Atmospheric Analysis & Consulting, Inc.

CLIENT	: Soil Water Air Protection Enterprise
PROJECT NAME	: Bridgeton Sanitary Landfill Air Quality Assessment
AAC PROJECT NO.	: 131029
REPORT DATE	: 08/06/2013

On August 5, 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)
U-1 W1-Canister	131029-65222	644.4
U-2 W7-Canister	131029-65223	571.1
D-1 H-Canister	131029-65224	606.4
D-2 H-Canister	131029-65225	459.7

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 CO_2 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.

ACCREDITED IN ACCORDANCE WITH nelac Certificate #E87837

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

SAMPLE RECEIPT / LOG-IN REPORT

AAC Project **131029** **Received By: J. Zachman**

Sample Receipt Date	Project Desc	Clients ID	Matrix	Sampling Date/Time	Sampled By	Sample #	Analysis Requested
8/5/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-1 W1 Canister	Summa Canister	7/31/2013	Client	65222	TO15 ASTM D5504
8/5/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-2 W7 Canister	Summa Canister	7/31/2013	Client	65223	TO15 ASTM D5504
8/5/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-1 H Canister	Summa Canister	7/31/2013	Client	65224	TO15 ASTM D5504
8/5/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-2 H Canister	Summa Canister	7/31/2013	Client	65225	TO15 ASTM D5504

TURN AROUND TIME: Normal (10days)

Lab Due Date: 8/12/2013

Total Samples: 4

REMARKS:
Client returned 4 x Summa canisters + 4 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.: 131029

Date: 8/5/2013

Canister #	Sample #	Initial Pressure	Final Pressure
777	65222	644.4	1016.0
780	65223	571.1	1028.6
802	65224	606.4	1021.8
729	65225	459.7	1022.3

1

AAC# 131029

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: July 31 2013

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: Jeff Miller

Sampler Signature:

REQUESTED TESTS / ANALYSES

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Carbonyls - EPA TO-11A	Carboxlyic 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 #
65222	U-1 W1	Canister		7/31/13	4 Hr	X	X											Canister # 000777
65223	U-2 W7	Canister		7/31/13	4 Hr	X	X											Canister # 000780
65224	D-1 H	Canister		7/31/13	4 Hr	X	X											Canister # 000802
65225	D-2 H	Canister		7/31/13	4 Hr	X	X											Canister # 000729

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:	Date: 7/31/13	3:30 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8/5/13	Time: 1045

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 / W-1 Canister

AAC Batch ID: 131029 AAC Sample ID: 165222

SAMPLING INFORMATION

Start Date/Time: July 31st, 9:22 Stop Date/Time: July 31st, 13:07

Start Temp/Pressure*: 22 C 30.05 psi Stop Temp/Pressure*: 25 C 30.08 psi

Initial Can Pressure**: -28 Final Can Pressure**: -3

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

Comments: _____

Jeff Miller 7/31/13

~~**John Blank**~~ ~~July 5th, 2013~~

Sampler Name (Print) ***Sampler Signature/Date***

LABORATORY INFORMATION

Canister Size: 6 – Liter Sampling Period: 4 – Hour

Canister Serial No.: 000777 Flow Controller Serial No: 000709

Initial Pressure: 4.9 Certified Flow Rate: 18.0

Return Pressure: 644.4 Certified By/Date: 7/16/13

Final Pressure: 1016.0 Flow Rate upon Return: 25.1 mL/min

Date Shipped From Lab: 7/16/13 Shipped By: _____

Date Returned to Lab: 8/5/13 Received By: _____

Flow Controller Certification File ID: M503/071113Z6

Canister Certification File ID: M503/071113J6

Certification Type: SIM ____ SCAN ✓ NJLL ____ PAMS ____ Other ____

8/6/13 8/6/13

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.

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/ 2 / W-7 Canister

AAC Batch ID: 13/029 AAC Sample ID: 65223

SAMPLING INFORMATION

Start Date/Time: ~~May~~ July 31, 10:17 Stop Date/Time: ~~May~~ July 31, 14:17

Start Temp/Pressure*: 22 C 30.05 psi Stop Temp/Pressure*: 25 C 30.05 psi

Initial Can Pressure**: - 31 Final Can Pressure**: - 9

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

Comments: _____

Jeff Miller

~~John Blank~~
Sampler Name (Print)

~~July 5th, 2013~~
Sampler Signature/Date 7/31/13

LABORATORY INFORMATION

Canister Size: 6 – Liter Sampling Period: 4 – Hour

Canister Serial No.: 000780 Flow Controller Serial No: 000698

Initial Pressure: 4.9 Certified Flow Rate: 18.0

Return Pressure: 571.1 Certified By/Date: 7/16/13

Final Pressure: 1028.6 Flow Rate upon Return: 21.1 mL/min

Date Shipped From Lab: 7/16/13 Shipped By: _____

Date Returned to Lab: 8/5/13 Received By: _____

Flow Controller Certification File ID: 4503/07113216

Canister Certification File ID: 4503/07113118

Certification Type: SIM ____ SCAN ✓ NJLL ____ PAMS ____ Other ____

Chemist Signature/Date 8/6/13

Lab Manager Signature/Date 8/6/13

Sampler is required to fill out all highlighted sections during sampling.
All remaining sections will be completed upon return by the laboratory.

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 / H Canister

AAC Batch ID: 131029 AAC Sample ID: 65224

SAMPLING INFORMATION

Start Date/Time: ~~May~~ July 31, 9:47 AM Stop Date/Time: ~~May~~ July 31, 13:47

Start Temp/Pressure*: 22 C 30.05 psi Stop Temp/Pressure*: 25 C 30.05 psi

Initial Can Pressure**: -30 Final Can Pressure**: -6

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

Comments: _____

Jeff Miller

~~John Blank~~
Sampler Name (Print)

~~July 5th, 2013~~
Sampler Signature/Date

7/31/13

LABORATORY INFORMATION

Canister Size: 6 – Liter Sampling Period: 4 – Hour

Canister Serial No.: 000802 Flow Controller Serial No: 000715

Initial Pressure: 4.9 Certified Flow Rate: 18.0

Return Pressure: 606.4 Certified By/Date: 7/16/13

Final Pressure: 1021.8 Flow Rate upon Return: 22.2 ml/min

Date Shipped From Lab: _____ Shipped By: _____

Date Returned to Lab: 8/5/13 Received By:

Flow Controller Certification File ID: M603/07111326

Canister Certification File ID: M603/07121312

Certification Type: SIM ____ SCAN ✓ NJLL ____ PAMS ____ Other ____

8/06/13
Chemist Signature/Date

8/6/13
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.

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 / H Canister

AAC Batch ID: 131029 AAC Sample ID: 65225

SAMPLING INFORMATION

Start Date/Time: ~~May~~ July 31st, 10:52 Stop Date/Time: ~~May~~ July 31, 14:52

Start Temp/Pressure*: 22 C 30.09 psi Stop Temp/Pressure*: 25 C 30.05 psi

Initial Can Pressure**: -30 Final Can Pressure**: -12

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

Comments: _____

Jeff Miller

~~John Blank~~
Sampler Name (Print)

~~July 5th, 2013~~
Sampler Signature/Date 7/31/13

LABORATORY INFORMATION

Canister Size: 6 – Liter Sampling Period: 4 – Hour

Canister Serial No.: 00729 Flow Controller Serial No: 000694

Initial Pressure: 4.9 Certified Flow Rate: 18.0

Return Pressure: 459.7 Certified By/Date: 7/16/13

Final Pressure: 1022.3 Flow Rate upon Return: 17.0 ml/min

Date Shipped From Lab: 7/16/13 Shipped By: _____

Date Returned to Lab: 8/5/13 Received By: _____

Flow Controller Certification File ID: MS03071113226

Canister Certification File ID: MS05071213160

Certification Type: SIM ____ SCAN ✓ NJLL ____ PAMS ____ Other ____

08/06/13
Chemist Signature/Date

8/6/13
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.

Jeff Miller

American Environmental Laboratories

ISO 9001:2000 Certification #A1836US

MDNR **Bridgeton Landfill** **Date:** July 31st, 2013

Chain of Custody Weekly Sampling Event

Air Sampler calibrated for 1 Liter per Minute Flow Rate
Flow Rate calibrated with BIOS - Defender 510M - S/N 131756
SUMMA Canister with a 4 hour flow valve

	Temperature		barometric	
Start	22	C	30.05	psi
Stop	25	C	30.05	psi

		Can. Vacuum Start	End	Time Start	
Sample Point ID U-1	W1				
Canister Serial #	000777	-28	-3	9:22	
Flow Control #	000709	Flow Start	Flow Stop	Time Stop Canister	Pump
Sample Pump #	67385	1.0105	1.0549	13:07	13:22
Sample Tube Type	226-20	Sample Tube # 444060 1057	Sampled Volume L	#DIV/0!	

		Start	End	Time Start
Sample Point ID U-2	W-7			
Canister Serial #	000780	-31	-9	10:17
Flow Control #	000698			
Sample Pump #	71526	1.0274	1.0466	14:17
Sample Tube Type	226-20	Sample Tube # 444060 1050	Sampled Volume L	#DIV/0!

		Start	End	Time Start
Sample Point ID D-1	H			
Canister Serial #	000802	-30	-6	9:47
Flow Control #	000715			
Sample Pump #	67835	1.0206	1.0537	13:47
Sample Tube Type	226-20	Sample Tube # 444060 1374	Sampled Volume L	#DIV/0!

		Start	End	Time Start
Sample Point ID D-2	H			
Canister Serial #	000729	-30	-12	10:52
Flow Control #	000694			
Sample Pump #	59912	1.009	1.0596	14:52
Sample Tube Type	226-20	Sample Tube # 444060 1543	Sampled Volume L	#DIV/0!

Possible Sample Point ID **W1 - W2 - W3 - W4 - W5 - W6 - W7 - W8**

Prepared by:

7/31/13

TO-15 REPORTS

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 131029
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 08/05/2013
DATE REPORTED : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-1 W1-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2 W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65222				131029-65223				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.58				1.80				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.32	J	1.0	0.79	0.32	J	1.0	0.90	0.5
Propene	0.76	J	1.0	1.58	0.67	J	1.0	1.80	1.0
Dichlorodifluoromethane	0.60	J	1.0	0.79	0.59	J	1.0	0.90	0.5
Chloromethane	0.54	J	1.0	0.79	0.52	J	1.0	0.90	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Vinyl Chloride	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Methanol	6.62	J	1.0	7.88	8.86	J	1.0	9.01	5.0
1,3-Butadiene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Bromomethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Chloroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Dichlorofluoromethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Ethanol	7.85		1.0	3.15	4.18		1.0	3.60	2.0
Vinyl Bromide	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Acetone	5.71		1.0	3.15	6.84		1.0	3.60	2.0
Trichlorofluoromethane	0.25	J	1.0	0.79	0.27	J	1.0	0.90	0.5
2-Propanol (IPA)	0.85	J	1.0	3.15	0.47	J	1.0	3.60	2.0
Acrylonitrile	<SRL	U	1.0	1.58	<SRL	U	1.0	1.80	1.0
1,1-Dichloroethene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	1.58	<SRL	U	1.0	1.80	1.0
Allyl Chloride	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Carbon Disulfide	NR		1.0	0.79	NR	J	1.0	0.90	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,1-Dichloroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Vinyl Acetate	<SRL	U	1.0	1.58	<SRL	U	1.0	1.80	1.0
2-Butanone (MEK)	2.07		1.0	1.58	1.64	J	1.0	1.80	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	0.79	0.13	J	1.0	0.90	0.5
Hexane	0.68	J	1.0	0.79	0.61	J	1.0	0.90	0.5
Chloroform	0.17	J	1.0	0.79	0.14	J	1.0	0.90	0.5
Ethyl Acetate	0.46	J	1.0	0.79	0.20	J	1.0	0.90	0.5
Tetrahydrofuran	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,2-Dichloroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5

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Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 131029
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 08/05/2013
DATE REPORTED : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-1 W1-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2 W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65222				131029-65223				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.58				1.80				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	0.38	J	1.0	0.79	0.38	J	1.0	0.90	0.5
Carbon Tetrachloride	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Cyclohexane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,2-Dichloropropane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Bromodichloromethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,4-Dioxane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Trichloroethene (TCE)	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
2,2,4-Trimethylpentane	0.32	J	1.0	0.79	0.29	J	1.0	0.90	0.5
Heptane	0.17	J	1.0	0.79	0.14	J	1.0	0.90	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Toluene	1.80		1.0	0.79	3.01		1.0	0.90	0.5
2-Hexanone (MBK)	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Dibromochloromethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,2-Dibromoethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Chlorobenzene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Ethylbenzene	0.46	J	1.0	0.79	0.86	J	1.0	0.90	0.5
m & p-Xylenes	1.09	J	1.0	1.58	2.07		1.0	1.80	1.0
Bromoform	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Styrene	0.16	J	1.0	0.79	0.11	J	1.0	0.90	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
o-Xylene	0.30	J	1.0	0.79	0.41	J	1.0	0.90	0.5
4-Ethyltoluene	0.09	J	1.0	0.79	0.11	J	1.0	0.90	0.5
1,3,5-Trimethylbenzene	0.08	J	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,2,4-Trimethylbenzene	0.24	J	1.0	0.79	0.23	J	1.0	0.90	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	0.79	0.22	J	1.0	0.90	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
Hexachlorobutadiene	<SRL	U	1.0	0.79	<SRL	U	1.0	0.90	0.5
BFB-Surrogate Std. % Recovery	102%				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
Laboratoy Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 131029
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 08/05/2013
DATE REPORTED : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-1 W1-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2 W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65222				131029-65223				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.58				1.80				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	1.1	J	1.0	2.8	1.2	J	1.0	3.2	1.8
Propene	1.3	J	1.0	2.7	1.2	J	1.0	3.1	1.7
Dichlorodifluoromethane	3.0	J	1.0	3.9	2.9	J	1.0	4.5	2.5
Chloromethane	1.1	J	1.0	1.6	1.1	J	1.0	1.9	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	5.5	<SRL	U	1.0	6.3	3.5
Vinyl Chloride	<SRL	U	1.0	2.0	<SRL	U	1.0	2.3	1.3
Methanol	8.7	J	1.0	10.3	11.6	J	1.0	11.8	6.6
1,3-Butadiene	<SRL	U	1.0	1.7	<SRL	U	1.0	2.0	1.1
Bromomethane	<SRL	U	1.0	3.1	<SRL	U	1.0	3.5	1.9
Chloroethane	<SRL	U	1.0	2.1	<SRL	U	1.0	2.4	1.3
Dichlorofluoromethane	<SRL	U	1.0	3.3	<SRL	U	1.0	3.8	2.1
Ethanol	14.8		1.0	5.9	7.9		1.0	6.8	3.8
Vinyl Bromide	<SRL	U	1.0	3.4	<SRL	U	1.0	3.9	2.2
Acetone	13.6		1.0	7.5	16.3		1.0	8.6	4.8
Trichlorofluoromethane	1.4	J	1.0	4.4	1.5	J	1.0	5.1	2.8
2-Propanol (IPA)	2.1	J	1.0	7.8	1.2	J	1.0	8.9	4.9
Acrylonitrile	<SRL	U	1.0	3.4	<SRL	U	1.0	3.9	2.2
1,1-Dichloroethene	<SRL	U	1.0	3.1	<SRL	U	1.0	3.6	2.0
Methylene Chloride (DCM)	<SRL	U	1.0	5.5	<SRL	U	1.0	6.3	3.5
Allyl Chloride	<SRL	U	1.0	2.5	<SRL	U	1.0	2.8	1.6
Carbon Disulfide	NR		1.0	2.5	NR	J	1.0	2.8	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	6.0	<SRL	U	1.0	6.9	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	3.1	<SRL	U	1.0	3.6	2.0
1,1-Dichloroethane	<SRL	U	1.0	3.2	<SRL	U	1.0	3.6	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	2.8	<SRL	U	1.0	3.2	1.8
Vinyl Acetate	<SRL	U	1.0	5.6	<SRL	U	1.0	6.3	3.5
2-Butanone (MEK)	6.1		1.0	4.7	4.8	J	1.0	5.3	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	3.1	0.5	J	1.0	3.6	2.0
Hexane	2.4	J	1.0	2.8	2.2	J	1.0	3.2	1.8
Chloroform	0.9	J	1.0	3.8	0.7	J	1.0	4.4	2.4
Ethyl Acetate	1.7	J	1.0	2.8	0.7	J	1.0	3.2	1.8
Tetrahydrofuran	<SRL	U	1.0	2.3	<SRL	U	1.0	2.7	1.5
1,2-Dichloroethane	<SRL	U	1.0	3.2	<SRL	U	1.0	3.6	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	4.3	<SRL	U	1.0	4.9	2.7

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Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 131029
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 08/05/2013
DATE REPORTED : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-1 W1-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2 W7-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65222				131029-65223				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.58				1.80				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	1.2	J	1.0	2.5	1.2	J	1.0	2.9	1.6
Carbon Tetrachloride	<SRL	U	1.0	5.0	<SRL	U	1.0	5.7	3.1
Cyclohexane	<SRL	U	1.0	2.7	<SRL	U	1.0	3.1	1.7
1,2-Dichloropropane	<SRL	U	1.0	3.6	<SRL	U	1.0	4.2	2.3
Bromodichloromethane	<SRL	U	1.0	5.3	<SRL	U	1.0	6.0	3.4
1,4-Dioxane	<SRL	U	1.0	2.8	<SRL	U	1.0	3.2	1.8
Trichloroethene (TCE)	<SRL	U	1.0	4.2	<SRL	U	1.0	4.8	2.7
2,2,4-Trimethylpentane	1.5	J	1.0	3.7	1.4	J	1.0	4.2	2.3
Heptane	0.7	J	1.0	3.2	0.6	J	1.0	3.7	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	3.6	<SRL	U	1.0	4.1	2.3
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	3.2	<SRL	U	1.0	3.7	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	3.6	<SRL	U	1.0	4.1	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	4.3	<SRL	U	1.0	4.9	2.7
Toluene	6.8		1.0	3.0	11.3		1.0	3.4	1.9
2-Hexanone (MBK)	<SRL	U	1.0	3.2	<SRL	U	1.0	3.7	2.0
Dibromochloromethane	<SRL	U	1.0	6.7	<SRL	U	1.0	7.7	4.3
1,2-Dibromoethane	<SRL	U	1.0	6.1	<SRL	U	1.0	6.9	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	5.3	<SRL	U	1.0	6.1	3.4
Chlorobenzene	<SRL	U	1.0	3.6	<SRL	U	1.0	4.1	2.3
Ethylbenzene	2.0	J	1.0	3.4	3.8	J	1.0	3.9	2.2
m & p-Xylenes	4.7	J	1.0	6.8	9.0		1.0	7.8	4.3
Bromoform	<SRL	U	1.0	8.1	<SRL	U	1.0	9.3	5.2
Styrene	0.7	J	1.0	3.4	0.5	J	1.0	3.8	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	5.4	<SRL	U	1.0	6.2	3.4
o-Xylene	1.3	J	1.0	3.4	1.8	J	1.0	3.9	2.2
4-Ethyltoluene	0.5	J	1.0	3.9	0.5	J	1.0	4.4	2.5
1,3,5-Trimethylbenzene	0.4	J	1.0	3.9	<SRL	U	1.0	4.4	2.5
1,2,4-Trimethylbenzene	1.2	J	1.0	3.9	1.2	J	1.0	4.4	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	4.1	<SRL	U	1.0	4.7	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	4.7	<SRL	U	1.0	5.4	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	4.7	1.3	J	1.0	5.4	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	4.7	<SRL	U	1.0	5.4	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	5.9	<SRL	U	1.0	6.7	3.7
Hexachlorobutadiene	<SRL	U	1.0	8.4	<SRL	U	1.0	9.6	5.3
BFB-Surrogate Std. % Recovery	102%				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
Laboratoy Director

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Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 131029
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 08/05/2013
DATE REPORTED : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-1 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65224				131029-65225				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.69				2.22				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.32	J	1.0	0.84	0.36	J	1.0	1.11	0.5
Propene	0.84	J	1.0	1.69	3.00		1.0	2.22	1.0
Dichlorodifluoromethane	0.59	J	1.0	0.84	0.60	J	1.0	1.11	0.5
Chloromethane	0.49	J	1.0	0.84	0.56	J	1.0	1.11	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Vinyl Chloride	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Methanol	19.2		1.0	8.43	16.0		1.0	11.1	5.0
1,3-Butadiene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Bromomethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Chloroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Dichlorofluoromethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Ethanol	4.94		1.0	3.37	5.72		1.0	4.45	2.0
Vinyl Bromide	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Acetone	5.51		1.0	3.37	5.36		1.0	4.45	2.0
Trichlorofluoromethane	0.51	J	1.0	0.84	0.44	J	1.0	1.11	0.5
2-Propanol (IPA)	1.16	J	1.0	3.37	0.53	J	1.0	4.45	2.0
Acrylonitrile	<SRL	U	1.0	1.69	<SRL	U	1.0	2.22	1.0
1,1-Dichloroethene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Methylene Chloride (DCM)	0.61	J	1.0	1.69	<SRL	U	1.0	2.22	1.0
Allyl Chloride	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Carbon Disulfide	NR	U	1.0	0.84	NR	U	1.0	1.11	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,1-Dichloroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Vinyl Acetate	<SRL	U	1.0	1.69	<SRL	U	1.0	2.22	1.0
2-Butanone (MEK)	<SRL	U	1.0	1.69	<SRL	U	1.0	2.22	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Hexane	0.69	J	1.0	0.84	0.82	J	1.0	1.11	0.5
Chloroform	0.19	J	1.0	0.84	0.22	J	1.0	1.11	0.5
Ethyl Acetate	0.12	J	1.0	0.84	<SRL	U	1.0	1.11	0.5
Tetrahydrofuran	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,2-Dichloroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5

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Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 131029
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 08/05/2013
DATE REPORTED : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-1 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65224				131029-65225				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.69				2.22				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	0.49	J	1.0	0.84	0.60	J	1.0	1.11	0.5
Carbon Tetrachloride	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Cyclohexane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,2-Dichloropropane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Bromodichloromethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,4-Dioxane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Trichloroethene (TCE)	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
2,2,4-Trimethylpentane	0.34	J	1.0	0.84	0.40	J	1.0	1.11	0.5
Heptane	0.19	J	1.0	0.84	0.18	J	1.0	1.11	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Toluene	0.86		1.0	0.84	1.09	J	1.0	1.11	0.5
2-Hexanone (MBK)	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Dibromochloromethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,2-Dibromoethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Chlorobenzene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Ethylbenzene	0.20	J	1.0	0.84	0.24	J	1.0	1.11	0.5
m & p-Xylenes	0.59	J	1.0	1.69	0.69	J	1.0	2.22	1.0
Bromoform	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Styrene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
o-Xylene	0.25	J	1.0	0.84	0.29	J	1.0	1.11	0.5
4-Ethyltoluene	0.08	J	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,3,5-Trimethylbenzene	0.08	J	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,2,4-Trimethylbenzene	0.24	J	1.0	0.84	0.31	J	1.0	1.11	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
Hexachlorobutadiene	<SRL	U	1.0	0.84	<SRL	U	1.0	1.11	0.5
BFB-Surrogate Std. % Recovery	100%				103%				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.

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Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 131029
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 08/05/2013
DATE REPORTED : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-1 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65224				131029-65225				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.69				2.22				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	1.1	J	1.0	3.0	1.3	J	1.0	3.9	1.8
Propene	1.5	J	1.0	2.9	5.2		1.0	3.8	1.7
Dichlorodifluoromethane	2.9	J	1.0	4.2	3.0	J	1.0	5.5	2.5
Chloromethane	1.0	J	1.0	1.7	1.2	J	1.0	2.3	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	5.9	<SRL	U	1.0	7.8	3.5
Vinyl Chloride	<SRL	U	1.0	2.2	<SRL	U	1.0	2.8	1.3
Methanol	25.1		1.0	11.0	21.0		1.0	14.6	6.6
1,3-Butadiene	<SRL	U	1.0	1.9	<SRL	U	1.0	2.5	1.1
Bromomethane	<SRL	U	1.0	3.3	<SRL	U	1.0	4.3	1.9
Chloroethane	<SRL	U	1.0	2.2	<SRL	U	1.0	2.9	1.3
Dichlorofluoromethane	<SRL	U	1.0	3.5	<SRL	U	1.0	4.7	2.1
Ethanol	9.3		1.0	6.4	10.8		1.0	8.4	3.8
Vinyl Bromide	<SRL	U	1.0	3.7	<SRL	U	1.0	4.9	2.2
Acetone	13.1		1.0	8.0	12.7		1.0	10.6	4.8
Trichlorofluoromethane	2.8	J	1.0	4.7	2.5	J	1.0	6.2	2.8
2-Propanol (IPA)	2.9	J	1.0	8.3	1.3	J	1.0	10.9	4.9
Acrylonitrile	<SRL	U	1.0	3.7	<SRL	U	1.0	4.8	2.2
1,1-Dichloroethene	<SRL	U	1.0	3.3	<SRL	U	1.0	4.4	2.0
Methylene Chloride (DCM)	2.1	J	1.0	5.9	<SRL	U	1.0	7.7	3.5
Allyl Chloride	<SRL	U	1.0	2.6	<SRL	U	1.0	3.5	1.6
Carbon Disulfide	NR	U	1.0	2.6	NR	U	1.0	3.5	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	6.5	<SRL	U	1.0	8.5	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	3.3	<SRL	U	1.0	4.4	2.0
1,1-Dichloroethane	<SRL	U	1.0	3.4	<SRL	U	1.0	4.5	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	3.0	<SRL	U	1.0	4.0	1.8
Vinyl Acetate	<SRL	U	1.0	5.9	<SRL	U	1.0	7.8	3.5
2-Butanone (MEK)	<SRL	U	1.0	5.0	<SRL	U	1.0	6.6	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	3.3	<SRL	U	1.0	4.4	2.0
Hexane	2.4	J	1.0	3.0	2.9	J	1.0	3.9	1.8
Chloroform	0.9	J	1.0	4.1	1.1	J	1.0	5.4	2.4
Ethyl Acetate	0.4	J	1.0	3.0	<SRL	U	1.0	4.0	1.8
Tetrahydrofuran	<SRL	U	1.0	2.5	<SRL	U	1.0	3.3	1.5
1,2-Dichloroethane	<SRL	U	1.0	3.4	<SRL	U	1.0	4.5	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	4.6	<SRL	U	1.0	6.1	2.7

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Laboratory Analysis Report

CLIENT : **Soil Water Air Protection Enterprise**
PROJECT NO : **131029**
MATRIX : **AIR**
UNITS : **ug/m3**

DATE RECEIVED : **08/05/2013**
DATE REPORTED : **08/06/2013**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-1 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 H-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	131029-65224				131029-65225				
Date Sampled	07/31/2013				07/31/2013				
Date Analyzed	08/06/2013				08/06/2013				
Can Dilution Factor	1.69				2.22				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	1.6	J	1.0	2.7	1.9	J	1.0	3.6	1.6
Carbon Tetrachloride	<SRL	U	1.0	5.3	<SRL	U	1.0	7.0	3.1
Cyclohexane	<SRL	U	1.0	2.9	<SRL	U	1.0	3.8	1.7
1,2-Dichloropropane	<SRL	U	1.0	3.9	<SRL	U	1.0	5.1	2.3
Bromodichloromethane	<SRL	U	1.0	5.6	<SRL	U	1.0	7.5	3.4
1,4-Dioxane	<SRL	U	1.0	3.0	<SRL	U	1.0	4.0	1.8
Trichloroethene (TCE)	<SRL	U	1.0	4.5	<SRL	U	1.0	6.0	2.7
2,2,4-Trimethylpentane	1.6	J	1.0	3.9	1.9	J	1.0	5.2	2.3
Heptane	0.8	J	1.0	3.5	0.7	J	1.0	4.6	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	3.8	<SRL	U	1.0	5.0	2.3
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	3.5	<SRL	U	1.0	4.6	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	3.8	<SRL	U	1.0	5.0	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	4.6	<SRL	U	1.0	6.1	2.7
Toluene	3.2		1.0	3.2	4.1	J	1.0	4.2	1.9
2-Hexanone (MBK)	<SRL	U	1.0	3.5	<SRL	U	1.0	4.6	2.0
Dibromochloromethane	<SRL	U	1.0	7.2	<SRL	U	1.0	9.5	4.3
1,2-Dibromoethane	<SRL	U	1.0	6.5	<SRL	U	1.0	8.5	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	5.7	<SRL	U	1.0	7.5	3.4
Chlorobenzene	<SRL	U	1.0	3.9	<SRL	U	1.0	5.1	2.3
Ethylbenzene	0.9	J	1.0	3.7	1.1	J	1.0	4.8	2.2
m & p-Xylenes	2.6	J	1.0	7.3	3.0	J	1.0	9.7	4.3
Bromoform	<SRL	U	1.0	8.7	<SRL	U	1.0	11.5	5.2
Styrene	<SRL	U	1.0	3.6	<SRL	U	1.0	4.7	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	5.8	<SRL	U	1.0	7.6	3.4
o-Xylene	1.1	J	1.0	3.7	1.3	J	1.0	4.8	2.2
4-Ethyltoluene	0.4	J	1.0	4.1	<SRL	U	1.0	5.5	2.5
1,3,5-Trimethylbenzene	0.4	J	1.0	4.1	<SRL	U	1.0	5.5	2.5
1,2,4-Trimethylbenzene	1.2	J	1.0	4.1	1.5	J	1.0	5.5	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	4.4	<SRL	U	1.0	5.8	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	5.1	<SRL	U	1.0	6.7	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	5.1	<SRL	U	1.0	6.7	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	5.1	<SRL	U	1.0	6.7	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	6.3	<SRL	U	1.0	8.3	3.7
Hexachlorobutadiene	<SRL	U	1.0	9.0	<SRL	U	1.0	11.9	5.3
BFB-Surrogate Std. % Recovery	100%				103%				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
Laboratoy Director

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TO-15 QC REPORT

ANALYSIS DATE : 08/06/2013 **INSTRUMENT ID** : GC/MS-03
ANALYST : JJG **CALIBRATION STD ID** : PS071613-02

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15
Continuing Calibration Verification of the 07/22/2013 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
4-BFB (surrogate standard)	10.00	10.19	102
Chlorodifluoromethane	10.10	9.90	98
Propene	11.00	10.43	95
Dichlorodifluoromethane	9.80	9.83	100
Chloromethane	10.10	9.33	92
Dichlorotetrafluoroethane	10.10	10.12	100
Vinyl Chloride	10.20	9.82	96
Methanol	4.90	4.89	100
1,3-Butadiene	10.50	9.77	93
Bromomethane	10.20	8.38	82
Chloroethane	10.00	10.40	104
Dichlorofluoromethane	10.00	9.92	99
Ethanol	9.80	10.20	104
Vinyl Bromide	10.20	9.97	98
Acetone	10.80	9.68	90
Trichlorofluoromethane	10.10	10.20	101
2-Propanol (IPA)	11.00	10.47	95
Acrylonitrile	10.50	10.22	97
1,1-Dichloroethene	10.50	9.73	93
Methylene Chloride (DCM)	10.40	9.99	96
Allyl Chloride	11.00	9.62	87
Carbon Disulfide	10.50	9.58	91
Trichlorotrifluoroethane	10.40	10.13	97
trans-1,2-Dichloroethene	10.40	10.37	100
1,1-Dichloroethane	10.40	10.10	97
Methyl Tert Butyl Ether (MTBE)	10.60	11.13	105
Vinyl Acetate	9.70	9.30	96
2-Butanone (MEK)	10.60	11.17	105
cis-1,2-Dichloroethene	10.60	10.33	97
Hexane	10.70	10.57	99
Chloroform	10.60	10.45	99
Ethyl Acetate	11.00	10.80	98
Tetrahydrofuran	10.80	10.52	97
1,2-Dichloroethane	10.40	10.51	101
1,1,1-Trichloroethane	10.50	10.48	100

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ANALYSIS DATE : 08/06/2013
ANALYST : JJG

INSTRUMENT ID : GC/MS-03
CALIBRATION STD ID : PS071613-02

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 07/22/2013 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
Benzene	10.50	9.86	94
Carbon Tetrachloride	10.10	9.98	99
Cyclohexane	10.50	9.72	93
1,2-Dichloropropane	10.50	9.96	95
Bromodichloromethane	10.30	9.89	96
1,4-Dioxane	10.30	9.48	92
Trichloroethene (TCE)	10.30	10.04	97
2,2,4-Trimethylpentane	10.90	10.51	96
Heptane	10.70	10.35	97
cis-1,3-Dichloropropene	11.00	10.60	96
4-Methyl-2-pentanone (MiBK)	10.30	10.10	98
trans-1,3-Dichloropropene	9.80	9.62	98
1,1,2-Trichloroethane	10.60	10.21	96
Toluene	10.60	10.21	96
2-Hexanone (MBK)	10.80	10.36	96
Dibromochloromethane	11.00	11.22	102
1,2-Dibromoethane	10.40	10.05	97
Tetrachloroethene (PCE)	10.40	10.26	99
Chlorobenzene	10.60	10.45	99
Ethylbenzene	10.50	10.31	98
m & p-Xylenes	20.60	20.13	98
Bromoform	10.30	10.13	98
Styrene	10.40	10.37	100
1,1,2,2-Tetrachloroethane	10.60	10.37	98
o-Xylene	10.60	10.23	97
4-Ethyltoluene	10.40	10.40	100
1,3,5-Trimethylbenzene	10.20	10.05	99
1,2,4-Trimethylbenzene	10.20	10.04	98
Benzyl Chloride (a-Chlorotoluene)	10.00	10.35	104
1,3-Dichlorobenzene	10.00	10.01	100
1,4-Dichlorobenzene	10.00	9.68	97
1,2-Dichlorobenzene	10.00	9.67	97
1,2,4-Trichlorobenzene	9.30	9.11	98
Hexachlorobutadiene	9.80	10.09	103

* - %REC should be 70-130%

Marcus Hueppe
Laboratory Director

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Quality Control/Quality Assurance Report

CLIENT ID	**: Laboratory Control Spike**	**DATE ANALYZED**	**: 08/06/2013**
AAC ID	**: LCS/LCSD**	**DATE REPORTED**	**: 08/06/2013**
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	9.73	9.47	93	90	2.7
Methylene Chloride (DCM)	0.0	10.40	9.99	9.77	96	94	2.2
Benzene	0.0	10.50	9.86	9.96	94	95	1.0
Trichloroethene (TCE)	0.0	10.30	10.04	9.99	97	97	0.5
Toluene	0.0	10.60	10.21	10.13	96	96	0.8
Tetrachloroethene (PCE)	0.0	10.40	10.26	10.18	99	98	0.8
Chlorobenzene	0.0	10.60	10.45	10.46	99	99	0.1
Ethylbenzene	0.0	10.50	10.31	10.54	98	100	2.2
m & p-Xylenes	0.0	20.60	20.13	20.36	98	99	1.1
o-Xylene	0.0	10.60	10.23	10.40	96	98	1.6

* Must be 70-130%

** Must be < 25%

Marcus Hueppe
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Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 08/06/2013**
UNITS	**: ppbv**	**REPORT DATE**	**: 08/06/2013**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 080613	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

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Method Blank Analysis Report

MATRIX : AIR **ANALYSIS DATE** : 08/06/2013
UNITS : ppbv **REPORT DATE** : 08/06/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	Method Blank	RL
AAC ID	MB 080613	
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 (a-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	104%	--

RL - Reporting Limit

Marcus Hueppe
Laboratory Director

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Quality Control/Quality Assurance Report

AAC ID	**: 131029-65222**	**DATE ANALYZED**	**: 08/06/2013**
MATRIX	**: Air**	**DATE REPORTED**	**: 08/06/2013**
		UNITS	**: ppbv**

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane	<SRL	<SRL	0.0
Propene	<SRL	<SRL	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	7.85	7.80	0.6
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	5.71	5.75	0.7
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	1.02	1.07	4.8
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)	2.07	2.00	3.4
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

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Quality Control/Quality Assurance Report

AAC ID	**: 131029-65222**	**DATE ANALYZED**	**: 08/06/2013**
MATRIX	**: Air**	**DATE REPORTED**	**: 08/06/2013**
		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	1.80	1.89	4.9
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	102%	101%	0.6

SRL - Sample Reporting Limit

Marcus Hueppe
Laboratory Director

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TO-15 RAW DATA

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061311.D
Acq On : 6 Aug 2013 15:48
Operator : JJG
Sample : 131029-65222 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:52 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	174688	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1033914	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	976015	10.00 ppbv	0.00
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	569215	10.15 ppbv	0.00
Spiked Amount 10.000			Recovery = 101.50%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.836	51	8999	0.20 ppbv #	97
3) Propene	4.799	42	6563	0.48 ppbv #	69
4) Dichlorodifluoromethane	4.908	85	23821	0.38 ppbv	97
5) Chloromethane	5.306	52	2915	0.34 ppbv #	6
6) Dichlorotetrafluoroethane	5.342	135	306	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	44569m	4.20 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	0.000		0	N.D. d	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.116	45	58321m	4.98 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	48053m	3.62 ppbv	
16) Trichlorofluoromethane	7.659	103	5914	0.16 ppbv #	98
17) 2-Propanol(IPA)	8.220	45	22976m	0.54 ppbv	
18) Acrylonitrile	9.016	52	341	N.D.	
19) 1,1-Dichloroethene	0.000		0	N.D.	
20) MethyleneChloride(DCM)	0.000		0	N.D. d	
21) AllylChloride	9.251	39	642	N.D.	
22) CarbonDisulfide	9.486	76	46722m	0.65 ppbv	
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. d	
27) VinylAcetate	0.000		0	N.D. d	
28) 2-Butanone(MEK)	11.441	72	16003m	1.31 ppbv	
29) cis-1,2-Dichloroethene	11.886	96	456	N.D.	
30) Hexane	11.458	86	2340	0.43 ppbv	74
31) Chloroform	12.493	83	5757	0.11 ppbv #	91
32) EthylAcetate	12.047	43	20296	0.29 ppbv	99

8/06/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061311.D
Acq On : 6 Aug 2013 15:48
Operator : JJG
Sample : 131029-65222 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:52 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D. d	
34) 1,2-Dichloroethane	13.598	62	558	N.D.	
35) 1,1,1-Trichloroethane	13.331	97	113	N.D.	
37) Benzene	13.937	78	22028	0.24 ppbv #	94
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.381	63	365	N.D.	
41) Bromodichloromethane	0.000		0	N.D.	
42) 1,4-Dioxane	15.649	88	121	N.D.	
43) Trichloroethene(TCE)	15.292	130	633	N.D.	
44) 2,2,4-Trimethylpentane	14.757	57	34909	0.20 ppbv	95
45) Heptane	15.096	71	3085	0.11 ppbv #	80
46) cis-1,3-Dichloropropene	0.000		0	N.D. d	
47) 4-Methyl-2-pentanone(M...	0.000		0	N.D. d	
48) trans-1,3-Dichloropropene	17.575	75	110	N.D.	
49) 1,1,2-Trichloroethane	17.842	97	465	N.D.	
50) Toluene	17.682	91	121986	1.14 ppbv	99
51) 2-Hexanone(MBK)	0.000		0	N.D. d	
52) Dibromochloromethane	19.001	129	583	N.D.	
53) 1,2-Dibromoethane	19.251	107	121	N.D.	
54) Tetrachloroethene(PCE)	19.019	166	597	N.D.	
56) Chlorobenzene	20.357	114	681	N.D.	
57) Ethylbenzene	20.695	91	39534	0.29 ppbv	96
58) m&p-Xylene	20.945	106	35838	0.69 ppbv	98
59) Bromoform	21.837	173	245	N.D.	
60) Styrene	21.658	104	8669	0.10 ppbv	96
61) 1,1,2,2-Tetrachloroethane	22.354	83	616	N.D.	
62) o-Xylene	21.694	91	20697	0.19 ppbv	99
64) 4-Ethyltoluene	23.673	120	2608	0.06 ppbv #	87
65) 1,3,5-Trimethylbenzene	23.780	120	3116	0.05 ppbv #	93
66) 1,2,4-Trimethylbenzene	24.529	120	9022	0.15 ppbv	98
67) BenzylChloride(a-Chlor...	25.189	91	2617	N.D.	
68) 1,3-Dichlorobenzene	25.046	146	2514	N.D.	
69) 1,4-Dichlorobenzene	0.000		0	N.D. d	
70) 1,2-Dichlorobenzene	25.849	146	2020	N.D.	
71) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
72) Hexachlorobutadiene	30.075	225	1679	N.D.	

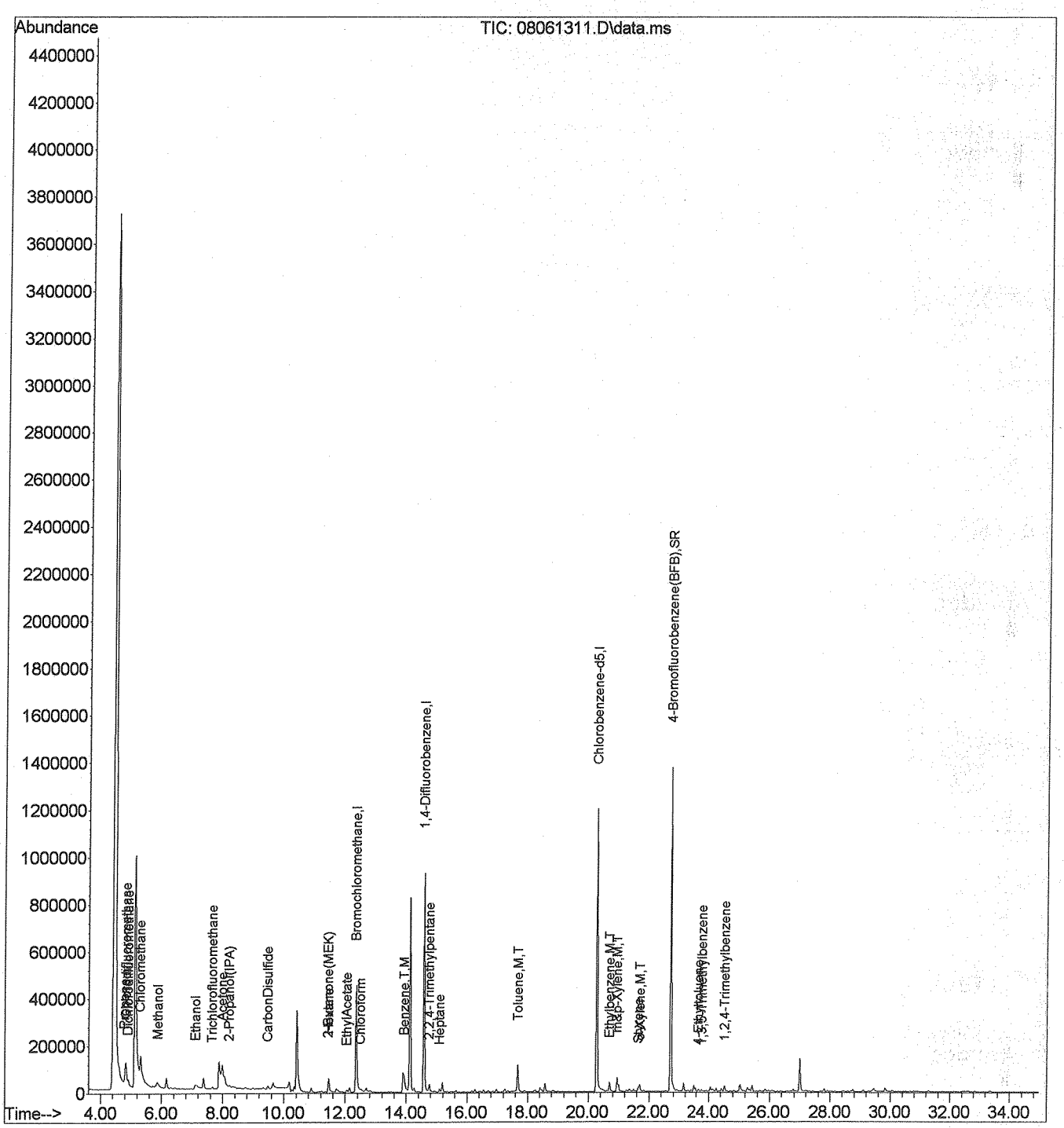
(#) = qualifier out of range (m) = manual integration (+) = signals summed

8/7/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061311.D
Acq On : 6 Aug 2013 15:48
Operator : JJG
Sample : 131029-65222 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:52 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061313.D
Acq On : 6 Aug 2013 17:24
Operator : JJG
Sample : 131029-65223 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 18:33:03 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	175279	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1024368	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	957983	10.00 ppbv	0.00
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	563612	10.24 ppbv	0.00
Spiked Amount 10.000			Recovery = 102.40%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.817	51	7895	0.18 ppbv #	97
3) Propene	4.799	42	5015	0.37 ppbv #	64
4) Dichlorodifluoromethane	4.908	85	20805	0.33 ppbv	99
5) Chloromethane	5.288	52	2514	0.29 ppbv #	16
6) Dichlorotetrafluoroethane	5.324	135	293	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	52342m	4.92 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	0.000		0	N.D. d	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.152	45	27234m	2.32 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	8.002	58	50500m	3.80 ppbv	
16) Trichlorofluoromethane	7.659	103	5383	0.15 ppbv #	90
17) 2-Propanol(IPA)	8.256	45	11027m	0.26 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	
21) AllylChloride	9.215	39	650	N.D.	
22) CarbonDisulfide	9.486	76	33076m	0.46 ppbv	
23) Trichlorotrifluoroethane	0.000		0	N.D. d	
24) trans-1,2-Dichloroethene	10.424	96	577	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	11183	0.91 ppbv #	26
29) cis-1,2-Dichloroethene	11.904	96	1898	0.07 ppbv #	83
30) Hexane	11.458	86	1853	0.34 ppbv	81
31) Chloroform	12.493	83	4361	0.08 ppbv #	87
32) EthylAcetate	12.065	43	7426	0.11 ppbv #	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061313.D
Acq On : 6 Aug 2013 17:24
Operator : JJG
Sample : 131029-65223 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 18:33:03 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D. d	
34) 1,2-Dichloroethane	13.598	62	994	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	18446	0.21 ppbv	99
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	14.008	69	507	N.D.	
40) 1,2-Dichloropropane	15.488	63	126	N.D.	
41) Bromodichloromethane	0.000		0	N.D.	
42) 1,4-Dioxane	0.000		0	N.D.	
43) Trichloroethene(TCE)	15.292	130	1432	N.D.	
44) 2,2,4-Trimethylpentane	14.757	57	28136	0.16 ppbv	98
45) Heptane	15.096	71	2383	0.08 ppbv #	69
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.558	58	875	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	1617	N.D.	
49) 1,1,2-Trichloroethane	17.842	97	278	N.D.	
50) Toluene	17.664	91	177213	1.67 ppbv #	99
51) 2-Hexanone(MBK)	0.000		0	N.D.	
52) Dibromochloromethane	19.001	129	1241	N.D.	
53) 1,2-Dibromoethane	0.000		0	N.D.	
54) Tetrachloroethene(PCE)	19.019	166	1728	N.D.	
56) Chlorobenzene	0.000		0	N.D. d	
57) Ethylbenzene	20.695	91	65212	0.48 ppbv	97
58) m&p-Xylene	20.945	106	58817	1.15 ppbv	95
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.658	104	4587	0.06 ppbv #	75
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	24140	0.23 ppbv	98
64) 4-Ethyltoluene	23.673	120	2611	0.06 ppbv #	96
65) 1,3,5-Trimethylbenzene	23.780	120	1874	N.D.	
66) 1,2,4-Trimethylbenzene	24.529	120	7637	0.13 ppbv #	84
67) BenzylChloride(a-Chlor...	25.171	91	270	N.D.	
68) 1,3-Dichlorobenzene	25.064	146	193	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	10359	0.12 ppbv	96
70) 1,2-Dichlorobenzene	25.849	146	445	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	906	N.D.	
72) Hexachlorobutadiene	0.000		0	N.D.	

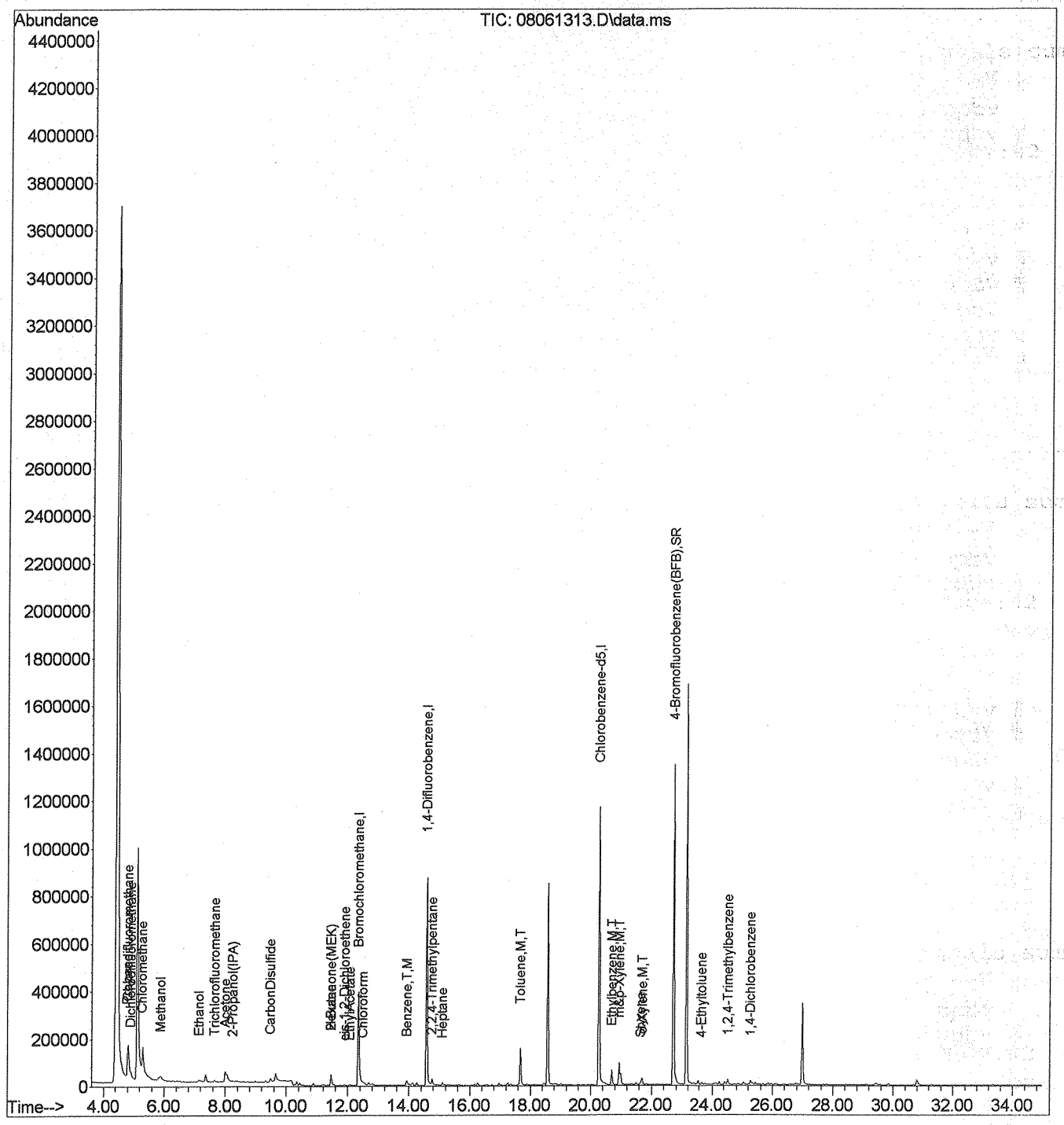
(#) = qualifier out of range (m) = manual integration (+) = signals summed

8/22/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061313.D
Acq On : 6 Aug 2013 17:24
Operator : JJG
Sample : 131029-65223 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 18:33:03 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061314.D
Acq On : 6 Aug 2013 18:11
Operator : JJG
Sample : 131029-65224 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 06 19:02:49 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	173691	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1034617	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	951548	10.00 ppbv	0.00
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	546246	9.99 ppbv	0.00
Spiked Amount 10.000			Recovery = 99.90%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.836	51	8660	0.19 ppbv #	97
3) Propene	4.799	42	6776	0.50 ppbv #	65
4) Dichlorodifluoromethane	4.908	85	22093	0.35 ppbv	99
5) Chloromethane	5.306	52	2461	0.29 ppbv #	1
6) Dichlorotetrafluoroethane	5.324	135	181	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.867	31	119902m	11.38 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	0.000		0	N.D. d	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.116	45	34045m	2.93 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	43094m	3.27 ppbv	
16) Trichlorofluoromethane	7.659	103	10625	0.30 ppbv	96
17) 2-Propanol(IPA)	8.220	45	29252m	0.69 ppbv	
18) Acrylonitrile	0.000		0	N.D.	
19) 1,1-Dichloroethene	0.000		0	N.D.	
20) MethyleneChloride(DCM)	9.323	84	7656	0.36 ppbv	87
21) AllylChloride	9.215	39	782	N.D.	
22) CarbonDisulfide	0.000		0	N.D. d	
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)	0.000		0	N.D. d	
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	2171	0.41 ppbv	95
31) Chloroform	12.493	83	5928	0.11 ppbv #	88
32) EthylAcetate	12.065	43	4652	0.07 ppbv #	91

8/06/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061314.D
Acq On : 6 Aug 2013 18:11
Operator : JJG
Sample : 131029-65224 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 06 19:02:49 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

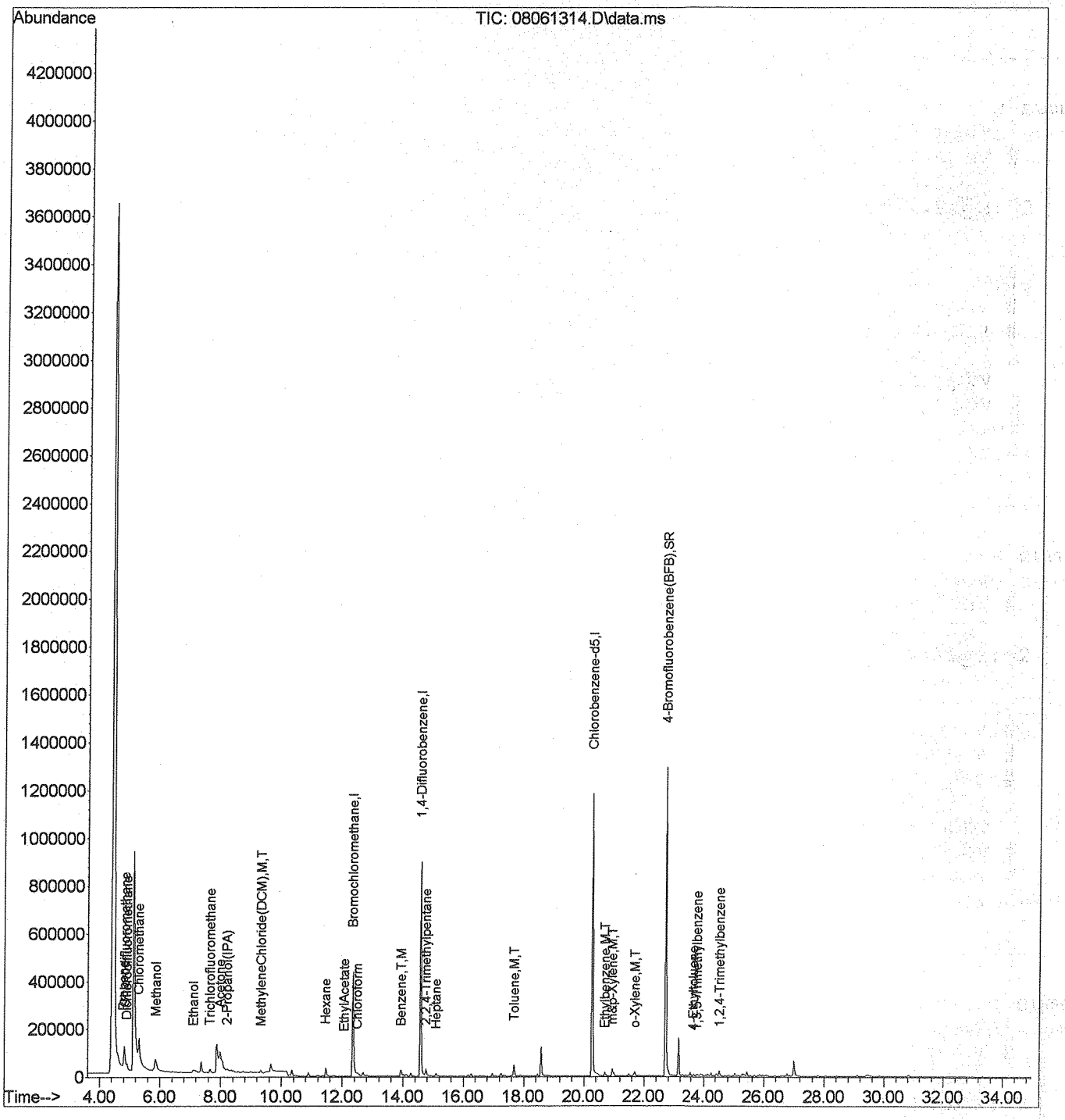
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D. d	
34) 1,2-Dichloroethane	13.598	62	151	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	25948	0.29 ppbv	94
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.417	63	1057	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	34041	0.20 ppbv	97
45) Heptane	15.096	71	3276	0.11 ppbv	92
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.576	58	715	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	587	N.D.	
49) 1,1,2-Trichloroethane	17.842	97	337	N.D.	
50) Toluene	17.682	91	54619	0.51 ppbv	98
51) 2-Hexanone(MBK)	0.000		0	N.D.	
52) Dibromochloromethane	19.001	129	149	N.D.	
53) 1,2-Dibromoethane	0.000		0	N.D.	
54) Tetrachloroethene(PCE)	19.019	166	299	N.D.	
56) Chlorobenzene	20.285	114	174	N.D.	
57) Ethylbenzene	20.695	91	16219	0.12 ppbv	95
58) m&p-Xylene	20.945	106	17619	0.35 ppbv #	92
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.658	104	1384	N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	15665	0.15 ppbv	97
64) 4-Ethyltoluene	23.673	120	2100	0.05 ppbv #	84
65) 1,3,5-Trimethylbenzene	23.780	120	2649	0.05 ppbv #	84
66) 1,2,4-Trimethylbenzene	24.529	120	8041	0.14 ppbv #	92
67) BenzylChloride(a-Chlor...	25.189	91	141	N.D.	
68) 1,3-Dichlorobenzene	0.000		0	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	1334	N.D.	
70) 1,2-Dichlorobenzene	25.849	146	134	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	524	N.D.	
72) Hexachlorobutadiene	0.000		0	N.D.	

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061314.D
Acq On : 6 Aug 2013 18:11
Operator : JJG
Sample : 131029-65224 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 06 19:02:49 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



4/08/2013

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061315.D
Acq On : 6 Aug 2013 18:58
Operator : JJG
Sample : 131029-65225 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 20:11:36 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	177966	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1002791	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	929319	10.00 ppbv	0.00
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	548219	10.26 ppbv	0.00
Spiked Amount 10.000			Recovery = 102.60%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.835	51	7168	0.16 ppbv #	96
3) Propene	4.799	42	18668	1.35 ppbv	89
4) Dichlorodifluoromethane	4.908	85	17421	0.27 ppbv	98
5) Chloromethane	5.306	52	2225	0.25 ppbv #	1
6) Dichlorotetrafluoroethane	5.342	135	116	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	77669m	7.19 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	0.000		0	N.D. d	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.152	45	30690m	2.57 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	8.020	58	32546m	2.41 ppbv	
16) Trichlorofluoromethane	7.658	103	7490	0.20 ppbv #	94
17) 2-Propanol(IPA)	8.256	45	10352m	0.24 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	
21) AllylChloride	9.233	39	757	N.D.	
22) CarbonDisulfide	0.000		0	N.D. d	
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)	0.000		0	N.D. d	
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	2036	0.37 ppbv	93
31) Chloroform	12.493	83	5425	0.10 ppbv #	89
32) EthylAcetate	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061315.D
Acq On : 6 Aug 2013 18:58
Operator : JJG
Sample : 131029-65225 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 20:11:36 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D. d	
34) 1,2-Dichloroethane	0.000		0	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	23430	0.27 ppbv	97
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.363	63	400	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	29931	0.18 ppbv	98
45) Heptane	15.096	71	2331	0.08 ppbv #	87
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.576	58	655	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	332	N.D.	
49) 1,1,2-Trichloroethane	17.860	97	110	N.D.	
50) Toluene	17.682	91	50609	0.49 ppbv	98
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)	19.001	166	255	N.D.	
56) Chlorobenzene	20.285	114	402	N.D.	
57) Ethylbenzene	20.695	91	14184	0.11 ppbv	97
58) m&p-Xylene	20.945	106	15565	0.31 ppbv	99
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.676	104	1081	N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	13068	0.13 ppbv	97
64) 4-Ethyltoluene	0.000		0	N.D. d	
65) 1,3,5-Trimethylbenzene	23.780	120	2020	N.D.	
66) 1,2,4-Trimethylbenzene	24.529	120	7957	0.14 ppbv	97
67) BenzylChloride(a-Chlor...	25.100	91	255	N.D.	
68) 1,3-Dichlorobenzene	0.000		0	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	1205	N.D.	
70) 1,2-Dichlorobenzene	0.000		0	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	361	N.D.	
72) Hexachlorobutadiene	0.000		0	N.D.	

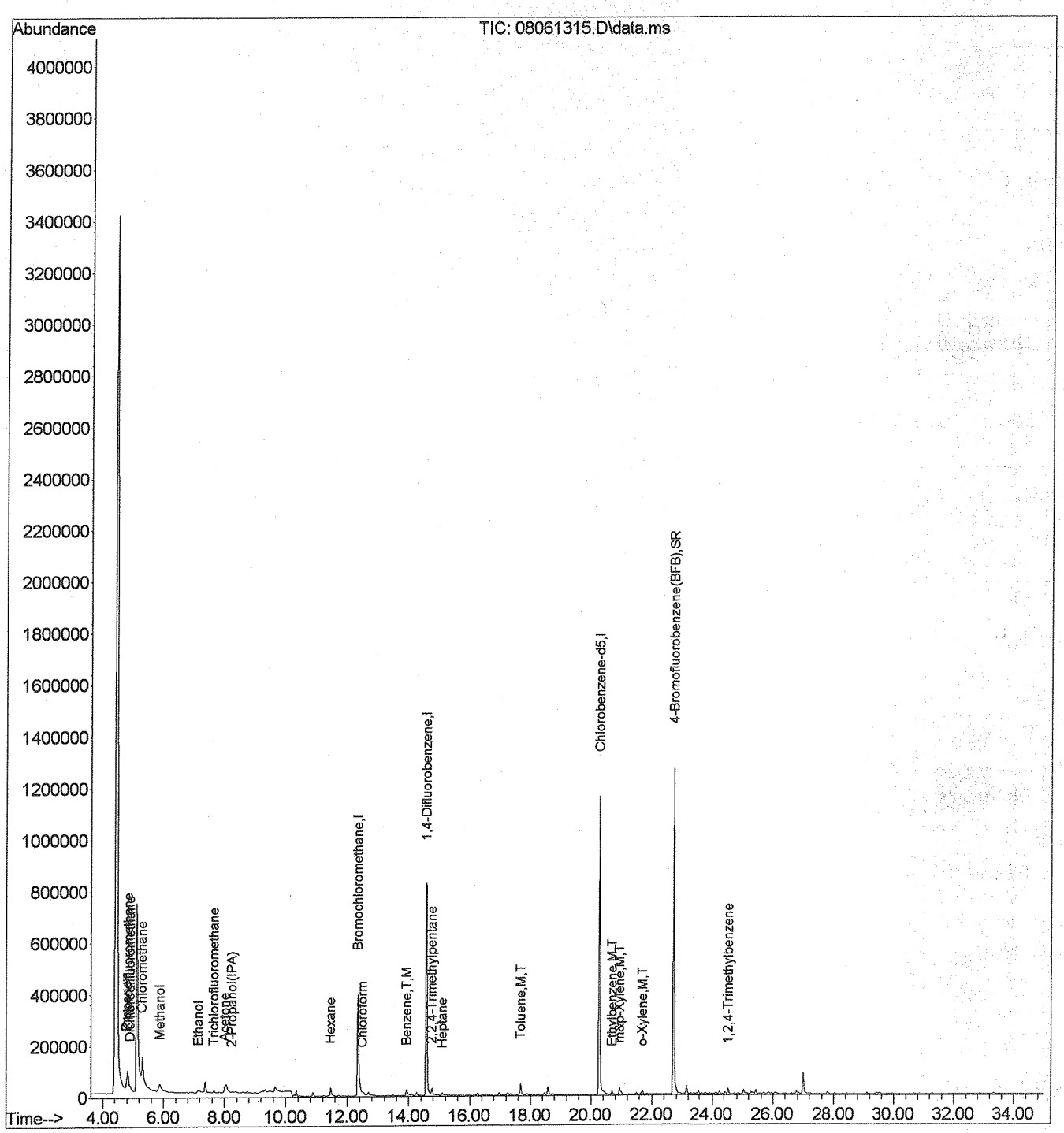
(#) = qualifier out of range (m) = manual integration (+) = signals summed

8/06/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061315.D
Acq On : 6 Aug 2013 18:58
Operator : JJG
Sample : 131029-65225 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 20:11:36 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



TO-15 RAW QC & ICAL SUMMARY

Y

MS #3 Instrument Logbook

Sequence Name: C:\msdchem\1\sequence\2013\080613.S
Comment: GCMS-03
Operator: JJG
Data Path: C:\MSDCHEM\1\MS03\2013\080613\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info
1)	Sample	1	08061301 TO15-5MS TO15 BFB 080613
2)	Sample	1	08061302 TO15-5MS TO15 CCV 080613
3)	Sample	1	08061303 TO15-5MS TO15 LCSD 080613
4)	Sample	1	08061304 TO15-5MS TO15 MB 080613
5)	Sample	2	08061305 TO15-5MS 131023-65188 x1
6)	Sample	2	08061306 TO15-5MS 131023-65188 x1 dp
7)	Sample	3	08061307 TO15-5MS 131023-65189 x1
8)	Sample	4	08061308 TO15-5MS 131023-65190 x1
9)	Sample	5	08061309 TO15-5MS 131023-65191 x1
10)	Sample	1	08061310 TO15-5MS TO15 Close CCV 080613
11)	Sample	6	08061311 TO15-5MS 131029-65222 x1
12)	Sample	6	08061312 TO15-5MS 131029-65222 x1 dp
13)	Sample	7	08061313 TO15-5MS 131029-65223 x1
14)	Sample	8	08061314 TO15-5MS 131029-65224 x1
15)	Sample	9	08061315 TO15-5MS 131029-65225 x1
16)	Sample	10	08061316 TO15-5MS Flow Check#080613-01
17)	Sample	16	08061317 TO15-5MS Siloxane 11ppbv std.
18)	Sample	16	08061318 TO15-5MS Siloxane 11ppbv std.dp
19)	Sample	16	08061319 TO15-5MS Siloxane 11ppbv std.rr
20)	Sample	15	08061320 TO15-5MS Siloxane 11ppbv std.
21)	Sample	15	08061321 TO15-5MS Siloxane 11ppbv std.dp
22)	Sample	15	08061322 TO15-5MS Siloxane 11ppbv std.rr
23)	Sample	14	08061323 TO15-5MS Siloxane 11ppbv std.
24)	Sample	14	08061324 TO15-5MS Siloxane 11ppbv std.dp
25)	Sample	14	08061325 TO15-5MS Siloxane 11ppbv std.rr
26)	Sample	13	08061326 TO15-5MS Lab Air 080613 x1

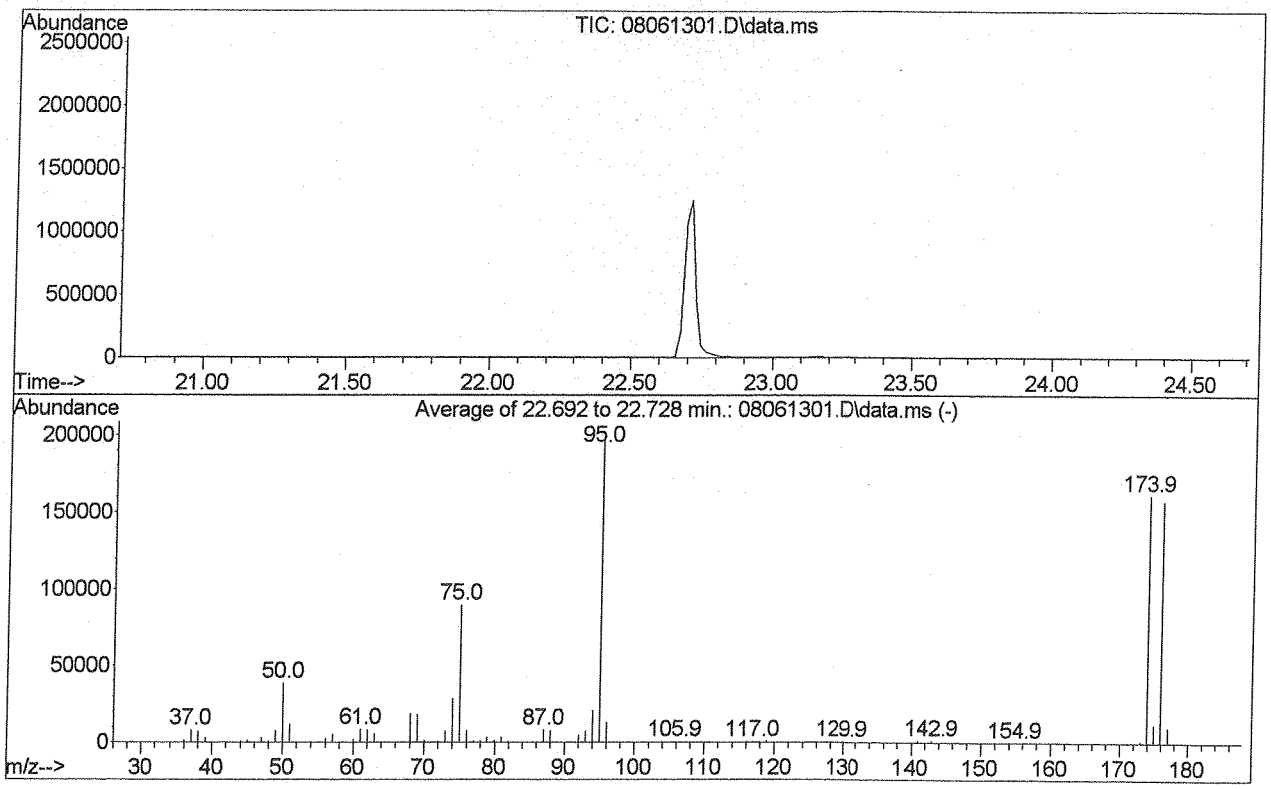
Comments: 08/06/13

Analyst: _____ **Date:** 08/06/13

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061301.D
Acq On : 6 Aug 2013 7:56 am
Operator : JJG
Sample : TO15 BFB 080613
Misc : IS/Surr: PS082212-01 + 500mL cc SN:1195
ALS Vial : 1 Sample Multiplier: 1

Integration File: PAMS.P

Method : C:\msdchem\1\METHODS\2013\072213.M
Title : TO-15/TO-14
Last Update : Tue Jul 23 12:50:49 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	19.4	38561	PASS
75	95	30	60	45.0	89464	PASS
95	95	100	100	100.0	198909	PASS
96	95	5	9	6.6	13141	PASS
173	174	0.00	2	0.8	1235	PASS
174	95	50	100	81.2	161539	PASS
175	174	5	9	7.4	11927	PASS
176	174	95	101	97.5	157445	PASS
177	176	5	9	6.6	10361	PASS

08/06/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061302.D
Acq On : 6 Aug 2013 8:42
Operator : JJG
Sample : TO15 CCV 080613
Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:33:36 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	195758	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1053487	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1004508	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	588286	10.19	ppbv	0.00
Spiked Amount 10.000			Recovery = 101.90%			
Target Compounds						Qvalue
2) Chlorodifluoromethane	4.817	51	496216m	9.90	ppbv	
3) Propene	4.781	42	158177m	10.43	ppbv	
4) Dichlorodifluoromethane	4.908	85	693693	9.83	ppbv	99
5) Chloromethane	5.306	52	90744m	9.33	ppbv	
6) Dichlorotetrafluoroethane	5.342	135	424280m	10.12	ppbv	
7) VinylChloride	5.668	62	292873m	9.82	ppbv	
8) Methanol	5.867	31	58087m	4.89	ppbv	
9) 1,3-Butadiene	5.867	54	194068m	9.77	ppbv	
10) Bromomethane	6.446	96	166907m	8.38	ppbv	
11) Chloroethane	6.736	66	45352	10.40	ppbv	100
12) Dichlorofluoromethane	7.025	67	571664m	9.92	ppbv	
13) Ethanol	7.061	45	133841m	10.20	ppbv	
14) VinylBromide	7.260	108	207267m	9.97	ppbv	
15) Acetone	7.966	58	143907m	9.68	ppbv	
16) Trichlorofluoromethane	7.677	103	409978	10.20	ppbv	99
17) 2-Propanol(IPA)	8.165	45	500189m	10.47	ppbv	
18) Acrylonitrile	8.961	52	223675m	10.22	ppbv	
19) 1,1-Dichloroethene	8.726	96	227464m	9.73	ppbv	
20) MethyleneChloride(DCM)	9.323	84	240698m	9.99	ppbv	
21) AllylChloride	9.305	39	236352m	9.62	ppbv	
22) CarbonDisulfide	9.486	76	777436m	9.58	ppbv	
23) Trichlorotrifluoroethane	8.998	103	336956	10.13	ppbv	97
24) trans-1,2-Dichloroethene	10.424	96	274671m	10.37	ppbv	
25) 1,1-Dichloroethane	10.906	63	609328	10.10	ppbv	99
26) MethylTertButylEther(M...	10.442	73	727935	11.13	ppbv	100
27) VinylAcetate	10.888	43	844375m	9.30	ppbv	
28) 2-Butanone(MEK)	11.423	72	153415m	11.17	ppbv	
29) cis-1,2-Dichloroethene	11.904	96	300554m	10.33	ppbv	
30) Hexane	11.458	86	63849	10.57	ppbv	89
31) Chloroform	12.493	83	620516	10.45	ppbv	100
32) EthylAcetate	12.011	43	842742	10.80	ppbv	100

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061302.D
Acq On : 6 Aug 2013 8:42
Operator : JJG
Sample : TO15 CCV 080613
Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:33:36 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

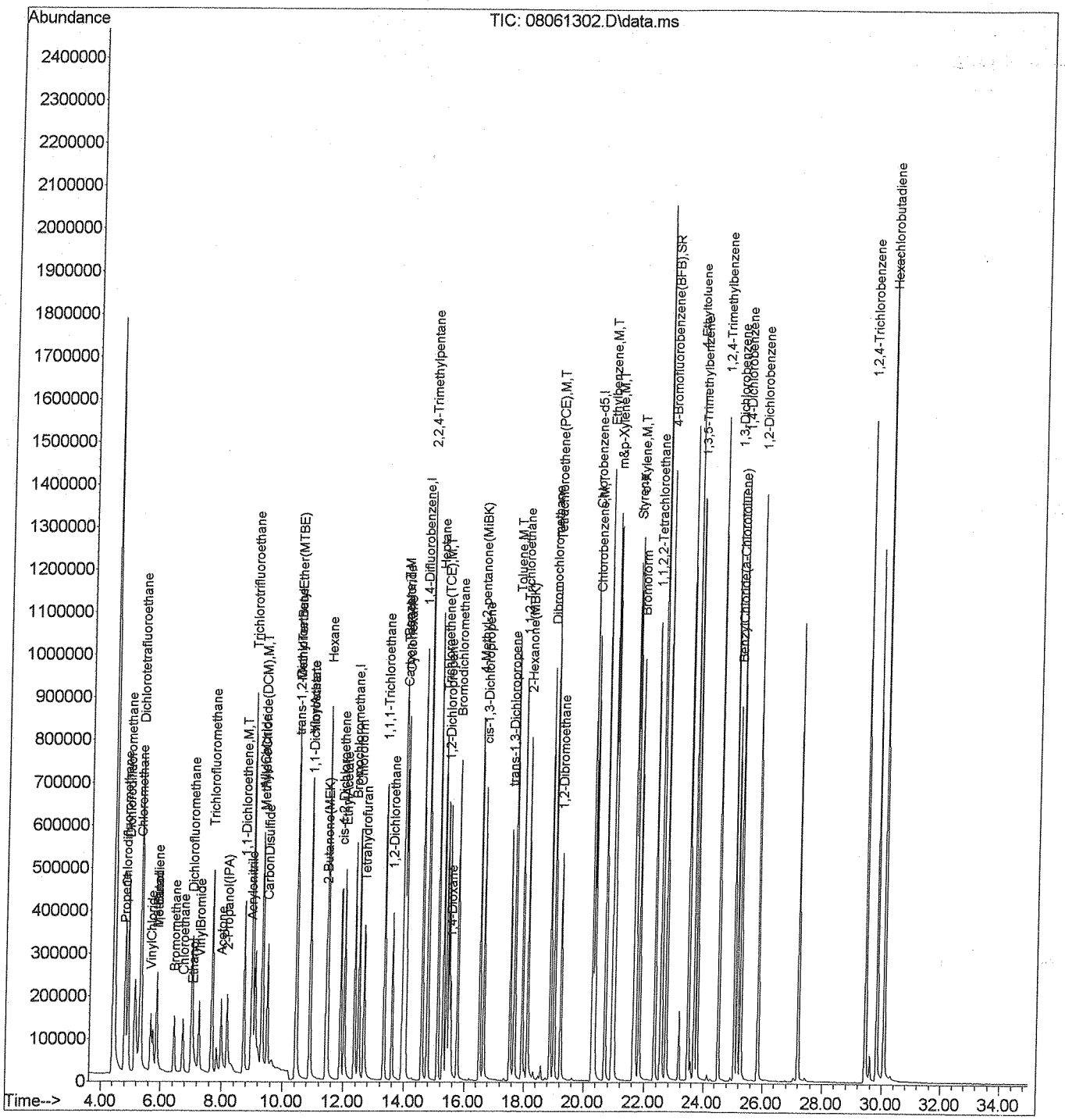
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
33) Tetrahydrofuran	12.671	72	146168m	10.52	ppbv		
34) 1,2-Dichloroethane	13.580	62	455873	10.51	ppbv		99
35) 1,1,1-Trichloroethane	13.331	97	647733	10.48	ppbv		99
37) Benzene	13.937	78	909613	9.86	ppbv		100
38) CarbonTetrachloride	13.973	117	619126	9.98	ppbv		100
39) Cyclohexane	14.026	69	137482	9.72	ppbv		98
40) 1,2-Dichloropropane	15.399	63	401514	9.96	ppbv		99
41) Bromodichloromethane	15.756	85	439671	9.89	ppbv		100
42) 1,4-Dioxane	15.524	88	207853m	9.48	ppbv		
43) Trichloroethene(TCE)	15.292	130	377835	10.04	ppbv		99
44) 2,2,4-Trimethylpentane	14.757	57	1867643	10.51	ppbv		99
45) Heptane	15.096	71	308858	10.35	ppbv		97
46) cis-1,3-Dichloropropene	16.647	75	550675	10.60	ppbv		98
47) 4-Methyl-2-pentanone(M...	16.505	58	366399	10.10	ppbv		94
48) trans-1,3-Dichloropropene	17.521	75	498253m	9.62	ppbv		
49) 1,1,2-Trichloroethane	17.931	97	398067	10.21	ppbv		100
50) Toluene	17.664	91	1116621	10.21	ppbv		98
51) 2-Hexanone(MBK)	18.110	58	467506	10.36	ppbv		97
52) Dibromochloromethane	18.876	129	725858	11.22	ppbv		99
53) 1,2-Dibromoethane	19.215	107	602416	10.05	ppbv		99
54) Tetrachloroethene(PCE)	19.001	166	513030	10.26	ppbv	#	91
56) Chlorobenzene	20.339	114	278423	10.45	ppbv		92
57) Ethylbenzene	20.695	91	1467817	10.31	ppbv		99
58) m&p-Xylene	20.945	106	1079586	20.13	ppbv		99
59) Bromoform	21.819	173	690698	10.13	ppbv		99
60) Styrene	21.640	104	891410	10.37	ppbv		99
61) 1,1,2,2-Tetrachloroethane	22.318	83	928780	10.37	ppbv		98
62) o-Xylene	21.694	91	1133479	10.23	ppbv		99
64) 4-Ethyltoluene	23.673	120	453501	10.40	ppbv		98
65) 1,3,5-Trimethylbenzene	23.780	120	623369	10.05	ppbv		99
66) 1,2,4-Trimethylbenzene	24.529	120	613625	10.04	ppbv		100
67) BenzylChloride(a-Chlor...	25.153	91	1037711m	10.35	ppbv		
68) 1,3-Dichlorobenzene	25.028	146	893335	10.01	ppbv		98
69) 1,4-Dichlorobenzene	25.260	146	869895m	9.68	ppbv		
70) 1,2-Dichlorobenzene	25.831	146	905097m	9.67	ppbv		
71) 1,2,4-Trichlorobenzene	29.433	180	806804m	9.11	ppbv		
72) Hexachlorobutadiene	30.075	225	695208m	10.09	ppbv		

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061302.D
Acq On : 6 Aug 2013 8:42
Operator : JJG
Sample : TO15 CCV 080613
Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:33:36 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061303.D
Acq On : 6 Aug 2013 9:29
Operator : JJG
Sample : TO15 LCSD 080613
Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:35:45 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	195042	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1057241	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	991603	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	584403	10.25	ppbv	0.00
Spiked Amount 10.000			Recovery = 102.50%			
Target Compounds						Qvalue
2) Chlorodifluoromethane	4.817	51	492998m	9.87	ppbv	
3) Propene	4.781	42	159914m	10.58	ppbv	
4) Dichlorodifluoromethane	4.908	85	684786	9.74	ppbv	99
5) Chloromethane	5.306	52	93203m	9.61	ppbv	
6) Dichlorotetrafluoroethane	5.342	135	433253	10.37	ppbv	95
7) VinylChloride	5.668	62	299550m	10.08	ppbv	
8) Methanol	5.867	31	56905m	4.81	ppbv	
9) 1,3-Butadiene	5.867	54	195224m	9.86	ppbv	
10) Bromomethane	6.446	96	180055m	9.07	ppbv	
11) Chloroethane	6.736	66	46398	10.68	ppbv	99
12) Dichlorofluoromethane	7.025	67	577310m	10.05	ppbv	
13) Ethanol	7.061	45	129843m	9.93	ppbv	
14) VinylBromide	7.260	108	216342m	10.45	ppbv	
15) Acetone	7.966	58	139260m	9.41	ppbv	
16) Trichlorofluoromethane	7.677	103	407168	10.16	ppbv	100
17) 2-Propanol(IPA)	8.165	45	495570m	10.41	ppbv	
18) Acrylonitrile	8.961	52	226552m	10.39	ppbv	
19) 1,1-Dichloroethene	8.726	96	220433	9.47	ppbv	99
20) MethyleneChloride(DCM)	9.323	84	234634m	9.77	ppbv	
21) AllylChloride	9.305	39	235869m	9.63	ppbv	
22) CarbonDisulfide	9.486	76	788818m	9.76	ppbv	
23) Trichlorotrifluoroethane	8.998	103	341272	10.30	ppbv	96
24) trans-1,2-Dichloroethene	10.424	96	281396m	10.66	ppbv	
25) 1,1-Dichloroethane	10.906	63	619398	10.30	ppbv	99
26) MethylTertButylEther(M...	10.442	73	733794	11.26	ppbv	99
27) VinylAcetate	10.888	43	854723m	9.45	ppbv	
28) 2-Butanone(MEK)	11.423	72	147420	10.78	ppbv #	91
29) cis-1,2-Dichloroethene	11.904	96	305023	10.52	ppbv	94
30) Hexane	11.476	86	61794	10.27	ppbv	90
31) Chloroform	12.493	83	634573	10.73	ppbv	100
32) EthylAcetate	12.011	43	840845	10.81	ppbv	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061303.D
Acq On : 6 Aug 2013 9:29
Operator : JJG
Sample : TO15 LCSD 080613
Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
ALS Vial : 1 Sample Multiplier: 1

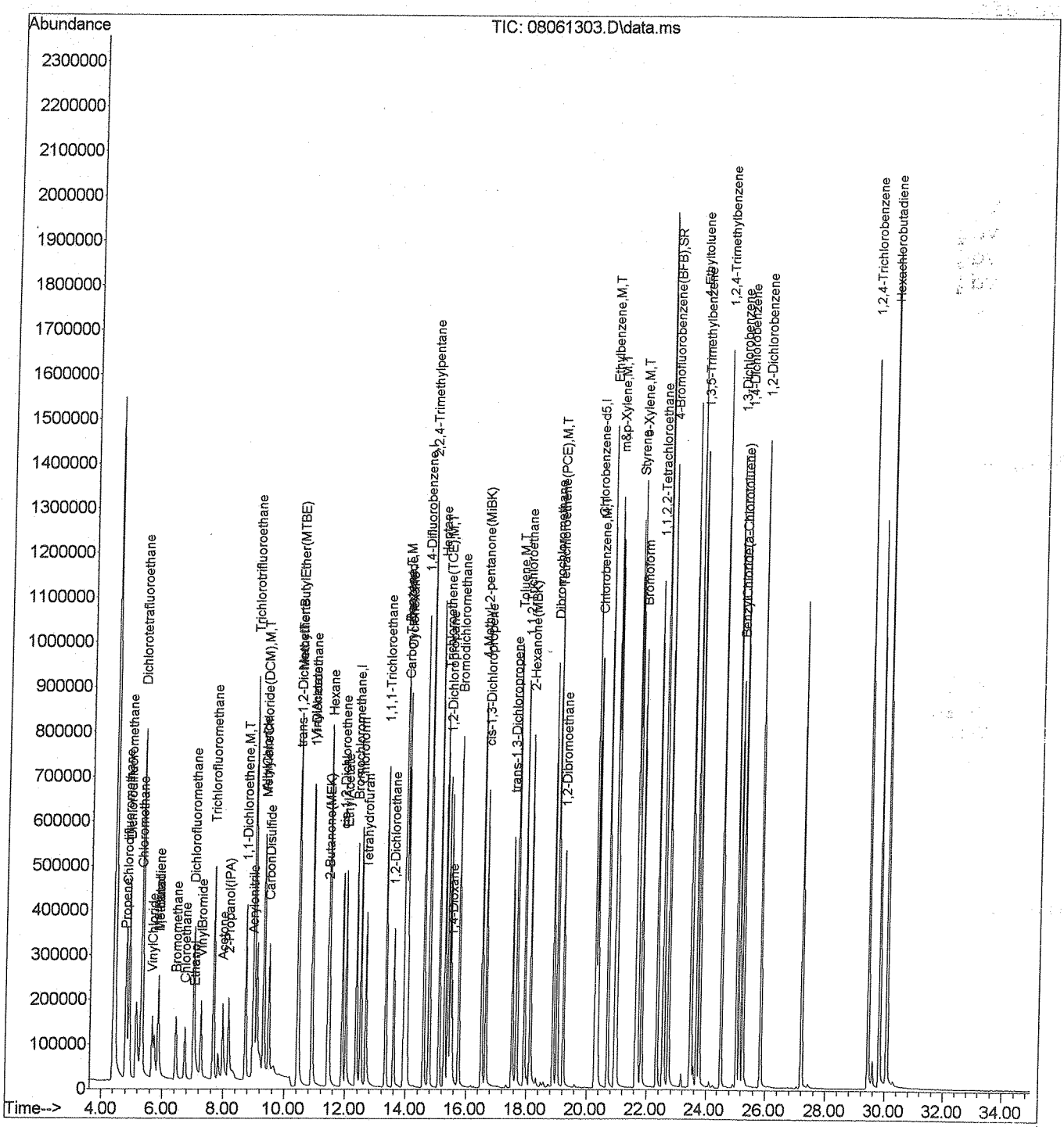
Quant Time: Aug 06 10:35:45 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	12.671	72	146435	10.57 ppbv	86
34) 1,2-Dichloroethane	13.580	62	449189	10.39 ppbv	99
35) 1,1,1-Trichloroethane	13.331	97	645565	10.48 ppbv	99
37) Benzene	13.937	78	921648	9.96 ppbv	100
38) CarbonTetrachloride	13.973	117	615256	9.88 ppbv	100
39) Cyclohexane	14.026	69	137536	9.69 ppbv	98
40) 1,2-Dichloropropane	15.399	63	403449	9.97 ppbv	99
41) Bromodichloromethane	15.756	85	442107	9.91 ppbv	99
42) 1,4-Dioxane	15.524	88	215905m	9.81 ppbv	
43) Trichloroethene(TCE)	15.292	130	377264	9.99 ppbv	100
44) 2,2,4-Trimethylpentane	14.757	57	1846423	10.36 ppbv	100
45) Heptane	15.096	71	313489	10.47 ppbv	98
46) cis-1,3-Dichloropropene	16.647	75	550593	10.56 ppbv	99
47) 4-Methyl-2-pentanone(M...	16.523	58	372826	10.25 ppbv	99
48) trans-1,3-Dichloropropene	17.521	75	470406	9.05 ppbv	99
49) 1,1,2-Trichloroethane	17.931	97	398093	10.17 ppbv	99
50) Toluene	17.682	91	1111994	10.13 ppbv	100
51) 2-Hexanone(MBK)	18.110	58	480526	10.61 ppbv	97
52) Dibromochloromethane	18.876	129	720059	11.09 ppbv	99
53) 1,2-Dibromoethane	19.233	107	618345	10.28 ppbv	99
54) Tetrachloroethene(PCE)	19.019	166	510369	10.18 ppbv	99
56) Chlorobenzene	20.356	114	275168	10.46 ppbv	100
57) Ethylbenzene	20.695	91	1480960	10.54 ppbv	99
58) m&p-Xylene	20.945	106	1077831	20.36 ppbv	99
59) Bromoform	21.819	173	699250	10.39 ppbv	100
60) Styrene	21.640	104	924927	10.89 ppbv	99
61) 1,1,2,2-Tetrachloroethane	22.336	83	931101	10.53 ppbv	99
62) o-Xylene	21.694	91	1137355	10.40 ppbv	99
64) 4-Ethyltoluene	23.673	120	460002	10.68 ppbv	96
65) 1,3,5-Trimethylbenzene	23.780	120	630885	10.31 ppbv	99
66) 1,2,4-Trimethylbenzene	24.529	120	634749	10.52 ppbv	98
67) BenzylChloride(a-Chlor...	25.153	91	1060764	10.72 ppbv	99
68) 1,3-Dichlorobenzene	25.028	146	937135	10.63 ppbv	98
69) 1,4-Dichlorobenzene	25.260	146	886272m	9.99 ppbv	
70) 1,2-Dichlorobenzene	25.831	146	941133m	10.19 ppbv	
71) 1,2,4-Trichlorobenzene	29.433	180	858079m	9.82 ppbv	
72) Hexachlorobutadiene	30.075	225	706247m	10.39 ppbv	

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

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061303.D
Acq On : 6 Aug 2013 9:29
Operator : JJG
Sample : TO15 LCSD 080613
Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:35:45 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061304.D
Acq On : 6 Aug 2013 10:17
Operator : JJG
Sample : TO15 MB 080613
Misc : IS/Surr: PS082212-01 + 500mL cc SN:1195
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:55:43 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	192750	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1069247	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	980596	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	585563	10.39	ppbv	0.00
Spiked Amount 10.000			Recovery = 103.90%			
Target Compounds						Qvalue
2) Chlorodifluoromethane	0.000		0	N.D.		
3) Propene	0.000		0	N.D.	d	
4) Dichlorodifluoromethane	0.000		0	N.D.		
5) Chloromethane	5.324	52	291	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.	d	
12) Dichlorofluoromethane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.	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)	8.201	45	114	N.D.		
18) Acrylonitrile	9.088	52	114	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		
20) MethyleneChloride(DCM)	0.000		0	N.D.	d	
21) AllylChloride	9.360	39	112	N.D.		
22) CarbonDisulfide	0.000		0	N.D.	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	12.172	43	379	N.D.		

8/16/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061304.D
Acq On : 6 Aug 2013 10:17
Operator : JJG
Sample : TO15 MB 080613
Misc : IS/Surr: PS082212-01 + 500mL cc SN:1195
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:55:43 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

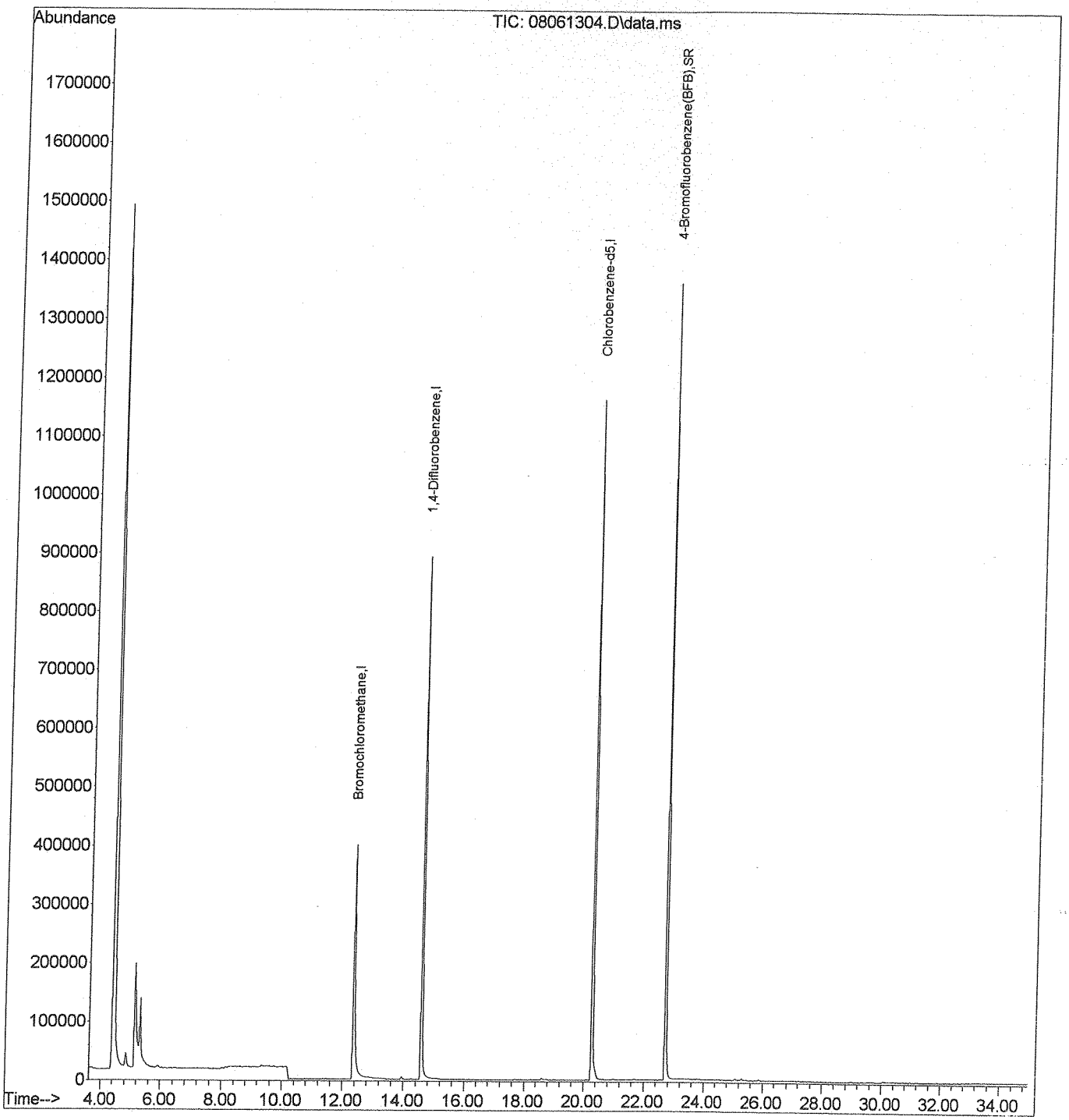
Compound	R.T.	QIon	Response	Conc Units Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.
34) 1,2-Dichloroethane	0.000		0	N.D.
35) 1,1,1-Trichloroethane	0.000		0	N.D.
37) Benzene	0.000		0	N.D. d
38) CarbonTetrachloride	0.000		0	N.D.
39) Cyclohexane	0.000		0	N.D.
40) 1,2-Dichloropropane	15.399	63	146	N.D.
41) 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	17.699	91	1343	N.D.
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	123	N.D.
56) Chlorobenzene	20.339	114	627	N.D.
57) Ethylbenzene	20.713	91	977	N.D.
58) m&p-Xylene	21.016	106	671	N.D.
59) Bromoform	0.000		0	N.D.
60) Styrene	21.694	104	859	N.D.
61) 1,1,2,2-Tetrachloroethane	22.354	83	330	N.D.
62) o-Xylene	21.694	91	688	N.D.
64) 4-Ethyltoluene	23.709	120	294	N.D.
65) 1,3,5-Trimethylbenzene	23.798	120	159	N.D.
66) 1,2,4-Trimethylbenzene	24.547	120	280	N.D.
67) BenzylChloride(a-Chlor...	25.224	91	872	N.D.
68) 1,3-Dichlorobenzene	25.064	146	2424	N.D.
69) 1,4-Dichlorobenzene	0.000		0	N.D. d
70) 1,2-Dichlorobenzene	25.866	146	1639	N.D.
71) 1,2,4-Trichlorobenzene	0.000		0	N.D.
72) Hexachlorobutadiene	30.075	225	750	N.D.

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061304.D
Acq On : 6 Aug 2013 10:17
Operator : JJG
Sample : TO15 MB 080613
Misc : IS/Surr: PS082212-01 + 500mL cc SN:1195
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 06 10:55:43 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061311.D
Acq On : 6 Aug 2013 15:48
Operator : JJG
Sample : 131029-65222 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:52 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	174688	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1033914	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	976015	10.00 ppbv	0.00
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	569215	10.15 ppbv	0.00
Spiked Amount 10.000			Recovery = 101.50%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.836	51	8999	0.20 ppbv #	97
3) Propene	4.799	42	6563	0.48 ppbv #	69
4) Dichlorodifluoromethane	4.908	85	23821	0.38 ppbv	97
5) Chloromethane	5.306	52	2915	0.34 ppbv #	6
6) Dichlorotetrafluoroethane	5.342	135	306	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	44569m	4.20 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	0.000		0	N.D. d	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.116	45	58321m	4.98 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	48053m	3.62 ppbv	
16) Trichlorofluoromethane	7.659	103	5914	0.16 ppbv #	98
17) 2-Propanol(IPA)	8.220	45	22976m	0.54 ppbv	
18) Acrylonitrile	9.016	52	341	N.D.	
19) 1,1-Dichloroethene	0.000		0	N.D.	
20) MethyleneChloride(DCM)	0.000		0	N.D. d	
21) AllylChloride	9.251	39	642	N.D.	
22) CarbonDisulfide	9.486	76	46722m	0.65 ppbv	
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. d	
27) VinylAcetate	0.000		0	N.D. d	
28) 2-Butanone(MEK)	11.441	72	16003m	1.31 ppbv	
29) cis-1,2-Dichloroethene	11.886	96	456	N.D.	
30) Hexane	11.458	86	2340	0.43 ppbv	74
31) Chloroform	12.493	83	5757	0.11 ppbv #	91
32) EthylAcetate	12.047	43	20296	0.29 ppbv	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061311.D
Acq On : 6 Aug 2013 15:48
Operator : JJG
Sample : 131029-65222 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:52 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

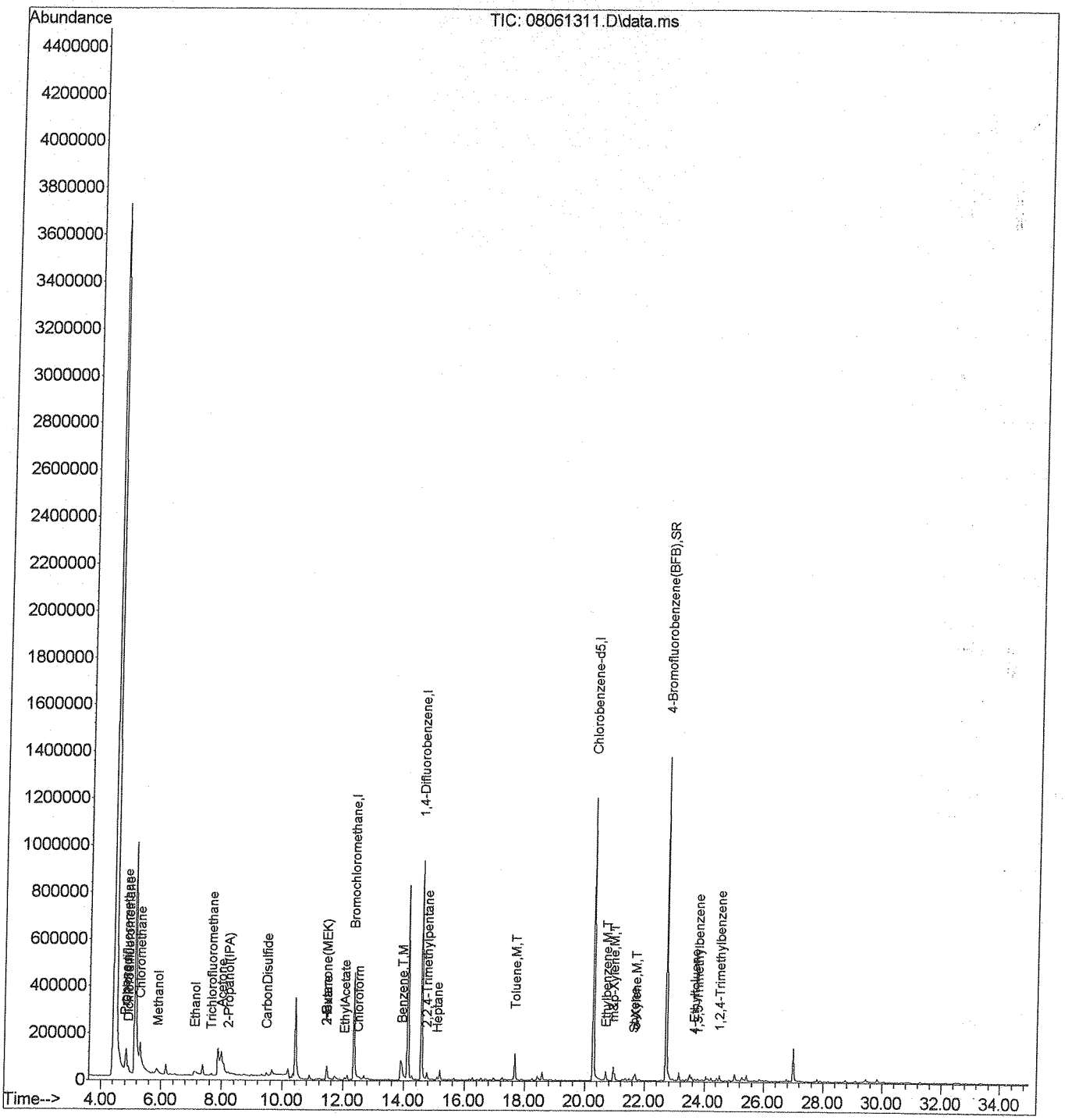
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D. d	
34) 1,2-Dichloroethane	13.598	62	558	N.D.	
35) 1,1,1-Trichloroethane	13.331	97	113	N.D.	
37) Benzene	13.937	78	22028	0.24 ppbv #	94
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.381	63	365	N.D.	
41) Bromodichloromethane	0.000		0	N.D.	
42) 1,4-Dioxane	15.649	88	121	N.D.	
43) Trichloroethene(TCE)	15.292	130	633	N.D.	
44) 2,2,4-Trimethylpentane	14.757	57	34909	0.20 ppbv	95
45) Heptane	15.096	71	3085	0.11 ppbv #	80
46) cis-1,3-Dichloropropene	0.000		0	N.D. d	
47) 4-Methyl-2-pentanone(M...	0.000		0	N.D. d	
48) trans-1,3-Dichloropropene	17.575	75	110	N.D.	
49) 1,1,2-Trichloroethane	17.842	97	465	N.D.	
50) Toluene	17.682	91	121986	1.14 ppbv	99
51) 2-Hexanone(MBK)	0.000		0	N.D. d	
52) Dibromochloromethane	19.001	129	583	N.D.	
53) 1,2-Dibromoethane	19.251	107	121	N.D.	
54) Tetrachloroethene(PCE)	19.019	166	597	N.D.	
56) Chlorobenzene	20.357	114	681	N.D.	
57) Ethylbenzene	20.695	91	39534	0.29 ppbv	96
58) m&p-Xylene	20.945	106	35838	0.69 ppbv	98
59) Bromoform	21.837	173	245	N.D.	
60) Styrene	21.658	104	8669	0.10 ppbv	96
61) 1,1,2,2-Tetrachloroethane	22.354	83	616	N.D.	
62) o-Xylene	21.694	91	20697	0.19 ppbv	99
64) 4-Ethyltoluene	23.673	120	2608	0.06 ppbv #	87
65) 1,3,5-Trimethylbenzene	23.780	120	3116	0.05 ppbv #	93
66) 1,2,4-Trimethylbenzene	24.529	120	9022	0.15 ppbv	98
67) BenzylChloride(a-Chlor...	25.189	91	2617	N.D.	
68) 1,3-Dichlorobenzene	25.046	146	2514	N.D.	
69) 1,4-Dichlorobenzene	0.000		0	N.D. d	
70) 1,2-Dichlorobenzene	25.849	146	2020	N.D.	
71) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
72) Hexachlorobutadiene	30.075	225	1679	N.D.	

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061311.D
Acq On : 6 Aug 2013 15:48
Operator : JJG
Sample : 131029-65222 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:52 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061312.D
Acq On : 6 Aug 2013 16:36
Operator : JJG
Sample : 131029-65222 x1 dp
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:33 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane	12.350	128	171093	10.00	ppbv		0.00
36) 1,4-Difluorobenzene	14.579	114	978711	10.00	ppbv		0.00
55) Chlorobenzene-d5	20.267	117	972267	10.00	ppbv		0.00
System Monitoring Compounds							
63) 4-Bromofluorobenzene(BFB)	22.710	174	564038	10.09	ppbv		0.00
Spiked Amount 10.000			Recovery = 100.90%				
Target Compounds							Qvalue
2) Chlorodifluoromethane	4.835	51	8766	0.20	ppbv	#	98
3) Propene	4.799	42	6113	0.46	ppbv	#	64
4) Dichlorodifluoromethane	4.908	85	22517	0.37	ppbv		99
5) Chloromethane	5.306	52	2846	0.33	ppbv	#	5
6) Dichlorotetrafluoroethane	5.342	135	372	N.D.			
7) VinylChloride	0.000		0	N.D.			
8) Methanol	5.885	31	44817m	4.32	ppbv		
9) 1,3-Butadiene	5.867	54	116	N.D.			
10) Bromomethane	0.000		0	N.D.	d		
11) Chloroethane	0.000		0	N.D.	d		
12) Dichlorofluoromethane	0.000		0	N.D.			
13) Ethanol	7.116	45	56755m	4.95	ppbv		
14) VinylBromide	0.000		0	N.D.			
15) Acetone	7.984	58	47357m	3.65	ppbv		
16) Trichlorofluoromethane	7.658	103	5959	0.17	ppbv	#	97
17) 2-Propanol(IPA)	8.219	45	21855m	0.52	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		
21) AllylChloride	9.233	39	701	N.D.			
22) CarbonDisulfide	9.486	76	47943m	0.68	ppbv		
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.	d		
27) VinylAcetate	0.000		0	N.D.	d		
28) 2-Butanone(MEK)	11.458	72	15215m	1.27	ppbv		
29) cis-1,2-Dichloroethene	11.904	96	521	N.D.			
30) Hexane	11.458	86	2586	0.49	ppbv		71
31) Chloroform	12.492	83	5554	0.11	ppbv	#	87
32) EthylAcetate	12.065	43	19609	0.29	ppbv		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061312.D
Acq On : 6 Aug 2013 16:36
Operator : JJG
Sample : 131029-65222 x1 dp
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:33 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration

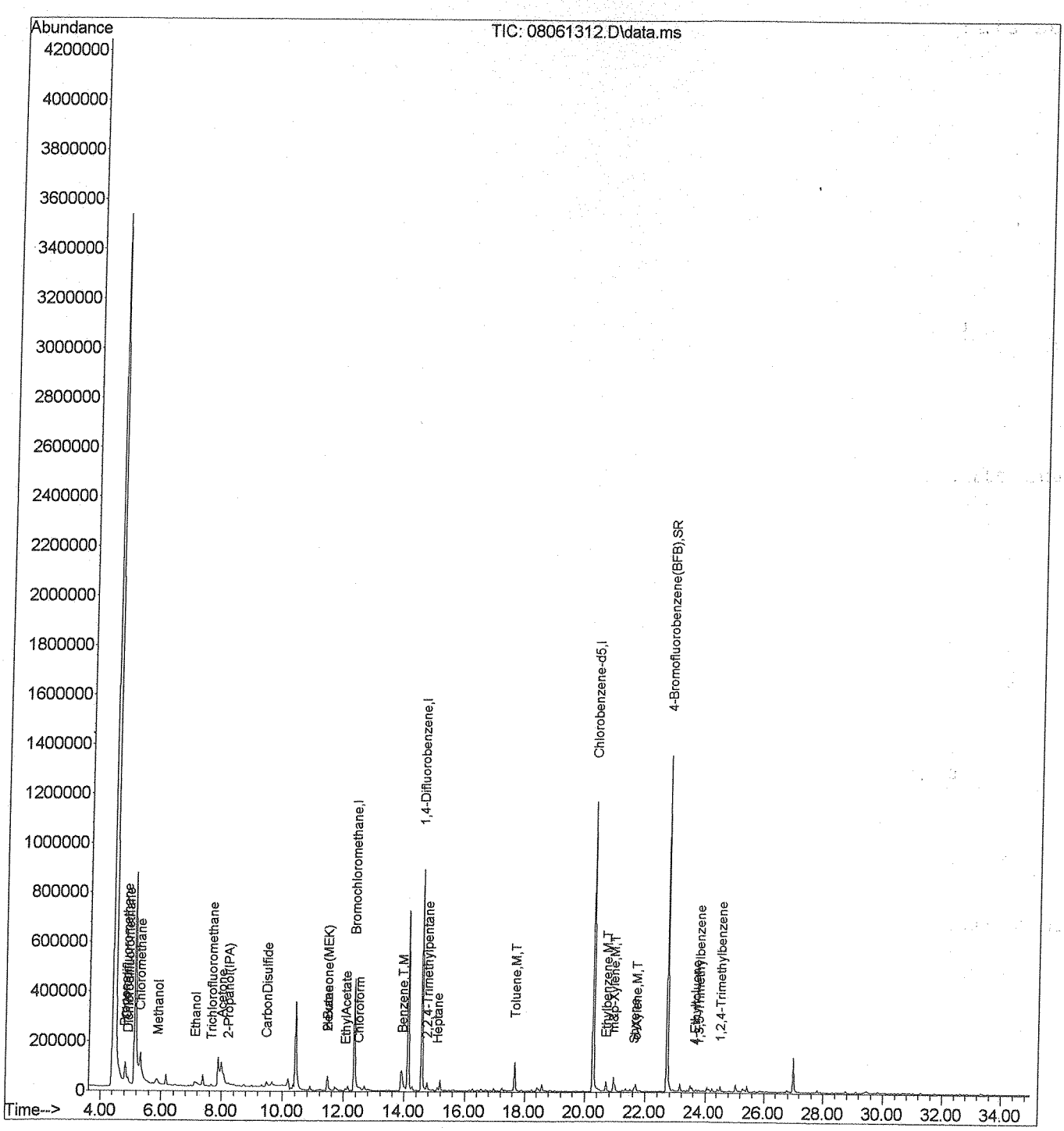
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D. d	
34) 1,2-Dichloroethane	13.598	62	594	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	22032	0.26 ppbv	94
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.381	63	685	N.D.	
41) Bromodichloromethane	0.000		0	N.D.	
42) 1,4-Dioxane	0.000		0	N.D.	
43) Trichloroethene(TCE)	15.292	130	616	N.D.	
44) 2,2,4-Trimethylpentane	14.757	57	3373(m)	0.20 ppbv	
45) Heptane	15.096	71	2897	0.10 ppbv #	86
46) cis-1,3-Dichloropropene	0.000		0	N.D. d	
47) 4-Methyl-2-pentanone(M...	0.000		0	N.D. d	
48) trans-1,3-Dichloropropene	0.000		0	N.D. d	
49) 1,1,2-Trichloroethane	17.842	97	265	N.D.	
50) Toluene	17.682	91	122428	1.20 ppbv	99
51) 2-Hexanone(MBK)	18.234	58	450	N.D.	
52) Dibromochloromethane	19.001	129	388	N.D.	
53) 1,2-Dibromoethane	0.000		0	N.D.	
54) Tetrachloroethene(PCE)	19.019	166	544	N.D.	
56) Chlorobenzene	20.356	114	274	N.D.	
57) Ethylbenzene	20.695	91	39878	0.29 ppbv	95
58) m&p-Xylene	20.945	106	34925	0.67 ppbv	98
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.640	104	7794	0.09 ppbv	94
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	20138	0.19 ppbv #	98
64) 4-Ethyltoluene	23.673	120	2419	0.06 ppbv #	84
65) 1,3,5-Trimethylbenzene	23.780	120	2507	0.04 ppbv #	85
66) 1,2,4-Trimethylbenzene	24.529	120	8338	0.14 ppbv	93
67) BenzylChloride(a-Chlor...	25.171	91	687	N.D.	
68) 1,3-Dichlorobenzene	25.064	146	634	N.D.	
69) 1,4-Dichlorobenzene	0.000		0	N.D. d	
70) 1,2-Dichlorobenzene	25.849	146	661	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	1545	N.D.	
72) Hexachlorobutadiene	30.075	225	329	N.D.	

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\080613\
Data File : 08061312.D
Acq On : 6 Aug 2013 16:36
Operator : JJG
Sample : 131029-65222 x1 dp
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 17:52:33 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Calibration Status Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 072213.M
Title : TO-15/TO-14
Last Update : Tue Jul 23 12:38:41 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.5	1	10	C:\msdchem\1\MS03\2013\072213\07221327.D
2	1.0	1	10	C:\msdchem\1\MS03\2013\072213\07221326.D
3	2.0	2	10	C:\msdchem\1\MS03\2013\072213\07221325.D
4	5.0	5	10	C:\msdchem\1\MS03\2013\072213\07221324.D
5	10	10	10	C:\msdchem\1\MS03\2013\072213\07221323.D
6	20	20	10	C:\msdchem\1\MS03\2013\072213\07221322.D
7	50	51	10	C:\msdchem\1\MS03\2013\072213\07221321.D

#	ID	Update Time	Quant Time	Acquisition Time	
1	0.5	Jul 23 09:46 2013	Jul 23 09:05 2013	23 Jul 2013	6:08
2	1.0	Jul 23 09:46 2013	Jul 23 09:02 2013	23 Jul 2013	5:21
3	2.0	Jul 23 09:46 2013	Jul 23 08:56 2013	23 Jul 2013	4:33
4	5.0	Jul 23 09:45 2013	Jul 23 08:53 2013	23 Jul 2013	3:45
5	10	Jul 23 09:45 2013	Jul 23 08:51 2013	23 Jul 2013	2:57
6	20	Jul 23 09:45 2013	Jul 23 08:48 2013	23 Jul 2013	2:09
7	50	Jul 23 09:44 2013	Jul 23 08:45 2013	23 Jul 2013	1:21

072213.M Tue Jul 23 12:40:08 2013

7/24/13

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 072213.M
Title : TO-15/TO-14
Last Update : Tue Jul 23 12:50:49 2013
Response Via : Initial Calibration

Calibration Files
0.5 =07221327.D 1.0 =07221326.D 2.0 =07221325.D 5.0 =07221324.D 10 =07221323.D 20 =07221322.D
50 =07221321.D

		Compound	0.5	1.0	2.0	5.0	10	20	50	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------								
2)		Chlorodifluoro...	2.952	2.719	2.720	2.599	2.471	2.310	2.156	2.561	10.57
3)		Propene	0.814	0.743	0.820	0.802	0.755	0.763	0.727	0.775	4.74
4)		Dichlorodifluo...	4.148	3.728	3.871	3.688	3.495	3.251	3.053	3.605	10.31
5)		Chloromethane	0.674	0.529	0.574	0.494	0.458	0.415	0.334	0.497	22.24
6)		Dichlorotetraf...	2.427	2.214	2.351	2.209	2.106	1.936	1.751	2.142	10.98
7)		VinylChloride	1.683	1.535	1.640	1.564	1.507	1.399	1.332	1.523	8.19
8)		Methanol		1.022	0.934	0.765	0.706	0.628	0.597	0.775	21.89
9)		1,3-Butadiene	1.114	1.036	1.097	1.063	1.045	0.935	0.813	1.015	10.44
10)		Bromomethane	1.291	1.082	1.098	1.045	0.973	0.880	0.756	1.018	16.80
11)		Chloroethane	0.227	0.230	0.232	0.229	0.222	0.210	0.209	0.223	4.38
12)		Dichlorofluoro...	3.326	3.078	3.179	2.973	2.867	2.682	2.505	2.944	9.68
13)		Ethanol	0.733	0.689	0.652	0.772	0.690	0.612	0.543	0.670	11.40
14)		VinylBromide	1.079	1.057	1.127	1.110	1.080	1.015	0.965	1.062	5.28
15)		Acetone	1.060	0.846	0.781	0.699	0.679	0.640	0.608	0.759	20.53
16)		Trichlorofluor...	2.286	2.161	2.184	2.085	2.036	1.886	1.737	2.054	9.16
17)		2-Propanol(IPA)	3.119	2.473	2.598	2.550	2.369	2.106	1.869	2.440	16.23
18)		Acrylonitrile	1.219	1.170	1.268	1.135	1.125	1.039	0.868	1.118	11.81
19)	M,T	1,1-Dichloroet...	1.345	1.306	1.308	1.264	1.165	1.021	0.947	1.194	13.02
20)	M,T	MethyleneChlor...	1.534	1.330	1.307	1.223	1.173	1.061	0.987	1.231	14.82
21)		AllylChloride	1.657	1.353	1.313	1.281	1.157	1.017	1.011	1.256	17.84
22)		CarbonDisulfide	5.264	4.508	4.405	4.060	3.861	3.478	3.439	4.145	15.52
23)		Trichlorotrifl...	1.998	1.892	1.886	1.743	1.645	1.491	1.242	1.699	15.54
24)		trans-1,2-Dich...	1.471	1.451	1.461	1.391	1.320	1.241	1.135	1.353	9.43
25)		1,1-Dichloroet...	3.654	3.319	3.417	3.155	2.942	2.692	2.400	3.083	14.13
26)		MethylTertButy...	3.919	3.680	3.710	3.558	3.256	2.857	2.405	3.341	16.17
27)		VinylAcetate	5.168	4.915	5.159	4.848	4.602	4.189	3.580	4.637	12.43
28)		2-Butanone(MEK)	0.710	0.699	0.735	0.741	0.714	0.678	0.631	0.701	5.34

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Method File : 072213.M
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29)		cis-1,2-Dichlo...	1.634	1.584	1.572	1.509	1.454	1.363	1.289	1.486	8.44
30)		Hexane	0.370	0.338	0.332	0.315	0.303	0.261	0.240	0.309	14.59
31)		Chloroform	3.448	3.182	3.244	3.085	3.007	2.759	2.509	3.034	10.36
32)		EthylAcetate	4.276	4.147	4.376	4.275	3.968	3.679	3.189	3.987	10.62
33)		Tetrahydrofuran	0.825	0.736	0.758	0.723	0.690	0.651	0.587	0.710	10.81
34)		1,2-Dichloroet...	2.326	2.253	2.430	2.291	2.177	2.077	1.963	2.217	7.13
35)		1,1,1-Trichlor...	3.599	3.382	3.447	3.239	3.063	2.801	2.576	3.158	11.63
36)	I	1,4-Difluorobenzene	----------	ISTD	----------						
37)	T,M	Benzene	1.065	0.986	0.941	0.901	0.833	0.755	0.647	0.875	16.28
38)		CarbonTetrachl...	0.677	0.646	0.646	0.609	0.568	0.523	0.453	0.589	13.49
39)		Cyclohexane	0.161	0.151	0.147	0.135	0.127	0.116	0.103	0.134	15.23
40)		1,2-Dichloropr...	0.469	0.427	0.398	0.388	0.361	0.335	0.300	0.383	14.81
41)		Bromodichlorom...	0.472	0.453	0.457	0.436	0.413	0.380	0.343	0.422	11.00
42)		1,4-Dioxane	0.235	0.225	0.221	0.211	0.200	0.190	0.176	0.208	9.97
43)	M,T	Trichloroethen...	0.410	0.384	0.375	0.367	0.344	0.331	0.289	0.357	11.09
44)		2,2,4-Trimethy...	2.025	1.899	1.819	1.732	1.628	1.485	1.217	1.686	16.14
45)		Heptane	0.331	0.309	0.298	0.286	0.275	0.258	0.226	0.283	12.22
46)		cis-1,3-Dichlo...	0.538	0.531	0.513	0.508	0.490	0.455	0.417	0.493	8.81
47)		4-Methyl-2-pen...	0.365	0.363	0.369	0.359	0.349	0.321	0.284	0.344	8.99
48)		trans-1,3-Dich...	0.538	0.527	0.521	0.493	0.471	0.463	0.430	0.492	7.97
49)		1,1,2-Trichlor...	0.434	0.410	0.399	0.373	0.354	0.328	0.293	0.370	13.26
50)	M,T	Toluene	1.219	1.151	1.141	1.056	0.996	0.904	0.802	1.038	14.28
51)		2-Hexanone(MBK)	0.439	0.458	0.470	0.446	0.429	0.400	0.357	0.428	9.03
52)		Dibromochlorom...	0.667	0.662	0.659	0.642	0.606	0.575	0.489	0.614	10.55
53)		1,2-Dibromoethane	0.619	0.623	0.619	0.586	0.558	0.519	0.461	0.569	10.77
54)	M,T	Tetrachloroeth...	0.554	0.525	0.513	0.482	0.456	0.421	0.370	0.474	13.45
55)	I	Chlorobenzene-d5	----------	ISTD	----------						
56)	M,T	Chlorobenzene	0.296	0.300	0.279	0.262	0.261	0.246	0.215	0.265	11.14
57)	M,T	Ethylbenzene	1.632	1.611	1.568	1.425	1.409	1.223	1.054	1.418	15.13
58)	M,T	m&p-Xylene	0.633	0.598	0.574	0.540	0.512	0.474	0.406	0.534	14.48
59)		Bromoform	0.749	0.738	0.739	0.693	0.687	0.618	0.527	0.679	11.88
60)		Styrene	0.925	0.921	0.903	0.869	0.866	0.789	0.720	0.856	8.86
61)		1,1,2,2-Tetrac...	1.044	1.040	0.970	0.903	0.876	0.782	0.627	0.892	16.75
62)	M,T	o-Xylene	1.340	1.255	1.190	1.103	1.066	0.948	0.817	1.103	16.29
63)	SR	4-Bromofluorob...	0.577	0.582	0.569	0.554	0.582	0.571	0.588	0.575	1.94
64)		4-Ethyltoluene	0.498	0.492	0.467	0.443	0.444	0.398	0.337	0.434	11.81

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65)	1,3,5-Trimethy...	0.684	0.705	0.681	0.623	0.612	0.544	0.471	0.617	13.72
66)	1,2,4-Trimethy...	0.658	0.673	0.669	0.623	0.606	0.566	0.464	0.609	12.23
67)	BenzylChloride...	0.807	0.959	0.986	1.063	1.081	1.090	0.999	0.998	9.82
68)	1,3-Dichlorobe...	0.934	0.964	0.956	0.916	0.912	0.825	0.715	0.889	10.05
69)	1,4-Dichlorobe...	1.028	1.004	0.965	0.900	0.871	0.796	0.698	0.895	13.19
70)	1,2-Dichlorobe...	1.100	1.065	1.010	0.920	0.894	0.828	0.706	0.932	14.85
71)	1,2,4-Trichlor...	0.899	0.951	0.942	0.935	0.909	0.843	0.691	0.881	10.39
72)	Hexachlorobuta...	0.762	0.771	0.750	0.699	0.696	0.622	0.500	0.686	14.06

(#) = Out of Range