Atmospheric Analysis & Consulting, Inc.

CLIENT : Soil Water Air Protection Enterprise
PROJECT NAME : Bridgeton Sanitary Landfill Air Quality Assessment
AAC PROJECT NO. : 130893
REPORT DATE : 07/17/2013

On July 16, 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)
U1 K-Canister	130893-64445	660.5
D-1 W6-Canister	130893-64446	310.3
D-2 W6 East-Canister	130893-64447	461.5
D-3 Keefer Group-Canister	130893-64448	574.8

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 60 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 **130893** **Received By: J. Zachman**

Sample Receipt Date	Project Desc	Clients ID	Matrix	Sampling Date/Time	Sampled By	Sample #	Analysis Requested
7/16/2013 1230	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-1 K Canister	Summa Canister	7/11/2013	Client	64445	TO15 ASTM D5504
7/16/2013 1230	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-1 W6 Canister	Summa Canister	7/11/2013	Client	64446	TO15 ASTM D5504
7/16/2013 1230	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-2 W6 East Canister	Summa Canister	7/11/2013	Client	64447	TO15 ASTM D5504
7/16/2013 1230	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-3 Keefer Group Canister	Summa Canister	7/11/2013	Client	64448	TO15 ASTM D5504

TURN AROUND TIME: Normal (10days)

Lab Due Date: 7/23/2013

Total Samples: 4

REMARKS:
Client returned 4 x Summa cans + 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.: 130893

Date: 7/16/2013

Canister #	Sample #	Initial Pressure	Final Pressure
702	64445	660.5	1019.1
801	64446	310.3	1027.4
703	64447	461.5	1018.6
798	64448	574.8	1021.8

1

AAC#130893

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 11th, 2013**
Project Manager: PAUL ROSENFELD, PH.D.		Page 1 of 1
Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401		
Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT		
Sampled By: John Blank	Sampler Signature: John Blank	

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 #		
64445	U-1 K	Canister		July 11th	4 Hr	X	X												Canister #	702	807
64446	D-1 W6	Canister		July 11th	4 Hr	X	X												Canister #	801	717
64447	D-2 W6 East	Canister		July 11th	4 Hr	X	X												Canister #	703	710
64448	D-3 Keefer Group	Canister		July 11th	4 Hr	X	X												Canister #	798	711

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.			QC Requirements: Provide Level IV QC Package for all Analyses.		
Relinquished By: **John Blank**	Date: **July 11th, 2013**	12 Noon	Received By:	Date:	**Time:**
Relinquished By:	Date:	Time:	Received By:	Date:	**Time:**
Relinquished By:	Date:	Time:	Received By:	Date: 7/16/13	**Time:** 1230

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

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

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

Sample Name and/or ID No.: **D-3 Keefer Group** **Canister # 798** **Flow Control # 711**

AAC Batch ID: 130893 AAC Sample ID: 64448

SAMPLING INFORMATION

Start Date/Time: **July 11th, 2023 – 10:15** Stop Date/Time: **July 11th, 2013 – 14:15**

Start Temp/Pressure*: **27 C / 30.06** psi Stop Temp/Pressure*: **29 C / 30.07 psi**

Initial Can Pressure**: **- 30** Final Can Pressure**: **- 9**

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

Comments: _____

John Blank
Sampler Name (Print)

July 11th, 2013
Sampler Signature/Date

LABORATORY INFORMATION

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

Canister Serial No.: **798** Flow Controller Serial No: **711**

Initial Pressure: 3.5 Certified Flow Rate: 18.0

Return Pressure: 574.8 Certified By/Date: JJ 6/28/13

Final Pressure: 1021.8 Flow Rate upon Return: 18.7 mL/min

Date Shipped From Lab: 6/28/13 Shipped By: JJ

Date Returned to Lab: 7/16/13 Received By: JJ

Flow Controller Certification File ID: 11503/060923

Canister Certification File ID: 11503/060413

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

07/17/13 MK 7/18/13

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- 1 K** **Canister # 702** **Flow # 807**

AAC Batch ID: 130893 AAC Sample ID: 64445

SAMPLING INFORMATION

Start Date/Time: **July 11th, 2013 – 9:25** Stop Date/Time: **July 11th, 2013 – 13:25**

Start Temp/Pressure*: **27 C / 30.06 psi** Stop Temp/Pressure*: **29 C / 30.07 psi**

Initial Can Pressure**: **- 30** Final Can Pressure**: **- 3**

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

Comments: _____

John Blank
Sampler Name (Print)

July 11th, 2013
Sampler Signature/Date

LABORATORY INFORMATION

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

Canister Serial No.: 702 Flow Controller Serial No: 807

Initial Pressure: 3.2 Certified Flow Rate: 18.0

Return Pressure: 660.5 Certified By/Date: 6/28/13

Final Pressure: 1019.1 Flow Rate upon Return: 23.7 mL/min

Date Shipped From Lab: 6/28/13 Shipped By:

Date Returned to Lab: 7/10/13 Received By:

Flow Controller Certification File ID: 1503/0621305

Canister Certification File ID: 1503/0621319

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

7/17/13 7/18/13

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. **D-1 W6** **Canister # 801** **Flow # 717**

AAC Batch ID: 130893 AAC Sample ID: 64446

SAMPLING INFORMATION

Start Date/Time: **July 11th, 2023 – 9:45** Stop Date/Time: **July 11th, 2013 – 13:45**

Start Temp/Pressure*: **27 C / 30.06** psi Stop Temp/Pressure*: **29 C / 30.07 psi**

Initial Can Pressure**: **- 31** Final Can Pressure**: **- 19**

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

Comments: _____

John Blank
Sampler Name (Print)

July 11th, 2013
Sampler Signature/Date

LABORATORY INFORMATION

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

Canister Serial No.: **801** Flow Controller Serial No: **717**

Initial Pressure: 3.5 Certified Flow Rate: 18.0

Return Pressure: 310.3 Certified By/Date: 6/28/13

Final Pressure: 1027.4 Flow Rate upon Return: 12.5 ml/min

Date Shipped From Lab: 6/28/13 Shipped By:

Date Returned to Lab: 7/6/13 Received By:

Flow Controller Certification File ID: 1103/0621305

Canister Certification File ID: 1503/0627305

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

07/17/13 7/18/13

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.: **D-2 W6 East** **Canister # 703** **Flow Control # 710**

AAC Batch ID: 130893 AAC Sample ID: 64447

SAMPLING INFORMATION

Start Date/Time: **July 11th, 2023 – 10:00** Stop Date/Time: **July 11th, 2013 – 14:00**

Start Temp/Pressure*: **27 C / 30.06** psi Stop Temp/Pressure*: **29 C / 30.07 psi**

Initial Can Pressure**: **- 30** Final Can Pressure**: **- 9**

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

Comments:

John Blank **July 11th, 2013**

LABORATORY INFORMATION

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

Canister Serial No.: **703** Flow Controller Serial No: **710**

Initial Pressure: 3.6 Certified Flow Rate: 18.0

Return Pressure: 461.5 Certified By/Date: JJ 6/28/13

Final Pressure: 1018.6 Flow Rate upon Return: 17.8 mL/min

Date Shipped From Lab: 6/28/13 Shipped By: JJ

Date Returned to Lab: 7/16/13 Received By: JJ

Flow Controller Certification File ID: M603(0021305

Canister Certification File ID: M603(0012823

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

07/17/13 7/18/13

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.

TO-15 REPORTS

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130893
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/16/2013
DATE REPORTED : 07/17/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U1 K-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-1 W6-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64445				130893-64446				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	1.54				3.31				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.28	J	1.0	0.77	0.36	J	1.0	1.66	0.5
Propene	1.19	J	1.0	1.54	12.1		1.0	3.31	1.0
Dichlorodifluoromethane	0.57	J	1.0	0.77	0.70	J	1.0	1.66	0.5
Chloromethane	0.48	J	1.0	0.77	0.60	J	1.0	1.66	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Vinyl Chloride	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Methanol	12.2		1.0	7.71	25.1		1.0	16.6	5.0
1,3-Butadiene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Bromomethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Chloroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Dichlorofluoromethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Ethanol	6.88		1.0	3.09	17.6		1.0	6.62	2.0
Vinyl Bromide	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Acetone	5.12		1.0	3.09	11.6		1.0	6.62	2.0
Trichlorofluoromethane	0.25	J	1.0	0.77	0.26	J	1.0	1.66	0.5
2-Propanol (IPA)	3.53		1.0	3.09	3.74	J	1.0	6.62	2.0
Acrylonitrile	<SRL	U	1.0	1.54	<SRL	U	1.0	3.31	1.0
1,1-Dichloroethene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	1.54	<SRL	U	1.0	3.31	1.0
Allyl Chloride	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Carbon Disulfide	NR	U	1.0	0.77	NR	U	1.0	1.66	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,1-Dichloroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Vinyl Acetate	<SRL	U	1.0	1.54	<SRL	U	1.0	3.31	1.0
2-Butanone (MEK)	<SRL	U	1.0	1.54	4.40		1.0	3.31	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Hexane	0.69	J	1.0	0.77	1.99		1.0	1.66	0.5
Chloroform	0.20	J	1.0	0.77	0.43	J	1.0	1.66	0.5
Ethyl Acetate	<SRL	U	1.0	0.77	0.30	J	1.0	1.66	0.5
Tetrahydrofuran	<SRL	U	1.0	0.77	8.11		1.0	1.66	0.5
1,2-Dichloroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5

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Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130893
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/16/2013
DATE REPORTED : 07/17/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U1 K-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-1 W6-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64445				130893-64446				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	1.54				3.31				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	0.54	J	1.0	0.77	32.5		1.0	1.66	0.5
Carbon Tetrachloride	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Cyclohexane	<SRL	U	1.0	0.77	0.43	J	1.0	1.66	0.5
1,2-Dichloropropane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Bromodichloromethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,4-Dioxane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Trichloroethene (TCE)	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
2,2,4-Trimethylpentane	0.51	J	1.0	0.77	1.79		1.0	1.66	0.5
Heptane	0.17	J	1.0	0.77	0.83	J	1.0	1.66	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	0.77	0.40	J	1.0	1.66	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Toluene	0.93		1.0	0.77	7.95		1.0	1.66	0.5
2-Hexanone (MBK)	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Dibromochloromethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,2-Dibromoethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Chlorobenzene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Ethylbenzene	0.20	J	1.0	0.77	2.09		1.0	1.66	0.5
m & p-Xylenes	0.63	J	1.0	1.54	4.57		1.0	3.31	1.0
Bromoform	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Styrene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
o-Xylene	0.25	J	1.0	0.77	1.79		1.0	1.66	0.5
4-Ethyltoluene	0.08	J	1.0	0.77	0.43	J	1.0	1.66	0.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	0.77	0.46	J	1.0	1.66	0.5
1,2,4-Trimethylbenzene	0.23	J	1.0	0.77	1.56	J	1.0	1.66	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	0.77	0.17	J	1.0	1.66	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
Hexachlorobutadiene	<SRL	U	1.0	0.77	<SRL	U	1.0	1.66	0.5
BFB-Surrogate Std. % Recovery	101%				104%				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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Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130893
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 07/16/2013
DATE REPORTED : 07/17/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U1 K-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-1 W6-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64445				130893-64446				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	1.54				3.31				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	1.0	J	1.0	2.7	1.3	J	1.0	5.9	1.8
Propene	2.0	J	1.0	2.7	20.9		1.0	5.7	1.7
Dichlorodifluoromethane	2.8	J	1.0	3.8	3.4	J	1.0	8.2	2.5
Chloromethane	1.0	J	1.0	1.6	1.2	J	1.0	3.4	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	5.4	<SRL	U	1.0	11.6	3.5
Vinyl Chloride	<SRL	U	1.0	2.0	<SRL	U	1.0	4.2	1.3
Methanol	16.0		1.0	10.1	32.8		1.0	21.7	6.6
1,3-Butadiene	<SRL	U	1.0	1.7	<SRL	U	1.0	3.7	1.1
Bromomethane	<SRL	U	1.0	3.0	<SRL	U	1.0	6.4	1.9
Chloroethane	<SRL	U	1.0	2.0	<SRL	U	1.0	4.4	1.3
Dichlorofluoromethane	<SRL	U	1.0	3.2	<SRL	U	1.0	7.0	2.1
Ethanol	13.0		1.0	5.8	33.3		1.0	12.5	3.8
Vinyl Bromide	<SRL	U	1.0	3.4	<SRL	U	1.0	7.2	2.2
Acetone	12.2		1.0	7.3	27.6		1.0	15.7	4.8
Trichlorofluoromethane	1.4	J	1.0	4.3	1.5	J	1.0	9.3	2.8
2-Propanol (IPA)	8.7		1.0	7.6	9.2	J	1.0	16.3	4.9
Acrylonitrile	<SRL	U	1.0	3.3	<SRL	U	1.0	7.2	2.2
1,1-Dichloroethene	<SRL	U	1.0	3.1	<SRL	U	1.0	6.6	2.0
Methylene Chloride (DCM)	<SRL	U	1.0	5.4	<SRL	U	1.0	11.5	3.5
Allyl Chloride	<SRL	U	1.0	2.4	<SRL	U	1.0	5.2	1.6
Carbon Disulfide	NR	U	1.0	2.4	NR	U	1.0	5.2	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	5.9	<SRL	U	1.0	12.7	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	3.1	<SRL	U	1.0	6.6	2.0
1,1-Dichloroethane	<SRL	U	1.0	3.1	<SRL	U	1.0	6.7	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	2.8	<SRL	U	1.0	6.0	1.8
Vinyl Acetate	<SRL	U	1.0	5.4	<SRL	U	1.0	11.7	3.5
2-Butanone (MEK)	<SRL	U	1.0	4.6	13.0		1.0	9.8	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	3.1	<SRL	U	1.0	6.6	2.0
Hexane	2.5	J	1.0	2.7	7.0		1.0	5.8	1.8
Chloroform	1.0	J	1.0	3.8	2.1	J	1.0	8.1	2.4
Ethyl Acetate	<SRL	U	1.0	2.8	1.1	J	1.0	6.0	1.8
Tetrahydrofuran	<SRL	U	1.0	2.3	23.9		1.0	4.9	1.5
1,2-Dichloroethane	<SRL	U	1.0	3.1	<SRL	U	1.0	6.7	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	4.2	<SRL	U	1.0	9.0	2.7

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Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130893
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 07/16/2013
DATE REPORTED : 07/17/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U1 K-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-1 W6-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64445				130893-64446				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	1.54				3.31				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	1.7	J	1.0	2.5	104		1.0	5.3	1.6
Carbon Tetrachloride	<SRL	U	1.0	4.9	<SRL	U	1.0	10.4	3.1
Cyclohexane	<SRL	U	1.0	2.7	1.5	J	1.0	5.7	1.7
1,2-Dichloropropane	<SRL	U	1.0	3.6	<SRL	U	1.0	7.7	2.3
Bromodichloromethane	<SRL	U	1.0	5.2	<SRL	U	1.0	11.1	3.4
1,4-Dioxane	<SRL	U	1.0	2.8	<SRL	U	1.0	6.0	1.8
Trichloroethene (TCE)	<SRL	U	1.0	4.1	<SRL	U	1.0	8.9	2.7
2,2,4-Trimethylpentane	2.4	J	1.0	3.6	8.4		1.0	7.7	2.3
Heptane	0.7	J	1.0	3.2	3.4	J	1.0	6.8	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	3.5	<SRL	U	1.0	7.5	2.3
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	3.2	1.6	J	1.0	6.8	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	3.5	<SRL	U	1.0	7.5	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	4.2	<SRL	U	1.0	9.0	2.7
Toluene	3.5		1.0	2.9	29.9		1.0	6.2	1.9
2-Hexanone (MBK)	<SRL	U	1.0	3.2	<SRL	U	1.0	6.8	2.0
Dibromochloromethane	<SRL	U	1.0	6.6	<SRL	U	1.0	14.1	4.3
1,2-Dibromoethane	<SRL	U	1.0	5.9	<SRL	U	1.0	12.7	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	5.2	<SRL	U	1.0	11.2	3.4
Chlorobenzene	<SRL	U	1.0	3.6	<SRL	U	1.0	7.6	2.3
Ethylbenzene	0.9	J	1.0	3.3	9.1		1.0	7.2	2.2
m & p-Xylenes	2.8	J	1.0	6.7	19.8		1.0	14.4	4.3
Bromoform	<SRL	U	1.0	8.0	<SRL	U	1.0	17.1	5.2
Styrene	<SRL	U	1.0	3.3	<SRL	U	1.0	7.1	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	5.3	<SRL	U	1.0	11.4	3.4
o-Xylene	1.1	J	1.0	3.3	7.8		1.0	7.2	2.2
4-Ethyltoluene	0.4	J	1.0	3.8	2.1	J	1.0	8.1	2.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	3.8	2.3	J	1.0	8.1	2.5
1,2,4-Trimethylbenzene	1.1	J	1.0	3.8	7.7	J	1.0	8.1	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	4.0	<SRL	U	1.0	8.6	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	4.6	<SRL	U	1.0	10.0	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	4.6	1.0	J	1.0	10.0	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	4.6	<SRL	U	1.0	10.0	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	5.7	<SRL	U	1.0	12.3	3.7
Hexachlorobutadiene	<SRL	U	1.0	8.2	<SRL	U	1.0	17.7	5.3
BFB-Surrogate Std. % Recovery	101%				104%				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

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130893
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/16/2013
DATE REPORTED : 07/17/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-2 W6 East-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-3 Keefer Group-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64447				130893-64448				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	2.21				1.78				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.66	J	1.0	1.10	0.44	J	1.0	0.89	0.5
Propene	1.26	J	1.0	2.21	0.75	J	1.0	1.78	1.0
Dichlorodifluoromethane	0.82	J	1.0	1.10	0.55	J	1.0	0.89	0.5
Chloromethane	0.55	J	1.0	1.10	0.43	J	1.0	0.89	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Vinyl Chloride	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Methanol	14.3		1.0	11.04	22.9		1.0	8.89	5.0
1,3-Butadiene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Bromomethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Chloroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Dichlorofluoromethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Ethanol	5.05		1.0	4.41	3.15	J	1.0	3.56	2.0
Vinyl Bromide	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Acetone	8.14		1.0	4.41	4.59		1.0	3.56	2.0
Trichlorofluoromethane	0.40	J	1.0	1.10	0.25	J	1.0	0.89	0.5
2-Propanol (IPA)	1.85	J	1.0	4.41	1.56	J	1.0	3.56	2.0
Acrylonitrile	<SRL	U	1.0	2.21	<SRL	U	1.0	1.78	1.0
1,1-Dichloroethene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	2.21	<SRL	U	1.0	1.78	1.0
Allyl Chloride	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Carbon Disulfide	NR	U	1.0	1.10	NR	U	1.0	0.89	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,1-Dichloroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Vinyl Acetate	<SRL	U	1.0	2.21	<SRL	U	1.0	1.78	1.0
2-Butanone (MEK)	<SRL	U	1.0	2.21	<SRL	U	1.0	1.78	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Hexane	0.64	J	1.0	1.10	<SRL	U	1.0	0.89	0.5
Chloroform	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Ethyl Acetate	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Tetrahydrofuran	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,2-Dichloroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5

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Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130893
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/16/2013
DATE REPORTED : 07/17/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-2 W6 East-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-3 Keefer Group-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64447				130893-64448				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	2.21				1.78				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	0.51	J	1.0	1.10	<SRL	U	1.0	0.89	0.5
Carbon Tetrachloride	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Cyclohexane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,2-Dichloropropane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Bromodichloromethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,4-Dioxane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Trichloroethene (TCE)	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
2,2,4-Trimethylpentane	0.40	J	1.0	1.10	0.21	J	1.0	0.89	0.5
Heptane	0.15	J	1.0	1.10	<SRL	U	1.0	0.89	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Toluene	0.60	J	1.0	1.10	0.68	J	1.0	0.89	0.5
2-Hexanone (MBK)	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Dibromochloromethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,2-Dibromoethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Chlorobenzene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Ethylbenzene	0.11	J	1.0	1.10	0.18	J	1.0	0.89	0.5
m & p-Xylenes	0.26	J	1.0	2.21	0.52	J	1.0	1.78	1.0
Bromoform	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Styrene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
o-Xylene	<SRL	U	1.0	1.10	0.25	J	1.0	0.89	0.5
4-Ethyltoluene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,2,4-Trimethylbenzene	0.11	J	1.0	1.10	0.16	J	1.0	0.89	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
Hexachlorobutadiene	<SRL	U	1.0	1.10	<SRL	U	1.0	0.89	0.5
BFB-Surrogate Std. % Recovery	103%				104%				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 : 130893
MATRIX : AIR
UNITS : ug/m3

DATE RECEIVED : 07/16/2013
DATE REPORTED : 07/17/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-2 W6 East-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-3 Keefer Group-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64447				130893-64448				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	2.21				1.78				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	2.3	J	1.0	3.9	1.6	J	1.0	3.1	1.8
Propene	2.2	J	1.0	3.8	1.3	J	1.0	3.1	1.7
Dichlorodifluoromethane	4.0	J	1.0	5.5	2.7	J	1.0	4.4	2.5
Chloromethane	1.1	J	1.0	2.3	0.9	J	1.0	1.8	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	7.7	<SRL	U	1.0	6.2	3.5
Vinyl Chloride	<SRL	U	1.0	2.8	<SRL	U	1.0	2.3	1.3
Methanol	18.7		1.0	14.5	30.1		1.0	11.6	6.6
1,3-Butadiene	<SRL	U	1.0	2.4	<SRL	U	1.0	2.0	1.1
Bromomethane	<SRL	U	1.0	4.3	<SRL	U	1.0	3.5	1.9
Chloroethane	<SRL	U	1.0	2.9	<SRL	U	1.0	2.3	1.3
Dichlorofluoromethane	<SRL	U	1.0	4.6	<SRL	U	1.0	3.7	2.1
Ethanol	9.5		1.0	8.3	5.9	J	1.0	6.7	3.8
Vinyl Bromide	<SRL	U	1.0	4.8	<SRL	U	1.0	3.9	2.2
Acetone	19.3		1.0	10.5	10.9		1.0	8.4	4.8
Trichlorofluoromethane	2.2	J	1.0	6.2	1.4	J	1.0	5.0	2.8
2-Propanol (IPA)	4.6	J	1.0	10.9	3.9	J	1.0	8.7	4.9
Acrylonitrile	<SRL	U	1.0	4.8	<SRL	U	1.0	3.9	2.2
1,1-Dichloroethene	<SRL	U	1.0	4.4	<SRL	U	1.0	3.5	2.0
Methylene Chloride (DCM)	<SRL	U	1.0	7.7	<SRL	U	1.0	6.2	3.5
Allyl Chloride	<SRL	U	1.0	3.5	<SRL	U	1.0	2.8	1.6
Carbon Disulfide	NR	U	1.0	3.4	NR	U	1.0	2.8	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	8.5	<SRL	U	1.0	6.8	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	4.4	<SRL	U	1.0	3.5	2.0
1,1-Dichloroethane	<SRL	U	1.0	4.5	<SRL	U	1.0	3.6	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	4.0	<SRL	U	1.0	3.2	1.8
Vinyl Acetate	<SRL	U	1.0	7.8	<SRL	U	1.0	6.3	3.5
2-Butanone (MEK)	<SRL	U	1.0	6.5	<SRL	U	1.0	5.2	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	4.4	<SRL	U	1.0	3.5	2.0
Hexane	2.3	J	1.0	3.9	<SRL	U	1.0	3.1	1.8
Chloroform	<SRL	U	1.0	5.4	<SRL	U	1.0	4.3	2.4
Ethyl Acetate	<SRL	U	1.0	4.0	<SRL	U	1.0	3.2	1.8
Tetrahydrofuran	<SRL	U	1.0	3.3	<SRL	U	1.0	2.6	1.5
1,2-Dichloroethane	<SRL	U	1.0	4.5	<SRL	U	1.0	3.6	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	6.0	<SRL	U	1.0	4.8	2.7

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Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : **Soil Water Air Protection Enterprise**
PROJECT NO : **130893**
MATRIX : **AIR**
UNITS : **ug/m3**

DATE RECEIVED : **07/16/2013**
DATE REPORTED : **07/17/2013**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-2 W6 East-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-3 Keefer Group-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130893-64447				130893-64448				
Date Sampled	07/11/2013				07/11/2013				
Date Analyzed	07/17/2013				07/17/2013				
Can Dilution Factor	2.21				1.78				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	1.6	J	1.0	3.5	<SRL	U	1.0	2.8	1.6
Carbon Tetrachloride	<SRL	U	1.0	6.9	<SRL	U	1.0	5.6	3.1
Cyclohexane	<SRL	U	1.0	3.8	<SRL	U	1.0	3.1	1.7
1,2-Dichloropropane	<SRL	U	1.0	5.1	<SRL	U	1.0	4.1	2.3
Bromodichloromethane	<SRL	U	1.0	7.4	<SRL	U	1.0	6.0	3.4
1,4-Dioxane	<SRL	U	1.0	4.0	<SRL	U	1.0	3.2	1.8
Trichloroethene (TCE)	<SRL	U	1.0	5.9	<SRL	U	1.0	4.8	2.7
2,2,4-Trimethylpentane	1.9	J	1.0	5.2	1.0	J	1.0	4.2	2.3
Heptane	0.6	J	1.0	4.5	<SRL	U	1.0	3.6	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	5.0	<SRL	U	1.0	4.0	2.3
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	4.5	<SRL	U	1.0	3.6	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	5.0	<SRL	U	1.0	4.0	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	6.0	<SRL	U	1.0	4.8	2.7
Toluene	2.3	J	1.0	4.2	2.6	J	1.0	3.3	1.9
2-Hexanone (MBK)	<SRL	U	1.0	4.5	<SRL	U	1.0	3.6	2.0
Dibromochloromethane	<SRL	U	1.0	9.4	<SRL	U	1.0	7.6	4.3
1,2-Dibromoethane	<SRL	U	1.0	8.5	<SRL	U	1.0	6.8	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	7.5	<SRL	U	1.0	6.0	3.4
Chlorobenzene	<SRL	U	1.0	5.1	<SRL	U	1.0	4.1	2.3
Ethylbenzene	0.5	J	1.0	4.8	0.8	J	1.0	3.9	2.2
m & p-Xylenes	1.2	J	1.0	9.6	2.2	J	1.0	7.7	4.3
Bromoform	<SRL	U	1.0	11.4	<SRL	U	1.0	9.2	5.2
Styrene	<SRL	U	1.0	4.7	<SRL	U	1.0	3.8	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	7.6	<SRL	U	1.0	6.1	3.4
o-Xylene	<SRL	U	1.0	4.8	1.1	J	1.0	3.9	2.2
4-Ethyltoluene	<SRL	U	1.0	5.4	<SRL	U	1.0	4.4	2.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	5.4	<SRL	U	1.0	4.4	2.5
1,2,4-Trimethylbenzene	0.5	J	1.0	5.4	0.8	J	1.0	4.4	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	5.7	<SRL	U	1.0	4.6	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	6.6	<SRL	U	1.0	5.3	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	6.6	<SRL	U	1.0	5.3	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	6.6	<SRL	U	1.0	5.3	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	8.2	<SRL	U	1.0	6.6	3.7
Hexachlorobutadiene	<SRL	U	1.0	11.8	<SRL	U	1.0	9.5	5.3
BFB-Surrogate Std. % Recovery	103%				104%				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 : 07/17/2013
ANALYST : JJG
INSTRUMENT ID : GC/MS-03
CALIBRATION STD ID : PS041813-01

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 07/02/2013 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
4-BFB (surrogate standard)	10.00	9.99	100
Chlorodifluoromethane	10.10	9.74	96
Propene	11.00	10.53	96
Dichlorodifluoromethane	9.80	9.96	102
Chloromethane	10.10	9.94	98
Dichlorotetrafluoroethane	10.10	9.97	99
Vinyl Chloride	10.20	10.02	98
Methanol	4.90	4.91	100
1,3-Butadiene	10.50	10.24	98
Bromomethane	10.20	8.60	84
Chloroethane	10.00	8.23	82
Dichlorofluoromethane	10.00	9.83	98
Ethanol	9.80	8.63	88
Vinyl Bromide	10.20	10.18	100
Acetone	10.80	9.56	89
Trichlorofluoromethane	10.10	9.93	98
2-Propanol (IPA)	11.00	10.19	93
Acrylonitrile	10.50	10.28	98
1,1-Dichloroethene	10.50	10.07	96
Methylene Chloride (DCM)	10.40	9.65	93
Allyl Chloride	11.00	9.50	86
Carbon Disulfide	10.50	9.73	93
Trichlorotrifluoroethane	10.40	10.18	98
trans-1,2-Dichloroethene	10.40	10.53	101
1,1-Dichloroethane	10.40	10.06	97
Methyl Tert Butyl Ether (MTBE)	10.60	10.82	102
Vinyl Acetate	9.70	9.41	97
2-Butanone (MEK)	10.60	10.89	103
cis-1,2-Dichloroethene	10.60	10.43	98
Hexane	10.70	10.91	102
Chloroform	10.60	10.84	102
Ethyl Acetate	11.00	10.84	99
Tetrahydrofuran	10.80	10.76	100
1,2-Dichloroethane	10.40	10.63	102
1,1,1-Trichloroethane	10.50	10.69	102

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ANALYSIS DATE : 07/17/2013 **INSTRUMENT ID** : GC/MS-03
ANALYST : JJG **CALIBRATION STD ID** : PS041813-01

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 07/02/2013 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
Benzene	10.50	10.18	97
Carbon Tetrachloride	10.10	10.18	101
Cyclohexane	10.50	9.76	93
1,2-Dichloropropane	10.50	10.25	98
Bromodichloromethane	10.30	10.30	100
1,4-Dioxane	10.30	10.10	98
Trichloroethene (TCE)	10.30	10.10	98
2,2,4-Trimethylpentane	10.90	10.38	95
Heptane	10.70	10.46	98
cis-1,3-Dichloropropene	11.00	10.87	99
4-Methyl-2-pentanone (MiBK)	10.30	10.05	98
trans-1,3-Dichloropropene	9.80	9.33	95
1,1,2-Trichloroethane	10.60	10.54	99
Toluene	10.60	10.48	99
2-Hexanone (MBK)	10.80	10.86	101
Dibromochloromethane	11.00	11.25	102
1,2-Dibromoethane	10.40	10.21	98
Tetrachloroethene (PCE)	10.40	10.61	102
Chlorobenzene	10.60	10.28	97
Ethylbenzene	10.50	10.24	98
m & p-Xylenes	20.60	20.02	97
Bromoform	10.30	9.99	97
Styrene	10.40	10.15	98
1,1,2,2-Tetrachloroethane	10.60	10.30	97
o-Xylene	10.60	10.10	95
4-Ethyltoluene	10.40	10.29	99
1,3,5-Trimethylbenzene	10.20	9.72	95
1,2,4-Trimethylbenzene	10.20	9.94	97
Benzyl Chloride (a-Chlorotoluene)	10.00	9.48	95
1,3-Dichlorobenzene	10.00	10.29	103
1,4-Dichlorobenzene	10.00	9.92	99
1,2-Dichlorobenzene	10.00	10.02	100
1,2,4-Trichlorobenzene	9.30	9.28	100
Hexachlorobutadiene	9.80	9.94	101

* - %REC should be 70-130%

Marcus Hueppe
Laboratory Director

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

Quality Control/Quality Assurance Report

CLIENT ID	**: Laboratory Control Spike**	**DATE ANALYZED**	**: 07/17/2013**
AAC ID	**: LCS/LCSD**	**DATE REPORTED**	**: 07/17/2013**
MEDIA	**: Air**	**UNITS**	**: ppbv**

TO-15 Laboratory Control Spike Recovery

Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
1,1-Dichloroethene	0.0	10.50	10.07	9.98	96	95	0.9
Methylene Chloride (DCM)	0.0	10.40	9.65	9.41	93	90	2.5
Benzene	0.0	10.50	10.18	10.04	97	96	1.4
Trichloroethene (TCE)	0.0	10.30	10.10	10.04	98	97	0.6
Toluene	0.0	10.60	10.48	10.32	99	97	1.5
Tetrachloroethene (PCE)	0.0	10.40	10.61	10.24	102	98	3.5
Chlorobenzene	0.0	10.60	10.28	10.23	97	96	0.5
Ethylbenzene	0.0	10.50	10.24	10.00	98	95	2.4
m & p-Xylenes	0.0	20.60	20.02	19.46	97	94	2.8
o-Xylene	0.0	10.60	10.10	10.12	95	95	0.2

* Must be 70-130%

** Must be < 25%

Marcus Hueppe
Laboratory Director

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Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 07/17/2013**
UNITS	**: ppbv**	**REPORT DATE**	**: 07/17/2013**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 071713	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**	**: 07/17/2013**
UNITS	**: ppbv**	**REPORT DATE**	**: 07/17/2013**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 071713	RL
cis-1,3-Dichloropropene	<RL	0.5
4-Methyl-2-pentanone (MiBK)	<RL	0.5
trans-1,3-Dichloropropene	<RL	0.5
1,1,2-Trichloroethane	<RL	0.5
Toluene	<RL	0.5
2-Hexanone (MBK)	<RL	0.5
Dibromochloromethane	<RL	0.5
1,2-Dibromoethane	<RL	0.5
Tetrachloroethene (PCE)	<RL	0.5
Chlorobenzene	<RL	0.5
Ethylbenzene	<RL	0.5
m & p-Xylenes	<RL	1.0
Bromoform	<RL	0.5
Styrene	<RL	0.5
1,1,2,2-Tetrachloroethane	<RL	0.5
o-Xylene	<RL	0.5
4-Ethyltoluene	<RL	0.5
1,3,5-Trimethylbenzene	<RL	0.5
1,2,4-Trimethylbenzene	<RL	0.5
Benzyl Chloride (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	101%	--

RL - Reporting Limit

Marcus Hueppe
Laboratory Director

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Quality Control/Quality Assurance Report

AAC ID	**: 130893-64445**	**DATE ANALYZED**	**: 07/17/2013**
MATRIX	**: Air**	**DATE REPORTED**	**: 07/17/2013**
		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	12.2	11.5	5.9
1,3-Butadiene	<SRL	<SRL	0.0
Bromomethane	<SRL	<SRL	0.0
Chloroethane	<SRL	<SRL	0.0
Dichlorofluoromethane	<SRL	<SRL	0.0
Ethanol	6.88	6.74	2.1
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	5.12	5.25	2.5
Trichlorofluoromethane	<SRL	<SRL	0.0
2-Propanol (IPA)	3.53	3.67	3.9
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	NR	NR	NA
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)	<SRL	<SRL	0.0
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	**: 130893-64445**	**DATE ANALYZED**	**: 07/17/2013**
MATRIX	**: Air**	**DATE REPORTED**	**: 07/17/2013**
		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	0.93	0.86	7.8
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	101%	104%	3.6

SRL - Sample Reporting Limit
NR - Not Reported on these analysis.

Marcus Hueppe
Laboratory Director

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

TO-15 RAW DATA

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171305.D
Acq On : 17 Jul 2013 11:07
Operator : JJG
Sample : 130893-64445 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:10:27 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	89825	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	505584	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	489868	10.00 ppbv	-0.02
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	300989	10.06 ppbv	0.00
Spiked Amount 10.000			Recovery = 100.60%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.835	51	4778	0.18 ppbv #	95
3) Propene	4.799	42	5469	0.77 ppbv #	71
4) Dichlorodifluoromethane	4.908	85	15374	0.37 ppbv	96
5) Chloromethane	5.288	52	1480	0.31 ppbv #	60
6) Dichlorotetrafluoroethane	0.000		0	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	54775m	7.90 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	6.862	66	109	N.D.	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.134	45	39212m	4.46 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	8.002	58	27926m	3.32 ppbv	
16) Trichlorofluoromethane	7.659	103	4862	0.16 ppbv #	91
17) 2-Propanol(IPA)	8.201	45	73718m	2.29 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	0.000		0	N.D. 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	1119	0.45 ppbv	90
31) Chloroform	12.493	83	4328	0.13 ppbv #	91
32) EthylAcetate	0.000		0	N.D. d	

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171305.D
Acq On : 17 Jul 2013 11:07
Operator : JJG
Sample : 130893-64445 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:10:27 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.	
34) 1,2-Dichloroethane	0.000		0	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	14856	0.35 ppbv	94
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.257	63	231	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	29248	0.33 ppbv	93
45) Heptane	15.096	71	1553	0.11 ppbv	86
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.576	58	118	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	288	N.D.	
49) 1,1,2-Trichloroethane	0.000		0	N.D.	
50) Toluene	17.682	91	31830	0.60 ppbv	97
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)	0.000		0	N.D.	
56) Chlorobenzene	0.000		0	N.D.	
57) Ethylbenzene	20.695	91	9279	0.13 ppbv #	97
58) m&p-Xylene	20.945	106	10644	0.41 ppbv	96
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.658	104	713	N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	9274	0.16 ppbv #	97
64) 4-Ethyltoluene	23.673	120	984	0.05 ppbv #	68
65) 1,3,5-Trimethylbenzene	23.780	120	1231	N.D.	
66) 1,2,4-Trimethylbenzene	24.529	120	4646	0.15 ppbv #	77
67) BenzylChloride(a-Chlor...	25.278	91	485	N.D.	
68) 1,3-Dichlorobenzene	25.046	146	291	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	714	N.D.	
70) 1,2-Dichlorobenzene	25.849	146	290	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	1220	N.D.	
72) Hexachlorobutadiene	30.075	225	334	N.D.	

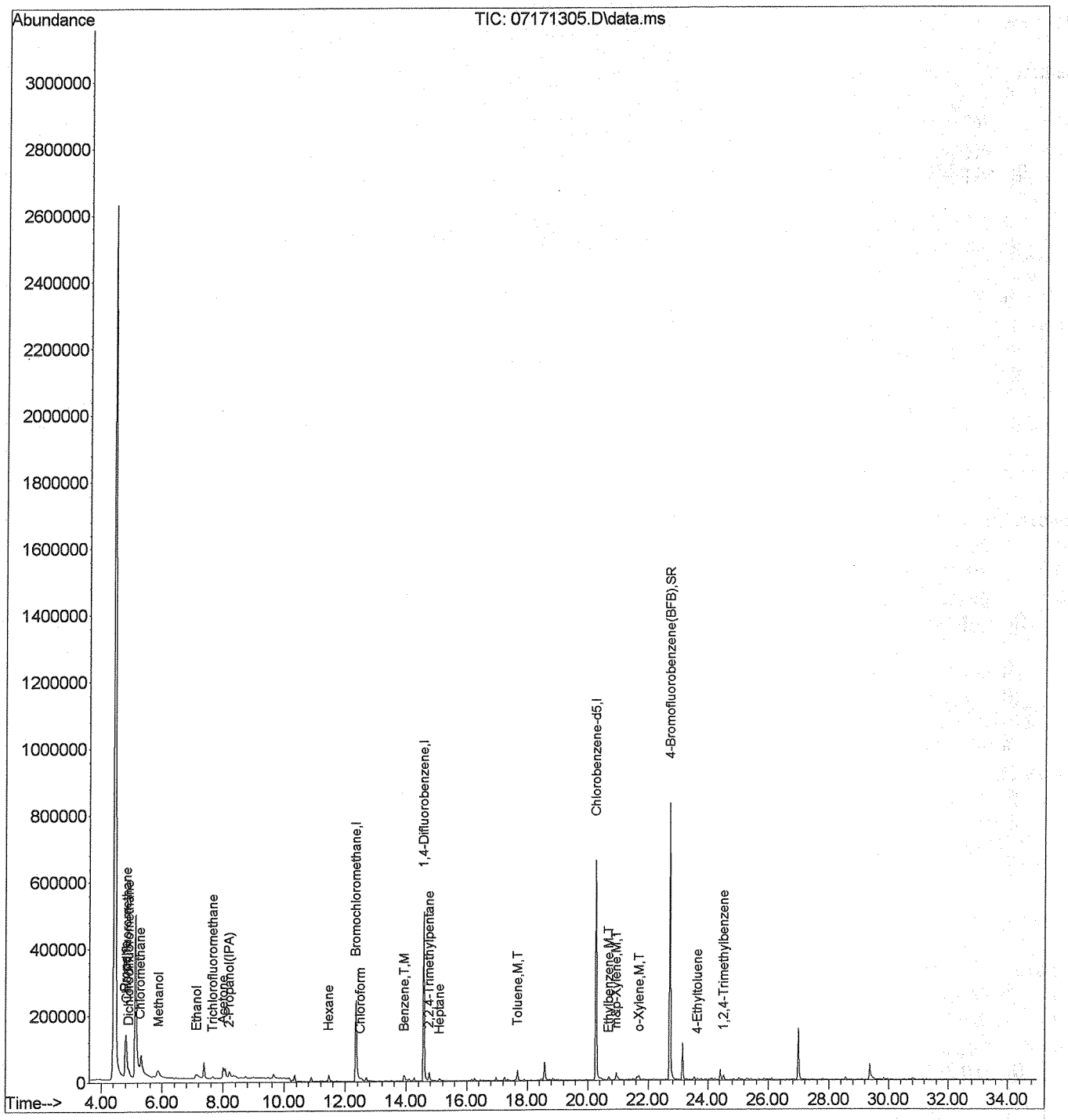
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171305.D
Acq On : 17 Jul 2013 11:07
Operator : JJG
Sample : 130893-64445 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:10:27 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



07/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171307.D
Acq On : 17 Jul 2013 12:43
Operator : JJG
Sample : 130893-64446 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 17 13:21:32 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	86162	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	490769	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	462727	10.00 ppbv	-0.02
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	293859	10.40 ppbv	0.00
Spiked Amount 10.000			Recovery = 104.00%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.835	51	2732	0.11 ppbv #	93
3) Propene	4.781	42	24976	3.66 ppbv	95
4) Dichlorodifluoromethane	4.908	85	8239	0.21 ppbv	98
5) Chloromethane	5.288	52	840	0.18 ppbv #	1
6) Dichlorotetrafluoroethane	0.000		0	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	50313m	7.57 ppbv	
9) 1,3-Butadiene	0.000		0	N.D. d	
10) Bromomethane	6.428	96	365	N.D.	
11) Chloroethane	0.000		0	N.D. d	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.097	45	44962m	5.33 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	28257m	3.51 ppbv	
16) Trichlorofluoromethane	7.658	103	2375	0.08 ppbv #	83
17) 2-Propanol(IPA)	8.201	45	34745m	1.13 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	0.000		0	N.D. d	
22) CarbonDisulfide	0.000		0	N.D. d	
23) Trichlorotrifluoroethane	8.979	103	426	N.D.	
24) trans-1,2-Dichloroethene	0.000		0	N.D.	
25) 1,1-Dichloroethane	0.000		0	N.D.	
26) MethylTertButylEther(M...	10.477	73	307	N.D.	
27) VinylAcetate	0.000		0	N.D. d	
28) 2-Butanone(MEK)	11.440	72	7175	1.33 ppbv #	23
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	1438	0.60 ppbv	81
31) Chloroform	12.492	83	4093	0.13 ppbv #	89
32) EthylAcetate	12.082	43	3688	0.09 ppbv #	98

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171307.D
Acq On : 17 Jul 2013 12:43
Operator : JJG
Sample : 130893-64446 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 17 13:21:32 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

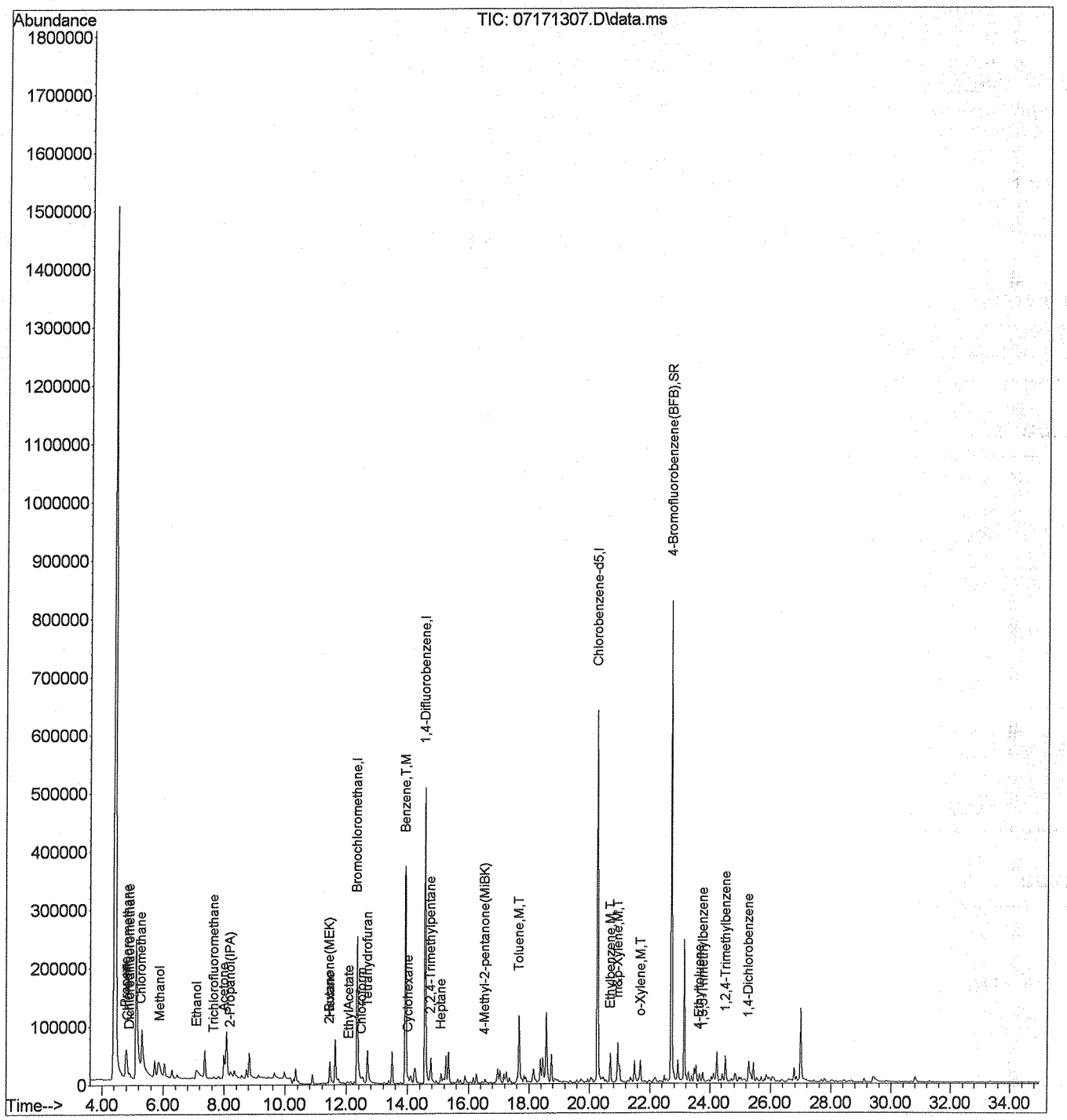
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	12.689	72	13338	2.45 ppbv #	62
34) 1,2-Dichloroethane	13.491	62	224	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	401195	9.82 ppbv	98
38) CarbonTetrachloride	13.973	117	993	N.D.	
39) Cyclohexane	14.008	69	813	0.13 ppbv #	37
40) 1,2-Dichloropropane	0.000		0	N.D. 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	46853	0.54 ppbv	94
45) Heptane	15.096	71	3314	0.25 ppbv #	59
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.540	58	2070	0.12 ppbv #	58
48) trans-1,3-Dichloropropene	0.000		0	N.D. d	
49) 1,1,2-Trichloroethane	0.000		0	N.D. d	
50) Toluene	17.664	91	123004m	2.40 ppbv	
51) 2-Hexanone(MBK)	0.000		0	N.D. d	
52) Dibromochloromethane	0.000		0	N.D.	
53) 1,2-Dibromoethane	0.000		0	N.D.	
54) Tetrachloroethene(PCE)	0.000		0	N.D.	
56) Chlorobenzene	0.000		0	N.D.	
57) Ethylbenzene	20.695	91	44041	0.63 ppbv	99
58) m&p-Xylene	20.945	106	34150	1.38 ppbv	90
59) Bromoform	0.000		0	N.D.	
60) Styrene	0.000		0	N.D. d	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	30010	0.54 ppbv	98
64) 4-Ethyltoluene	23.673	120	2737	0.13 ppbv #	92
65) 1,3,5-Trimethylbenzene	23.780	120	4095	0.14 ppbv #	57
66) 1,2,4-Trimethylbenzene	24.529	120	13563	0.47 ppbv	95
67) BenzylChloride(a-Chlor...	25.100	91	753	N.D.	
68) 1,3-Dichlorobenzene	0.000		0	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	1942	0.05 ppbv #	83
70) 1,2-Dichlorobenzene	0.000		0	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	471	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\071713\
Data File : 07171307.D
Acq On : 17 Jul 2013 12:43
Operator : JJG
Sample : 130893-64446 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 17 13:21:32 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



07/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171308.D
Acq On : 17 Jul 2013 13:30
Operator : JJG
Sample : 130893-64447 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 17 17:40:06 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane	12.350	128	85187	10.00	ppbv		0.00
36) 1,4-Difluorobenzene	14.579	114	494399	10.00	ppbv		0.00
55) Chlorobenzene-d5	20.267	117	477596	10.00	ppbv		-0.02
System Monitoring Compounds							
63) 4-Bromofluorobenzene(BFB)	22.710	174	301719	10.35	ppbv		0.00
Spiked Amount 10.000			Recovery = 103.50%				
Target Compounds							Qvalue
2) Chlorodifluoromethane	4.836	51	3949	0.15	ppbv	#	92
3) Propene	4.799	42	9796	1.45	ppbv		90
4) Dichlorodifluoromethane	4.908	85	11738	0.30	ppbv		98
5) Chloromethane	5.288	52	1004	0.22	ppbv	#	1
6) Dichlorotetrafluoroethane	0.000		0	N.D.			
7) VinylChloride	0.000		0	N.D.			
8) Methanol	5.867	31	71761m	10.91	ppbv		
9) 1,3-Butadiene	5.867	54	113	N.D.			
10) Bromomethane	0.000		0	N.D.	d		
11) Chloroethane	0.000		0	N.D.			
12) Dichlorofluoromethane	0.000		0	N.D.			
13) Ethanol	7.098	45	36078m	4.33	ppbv		
14) VinylBromide	0.000		0	N.D.			
15) Acetone	8.002	58	25665m	3.22	ppbv		
16) Trichlorofluoromethane	7.659	103	3317	0.12	ppbv	#	92
17) 2-Propanol(IPA)	8.220	45	17710m	0.58	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	0.000		0	N.D.	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)	11.458	72	4332	0.81	ppbv	#	1
29) cis-1,2-Dichloroethene	0.000		0	N.D.			
30) Hexane	11.458	86	705	0.30	ppbv	#	45
31) Chloroform	12.493	83	3281	0.11	ppbv	#	89
32) EthylAcetate	12.083	43	3751	0.10	ppbv	#	97

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171308.D
Acq On : 17 Jul 2013 13:30
Operator : JJG
Sample : 130893-64447 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 17 17:40:06 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

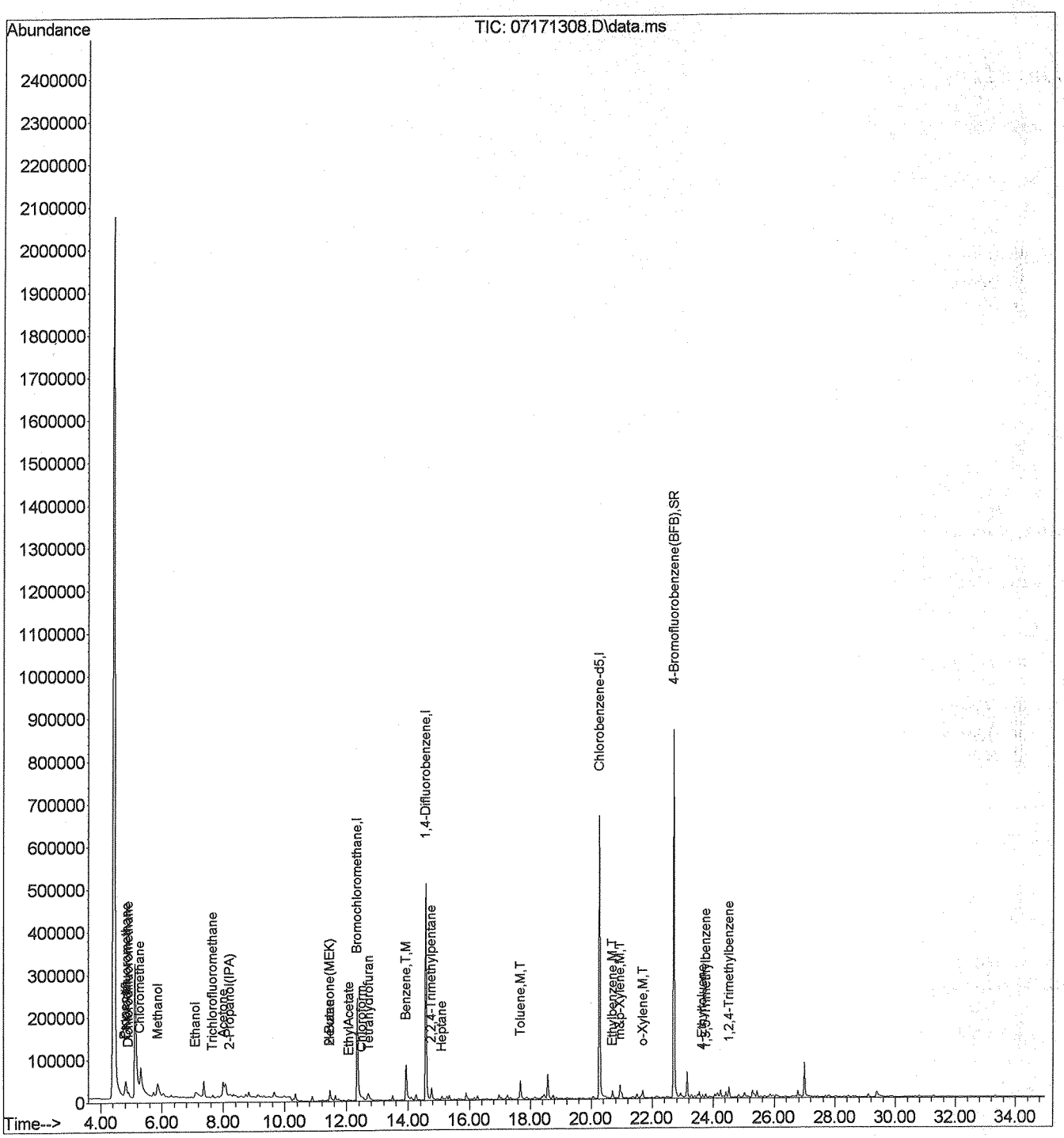
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	12.724	72	3809	0.71 ppbv #	83
34) 1,2-Dichloroethane	0.000		0	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	82773	2.01 ppbv	97
38) CarbonTetrachloride	13.973	117	1537	N.D.	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.328	63	245	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	30604	0.35 ppbv	96
45) Heptane	15.096	71	1684	0.13 ppbv #	53
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.558	58	483	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	484	N.D.	
49) 1,1,2-Trichloroethane	0.000		0	N.D. d	
50) Toluene	17.682	91	42765	0.83 ppbv	99
51) 2-Hexanone(MBK)	18.199	58	399	N.D.	
52) Dibromochloromethane	0.000		0	N.D.	
53) 1,2-Dibromoethane	0.000		0	N.D.	
54) Tetrachloroethene(PCE)	0.000		0	N.D.	
56) Chlorobenzene	0.000		0	N.D.	
57) Ethylbenzene	20.695	91	16706	0.23 ppbv	95
58) m&p-Xylene	20.945	106	15286	0.60 ppbv #	83
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.658	104	904	N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	14153	0.25 ppbv	93
64) 4-Ethyltoluene	23.673	120	1518	0.07 ppbv #	94
65) 1,3,5-Trimethylbenzene	23.780	120	2237	0.07 ppbv #	83
66) 1,2,4-Trimethylbenzene	24.529	120	7418	0.25 ppbv #	90
67) BenzylChloride(a-Chlor...	25.118	91	250	N.D.	
68) 1,3-Dichlorobenzene	0.000		0	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	1127	N.D.	
70) 1,2-Dichlorobenzene	0.000		0	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	150	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\071713\
Data File : 07171308.D
Acq On : 17 Jul 2013 13:30
Operator : JJG
Sample : 130893-64447 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 17 17:40:06 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171311.D
Acq On : 17 Jul 2013 15:50
Operator : JJG
Sample : 130893-64448 x1 rr
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 17 17:37:53 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	82930	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	478214	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	461282	10.00 ppbv	-0.02
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	291272	10.34 ppbv	0.00
Spiked Amount 10.000			Recovery = 103.40%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.835	51	4756	0.19 ppbv #	92
3) Propene	4.799	42	5063	0.77 ppbv #	77
4) Dichlorodifluoromethane	4.908	85	13022	0.34 ppbv	97
5) Chloromethane	5.306	52	1056	0.24 ppbv #	1
6) Dichlorotetrafluoroethane	0.000		0	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	59547m	9.30 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.	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.134	45	28685m	3.53 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	8.002	58	25664m	3.31 ppbv	
16) Trichlorofluoromethane	7.659	103	4149	0.15 ppbv	93
17) 2-Propanol(IPA)	8.238	45	25179m	0.85 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	364	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	10.888	43	1753	N.D.	
28) 2-Butanone(MEK)	11.494	72	2383	0.46 ppbv #	62
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	448	0.19 ppbv #	60
31) Chloroform	12.493	83	3156	0.10 ppbv #	91
32) EthylAcetate	0.000		0	N.D. d	

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171311.D
Acq On : 17 Jul 2013 15:50
Operator : JJG
Sample : 130893-64448 x1 rr
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 17 17:37:53 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	12.742	72	1406	0.27 ppbv #	86
34) 1,2-Dichloroethane	0.000		0	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	49674	1.25 ppbv	96
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	0.000		0	N.D.	
41) Bromodichloromethane	0.000		0	N.D.	
42) 1,4-Dioxane	0.000		0	N.D.	
43) Trichloroethene(TCE)	0.000		0	N.D.	
44) 2,2,4-Trimethylpentane	14.757	57	17981	0.21 ppbv #	92
45) Heptane	15.096	71	1227	0.10 ppbv #	38
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.576	58	267	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	373	N.D.	
49) 1,1,2-Trichloroethane	0.000		0	N.D. d	
50) Toluene	17.682	91	46982	0.94 ppbv	97
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)	0.000		0	N.D.	
56) Chlorobenzene	20.285	114	109	N.D.	
57) Ethylbenzene	20.695	91	12780	0.18 ppbv	97
58) m&p-Xylene	20.945	106	13476	0.54 ppbv	96
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.658	104	1546	N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	14006	0.25 ppbv #	97
64) 4-Ethyltoluene	23.673	120	1423	0.07 ppbv #	74
65) 1,3,5-Trimethylbenzene	23.780	120	1986	0.07 ppbv #	91
66) 1,2,4-Trimethylbenzene	24.529	120	7928	0.28 ppbv	95
67) BenzylChloride(a-Chlor...	25.118	91	414	N.D.	
68) 1,3-Dichlorobenzene	0.000		0	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	434	N.D.	
70) 1,2-Dichlorobenzene	0.000		0	N.D.	
71) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
72) Hexachlorobutadiene	0.000		0	N.D.	

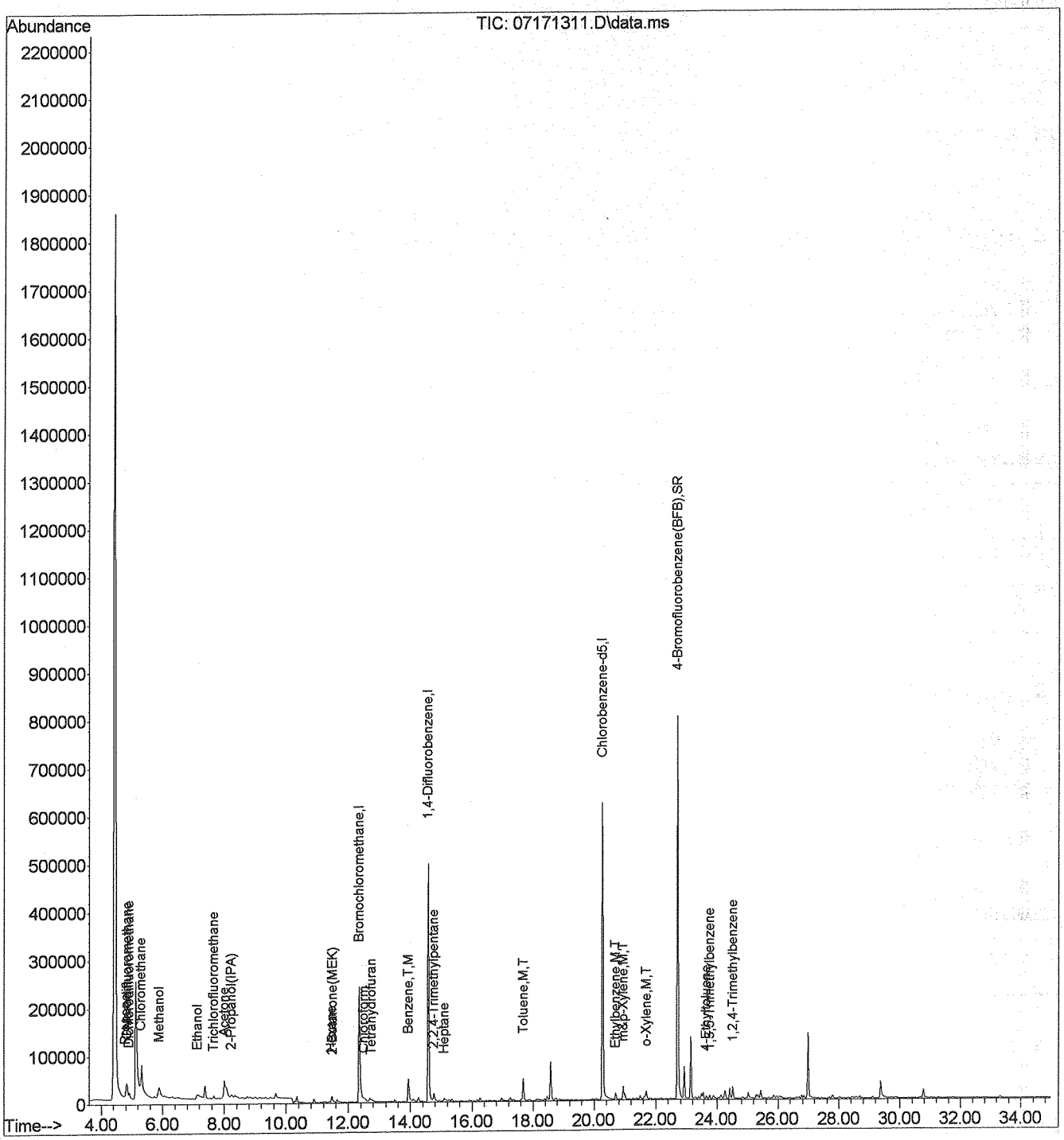
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171311.D
Acq On : 17 Jul 2013 15:50
Operator : JJG
Sample : 130893-64448 x1 rr
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 17 17:37:53 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



TO-15 RAW QC & ICAL SUMMARY

MS #3 Instrument Logbook

Sequence Name: C:\msdchem\1\sequence\2013\071713.S
Comment: GCMS-03
Operator: JJG
Data Path: C:\MSDCHEM\1\MS03\2013\071713\
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	07171301 TO15-5MS TO15 BFB 071713
2)	Sample	1	07171302 TO15-5MS TO15 CCV 071713
3)	Sample	1	07171303 TO15-5MS TO15 LCSD 071713
4)	Sample	1	07171304 TO15-5MS TO15 MB 071713
5)	Sample	3	07171305 TO15-5MS 130893-64445 x1
6)	Sample	3	07171306 TO15-5MS 130893-64445 x1 dp
7)	Sample	4	07171307 TO15-5MS 130893-64446 x1
8)	Sample	5	07171308 TO15-5MS 130893-64447 x1
9)	Sample	6	07171309 TO15-5MS 130893-64448 x1
10)	Sample	7	07171310 TO15-5MS Flow Check#071713-01
11)	Sample	6	07171311 TO15-5MS 130893-64448 x1 rr
12)	Sample	8	07171312 TO15-5MS 130901-64478 x10
13)	Sample	9	07171313 TO15-5MS 130901-64476 x10
14)	Sample	9	07171314 TO15-5MS 130901-64476 x20
15)	Sample	10	07171315 TO15-5MS 130901-64476 x100
16)	Sample	11	07171316 TO15-5MS 130901-64478 x100
17)	Sample	9	07171317 TO15-5MS Lab Air 071713 x1
18)	Sample	9	07171318 TO15-5MS Lab Air 071713 x1
19)	Sample	11	07171319 TO15-5MS 130901-64478 x100 rr
20)	Sample	10	07171320 TO15-5MS 130901-64476 x100 rr
21)	Sample	9	07171321 TO15-5MS 130901-64476 x20 rr
22)	Sample	2	07171322 TO15-5MS Lab Air 071713 x1
23)	Sample	2	07171323 TO15-5MS Lab Air 071713 x1
24)	Sample	2	07171324 TO15-5MS Lab Air 071713 x1
25)	Sample	1	07171325 TO15-5MS Can Check#000088

07/18/13

Comments: _____

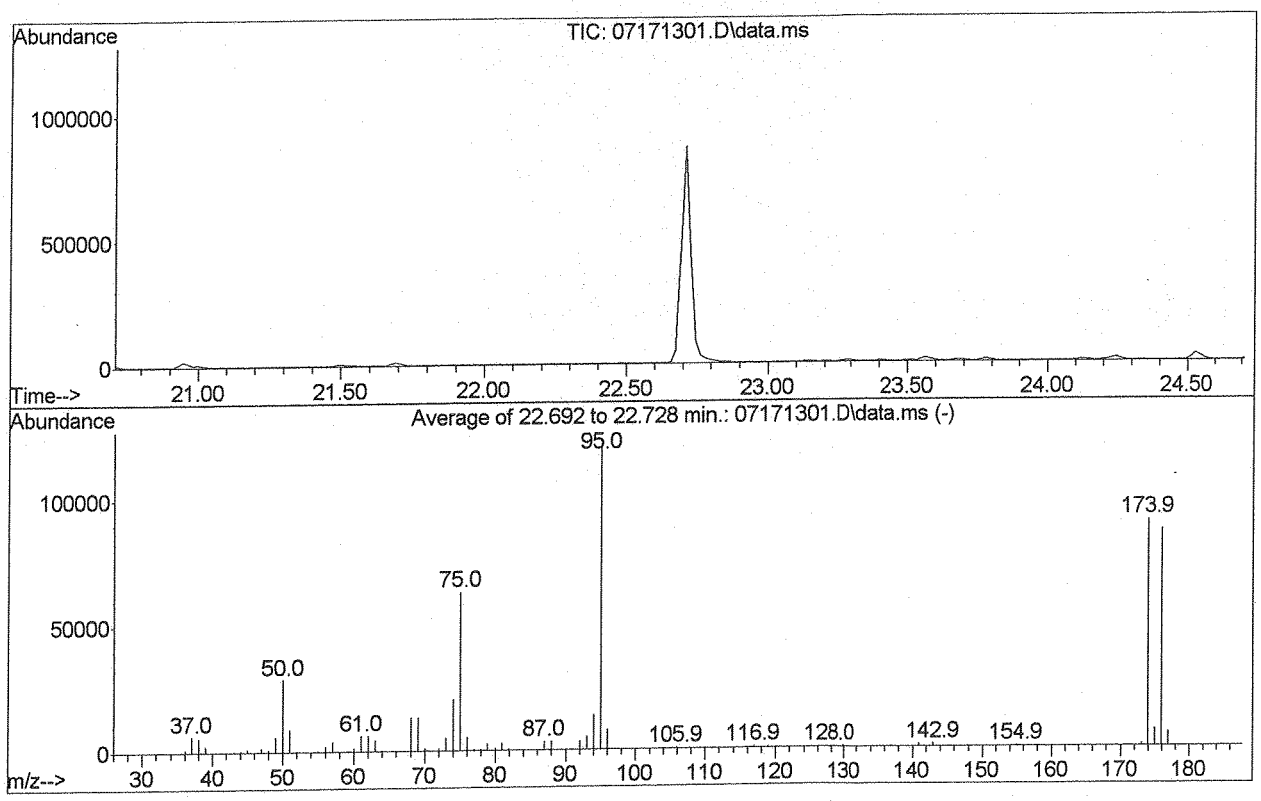
Analyst: _____ **Date:** 07/18/13

Page: 12 of ____

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171301.D
Acq On : 17 Jul 2013 8:01 am
Operator : JJG
Sample : TO15 BFB 071713
Misc : IS/Surr: PS082212-01 + 500mL cc#000352
ALS Vial : 1 Sample Multiplier: 1

Integration File: PAMS.P

Method : C:\msdchem\1\METHODS\2013\070213.M
Title : TO-15/TO-14
Last Update : Wed Jul 03 08:16:39 2013



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

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.7	28733	PASS
75	95	30	60	52.0	63152	PASS
95	95	100	100	100.0	121459	PASS
96	95	5	9	6.6	8058	PASS
173	174	0.00	2	0.9	843	PASS
174	95	50	100	74.2	90083	PASS
175	174	5	9	7.4	6661	PASS
176	174	95	101	95.6	86133	PASS
177	176	5	9	6.5	5615	PASS

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171302.D
Acq On : 17 Jul 2013 8:46
Operator : JJG
Sample : TO15 CCV 071713
Misc : IS/Surr: PS082212-01 + Cal: PS041813-01
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:11:57 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	99893	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	532351	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	529233	10.00	ppbv	-0.02
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	322632	9.99	ppbv	0.00
Spiked Amount 10.000			Recovery = 99.90%			
Target Compounds						Qvalue
2) Chlorodifluoromethane	4.817	51	293631	9.74	ppbv	99
3) Propene	4.781	42	83304	10.53	ppbv	98
4) Dichlorodifluoromethane	4.908	85	455199	9.96	ppbv	100
5) Chloromethane	5.288	52	52388m	9.94	ppbv	
6) Dichlorotetrafluoroethane	5.342	135	263259	9.97	ppbv	87
7) VinylChloride	5.668	62	169725m	10.02	ppbv	
8) Methanol	5.867	31	37862m	4.91	ppbv	
9) 1,3-Butadiene	5.867	54	119976m	10.24	ppbv	
10) Bromomethane	6.446	96	98698m	8.60	ppbv	
11) Chloroethane	6.736	66	25942	8.23	ppbv	99
12) Dichlorofluoromethane	7.025	67	397791m	9.83	ppbv	
13) Ethanol	7.043	45	84337m	8.63	ppbv	
14) VinylBromide	7.260	108	132544m	10.18	ppbv	
15) Acetone	7.966	58	89308m	9.56	ppbv	
16) Trichlorofluoromethane	7.677	103	331197	9.93	ppbv	99
17) 2-Propanol(IPA)	8.165	45	363972m	10.19	ppbv	
18) Acrylonitrile	8.961	52	127105m	10.28	ppbv	
19) 1,1-Dichloroethene	8.726	96	140036	10.07	ppbv	98
20) MethyleneChloride(DCM)	9.323	84	116315m	9.65	ppbv	
21) AllylChloride	9.305	39	170707m	9.50	ppbv	
22) CarbonDisulfide	9.486	76	378149m	9.73	ppbv	
23) Trichlorotrifluoroethane	8.998	103	204481	10.18	ppbv	98
24) trans-1,2-Dichloroethene	10.424	96	141218m	10.53	ppbv	
25) 1,1-Dichloroethane	10.906	63	340660	10.06	ppbv	99
26) MethylTertButylEther(M...	10.442	73	438499	10.82	ppbv	99
27) VinylAcetate	10.888	43	498482m	9.41	ppbv	
28) 2-Butanone(MEK)	11.423	72	68263	10.89	ppbv	95
29) cis-1,2-Dichloroethene	11.904	96	151478	10.43	ppbv	99
30) Hexane	11.476	86	30415	10.91	ppbv	84
31) Chloroform	12.493	83	395886	10.84	ppbv	98
32) EthylAcetate	12.011	43	489750	10.84	ppbv	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171302.D
Acq On : 17 Jul 2013 8:46
Operator : JJG
Sample : TO15 CCV 071713
Misc : IS/Surr: PS082212-01 + Cal: PS041813-01
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:11:57 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

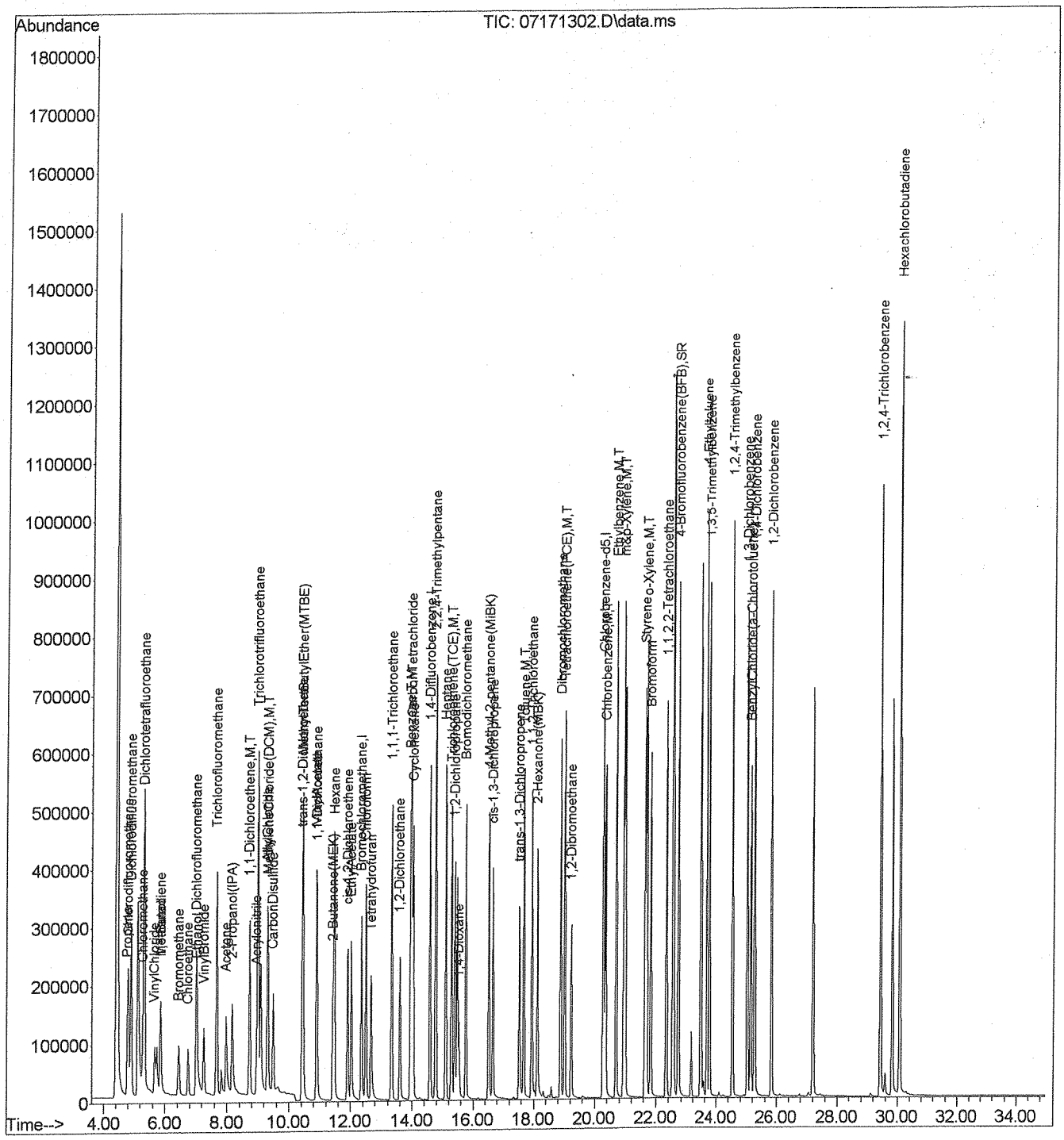
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
33) Tetrahydrofuran	12.671	72	68029	10.76	ppbv		99
34) 1,2-Dichloroethane	13.580	62	333335	10.63	ppbv		99
35) 1,1,1-Trichloroethane	13.331	97	449438	10.69	ppbv		99
37) Benzene	13.937	78	451304	10.18	ppbv		100
38) CarbonTetrachloride	13.973	117	437758	10.18	ppbv		99
39) Cyclohexane	14.026	69	65904	9.76	ppbv		98
40) 1,2-Dichloropropane	15.399	63	199896	10.25	ppbv		98
41) Bromodichloromethane	15.756	85	279898	10.30	ppbv		98
42) 1,4-Dioxane	15.524	88	100907m	10.10	ppbv		
43) Trichloroethene(TCE)	15.292	130	198840	10.10	ppbv		97
44) 2,2,4-Trimethylpentane	14.757	57	977013	10.38	ppbv		99
45) Heptane	15.096	71	149463	10.46	ppbv		85
46) cis-1,3-Dichloropropene	16.647	75	297681	10.87	ppbv		99
47) 4-Methyl-2-pentanone(M...	16.523	58	191217	10.05	ppbv		98
48) trans-1,3-Dichloropropene	17.521	75	272871	9.33	ppbv		96
49) 1,1,2-Trichloroethane	17.931	97	208031	10.54	ppbv		99
50) Toluene	17.682	91	582429	10.48	ppbv		99
51) 2-Hexanone(MBK)	18.110	58	250353	10.86	ppbv		95
52) Dibromochloromethane	18.876	129	437062	11.25	ppbv		99
53) 1,2-Dibromoethane	19.233	107	328513	10.21	ppbv		100
54) Tetrachloroethene(PCE)	19.019	166	286210	10.61	ppbv		99
56) Chlorobenzene	20.356	114	143888	10.28	ppbv		99
57) Ethylbenzene	20.695	91	820455	10.24	ppbv		100
58) m&p-Xylene	20.945	106	568241	20.02	ppbv		99
59) Bromoform	21.819	173	408795	9.99	ppbv		98
60) Styrene	21.640	104	450609	10.15	ppbv		99
61) 1,1,2,2-Tetrachloroethane	22.336	83	472310	10.30	ppbv		99
62) o-Xylene	21.694	91	646553	10.10	ppbv		100
64) 4-Ethyltoluene	23.673	120	242744	10.29	ppbv		97
65) 1,3,5-Trimethylbenzene	23.780	120	325058	9.72	ppbv		98
66) 1,2,4-Trimethylbenzene	24.529	120	327179	9.94	ppbv		97
67) BenzylChloride(a-Chlor...	25.153	91	610219m	9.48	ppbv		
68) 1,3-Dichlorobenzene	25.028	146	506413	10.29	ppbv	#	94
69) 1,4-Dichlorobenzene	25.260	146	486061m	9.92	ppbv		
70) 1,2-Dichlorobenzene	25.831	146	505433m	10.02	ppbv		
71) 1,2,4-Trichlorobenzene	29.433	180	469499m	9.28	ppbv		
72) Hexachlorobutadiene	30.075	225	450848m	9.94	ppbv		

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171302.D
Acq On : 17 Jul 2013 8:46
Operator : JJG
Sample : TO15 CCV 071713
Misc : IS/Surr: PS082212-01 + Cal: PS041813-01
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:11:57 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171303.D
Acq On : 17 Jul 2013 9:32
Operator : JJG
Sample : TO15 LCSD 071713
Misc : IS/Surr: PS082212-01 + Cal: PS041813-01
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:13:44 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	102458	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	551017	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	540398	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	321724	9.75	ppbv	0.00
Spiked Amount 10.000			Recovery = 97.50%			
Target Compounds						Qvalue
2) Chlorodifluoromethane	4.817	51	303262	9.80	ppbv	99
3) Propene	4.781	42	86481	10.66	ppbv	98
4) Dichlorodifluoromethane	4.908	85	467334	9.97	ppbv	100
5) Chloromethane	5.288	52	54435m	10.07	ppbv	
6) Dichlorotetrafluoroethane	5.324	135	275726	10.18	ppbv	96
7) VinylChloride	5.668	62	180416m	10.38	ppbv	
8) Methanol	5.849	31	38159m	4.82	ppbv	
9) 1,3-Butadiene	5.867	54	129280m	10.76	ppbv	
10) Bromomethane	6.446	96	106462m	9.05	ppbv	
11) Chloroethane	6.736	66	27383	8.47	ppbv	98
12) Dichlorofluoromethane	7.025	67	408821m	9.85	ppbv	
13) Ethanol	7.043	45	84534m	8.43	ppbv	
14) VinylBromide	7.260	108	134043m	10.04	ppbv	
15) Acetone	7.966	58	92498m	9.65	ppbv	
16) Trichlorofluoromethane	7.677	103	332704	9.73	ppbv	100
17) 2-Propanol(IPA)	8.165	45	376406m	10.27	ppbv	
18) Acrylonitrile	8.961	52	133782m	10.55	ppbv	
19) 1,1-Dichloroethene	8.726	96	142359	9.98	ppbv	97
20) MethyleneChloride(DCM)	9.323	84	116324m	9.41	ppbv	
21) AllylChloride	9.305	39	168698m	9.15	ppbv	
22) CarbonDisulfide	9.486	76	392718m	9.86	ppbv	
23) Trichlorotrifluoroethane	8.998	103	206466	10.02	ppbv	98
24) trans-1,2-Dichloroethene	10.424	96	142408m	10.35	ppbv	
25) 1,1-Dichloroethane	10.906	63	332844	9.58	ppbv	99
26) MethylTertButylEther(M...	10.442	73	435928	10.49	ppbv	99
27) VinylAcetate	10.888	43	488465m	8.99	ppbv	
28) 2-Butanone(MEK)	11.423	72	71051m	11.05	ppbv	
29) cis-1,2-Dichloroethene	11.904	96	150036	10.07	ppbv	99
30) Hexane	11.458	86	29869	10.45	ppbv	97
31) Chloroform	12.493	83	390934	10.44	ppbv	98
32) EthylAcetate	12.011	43	487004	10.51	ppbv	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171303.D
Acq On : 17 Jul 2013 9:32
Operator : JJG
Sample : TO15 LCSD 071713
Misc : IS/Surr: PS082212-01 + Cal: PS041813-01
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:13:44 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

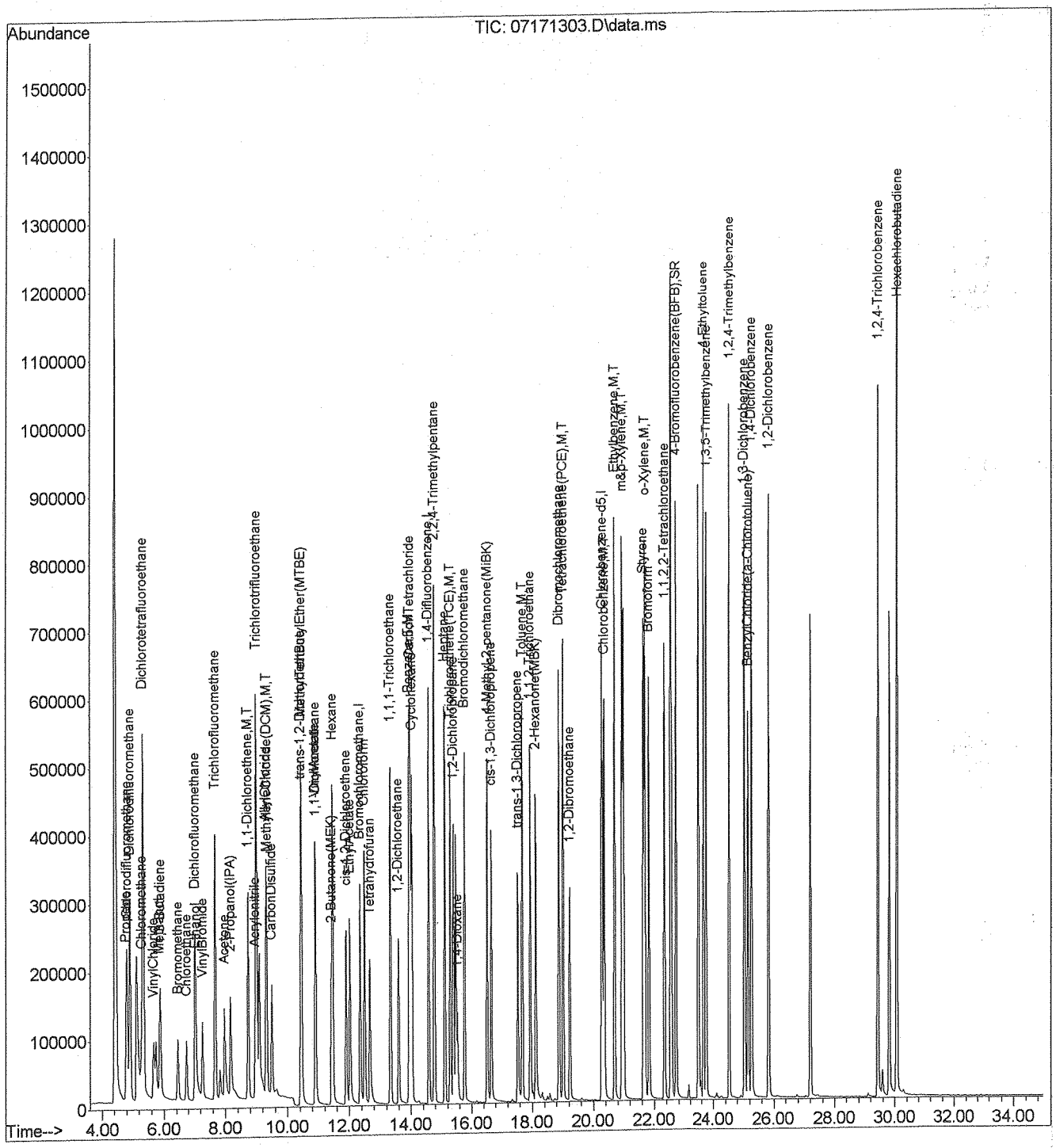
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	12.671	72	68418	10.55 ppbv	99
34) 1,2-Dichloroethane	13.580	62	327938	10.19 ppbv	97
35) 1,1,1-Trichloroethane	13.331	97	448161	10.40 ppbv	99
37) Benzene	13.937	78	460475	10.04 ppbv	100
38) CarbonTetrachloride	13.973	117	449435	10.10 ppbv	99
39) Cyclohexane	14.026	69	67320	9.63 ppbv	98
40) 1,2-Dichloropropane	15.399	63	200301	9.93 ppbv	98
41) Bromodichloromethane	15.756	85	282610	10.05 ppbv	99
42) 1,4-Dioxane	15.524	88	103908m	10.05 ppbv	
43) Trichloroethene(TCE)	15.292	130	204547	10.04 ppbv	100
44) 2,2,4-Trimethylpentane	14.775	57	1010478	10.37 ppbv	100
45) Heptane	15.096	71	148977	10.07 ppbv	85
46) cis-1,3-Dichloropropene	16.647	75	300003	10.59 ppbv	99
47) 4-Methyl-2-pentanone(M...	16.523	58	194921	9.90 ppbv	99
48) trans-1,3-Dichloropropene	17.521	75	285069	9.41 ppbv	95
49) 1,1,2-Trichloroethane	17.931	97	207868	10.17 ppbv	99
50) Toluene	17.682	91	593489	10.32 ppbv	99
51) 2-Hexanone(MBK)	18.110	58	255654	10.71 ppbv	93
52) Dibromochloromethane	18.876	129	449443	11.18 ppbv	100
53) 1,2-Dibromoethane	19.233	107	333531	10.02 ppbv	100
54) Tetrachloroethene(PCE)	19.019	166	285827	10.24 ppbv	100
56) Chlorobenzene	20.356	114	146250	10.23 ppbv	98
57) Ethylbenzene	20.695	91	818152	10.00 ppbv	99
58) m&p-Xylene	20.945	106	563889	19.46 ppbv	99
59) Bromoform	21.819	173	424141	10.15 ppbv	100
60) Styrene	21.640	104	447654	9.88 ppbv	99
61) 1,1,2,2-Tetrachloroethane	22.336	83	476100	10.17 ppbv	99
62) o-Xylene	21.694	91	661529	10.12 ppbv	99
64) 4-Ethyltoluene	23.673	120	246230	10.23 ppbv	97
65) 1,3,5-Trimethylbenzene	23.780	120	330345	9.67 ppbv	99
66) 1,2,4-Trimethylbenzene	24.529	120	342807	10.20 ppbv	99
67) BenzylChloride(a-Chlor...	25.153	91	616540m	9.38 ppbv	
68) 1,3-Dichlorobenzene	25.028	146	510388	10.15 ppbv #	94
69) 1,4-Dichlorobenzene	25.260	146	490771m	9.81 ppbv	
70) 1,2-Dichlorobenzene	25.831	146	505259m	9.81 ppbv	
71) 1,2,4-Trichlorobenzene	29.433	180	486563m	9.41 ppbv	
72) Hexachlorobutadiene	30.075	225	449830m	9.71 ppbv	

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171303.D
Acq On : 17 Jul 2013 9:32
Operator : JJG
Sample : TO15 LCSD 071713
Misc : IS/Surr: PS082212-01 + Cal: PS041813-01
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:13:44 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



07/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171304.D
Acq On : 17 Jul 2013 10:20
Operator : JJG
Sample : TO15 MB 071713
Misc : IS/Surr: PS082212-01 + 500mL cc#000352
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:17:10 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	98589	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	558751	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	515097	10.00	ppbv	-0.02
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	318255	10.12	ppbv	0.00
Spiked Amount 10.000			Recovery = 101.20%			
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	0.000		0	N.D.		
6) Dichlorotetrafluoroethane	0.000		0	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	0.000		0	N.D.	d	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D.	d	
11) Chloroethane	0.000		0	N.D.	d	
12) Dichlorofluoromethane	0.000		0	N.D.		
13) Ethanol	7.206	45	252	N.D.		
14) VinylBromide	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Trichlorofluoromethane	0.000		0	N.D.		
17) 2-Propanol(IPA)	8.310	45	110	N.D.		
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		
20) MethyleneChloride(DCM)	0.000		0	N.D.	d	
21) AllylChloride	0.000		0	N.D.		
22) CarbonDisulfide	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	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171304.D
Acq On : 17 Jul 2013 10:20
Operator : JJG
Sample : TO15 MB 071713
Misc : IS/Surr: PS082212-01 + 500mL cc#000352
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:17:10 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.		
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	0.000		0	N.D.	d	
38) CarbonTetrachloride	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40) 1,2-Dichloropropane	0.000		0	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene(TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	2393	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	0.000		0	N.D.	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)	0.000		0	N.D.		
56) Chlorobenzene	0.000		0	N.D.		
57) Ethylbenzene	20.713	91	761	N.D.		
58) m&p-Xylene	20.963	106	661	N.D.		
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.694	104	407	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.712	91	562	N.D.		
64) 4-Ethyltoluene	23.798	120	123	N.D.		
65) 1,3,5-Trimethylbenzene	23.798	120	123	N.D.		
66) 1,2,4-Trimethylbenzene	0.000		0	N.D.		
67) BenzylChloride(a-Chlor...	25.207	91	556	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	1330	N.D.		
69) 1,4-Dichlorobenzene	25.296	146	1677	N.D.		
70) 1,2-Dichlorobenzene	25.866	146	823	N.D.		
71) 1,2,4-Trichlorobenzene	29.486	180	1127	N.D.		
72) Hexachlorobutadiene	30.075	225	552	N.D.		

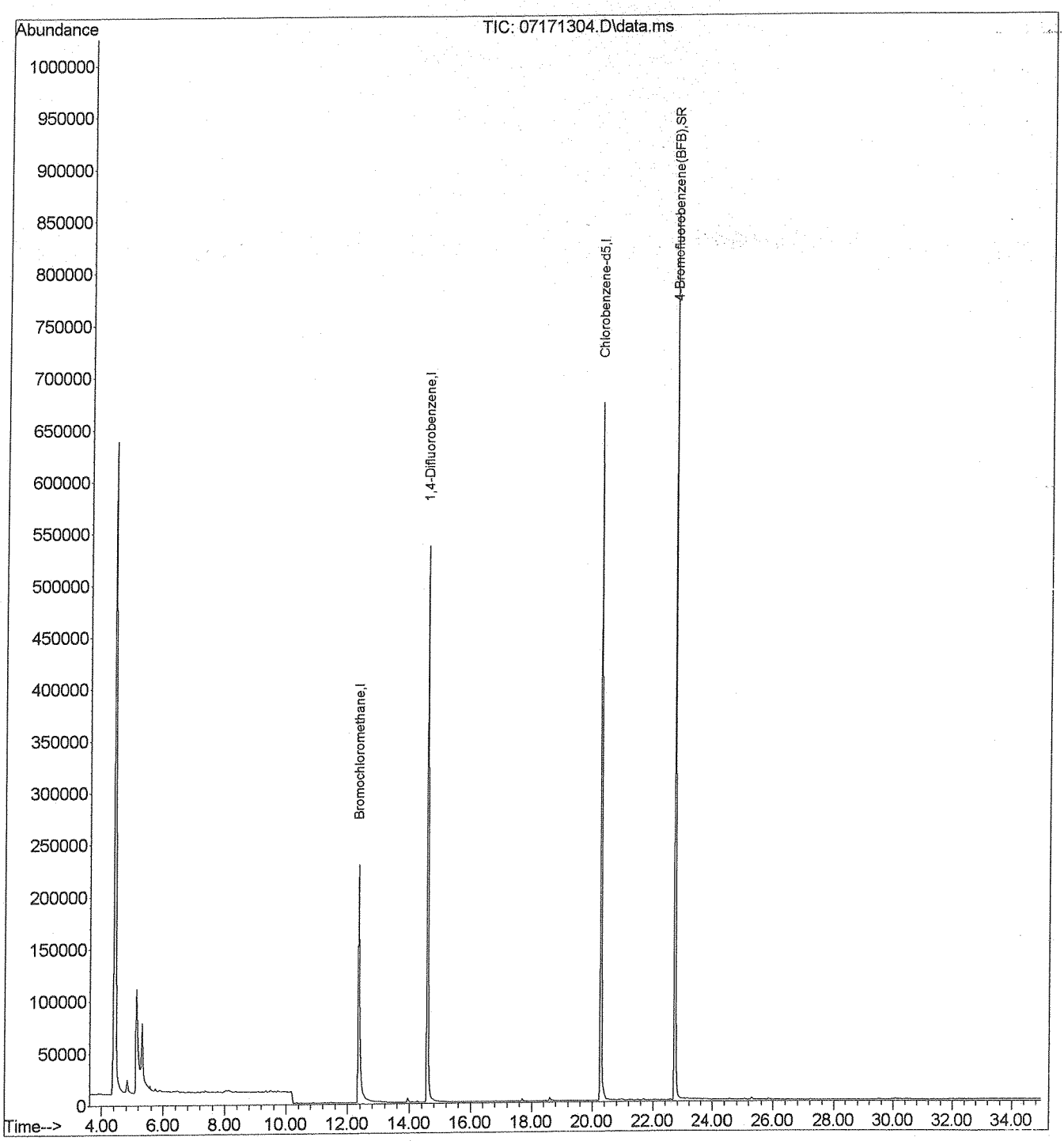
(#) = qualifier out of range (m) = manual integration (+) = signals summed

07/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171304.D
Acq On : 17 Jul 2013 10:20
Operator : JJG
Sample : TO15 MB 071713
Misc : IS/Surr: PS082212-01 + 500mL cc#000352
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 17 11:17:10 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171305.D
Acq On : 17 Jul 2013 11:07
Operator : JJG
Sample : 130893-64445 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:10:27 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	89825	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	505584	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	489868	10.00 ppbv	-0.02
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	300989	10.06 ppbv	0.00
Spiked Amount 10.000			Recovery = 100.60%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.835	51	4778	0.18 ppbv #	95
3) Propene	4.799	42	5469	0.77 ppbv #	71
4) Dichlorodifluoromethane	4.908	85	15374	0.37 ppbv	96
5) Chloromethane	5.288	52	1480	0.31 ppbv #	60
6) Dichlorotetrafluoroethane	0.000		0	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.885	31	54775m	7.90 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	6.862	66	109	N.D.	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.134	45	39212m	4.46 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	8.002	58	27926m	3.32 ppbv	
16) Trichlorofluoromethane	7.659	103	4862	0.16 ppbv #	91
17) 2-Propanol(IPA)	8.201	45	73718m	2.29 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	0.000		0	N.D. 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	1119	0.45 ppbv	90
31) Chloroform	12.493	83	4328	0.13 ppbv #	91
32) EthylAcetate	0.000		0	N.D. d	

07/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171305.D
Acq On : 17 Jul 2013 11:07
Operator : JJG
Sample : 130893-64445 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:10:27 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.	
34) 1,2-Dichloroethane	0.000		0	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	14856	0.35 ppbv	94
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	15.257	63	231	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	29248	0.33 ppbv	93
45) Heptane	15.096	71	1553	0.11 ppbv	86
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	16.576	58	118	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	288	N.D.	
49) 1,1,2-Trichloroethane	0.000		0	N.D.	
50) Toluene	17.682	91	31830	0.60 ppbv	97
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)	0.000		0	N.D.	
56) Chlorobenzene	0.000		0	N.D.	
57) Ethylbenzene	20.695	91	9279	0.13 ppbv #	97
58) m&p-Xylene	20.945	106	10644	0.41 ppbv	96
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.658	104	713	N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	9274	0.16 ppbv #	97
64) 4-Ethyltoluene	23.673	120	984	0.05 ppbv #	68
65) 1,3,5-Trimethylbenzene	23.780	120	1231	N.D.	
66) 1,2,4-Trimethylbenzene	24.529	120	4646	0.15 ppbv #	77
67) BenzylChloride(a-Chlor...	25.278	91	485	N.D.	
68) 1,3-Dichlorobenzene	25.046	146	291	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	714	N.D.	
70) 1,2-Dichlorobenzene	25.849	146	290	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	1220	N.D.	
72) Hexachlorobutadiene	30.075	225	334	N.D.	

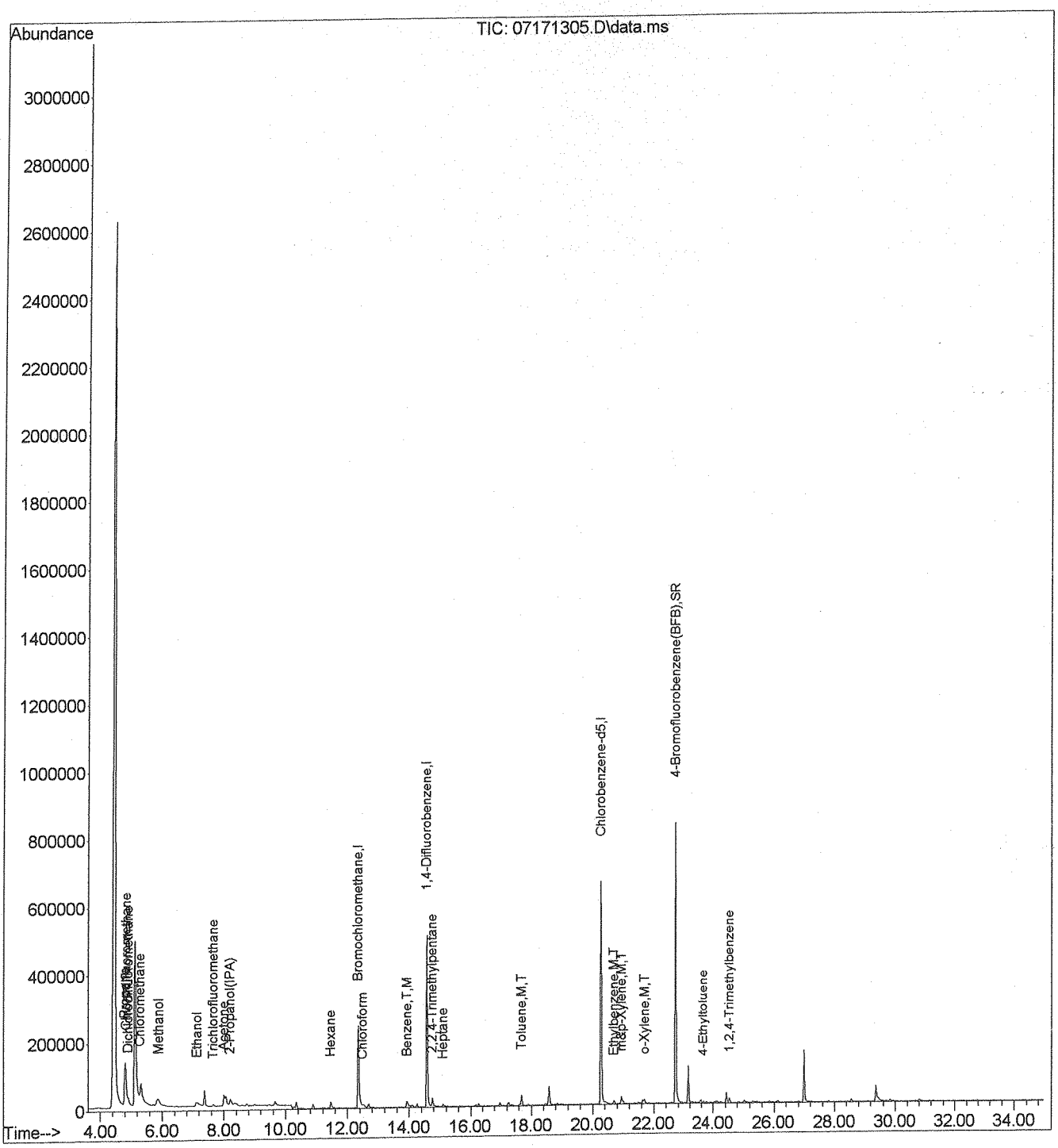
(#) = qualifier out of range (m) = manual integration (+) = signals summed

07/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171305.D
Acq On : 17 Jul 2013 11:07
Operator : JJG
Sample : 130893-64445 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:10:27 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171306.D
Acq On : 17 Jul 2013 11:55
Operator : JJG
Sample : 130893-64445 x1 dp
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:59:44 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane	12.350	128	85503	10.00 ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	495519	10.00 ppbv	0.00
55) Chlorobenzene-d5	20.267	117	466872	10.00 ppbv	-0.02
System Monitoring Compounds					
63) 4-Bromofluorobenzene(BFB)	22.710	174	297273	10.43 ppbv	0.00
Spiked Amount 10.000			Recovery = 104.30%		
Target Compounds					Qvalue
2) Chlorodifluoromethane	4.817	51	4979	0.19 ppbv #	93
3) Propene	4.799	42	5320	0.79 ppbv #	69
4) Dichlorodifluoromethane	4.908	85	14875	0.38 ppbv	96
5) Chloromethane	5.288	52	1320	0.29 ppbv #	1
6) Dichlorotetrafluoroethane	5.324	135	121	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.867	31	49068m	7.43 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.	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.098	45	36599m	4.37 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	8.002	58	27163	3.40 ppbv #	84
16) Trichlorofluoromethane	7.659	103	5026	0.18 ppbv #	86
17) 2-Propanol(IPA)	8.201	45	72664m	2.38 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	589	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	900	0.38 ppbv	85
31) Chloroform	12.493	83	4206	0.13 ppbv #	89
32) EthylAcetate	0.000		0	N.D. d	

7/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171306.D
Acq On : 17 Jul 2013 11:55
Operator : JJG
Sample : 130893-64445 x1 dp
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:59:44 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.	
34) 1,2-Dichloroethane	0.000		0	N.D.	
35) 1,1,1-Trichloroethane	0.000		0	N.D.	
37) Benzene	13.937	78	13586	0.33 ppbv	96
38) CarbonTetrachloride	0.000		0	N.D. d	
39) Cyclohexane	0.000		0	N.D. d	
40) 1,2-Dichloropropane	0.000		0	N.D.	
41) Bromodichloromethane	0.000		0	N.D.	
42) 1,4-Dioxane	0.000		0	N.D.	
43) Trichloroethene(TCE)	0.000		0	N.D.	
44) 2,2,4-Trimethylpentane	14.757	57	29088	0.33 ppbv #	95
45) Heptane	15.096	71	1513	0.11 ppbv #	59
46) cis-1,3-Dichloropropene	0.000		0	N.D.	
47) 4-Methyl-2-pentanone(M...	0.000		0	N.D.	
48) trans-1,3-Dichloropropene	17.682	75	267	N.D.	
49) 1,1,2-Trichloroethane	0.000		0	N.D.	
50) Toluene	17.682	91	28827	0.56 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)	0.000		0	N.D.	
56) Chlorobenzene	0.000		0	N.D.	
57) Ethylbenzene	20.695	91	8840	0.13 ppbv #	95
58) m&p-Xylene	20.945	106	9898	0.40 ppbv #	96
59) Bromoform	0.000		0	N.D.	
60) Styrene	21.658	104	648	N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
62) o-Xylene	21.694	91	8979	0.16 ppbv #	95
64) 4-Ethyltoluene	23.673	120	1248	0.06 ppbv #	63
65) 1,3,5-Trimethylbenzene	23.780	120	1171	N.D.	
66) 1,2,4-Trimethylbenzene	24.529	120	4369	0.15 ppbv #	91
67) BenzylChloride(a-Chlor...	25.296	91	501	N.D.	
68) 1,3-Dichlorobenzene	25.064	146	132	N.D.	
69) 1,4-Dichlorobenzene	25.278	146	348	N.D.	
70) 1,2-Dichlorobenzene	0.000		0	N.D.	
71) 1,2,4-Trichlorobenzene	29.451	180	514	N.D.	
72) Hexachlorobutadiene	0.000		0	N.D.	

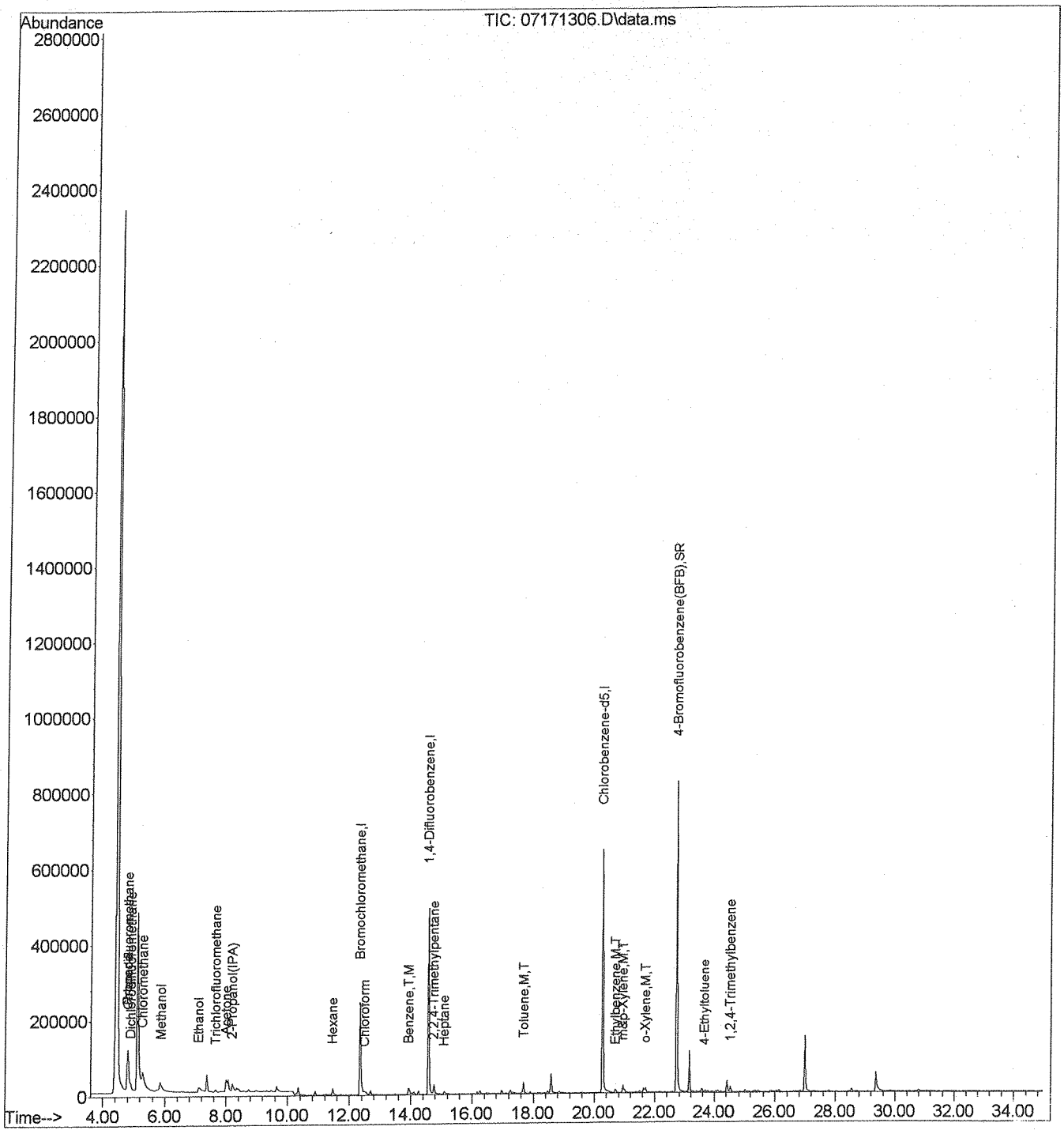
(#) = qualifier out of range (m) = manual integration (+) = signals summed

07/17/13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\MS03\2013\071713\
Data File : 07171306.D
Acq On : 17 Jul 2013 11:55
Operator : JJG
Sample : 130893-64445 x1 dp
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 17 12:59:44 2013
Quant Method : C:\msdchem\1\METHODS\2013\070213.M
Quant Title : TO-15/TO-14
QLast Update : Wed Jul 03 08:16:39 2013
Response via : Initial Calibration



07/17/13

Calibration Status Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 070213.M
Title : TO-15/TO-14
Last Update : Wed Jul 03 08:16:39 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.5	1	10	C:\msdchem\1\MS03\2013\070213\07021326.D
2	1.0	1	10	C:\msdchem\1\MS03\2013\070213\07021325.D
3	2.0	2	10	C:\msdchem\1\MS03\2013\070213\07021324.D
4	5.0	5	10	C:\msdchem\1\MS03\2013\070213\07021323.D
5	10	10	10	C:\msdchem\1\MS03\2013\070213\07021322.D
6	20	20	10	C:\msdchem\1\MS03\2013\070213\07021321.D
7	50	51	10	C:\msdchem\1\MS03\2013\070213\07021320.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.5	Jul 03 08:02 2013	Jul 03 07:58 2013	
2	1.0	Jul 03 08:02 2013	Jul 03 07:41 2013	
3	2.0	Jul 03 08:02 2013	Jul 03 07:39 2013	
4	5.0	Jul 03 08:01 2013	Jul 03 07:37 2013	
5	10	Jul 03 08:01 2013	Jul 03 07:33 2013	
6	20	Jul 03 08:01 2013	Jul 03 07:27 2013	
7	50	Jul 03 08:01 2013	Jul 03 07:00 2013	

070213.M Wed Jul 03 08:18:10 2013

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 070213.M
Title : TO-15/TO-14
Last Update : Wed Jul 03 08:16:39 2013
Response Via : Initial Calibration

Calibration Files
0.5 =07021326.D 1.0 =07021325.D 2.0 =07021324.D 5.0 =07021323.D 10 =07021322.D 20 =07021321.D
50 =07021320.D

		Compound	0.5	1.0	2.0	5.0	10	20	50	Avg	%RSD
1)	I	Bromochloromethane	----------	ISTD	----------						
2)		Chlorodifluoro...	3.509	3.224	3.053	2.974	2.811	2.690	2.872	3.019	9.15
3)		Propene	0.803	0.833	0.776	0.789	0.748	0.766	0.826	0.792	3.92
4)		Dichlorodifluo...	4.893	4.799	4.664	4.595	4.321	4.182	4.567	4.574	5.49
5)		Chloromethane	0.541	0.516	0.603	0.567	0.549	0.448	0.469	0.527	10.35
6)		Dichlorotetraf...	2.795	2.759	2.710	2.658	2.586	2.315	2.676	2.643	6.04
7)		VinylChloride	1.822	1.673	1.768	1.749	1.667	1.483	1.709	1.696	6.40
8)		Methanol		1.293	1.035	0.883	0.810	0.701	0.780	0.917	23.55
9)		1,3-Butadiene	1.230	1.234	1.247	1.238	1.193	1.011	1.056	1.173	8.32
10)		Bromomethane	1.431	1.260	1.188	1.140	1.082	0.965	0.973	1.148	14.35
11)		Chloroethane	0.470	0.379	0.294	0.287	0.266	0.239	0.272	0.315	25.67
12)		Dichlorofluoro...	4.293	4.136	4.119	4.023	3.934	3.760	4.091	4.051	4.17
13)		Ethanol	1.301	1.140	1.062	0.957	0.837	0.763	0.792	0.979	20.41
14)		VinylBromide	1.290	1.272	1.297	1.332	1.305	1.268	1.361	1.303	2.55
15)		Acetone	1.198	1.023	0.943	0.866	0.849	0.837	0.831	0.935	14.44
16)		Trichlorofluor...	3.474	3.547	3.392	3.303	3.162	3.134	3.351	3.338	4.56
17)		2-Propanol(IPA)	4.040	3.870	3.832	3.643	3.402	3.157	3.094	3.577	10.27
18)		Acrylonitrile	1.242	1.230	1.210	1.295	1.241	1.249	1.196	1.237	2.56
19)	M,T	1,1-Dichloroet...	1.325	1.378	1.388	1.387	1.321	1.430	1.515	1.392	4.75
20)	M,T	MethyleneChlor...	1.417	1.260	1.215	1.149	1.126	1.142	1.140	1.207	8.67
21)		AllylChloride	2.169	2.065	1.901	1.741	1.596	1.545	1.573	1.799	13.98
22)		CarbonDisulfide	4.220	4.046	4.001	3.770	3.895	3.544	3.748	3.889	5.75
23)		Trichlorotrifl...	2.130	2.074	2.035	2.002	1.943	1.911	1.978	2.011	3.76
24)		trans-1,2-Dich...	1.294	1.329	1.326	1.349	1.300	1.345	1.456	1.343	4.03
25)		1,1-Dichloroet...	3.738	3.616	3.530	3.494	3.228	3.006	3.121	3.390	8.07
26)		MethylTertButy...	4.459	4.276	4.262	4.031	3.734	3.817	3.820	4.057	6.90
27)		VinylAcetate	5.682	5.572	5.515	5.518	5.039	4.888	4.921	5.305	6.42
28)		2-Butanone(MEK)	0.555	0.635	0.623	0.675	0.628	0.643	0.636	0.628	5.81

07/03/13

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 070213.M
Title : TO-15/TO-14

29)		cis-1,2-Dichlo...	1.507	1.439	1.480	1.478	1.404	1.404	1.464	1.454	2.71
30)		Hexane	0.285	0.288	0.282	0.284	0.265	0.271	0.278	0.279	3.01
31)		Chloroform	3.886	3.853	3.745	3.611	3.538	3.443	3.516	3.656	4.74
32)		EthylAcetate	4.617	4.764	4.793	4.657	4.390	4.229	4.207	4.522	5.43
33)		Tetrahydrofuran	0.655	0.680	0.629	0.645	0.613	0.609	0.598	0.633	4.59
34)		1,2-Dichloroet...	3.232	3.384	3.252	3.173	3.002	2.849	3.086	3.140	5.64
35)		1,1,1-Trichlor...	4.550	4.470	4.293	4.189	3.932	3.909	4.110	4.208	5.89
36)	I	1,4-Difluorobenzene	----------ISTD----------								
37)	T,M	Benzene	0.909	0.888	0.851	0.794	0.806	0.787	0.791	0.832	6.07
38)		CarbonTetrachl...	0.840	0.871	0.848	0.805	0.790	0.743	0.757	0.808	5.93
39)		Cyclohexane	0.141	0.137	0.135	0.121	0.121	0.115	0.117	0.127	8.28
40)		1,2-Dichloropr...	0.399	0.395	0.381	0.361	0.352	0.338	0.337	0.366	7.05
41)		Bromodichlorom...	0.536	0.534	0.522	0.506	0.502	0.478	0.495	0.510	4.15
42)		1,4-Dioxane	0.169	0.204	0.199	0.191	0.189	0.180	0.181	0.188	6.35
43)	M,T	Trichloroethen...	0.394	0.371	0.369	0.360	0.368	0.354	0.373	0.370	3.44
44)		2,2,4-Trimethy...	1.947	1.865	1.831	1.744	1.701	1.661	1.633	1.769	6.53
45)		Heptane	0.283	0.281	0.271	0.256	0.267	0.255	0.266	0.268	4.06
46)		cis-1,3-Dichlo...	0.522	0.524	0.529	0.515	0.516	0.498	0.496	0.514	2.47
47)		4-Methyl-2-pen...	0.356	0.383	0.371	0.360	0.351	0.344	0.339	0.357	4.24
48)		trans-1,3-Dich...	0.541	0.551	0.561	0.552	0.538	0.539	0.566	0.550	2.01
49)		1,1,2-Trichlor...	0.397	0.380	0.386	0.365	0.363	0.347	0.359	0.371	4.64
50)	M,T	Toluene	1.129	1.091	1.086	1.015	1.011	0.975	0.999	1.044	5.51
51)		2-Hexanone(MBK)	0.407	0.451	0.429	0.449	0.449	0.426	0.420	0.433	3.99
52)		Dibromochlorom...	0.725	0.719	0.736	0.727	0.726	0.717	0.757	0.730	1.85
53)		1,2-Dibromoethane	0.616	0.613	0.612	0.599	0.599	0.573	0.618	0.604	2.58
54)	M,T	Tetrachloroeth...	0.522	0.511	0.510	0.489	0.496	0.489	0.531	0.507	3.23
55)	I	Chlorobenzene-d5	----------ISTD----------								
56)	M,T	Chlorobenzene	0.275	0.271	0.261	0.256	0.261	0.262	0.267	0.265	2.51
57)	M,T	Ethylbenzene	1.619	1.598	1.551	1.507	1.487	1.416	1.420	1.514	5.32
58)	M,T	m&p-Xylene	0.567	0.567	0.546	0.529	0.515	0.502	0.528	0.536	4.66
59)		Bromoform	0.774	0.811	0.814	0.770	0.750	0.757	0.740	0.774	3.75
60)		Styrene	0.855	0.894	0.836	0.824	0.796	0.816	0.849	0.839	3.77
61)		1,1,2,2-Tetrac...	0.924	0.943	0.894	0.861	0.826	0.804	0.815	0.867	6.35
62)	M,T	o-Xylene	1.355	1.361	1.241	1.166	1.143	1.099	1.101	1.209	9.27
63)	SR	4-Bromofluorob...	0.606	0.607	0.612	0.615	0.593	0.606	0.634	0.610	2.06
64)		4-Ethyltoluene	0.442	0.456	0.450	0.453	0.432	0.426	0.459	0.446	2.76

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 070213.M
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65)	1,3,5-Trimethy...	0.659	0.674	0.637	0.610	0.606	0.602	0.636	0.632	4.38
66)	1,2,4-Trimethy...	0.619	0.648	0.608	0.617	0.607	0.610	0.646	0.622	2.86
67)	BenzylChloride...	1.021	1.169	1.187	1.242	1.266	1.279	1.353	1.217	8.68
68)	1,3-Dichlorobe...	0.910	0.954	0.934	0.891	0.912	0.930	0.980	0.930	3.20
69)	1,4-Dichlorobe...	0.929	1.001	0.946	0.887	0.869	0.893	0.956	0.926	5.00
70)	1,2-Dichlorobe...	0.935	1.011	0.990	0.940	0.914	0.912	0.971	0.953	4.02
71)	1,2,4-Trichlor...	0.891	0.961	0.947	0.939	0.960	0.957	1.040	0.956	4.63
72)	Hexachlorobuta...	0.901	0.899	0.856	0.844	0.832	0.821	0.845	0.857	3.67

(#) = Out of Range