv	100
66) 1,2,4-Trimethylbenzene	24.529	120	465556	9.93	ppbv	100
67) BenzylChloride (a-Chlor...	25.154	91	752494	10.66	ppbv	99
68) 1,3-Dichlorobenzene	25.047	146	709417	9.61	ppbv	99
69) 1,4-Dichlorobenzene	25.261	146	709123m	9.55	ppbv	99
70) 1,2-Dichlorobenzene	25.831	146	739218m	9.58	ppbv	99
71) 1,2,4-Trichlorobenzene	29.433	180	699627m	9.17	ppbv	98
72) Hexachlorobutadiene	30.075	225	584435m	9.45	ppbv	99

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

Mac/2013

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201303.D
 Acq On : 20 Jun 2013 10:25
 Operator : JJG
 Sample : TO15 LCSD 062013
 Misc : IS/Surr: PS082712-02 + Cal: PS041813-01
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 20 14:57:12 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



06/20/13

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201304.D
 Acq On : 20 Jun 2013 11:13
 Operator : JJG
 Sample : TO15 MB 062013
 Misc : IS/Surr: PS082712-02 + 500mL cc#000519
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 20 14:57:44 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	146021	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	808479	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	750903	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	483154	10.28	ppbv	0.00

Spiked Amount 10.000 Recovery = 102.80%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	0.000		0		N.D.	
3) Propene	4.817	42	165		N.D.	
4) Dichlorodifluoromethane	0.000		0		N.D.	
5) Chloromethane	0.000		0		N.D.	
6) Dichlorotetrafluoroethane	0.000		0		N.D.	
7) VinylChloride	0.000		0		N.D.	
8) Methanol	0.000		0		N.D. d	
9) 1,3-Butadiene	0.000		0		N.D.	
10) Bromomethane	0.000		0		N.D. d	
11) Chloroethane	0.000		0		N.D.	
12) Dichlorofluoromethane	0.000		0		N.D.	
13) Ethanol	0.000		0		N.D.	
14) VinylBromide	0.000		0		N.D.	
15) Acetone	0.000		0		N.D. d	
16) Trichlorofluoromethane	0.000		0		N.D.	
17) 2-Propanol(IPA)	0.000		0		N.D.	
18) Acrylonitrile	0.000		0		N.D.	
19) 1,1-Dichloroethene	0.000		0		N.D.	
20) MethyleneChloride(DCM)	0.000		0		N.D. d	
21) AllylChloride	0.000		0		N.D.	
22) CarbonDisulfide	9.504	76	1745		N.D.	
23) Trichlorotrifluoroethane	0.000		0		N.D.	
24) trans-1,2-Dichloroethene	0.000		0		N.D.	
25) 1,1-Dichloroethane	0.000		0		N.D.	
26) MethylTertButylEther(M...)	0.000		0		N.D.	
27) VinylAcetate	0.000		0		N.D.	
28) 2-Butanone(MEK)	0.000		0		N.D.	
29) cis-1,2-Dichloroethene	0.000		0		N.D.	
30) Hexane	0.000		0		N.D.	
31) Chloroform	0.000		0		N.D.	
32) EthylAcetate	0.000		0		N.D.	

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201304.D
 Acq On : 20 Jun 2013 11:13
 Operator : JJG
 Sample : TO15 MB 062013
 Misc : IS/Surr: PS082712-02 + 500mL cc#000519
 ALS Vial : 1 Sample Multiplier: 1

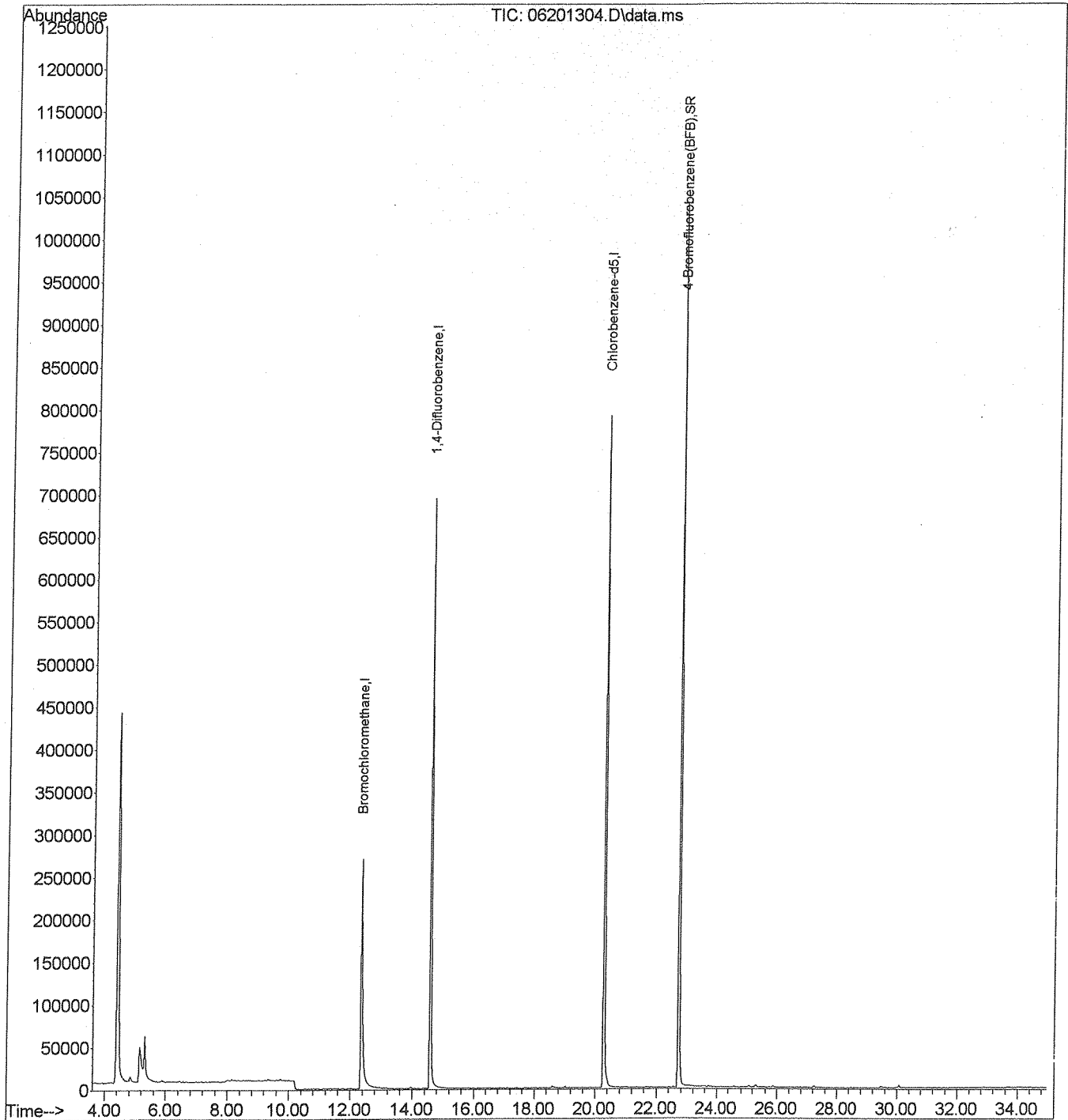
Quant Time: Jun 20 14:57:44 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	0.000		0		N.D.	
34) 1,2-Dichloroethane	0.000		0		N.D.	
35) 1,1,1-Trichloroethane	0.000		0		N.D.	
37) Benzene	0.000		0		N.D.	d
38) CarbonTetrachloride	0.000		0		N.D.	
39) Cyclohexane	0.000		0		N.D.	
40) 1,2-Dichloropropane	0.000		0		N.D.	
41) Bromodichloromethane	0.000		0		N.D.	
42) 1,4-Dioxane	0.000		0		N.D.	
43) Trichloroethene (TCE)	0.000		0		N.D.	
44) 2,2,4-Trimethylpentane	0.000		0		N.D.	
45) Heptane	0.000		0		N.D.	
46) cis-1,3-Dichloropropene	0.000		0		N.D.	
47) 4-Methyl-2-pentanone (M...)	0.000		0		N.D.	
48) trans-1,3-Dichloropropene	0.000		0		N.D.	
49) 1,1,2-Trichloroethane	0.000		0		N.D.	
50) Toluene	17.700	91	1086		N.D.	
51) 2-Hexanone (MBK)	0.000		0		N.D.	
52) Dibromochloromethane	19.019	129	568		N.D.	
53) 1,2-Dibromoethane	0.000		0		N.D.	
54) Tetrachloroethene (PCE)	19.019	166	828		N.D.	
56) Chlorobenzene	20.374	114	318		N.D.	
57) Ethylbenzene	20.713	91	640		N.D.	
58) m&p-Xylene	21.016	106	393		N.D.	
59) Bromoform	0.000		0		N.D.	
60) Styrene	21.730	104	422		N.D.	
61) 1,1,2,2-Tetrachloroethane	22.354	83	157		N.D.	
62) o-Xylene	21.712	91	485		N.D.	
64) 4-Ethyltoluene	23.709	120	306		N.D.	
65) 1,3,5-Trimethylbenzene	23.798	120	270		N.D.	
66) 1,2,4-Trimethylbenzene	0.000		0		N.D.	
67) BenzylChloride (a-Chlor...)	25.207	91	1224		N.D.	
68) 1,3-Dichlorobenzene	25.082	146	2067		N.D.	
69) 1,4-Dichlorobenzene	25.296	146	2864		N.D.	
70) 1,2-Dichlorobenzene	25.866	146	1598		N.D.	
71) 1,2,4-Trichlorobenzene	0.000		0		N.D.	d
72) Hexachlorobutadiene	30.075	225	1107		N.D.	

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201304.D
 Acq On : 20 Jun 2013 11:13
 Operator : JJG
 Sample : TO15 MB 062013
 Misc : IS/Surr: PS082712-02 + 500mL cc#000519
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 20 14:57:44 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



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Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201310.D
 Acq On : 20 Jun 2013 16:04
 Operator : JJG
 Sample : 130748-63731 x100
 Misc : IS/Surr: PS082712-02 + 500mL x100
 ALS Vial : 7 Sample Multiplier: 100

Quant Time: Jun 20 17:08:05 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	144589	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	830737	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	760194	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	490067	10.30	ppbv	0.00

Spiked Amount 10.000 Recovery = 103.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.817	51	290	N.D.		
3) Propene	4.781	42	869540	1155.87	ppbv	
4) Dichlorodifluoromethane	0.000		0	N.D.		
5) Chloromethane	5.288	52	233	N.D.		
6) Dichlorotetrafluoroethane	0.000		0	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.885	31	4021	N.D.		
9) 1,3-Butadiene	5.722	54	420	N.D.		
10) Bromomethane	6.428	96	755	N.D.		
11) Chloroethane	6.754	66	109	N.D.		
12) Dichlorofluoromethane	0.000		0	N.D.		
13) Ethanol	7.152	45	1990	N.D.		
14) VinylBromide	0.000		0	N.D.		
15) Acetone	8.002	58	276660	353.29	ppbv	
16) Trichlorofluoromethane	0.000		0	N.D.		
17) 2-Propanol (IPA)	8.238	45	7742	N.D.		
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		
20) MethyleneChloride (DCM)	9.323	84	3197	N.D.		
21) AllylChloride	9.305	39	393	N.D.		
22) CarbonDisulfide	9.468	76	14987	N.D.		
23) Trichlorotrifluoroethane	0.000		0	N.D.		
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylEther (M...)	10.424	73	473	N.D.		
27) VinylAcetate	10.888	43	126	N.D.		
28) 2-Butanone (MEK)	11.441	72	18570	231.80	ppbv #	84
29) cis-1,2-Dichloroethene	0.000		0	N.D.		
30) Hexane	11.459	86	587	N.D.		
31) Chloroform	12.493	83	510	N.D.		
32) EthylAcetate	12.083	43	1874	N.D.		

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201310.D
 Acq On : 20 Jun 2013 16:04
 Operator : JJG
 Sample : 130748-63731 x100
 Misc : IS/Surr: PS082712-02 + 500mL x100
 ALS Vial : 7 Sample Multiplier: 100

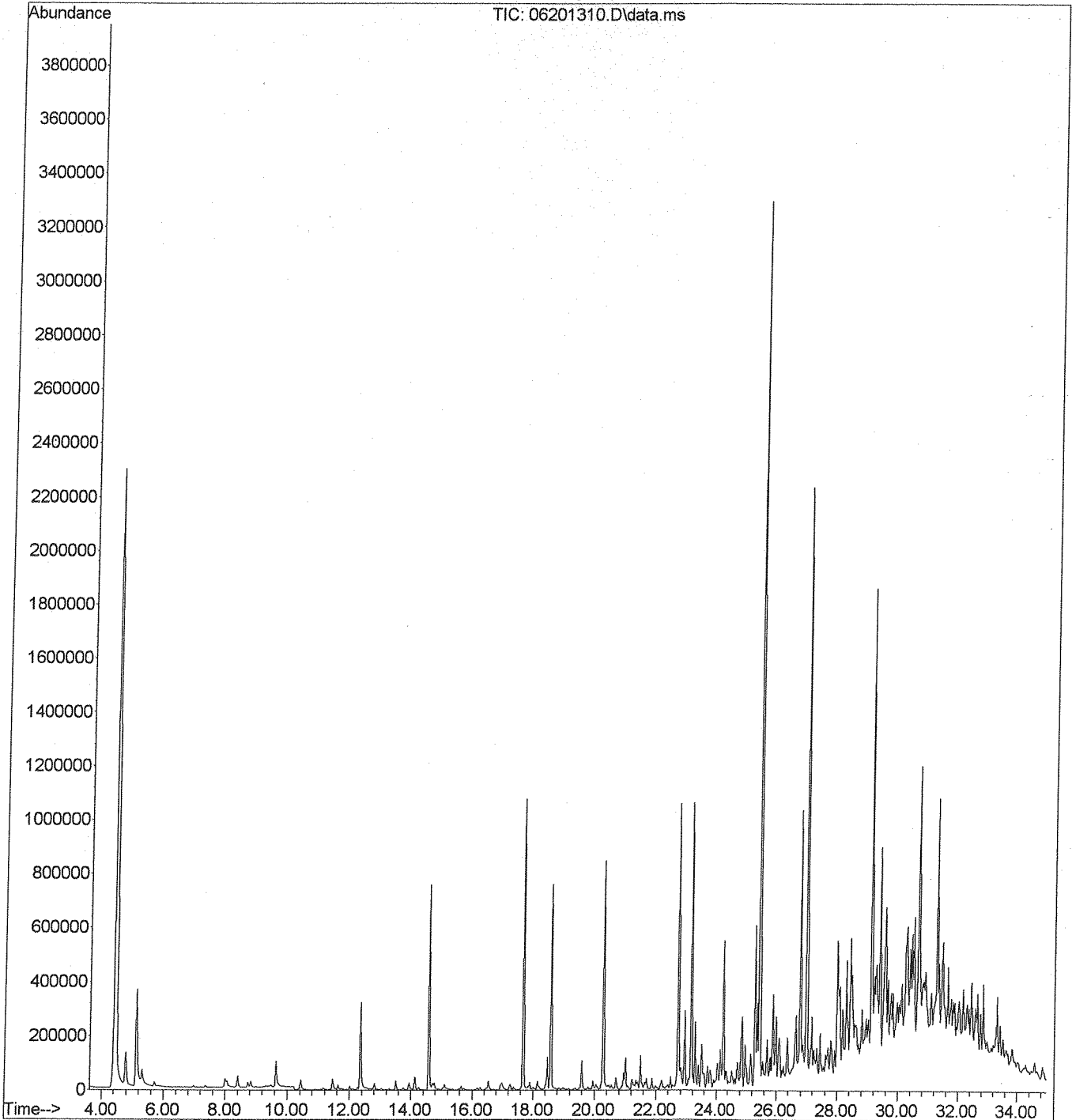
Quant Time: Jun 20 17:08:05 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.760	72	570	N.D.		
34) 1,2-Dichloroethane	13.509	62	135	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	24407	N.D.		
38) CarbonTetrachloride	14.115	117	571	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40) 1,2-Dichloropropane	15.292	63	227	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	15.292	130	474	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	27091	N.D.		
45) Heptane	15.096	71	4790	N.D.		
46) cis-1,3-Dichloropropene	16.701	75	362	N.D.		
47) 4-Methyl-2-pentanone (M...	16.541	58	15101	N.D.		
48) trans-1,3-Dichloropropene	17.682	75	8415	N.D.		
49) 1,1,2-Trichloroethane	17.842	97	10711	N.D.		
50) Toluene	17.682	91	1197878	1542.71	ppbv	Dev (Min)
51) 2-Hexanone (MBK)	18.145	58	19549	N.D.		
52) Dibromochloromethane	19.019	129	382	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	654	N.D.		
56) Chlorobenzene	20.357	114	1300	N.D.		
57) Ethylbenzene	20.713	91	33778	N.D.		
58) m&p-Xylene	20.945	106	32923	N.D.		
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	2746	N.D.		
61) 1,1,2,2-Tetrachloroethane	22.318	83	743	N.D.		
62) o-Xylene	21.694	91	22821	N.D.		
64) 4-Ethyltoluene	23.673	120	3381	N.D.		
65) 1,3,5-Trimethylbenzene	23.780	120	7754	N.D.		
66) 1,2,4-Trimethylbenzene	24.529	120	19464	N.D.		
67) BenzylChloride (a-Chlor...	25.118	91	1468	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	141	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	36893	N.D.		
70) 1,2-Dichlorobenzene	25.849	146	695	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	2317	N.D.		
72) Hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201310.D
 Acq On : 20 Jun 2013 16:04
 Operator : JJG
 Sample : 130748-63731 x100
 Misc : IS/Surr: PS082712-02 + 500mL x100
 ALS Vial : 7 Sample Multiplier: 100

Quant Time: Jun 20 17:08:05 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



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Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201311.D
 Acq On : 20 Jun 2013 16:53
 Operator : JJG
 Sample : 130748-63731 x100 dp
 Misc : IS/Surr: PS082712-02 + 500mL x100
 ALS Vial : 7 Sample Multiplier: 100

Quant Time: Jun 20 17:25:48 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	12.350	128	158446	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	858721	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	804235	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	542083	10.77	ppbv	0.00

Spiked Amount 10.000 Recovery = 107.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)	Qvalue
2) Chlorodifluoromethane	4.835	51	676	N.D.			
3) Propene	4.781	42	95517	1158.66	ppbv		99
4) Dichlorodifluoromethane	0.000		0	N.D.			
5) Chloromethane	0.000		0	N.D.			
6) Dichlorotetrafluoroethane	0.000		0	N.D.			
7) VinylChloride	0.000		0	N.D.			
8) Methanol	5.885	31	3679	N.D.			
9) 1,3-Butadiene	0.000		0	N.D.			
10) Bromomethane	6.428	96	766	N.D.		0.00	
11) Chloroethane	6.772	66	227	N.D.		0.00	
12) Dichlorofluoromethane	0.000		0	N.D.		0.00	
13) Ethanol	7.170	45	1544	N.D.			
14) VinylBromide	0.000		0	N.D.			
15) Acetone	8.002	58	302660	352.69	ppbv		0.00
16) Trichlorofluoromethane	7.731	103	128	N.D.			
17) 2-Propanol (IPA)	8.238	45	8216	N.D.			
18) Acrylonitrile	8.998	52	116	N.D.			
19) 1,1-Dichloroethene	0.000		0	N.D.			
20) MethyleneChloride (DCM)	9.323	84	3765	N.D.			
21) AllylChloride	9.378	39	520	N.D.			99
22) CarbonDisulfide	9.486	76	17094	N.D.			
23) Trichlorotrifluoroethane	8.998	103	137	N.D.			
24) trans-1,2-Dichloroethene	0.000		0	N.D.			
25) 1,1-Dichloroethane	0.000		0	N.D.			
26) MethylTertButylEther (M...)	10.424	73	504	N.D.			
27) VinylAcetate	10.888	43	360	N.D.			
28) 2-Butanone (MEK)	11.441	72	199850	227.65	ppbv		
29) cis-1,2-Dichloroethene	0.000		0	N.D.			
30) Hexane	11.459	86	933	N.D.			
31) Chloroform	12.493	83	399	N.D.			
32) EthylAcetate	12.100	43	2067	N.D.			

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201311.D
 Acq On : 20 Jun 2013 16:53
 Operator : JJG
 Sample : 130748-63731 x100 dp
 Misc : IS/Surr: PS082712-02 + 500mL x100
 ALS Vial : 7 Sample Multiplier: 100

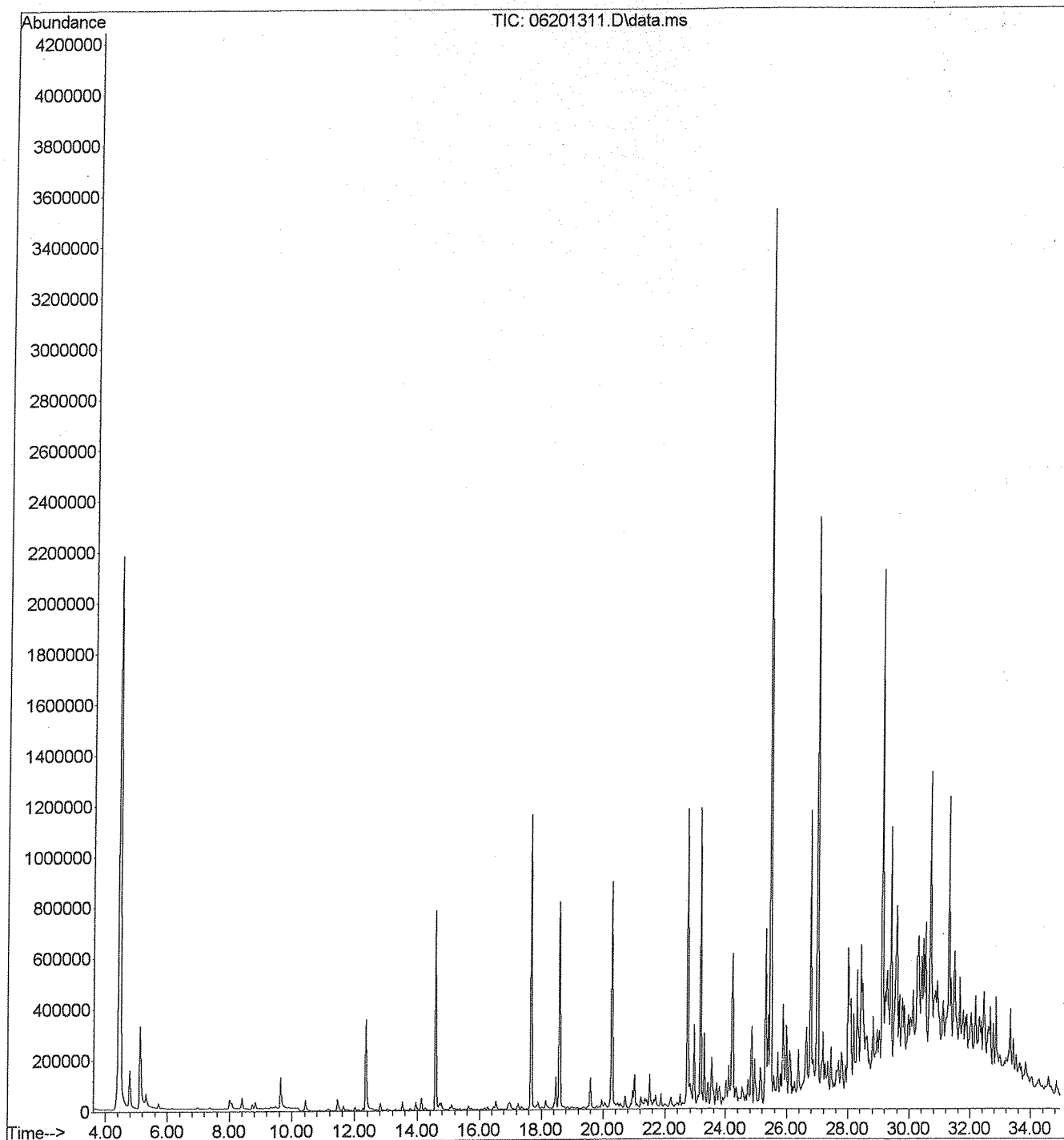
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 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.760	72	662		N.D.	
34) 1,2-Dichloroethane	13.527	62	248		N.D.	
35) 1,1,1-Trichloroethane	0.000		0		N.D.	
37) Benzene	13.937	78	29250		N.D.	
38) CarbonTetrachloride	0.000		0		N.D.	
39) Cyclohexane	14.098	69	107		N.D.	
40) 1,2-Dichloropropane	15.310	63	234		N.D.	
41) Bromodichloromethane	0.000		0		N.D.	
42) 1,4-Dioxane	0.000		0		N.D.	
43) Trichloroethene (TCE)	15.292	130	524		N.D.	
44) 2,2,4-Trimethylpentane	14.757	57	30813		N.D.	
45) Heptane	15.096	71	5431		N.D.	
46) cis-1,3-Dichloropropene	16.719	75	382		N.D.	
47) 4-Methyl-2-pentanone (M...)	16.541	58	16252		N.D.	
48) trans-1,3-Dichloropropene	17.682	75	8914		N.D.	
49) 1,1,2-Trichloroethane	17.842	97	11741		N.D.	
50) Toluene	17.682	91	1251155	1558.81	ppbv	99
51) 2-Hexanone (MBK)	18.145	58	22067		N.D.	
52) Dibromochloromethane	19.019	129	530		N.D.	
53) 1,2-Dibromoethane	0.000		0		N.D.	
54) Tetrachloroethene (PCE)	19.019	166	622		N.D.	
56) Chlorobenzene	20.357	114	1190		N.D.	
57) Ethylbenzene	20.713	91	35615		N.D.	
58) m&p-Xylene	20.945	106	35863		N.D.	
59) Bromoform	0.000		0		N.D.	
60) Styrene	21.658	104	3473		N.D.	
61) 1,1,2,2-Tetrachloroethane	22.318	83	469		N.D.	
62) o-Xylene	21.694	91	25374		N.D.	
64) 4-Ethyltoluene	23.673	120	3988		N.D.	
65) 1,3,5-Trimethylbenzene	23.780	120	8505		N.D.	
66) 1,2,4-Trimethylbenzene	24.529	120	21952		N.D.	
67) BenzylChloride (a-Chlor...)	25.118	91	1799		N.D.	
68) 1,3-Dichlorobenzene	25.064	146	153		N.D.	
69) 1,4-Dichlorobenzene	25.278	146	41279		N.D.	
70) 1,2-Dichlorobenzene	25.849	146	649		N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	1993		N.D.	
72) Hexachlorobutadiene	0.000		0		N.D.	

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

Data Path : C:\msdchem\1\MS03\2013\062013\
 Data File : 06201311.D
 Acq On : 20 Jun 2013 16:53
 Operator : JJG
 Sample : 130748-63731 x100 dp
 Misc : IS/Surr: PS082712-02 + 500mL x100
 ALS Vial : 7 Sample Multiplier: 100

Quant Time: Jun 20 17:25:48 2013
 Quant Method : C:\msdchem\1\METHODS\2013\051513.M
 Quant Title : TO-15/TO-14
 QLast Update : Thu May 16 10:13:39 2013
 Response via : Initial Calibration



[Handwritten signature]

Method Path : C:\msdchem\1\METHODS\2013\
 Method File : 051513.M
 Title : TO-15/TO-14
 Last Update : Thu May 16 10:13:39 2013
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.5	1	10	C:\msdchem\1\MS03\2013\051513\05151311.D
2	1.0	1	10	C:\msdchem\1\MS03\2013\051513\05151310.D
3	2.0	2	10	C:\msdchem\1\MS03\2013\051513\05151309.D
4	5.0	5	10	C:\msdchem\1\MS03\2013\051513\05151308.D
5	10	10	10	C:\msdchem\1\MS03\2013\051513\05151307.D
6	20	20	10	C:\msdchem\1\MS03\2013\051513\05151306.D
7	50	51	10	C:\msdchem\1\MS03\2013\051513\05151305.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.5	May 16 10:04 2013	May 15 17:01 2013	15 May 2013 16:25
2	1.0	May 16 10:04 2013	May 15 16:55 2013	15 May 2013 15:40
3	2.0	May 16 10:04 2013	May 15 16:52 2013	15 May 2013 14:53
4	5.0	May 16 10:03 2013	May 15 15:19 2013	15 May 2013 14:07
5	10	May 16 10:03 2013	May 15 13:55 2013	15 May 2013 13:21
6	20	May 16 10:03 2013	May 15 13:53 2013	15 May 2013 12:35
7	50	May 16 10:03 2013	May 15 13:50 2013	15 May 2013 11:48

051513.M Thu May 16 10:15:15 2013

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\
 Method File : 051513.M
 Title : TO-15/TO-14
 Last Update : Thu May 16 10:13:39 2013
 Response Via : Initial Calibration

Calibration Files

0.5 =05151311.D 1.0 =05151310.D 2.0 =05151309.D 5.0 =05151308.D 10 =05151307.D 20 =05151306.D
 50 =05151305.D

Compound	0.5	1.0	2.0	5.0	10	20	50	Avg	%RSD
1) I Bromochloromethane	2.089	2.153	2.101	2.025	1.904	1.810	1.786	1.981	7.44
2) Chlorodifluoro...	0.516	0.538	0.543	0.530	0.511	0.503	0.502	0.520	3.16
3) Propene	3.667	3.778	3.625	3.449	3.255	3.109	3.048	3.419	8.40
4) Dichlorodifluo...	0.306	0.351	0.359	0.346	0.335	0.307	0.243	0.321	12.54
5) Chloromethane	2.437	2.578	2.525	2.366	2.249	2.146	2.008	2.330	8.87
6) Dichlorotetra...	1.119	1.165	1.194	1.159	1.138	1.103	1.085	1.138	3.35
7) Vinylchloride	0.467	0.401	0.345	0.325	0.314	0.302	0.359	17.59	17.59
8) Methanol	0.661	0.757	0.783	0.769	0.750	0.696	0.638	0.722	7.88
9) 1,3-Butadiene	0.912	0.907	0.885	0.831	0.790	0.768	0.638	0.819	11.91
10) Bromomethane	0.201	0.195	0.200	0.184	0.171	0.177	0.167	0.185	7.45
11) Chloroethane	2.569	2.604	2.585	2.470	2.365	2.317	2.217	2.447	6.14
12) Dichlorofluoro...	0.438	0.486	0.443	0.421	0.414	0.410	0.372	0.426	8.19
13) Ethanol	0.913	0.985	1.013	1.000	0.954	0.955	0.914	0.962	4.10
14) VinylBromide	0.717	0.643	0.532	0.487	0.468	0.473	0.472	0.542	18.30
15) Acetone	2.166	2.190	2.089	1.956	1.896	1.864	1.820	1.997	7.53
16) Trichlorofluor...	2.202	2.238	2.186	1.792	1.640	1.508	1.412	1.854	18.98
17) 2-Propanol (IPA)	0.759	0.846	0.865	0.860	0.819	0.805	0.720	0.811	6.70
18) Acrylonitrile	1.126	1.244	1.222	1.158	1.131	1.093	1.000	1.139	7.17
19) M,T 1,1-Dichloroet...	1.192	1.150	1.088	1.078	1.000	0.935	0.876	1.046	10.90
20) M,T Methylenechlor...	1.018	0.993	0.990	0.947	0.912	0.791	0.764	0.917	11.04
21) Allylchloride	3.799	3.684	3.581	3.365	3.184	3.094	2.965	3.382	9.36
22) Carbondisulfide	1.791	1.899	1.777	1.674	1.586	1.456	1.291	1.639	12.89
23) Trichlorotriflu...	1.186	1.375	1.235	1.308	1.238	1.156	1.076	1.225	8.05
24) trans-1,2-Dich...	2.829	2.839	2.719	2.571	2.383	2.197	1.949	2.498	13.53
25) 1,1-Dichloroet...	3.471	3.740	3.529	3.441	3.284	3.047	2.705	3.317	10.38
26) MethylTertButy...	3.239	3.305	3.371	3.266	3.089	2.850	2.479	3.086	10.33
27) Vinylacetate	0.480	0.548	0.589	0.592	0.595	0.548	0.526	0.554	7.60
28) 2-Butanone(MEK)									

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 051513.M
Title : TO-15/TO-14

	-----ISTD-----													
29)	cis-1,2-Dichlo...	1.339	1.387	1.385	1.382	1.308	1.264	1.167	1.319	6.17				
30)	Hexane	0.270	0.298	0.295	0.272	0.256	0.239	0.219	0.264	10.89				
31)	Chloroform	2.980	3.005	2.926	2.844	2.659	2.617	2.396	2.775	8.12				
32)	Ethylacetate	2.836	3.052	2.959	2.914	2.819	2.582	2.380	2.792	8.36				
33)	Tetrahydrofuran	0.574	0.569	0.601	0.585	0.559	0.535	0.483	0.558	7.01				
34)	1,2-Dichloroet...	2.043	2.248	2.117	2.034	1.930	1.874	1.847	2.013	7.07				
35)	1,1,1-Trichlor...	3.350	3.382	3.301	3.075	2.948	2.834	2.618	3.073	9.43				
36)	I 1,4-Difluorobenzene	-----ISTD-----												
37)	T,M Benzene	0.840	0.830	0.802	0.758	0.721	0.648	0.558	0.737	14.02				
38)	CarbonTetrachl...	0.664	0.694	0.674	0.620	0.600	0.541	0.469	0.609	13.26				
39)	Cyclohexane	0.121	0.121	0.117	0.111	0.109	0.098	0.087	0.109	11.74				
40)	1,2-Dichloropr...	0.324	0.333	0.328	0.306	0.291	0.265	0.226	0.296	13.14				
41)	Bromodichlorom...	0.411	0.420	0.409	0.393	0.371	0.346	0.311	0.380	10.47				
42)	1,4-Dioxane	0.175	0.182	0.184	0.183	0.179	0.165	0.147	0.174	7.67				
43)	M,T Trichloroethen...	0.378	0.389	0.390	0.369	0.352	0.328	0.293	0.357	10.02				
44)	2,2,4-Trimethyl...	1.494	1.513	1.438	1.352	1.312	1.136	0.935	1.312	16.01				
45)	Heptane	0.250	0.247	0.252	0.241	0.240	0.218	0.189	0.234	9.72				
46)	cis-1,3-Dichlo...	0.443	0.456	0.446	0.443	0.425	0.389	0.351	0.422	9.07				
47)	4-Methyl-2-pen...	0.264	0.293	0.298	0.287	0.277	0.248	0.212	0.269	11.25				
48)	trans-1,3-Dich...	0.406	0.438	0.451	0.457	0.441	0.423	0.391	0.430	5.59				
49)	1,1,2-Trichlor...	0.350	0.366	0.351	0.346	0.330	0.297	0.262	0.329	11.16				
50)	M,T Toluene	1.036	1.035	1.017	0.944	0.952	0.835	0.723	0.935	12.54				
51)	2-Hexanone (MBK)	0.339	0.353	0.364	0.351	0.351	0.307	0.266	0.333	10.43				
52)	Dibromochlorom...	0.667	0.684	0.678	0.663	0.647	0.577	0.504	0.632	10.56				
53)	1,2-Dibromoethane	0.584	0.579	0.577	0.568	0.528	0.494	0.443	0.539	9.97				
54)	M,T Tetrachloroeth...	0.591	0.589	0.566	0.551	0.517	0.458	0.394	0.524	14.01				
55)	I Chlorobenzene-d5	-----ISTD-----												
56)	M,T Chlorobenzene	0.280	0.286	0.275	0.270	0.258	0.243	0.208	0.260	10.37				
57)	M,T Ethylbenzene	1.493	1.508	1.428	1.373	1.283	1.189	0.964	1.320	14.66				
58)	M,T m,p-Xylene	0.595	0.611	0.556	0.534	0.502	0.455	0.383	0.519	15.49				
59)	Bromoform	0.762	0.809	0.762	0.719	0.685	0.627	0.514	0.697	14.37				
60)	Styrene	0.895	0.947	0.887	0.890	0.834	0.768	0.660	0.840	11.58				
61)	1,1,2,2-Tetrac...	0.834	0.866	0.828	0.795	0.730	0.671	0.544	0.753	15.13				
62)	M,T o-Xylene	1.255	1.276	1.150	1.089	0.982	0.893	0.746	1.056	18.39				
63)	SR 4-Bromofluorob...	0.633	0.653	0.621	0.628	0.618	0.610	0.617	0.626	2.29				
64)	4-Ethyltoluene	0.453	0.499	0.463	0.465	0.439	0.394	0.321	0.433	13.60				

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Method Path : C:\msdchem\1\METHODS\2013\
 Method File : 051513.M

Title	TO-15	TO-14											
65)	1,3,5-Trimethy...	0.738	0.738	0.689	0.655	0.614	0.551	0.450	0.633			16.58	
66)	1,2,4-Trimethy...	0.683	0.701	0.662	0.647	0.606	0.555	0.465	0.617			13.44	
67)	BenzylChloride...	0.792	0.849	0.988	0.987	1.014	0.994	0.876	0.928			9.45	
68)	1,3-Dichlorobe...	1.007	1.071	1.056	1.046	0.966	0.902	0.748	0.971			11.78	
69)	1,4-Dichlorobe...	1.123	1.125	1.062	1.020	0.936	0.861	0.709	0.977			15.58	
70)	1,2-Dichlorobe...	1.116	1.179	1.130	1.079	0.969	0.899	0.735	1.015			15.50	
71)	1,2,4-Trichlor...	0.991	1.125	1.099	1.117	1.025	0.921	0.751	1.004			13.37	
72)	Hexachlorobuta...	0.954	0.987	0.907	0.861	0.768	0.693	0.522	0.813			20.26	

(#) = Out of Range