

# Atmospheric Analysis & Consulting, Inc.

CLIENT : Soil Water Air Protection Enterprise  
PROJECT NAME : Bridgeton Sanitary Landfill Air Quality Assessment  
AAC PROJECT NO. : 130559  
REPORT DATE : 05/13/2013

On May 9, 2013, Atmospheric Analysis & Consulting, Inc. received eight (8) 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)
Trip Blank-Canister	130559-62851	1.2
BZ-2-Canister	130559-62852	544.9
U-1B-Canister	130559-62861	499.0
U-2-Canister	130559-62870	509.9
U-3-Canister	130559-62879	485.2
D-1-Canister	130559-62888	474.9
D-2-Canister	130559-62897	589.4
D-3-Canister	130559-62906	585.8


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<sub>2</sub> 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 other 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.

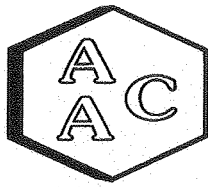
I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized the release of the data contained in this hardcopy data package.

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

  
Marcus Hueppe  
Laboratory Director

This report consists of 92 pages.





**CANISTER PRESSURE LOG**

Client: Soil Water Air Protection Ent Project No.: 130559  
Date: 5/9/2013

Canister #	Sample #	Initial Pressure	Final Pressure
740	62851	1.2	1033.6
672	62852	544.9	1017.2
576	62861	499.0	1059.1
732	62870	509.9	1016.0
653	62879	485.2	1019.1
668	62888	474.9	1024.9
702	62897	589.4	1024.2
741	62906	585.8	1018.3

AAE 130559

**CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM**

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE  
 Project Manager: PAUL ROSENFELD, PH.D.  
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401  
 Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT  
 Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

**REQUESTED TESTS / ANALYSES**

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation	Special Instructions / Conditions of Receipt
02843	TRIP BLANK - DMPH						X											
02844	- ACIDS						X											
02845	- HEL							X										
02846	- AMMONIA								X									
02847	- SO2									X								
02848	- HCN										X							
02849	- AMINES											X						
02850	- MERCURY												X					
02851	- Canister				X	X								X				

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: [Signature] Date: 5/8/12 Time: 15:00  
 Received By: [Signature] Date: [ ] Time: [ ]  
 Relinquished By: [Signature] Date: [ ] Time: [ ]  
 Received By: [Signature] Date: 5/9/12 Time: 0935

SOIL / WATER / AIR PROTECTION ENTERPRISE  
 - RETD EX

# 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:

5/8/13 Page 1 of 1

Project Manager:

PAUL ROSENFELD, PH.D.

### REQUESTED TESTS / ANALYSES

Address:

1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location:

BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By:

Paul Rosenfeld

Sampler Signature:

Paul Rosenfeld

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation	Special Instructions / Conditions of Receipt	
62852	BZ-2-Couster	CANISTER	5/8/13	13:32	X									X					
62853	-DNP4	TUBE		13:25			X												
62854	-ACIDS			13:26			X												
62855	-HCL			13:24			X												
62856	-AMMONIA			13:20			X												
62857	-SO2			13:22				X											
62858	-HCN			13:29				X											
62859	-AMINES			13:31					X										
62860	-MERCURY			13:28											X				

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:

Paul Rosenfeld

Date:

5/8/13

Time:

18:00

Received By:

Paul Rosenfeld

Date:

5/8/13

Time:

0935

Relinquished By:

Paul Rosenfeld

Date:

Time:

Received By:

Paul Rosenfeld

Date:

5/8/13

Time:

0935

Relinquished By:

Paul Rosenfeld

Date:

Time:

Received By:

Paul Rosenfeld

Date:

5/8/13

Time:

0935

SOIL / WATER / AIR PROTECTION ENTERPRISE

-Rosenfeld

# 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: 5/7/13 Page 1 of 1

Project Manager:  
PAUL ROSENFELD, PH.D.

## REQUESTED TESTS / ANALYSES

Address:

1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location:

BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By:

Paul Rosenfeld

Sampled Signature:

Paul Rosenfeld

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation	Special Instructions / Conditions of Receipt
Vo: 2	U-1 - Comister	Can	5/7/13	11:17	X	X	X	X	X	X	X	X	X	X	X	X	X	NO ANALYSES
62862	-DNPH	TOBE		12:17														
62863	-ACID5			12:46			X											
62864	-HCL			12:49				X										
62865	-AMMONIA			12:54						X								
62866	-SO2			12:51							X							
62867	-HCN			12:52					X									
62868	-AMINES			12:53								X						
62869	-MERCURY			12:50									X					
62861	U-1B - Comister	Can			X	X												X

Requested Turnaround Time:  
Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements:  
Provide Level IV QC Package for all Analyses.

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Paul Rosenfeld	5/8/13	10:00	Paul Rosenfeld	5/7/13	09:35
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

SOIL / WATER / AIR PROTECTION ENTERPRISE

- FedEx

# 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

Project Manager: **PAUL ROSENFELD, PH.D.** Address: **1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401**

Project Name and Location: **BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT**

Sampled By: **Paul Rosenfeld** Sample Signature: *Paul Rosenfeld*

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation	Date:	Page / of
02870	U-2-Camister	Can	5/7/13	13:20	X									X				5/7/13	1 / 1
02871	-DMPH	TOBE		13:17			X												
02872	-ACIDS			13:09			X												
02873	-HEL			13:14			X												
02874	-AMMONIA			13:18				X											
02875	-SO2			13:13				X											
02876	-HCN			13:15				X											
02877	-AMINES			13:10					X										
02878	-MERCURY			13:12								X							

Special Instructions / Conditions of Receipt

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: <i>Tom Hesse</i>	Date: 5/8/13	Time: 18:00	Received By: <i>Paul Rosenfeld</i>	Date: 5/7/13	Time: 09:35
Relinquished By: <i>Tom Hesse</i>	Date:	Time:	Received By: <i>Paul Rosenfeld</i>	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

SOIL / WATER / AIR PROTECTION ENTERPRISE

- FENDEX

**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

Project Manager: PAUL ROSENFELD, PH.D.  
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By: Paul Rosenfeld  
 Sampler Signature: Paul Rosenfeld

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
62879	1-3-Comster	Can	5/8/13	12:14	X	X								X			
62880	-NAPM	Tube		12:03			X										
62881	-ACIDS			12:06			X										
62882	-HCL			12:09			X										
62883	-AMMONIA			12:07				X									
62884	-SO2			12:11					X								
62885	-HCN			12:12						X							
62886	-AMINES			12:05							X						
62887	-Mercury			11:22								X					

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: [Signature]  
 Date: 5/8/13  
 Time: 18:00

Relinquished By: [Signature]  
 Date: [Blank]  
 Time: [Blank]

Relinquished By: [Signature]  
 Date: 5/9/13  
 Time: 0935

SOIL / WATER / AIR PROTECTION ENTERPRISE  
 - FedEx

Date: 5/8/13  
 Page 1 of 1

Special Instructions / Conditions of Receipt

# CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE  
 Project Manager: PAUL ROSENFELD, PH.D.

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

Date: 5/17/12 Page 1 of 1

Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401  
 Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

## REQUESTED TESTS / ANALYSES

Special Instructions / Conditions of Receipt

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
62888	0-1-Coinister		5/13	11:57	X									X			
62889	-ANPH	TUBE		11:55	X		X										
62890	-ACIDS			11:54			X										
62891	-HCL			11:40				X									
62892	-AMMONIA			11:49				X									
62893	-SO2			11:48					X								
62894	-HCN			11:42						X							
62895	-AMINES			11:52							X						
62896	-MERCURY			11:48								X					

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: <i>Paul Rosenfeld</i>	Date: 5/8/12	Time: 18:00	Received By: <i>Paul Rosenfeld</i>	Date: 5/17/12	Time: 09:35
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

SOIL / WATER / AIR PROTECTION ENTERPRISE

-REDX

Received at 0.3°C



**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:

5/7/13 Page 1 of 1

Project Manager:

PAUL ROSENFELD, PH.D.

**REQUESTED TESTS / ANALYSES**

Address:

1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location:

BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By:

PAUL ROSENFELD

Sample Signature:

Paul Rosenfeld

Special Instructions /  
Conditions of Receipt

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
62897	D-2 - Canister	Can	5/7/13	12:22	X	X								X			
62898	- DNPH	TUBE		12:19			X										
62899	- AC105			12:21			X										
62900	- HCL			12:12				X									
62901	- AMMONIA			12:17					X								
62902	- SO2			12:15						X							
62903	- HCN			12:16							X						
62904	- AMINES			12:08								X					
62905	- MERCURY			12:10												X	

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:

Paul Rosenfeld

Date:

3/0/12

Time:

18:00

Received By:

Paul Rosenfeld

Date:

5/9/13

Time:

0935

Relinquished By:

Paul Rosenfeld

Date:

3/0/12

Time:

18:00

Received By:

Paul Rosenfeld

Date:

5/9/13

Time:

0935

SOIL / WATER / AIR PROTECTION ENTERPRISE

- PENDER

**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: 5/8/13 Page 1 of 1

Project Manager: PAUL ROSENFELD, PH.D.  
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401  
 Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Requested Tests / Analyses

VOCS - EPA TO-15	X
Reduced Sulfur Compounds - ASTM D5504	X
Aldehydes - EPA TO-11A	X
Carboxylic Acids - Tube GC-MS	X
HCL - NIOSH 7903	X
Ammonia - OSHA ID-188	X
SO2 - OSHA ID-200	X
HCN - NIOSH 6010	X
Amines - NIOSH 2010M	X
Fixed Gases - EPA 3C	X
PAHs / Dioxins EPA TO-13A / 9A	
Mercury - NIOSH 6009	
Odor Evaluation	

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	Special Instructions / Conditions of Receipt
62906	D-3-Canister	Can	5/8/13	13:00	
62907	- DMPH	Tube		12:17	
62908	- ACIDS			12:58	
62909	- HCL			12:51	
62910	- AMMONIA			12:55	
62911	- SO2			12:57	
62912	- HCN			12:50	
62913	- AMINES			12:54	
62914	- MERCURY		09	12:48	

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

Relinquished By: [Signature] Date: 5/8/13 Time: 18:00  
 Received By: [Signature] Date: 5/8/13 Time: 0935

SOIL / WATER / AIR PROTECTION ENTERPRISE

- PERRY

# Atmospheric Analysis and Consulting Inc.

## Canister Sampling Field Data Sheet

### GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill  
 Site Address and/or ID No.: Bridgeton Sanitary Landfill, Bridgeton, Missouri  
 Sample Name and/or ID No.: BZ-2 - Canister  
 AAC Batch ID: 130559 AAC Sample ID: 62852

### SAMPLING INFORMATION

Start Date/Time: 5/8/13 9:39 Stop Date/Time: 5/8/13 13:32  
 Start Temp/Pressure\*: 25.6°C / 30.06 Stop Temp/Pressure\*: 27.2°C / 30.01  
 Initial Can Pressure\*\*: -28.5 Final Can Pressure\*\*: -7.5

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

Comments: Temp/pressure from Lambert Intl. Airport.

Paul Rosenfeld  
 Sampler Name (Print)

Paul Rosenfeld  
 Sampler Signature/Date

### LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour  
 Canister Serial No.: 672 Flow Controller Serial No.: 807  
 Initial Pressure: 0.5 Certified Flow Rate: 18.0  
 Return Pressure: 544.9 Certified By/Date: J2 4/10/2013  
 Final Pressure: 1017.2 Flow Rate upon Return: 21.5

Date Shipped From Lab: 4/10/2013 Shipped By: J2

Date Returned to Lab: 5/19/2013 Received By: J2

Flow Controller Certification File ID: M403/04260305

Canister Certification File ID: M403/040513R

Certification Type: SIM  SCAN  NJLL  PAMS  Other

James And 05/13/13  
 Chemist Signature/Date

MMA 5/13/13  
 Lab Manager Signature/Date

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

# Atmospheric Analysis and Consulting Inc.

## Canister Sampling Field Data Sheet

**GENERAL INFORMATION**

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill  
 Site Address and/or ID No.: Bridgeton Sanitary Landfill, Bridgeton, Missouri  
 Sample Name and/or ID No.: U-1B-Canister  
 AAC Batch ID: 130559 AAC Sample ID: 62861

**SAMPLING INFORMATION**

Start Date/Time: 5/7/13 12:10 Stop Date/Time: 5/7/13 15:53  
 Start Temp/Pressure\*: 24.4°C/30.03 Stop Temp/Pressure\*: 26.1°C/29.99  
 Initial Can Pressure\*\*: -30 Final Can Pressure\*\*:

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

Comments: Temp/Pressure from Lambert Intl. Airport

PAUL ROSENBERG  
 Sampler Name (Print)

Paul Rosenberg  
 Sampler Signature/Date

**LABORATORY INFORMATION**

Canister Size: 6-Liter Sampling Period: 4-Hour  
 Canister Serial No.: 576 Flow Controller Serial No.: 806  
 Initial Pressure: 1.6 Certified Flow Rate: 18.0  
 Return Pressure: 499.0 Certified By/Date: J2 5/10/2013  
 Final Pressure: 1059.1 Flow Rate upon Return: 20.0

Date Shipped From Lab: 4/25/2013 Shipped By: J2

Date Returned to Lab: 5/9/2013 Received By: J2

Flow Controller Certification File ID: M603/0409306

Canister Certification File ID: M603/04051309

Certification Type: SIM  SCAN  NJLL  PAMS  Other

James Hand 5/13/13  
 Chemist Signature/Date

MU 5/13/13  
 Lab Manager Signature/Date

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

# Atmospheric Analysis and Consulting Inc.

## Canister Sampling Field Data Sheet

### GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill  
 Site Address and/or ID No.: Bridgeton Sanitary Landfill, Bridgeton, Missouri  
 Sample Name and/or ID No.: V-2-Canister  
 AAC Batch ID: 130559 AAC Sample ID: 62870

### SAMPLING INFORMATION

Start Date/Time: 5/7/13 9:07 Stop Date/Time: 5/7/13 1320  
 Start Temp/Pressure\*: 20.6°C/30.04 Stop Temp/Pressure\*: 23.9°C/20.01  
 Initial Can Pressure\*\*: -30 Final Can Pressure\*\*: -10

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

Comments: Temp/Pressure from Lambert Intl. Airport.

Paul Rosenfeld  
 Sampler Name (Print)

Paul Rosenfeld  
 Sampler Signature/Date

### LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour  
 Canister Serial No.: 732 Flow Controller Serial No.: 718  
 Initial Pressure: 0.6 Certified Flow Rate: 17.8  
 Return Pressure: 509.9 Certified By/Date: J2 4/26/2013  
 Final Pressure: 1016.0 Flow Rate upon Return: 16.8

Date Shipped From Lab: 4/10/2013 Shipped By: J2

Date Returned to Lab: 5/9/2013 Received By: J2

Flow Controller Certification File ID: 1403/04261305

Canister Certification File ID: 1403/03971318

Certification Type: SIM  SCAN  NILL  PAMS  Other

James Bond 05/13/13  
 Chemist Signature/Date

ML 5/13/13  
 Lab Manager Signature/Date

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

# Atmospheric Analysis and Consulting Inc.

## Canister Sampling Field Data Sheet

### GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill  
 Site Address and/or ID No.: Bridgeton Sanitary Landfill, Bridgeton, Missouri  
 Sample Name and/or ID No.: U-3-Canister  
 AAC Batch ID: 130559 AAC Sample ID: 62879

### SAMPLING INFORMATION

Start Date/Time: 5-8-13/8:19 Stop Date/Time: 5/8/13/12:14  
 Start Temp/Pressure\*: 23.98/30.05 Stop Temp/Pressure\*: 27.8°C/30.02  
 Initial Can Pressure\*\*: -30 Final Can Pressure\*\*: -11.3

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

Comments: Temp / pressure from Lambert Intl. Airport

PAUL ROSENFIELD  
 Sampler Name (Print)

Paul Rosenfeld  
 Sampler Signature/Date

### LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour  
 Canister Serial No.: 653 Flow Controller Serial No.: 808  
 Initial Pressure: 0.5 Certified Flow Rate: 18.1  
 Return Pressure: 485.2 Certified By/Date: J2 4/10/2013  
 Final Pressure: 1019.1 Flow Rate upon Return: 10.9

Date Shipped From Lab: 4/10/2013 Shipped By: J2

Date Returned to Lab: 5/9/2013 Received By: J2

Flow Controller Certification File ID: MS03/0410305

Canister Certification File ID: MS03/03271317

Certification Type: SIM  SCAN  NJLL  PAMS  Other

Quinn Reed 05/13/13  
 Chemist Signature/Date

MW 5/13/13  
 Lab Manager Signature/Date

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

# Atmospheric Analysis and Consulting Inc.

## Canister Sampling Field Data Sheet

### GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill  
Site Address and/or ID No.: Bridgeton Sanitary Landfill, Bridgeton, Missouri  
Sample Name and/or ID No.: D-1-Canister  
AAC Batch ID: 130559 AAC Sample ID: 62888

### SAMPLING INFORMATION

Start Date/Time: 5/7/13 7:39 Stop Date/Time: 5/7/13 11:57  
Start Temp/Pressure\*: 17.8°C / 30.04 Stop Temp/Pressure\*: 24.4°C / 30.03  
Initial Can Pressure\*\*: 28.8 Final Can Pressure\*\*: -10

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

Comments: Temp/pressure from Lambert Intl. Airport.

Paul Rosenfeld  
Sampler Name (Print)

Paul Rosenfeld  
Sampler Signature/Date

### LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour  
Canister Serial No.: 668 Flow Controller Serial No.: 697  
Initial Pressure: 0.6 Certified Flow Rate: 18.0  
Return Pressure: 474.9 Certified By/Date: J2 4/5/2013  
Final Pressure: 1024.9 Flow Rate upon Return: 16.6

Date Shipped From Lab: 4/10/2013 Shipped By: J2

Date Returned to Lab: 5/9/2013 Received By: J2

Flow Controller Certification File ID: 4403/05281321

Canister Certification File ID: 4403/05251320

Certification Type: SIM  SCAN  NJLL  PAMS  Other

Quana Lind 05/13/13  
Chemist Signature/Date

MU 5/13/13  
Lab Manager Signature/Date

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

# Atmospheric Analysis and Consulting Inc.

## Canister Sampling Field Data Sheet

**GENERAL INFORMATION**

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill  
 Site Address and/or ID No.: Bridgeton Sanitary Landfill, Bridgeton, Missouri  
 Sample Name and/or ID No.: D-2-Canister  
 AAC Batch ID: 130559 AAC Sample ID: 62877

**SAMPLING INFORMATION**

Start Date/Time: 5/7/13 8:10 Stop Date/Time: 5/7/13 12:22  
 Start Temp/Pressure\*: 12.8°C / 30.04 Stop Temp/Pressure\*: 24.4°C / 20.03  
 Initial Can Pressure\*\*: -29 Final Can Pressure\*\*: -6

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

Comments: Temp/Pressure from Lambert Intl. Airport.

PAUL ROSENBERG  
 Sampler Name (Print)

Paul Rosenberg  
 Sampler Signature/Date

**LABORATORY INFORMATION**

Canister Size: 6-Liter Sampling Period: 4-Hour  
 Canister Serial No.: 702 Flow Controller Serial No.: 698  
 Initial Pressure: 0.6 Certified Flow Rate: 18.0  
 Return Pressure: 589.4 Certified By/Date: 4/5/2013 JZ  
 Final Pressure: 1024.2 Flow Rate upon Return: 18.8

Date Shipped From Lab: 4/10/2013 Shipped By: JZ

Date Returned to Lab: 5/9/2013 Received By: JZ

Flow Controller Certification File ID: M502/09051208

Canister Certification File ID: M503/03071317

Certification Type: SIM  SCAN  NJLL  PAMS  Other

Quinn Land 05/13/13  
 Chemist Signature/Date

MU 5/13/13  
 Lab Manager Signature/Date

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



# Atmospheric Analysis and Consulting Inc.

## Canister Sampling Field Data Sheet

### GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill  
Site Address and/or ID No.: Bridgeton Sanitary Landfill, Bridgeton, Missouri  
Sample Name and/or ID No.: D-3 - Canister  
AAC Batch ID: 130559 AAC Sample ID: 62906

### SAMPLING INFORMATION

Start Date/Time: 5/8/13 8:51 Stop Date/Time: 5/8/13 13:00  
Start Temp/Pressure\*: 23.98 / 30.05 Stop Temp/Pressure\*: 27.88 / 30.02  
Initial Can Pressure\*\*\*: -30 Final Can Pressure\*\*\*: -8.1

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

Comments: Temp/pressure from Lambert Intl. Airport

Paul Rosenfeld  
Sampler Name (Print)

Paul Rosenfeld  
Sampler Signature/Date

### LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour  
Canister Serial No.: 741 Flow Controller Serial No.: 711  
Initial Pressure: 0.5 Certified Flow Rate: 18.1  
Return Pressure: 585.8 Certified By/Date: J2 4/26/2013  
Final Pressure: 1018.3 Flow Rate upon Return: 19.5

Date Shipped From Lab: 4/10/2013 Shipped By: J2

Date Returned to Lab: 5/9/2013 Received By: J2

Flow Controller Certification File ID: 4403/04261305

Canister Certification File ID: 4403/03251314

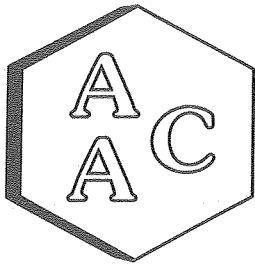
Certification Type: SIM  SCAN  NJLL  PAMS  Other

James Amel 5/13/13  
Chemist Signature/Date

MM 5/13/13  
Lab Manager Signature/Date

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

# TO-15 REPORTS



# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

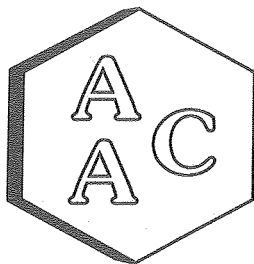
CLIENT : Soil Water Air Protection Enterprise  
 PROJECT NO : 130559  
 MATRIX : AIR  
 UNITS : PPB (v/v)

DATE RECEIVED : 05/09/2013  
 DATE REPORTED : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Trip Blank-Canister 130559-62851			Sample Reporting Limit (SRL) (MRLxDF's)	BZ-2-Canister 130559-62852			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled	Date Analyzed	Can Dilution Factor		Date Sampled	Date Analyzed	Can Dilution Factor		
	NA	05/10/2013	1.00		05/08/2013	05/10/2013	1.87		
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	<SRL	U	1.0	0.50	0.41	J	1.0	0.93	0.5
Propene	0.51	J	1.0	1.00	2.02		1.0	1.87	1.0
Dichlorodifluoromethane	<SRL	U	1.0	0.50	0.62	J	1.0	0.93	0.5
Chloromethane	<SRL	U	1.0	0.50	0.49	J	1.0	0.93	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Vinyl Chloride	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Methanol	<SRL	U	1.0	5.00	64.5		5.0	46.7	5.0
1,3-Butadiene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Bromomethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Chloroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Dichlorofluoromethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Ethanol	<SRL	U	1.0	2.00	9.37		1.0	3.73	2.0
Vinyl Bromide	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Acetone	<SRL	U	1.0	2.00	10.9		1.0	3.73	2.0
Trichlorofluoromethane	<SRL	U	1.0	0.50	0.32	J	1.0	0.93	0.5
2-Propanol (IPA)	<SRL	U	1.0	2.00	2.22	J	1.0	3.73	2.0
Acrylonitrile	<SRL	U	1.0	1.00	<SRL	U	1.0	1.87	1.0
1,1-Dichloroethene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	1.00	<SRL	U	1.0	1.87	1.0
Allyl Chloride	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Carbon Disulfide	NR	U	1.0	0.50	NR	U	1.0	0.93	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,1-Dichloroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Vinyl Acetate	<SRL	U	1.0	1.00	<SRL	U	1.0	1.87	1.0
2-Butanone (MEK)	<SRL	U	1.0	1.00	4.82		1.0	1.87	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Hexane	<SRL	U	1.0	0.50	0.41	J	1.0	0.93	0.5
Chloroform	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Ethyl Acetate	<SRL	U	1.0	0.50	0.49	J	1.0	0.93	0.5
Tetrahydrofuran	<SRL	U	1.0	0.50	2.69		1.0	0.93	0.5
1,2-Dichloroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : PPB (v/v)

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

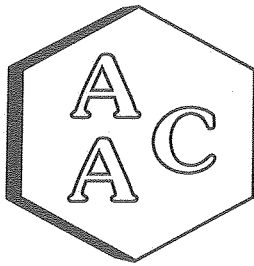
### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Trip Blank-Canister 130559-62851			Sample Reporting Limit (SRL) (MRLxDF's)	BZ-2-Canister 130559-62852			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled	Result	Qualifier		Analysis DF	Date Analyzed	Result		
	NA				05/08/2013				
	05/10/2013				05/10/2013				
Can Dilution Factor	1.00				1.87				
Benzene	<SRL	U	1.0	0.50	5.06		1.0	0.93	0.5
Carbon Tetrachloride	<SRL	U	1.0	0.50	0.09	J	1.0	0.93	0.5
Cyclohexane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,2-Dichloropropane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Bromodichloromethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,4-Dioxane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Trichloroethene (TCE)	<SRL	U	1.0	0.50	0.22	J	1.0	0.93	0.5
2,2,4-Trimethylpentane	<SRL	U	1.0	0.50	0.28	J	1.0	0.93	0.5
Heptane	<SRL	U	1.0	0.50	0.19	J	1.0	0.93	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	0.50	0.19	J	1.0	0.93	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Toluene	<SRL	U	1.0	0.50	2.05		1.0	0.93	0.5
2-Hexanone (MBK)	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Dibromochloromethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,2-Dibromoethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Chlorobenzene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Ethylbenzene	<SRL	U	1.0	0.50	0.75	J	1.0	0.93	0.5
m & p-Xylenes	<SRL	U	1.0	1.00	1.72	J	1.0	1.87	1.0
Bromoform	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Styrene	<SRL	U	1.0	0.50	0.07	J	1.0	0.93	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
o-Xylene	<SRL	U	1.0	0.50	0.71	J	1.0	0.93	0.5
4-Ethyltoluene	<SRL	U	1.0	0.50	0.22	J	1.0	0.93	0.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	0.50	0.24	J	1.0	0.93	0.5
1,2,4-Trimethylbenzene	<SRL	U	1.0	0.50	0.90	J	1.0	0.93	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	0.50	0.52	J	1.0	0.93	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
Hexachlorobutadiene	<SRL	U	1.0	0.50	<SRL	U	1.0	0.93	0.5
BFB-Surrogate Std. % Recovery	106%				109%			70-130%	

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

  
 Marcus Hueppe  
 Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

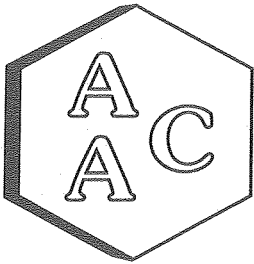
**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : ug/m3

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Trip Blank-Canister 130559-62851			Sample Reporting Limit (SRL) (MRLxDF's)	BZ-2-Canister 130559-62852			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled	Date Analyzed	Can Dilution Factor		Date Sampled	Date Analyzed	Can Dilution Factor		
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	<SRL	U	1.0	1.8	1.5	J	1.0	3.3	1.8
Propene	0.9	J	1.0	1.7	3.5		1.0	3.2	1.7
Dichlorodifluoromethane	<SRL	U	1.0	2.5	3.1	J	1.0	4.6	2.5
Chloromethane	<SRL	U	1.0	1.0	1.0	J	1.0	1.9	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	3.5	<SRL	U	1.0	6.5	3.5
Vinyl Chloride	<SRL	U	1.0	1.3	<SRL	U	1.0	2.4	1.3
Methanol	<SRL	U	1.0	6.6	84.5		5.0	61.2	6.6
1,3-Butadiene	<SRL	U	1.0	1.1	<SRL	U	1.0	2.1	1.1
Bromomethane	<SRL	U	1.0	1.9	<SRL	U	1.0	3.6	1.9
Chloroethane	<SRL	U	1.0	1.3	<SRL	U	1.0	2.5	1.3
Dichlorofluoromethane	<SRL	U	1.0	2.1	<SRL	U	1.0	3.9	2.1
Ethanol	<SRL	U	1.0	3.8	17.7		1.0	7.0	3.8
Vinyl Bromide	<SRL	U	1.0	2.2	<SRL	U	1.0	4.1	2.2
Acetone	<SRL	U	1.0	4.8	25.9		1.0	8.9	4.8
Trichlorofluoromethane	<SRL	U	1.0	2.8	1.8	J	1.0	5.2	2.8
2-Propanol (IPA)	<SRL	U	1.0	4.9	5.5	J	1.0	9.2	4.9
Acrylonitrile	<SRL	U	1.0	2.2	<SRL	U	1.0	4.1	2.2
1,1-Dichloroethene	<SRL	U	1.0	2.0	<SRL	U	1.0	3.7	2.0
Methylene Chloride (DCM)	<SRL	U	1.0	3.5	<SRL	U	1.0	6.5	3.5
Allyl Chloride	<SRL	U	1.0	1.6	<SRL	U	1.0	2.9	1.6
Carbon Disulfide	NR	U	1.0	1.6	NR	U	1.0	2.9	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	3.8	<SRL	U	1.0	7.2	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	2.0	<SRL	U	1.0	3.7	2.0
1,1-Dichloroethane	<SRL	U	1.0	2.0	<SRL	U	1.0	3.8	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.8	<SRL	U	1.0	3.4	1.8
Vinyl Acetate	<SRL	U	1.0	3.5	<SRL	U	1.0	6.6	3.5
2-Butanone (MEK)	<SRL	U	1.0	2.9	14.2		1.0	5.5	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	2.0	<SRL	U	1.0	3.7	2.0
Hexane	<SRL	U	1.0	1.8	1.5	J	1.0	3.3	1.8
Chloroform	<SRL	U	1.0	2.4	<SRL	U	1.0	4.6	2.4
Ethyl Acetate	<SRL	U	1.0	1.8	1.8	J	1.0	3.4	1.8
Tetrahydrofuran	<SRL	U	1.0	1.5	7.9		1.0	2.8	1.5
1,2-Dichloroethane	<SRL	U	1.0	2.0	<SRL	U	1.0	3.8	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	2.7	<SRL	U	1.0	5.1	2.7





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : ug/m3

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Trip Blank-Canister 130559-62851			Sample Reporting Limit (SRL) (MRLxDF's)	BZ-2-Canister 130559-62852			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled	Date Analyzed	Can Dilution Factor		Result	Qualifier	Analysis DF		
	NA	05/10/2013	1.00						
Benzene	<SRL	U	1.0	1.6	16.2	J	1.0	3.0	1.6
Carbon Tetrachloride	<SRL	U	1.0	3.1	0.6	J	1.0	5.9	3.1
Cyclohexane	<SRL	U	1.0	1.7	<SRL	U	1.0	3.2	1.7
1,2-Dichloropropane	<SRL	U	1.0	2.3	<SRL	U	1.0	4.3	2.3
Bromodichloromethane	<SRL	U	1.0	3.4	<SRL	U	1.0	6.3	3.4
1,4-Dioxane	<SRL	U	1.0	1.8	<SRL	U	1.0	3.4	1.8
Trichloroethene (TCE)	<SRL	U	1.0	2.7	1.2	J	1.0	5.0	2.7
2,2,4-Trimethylpentane	<SRL	U	1.0	2.3	1.3	J	1.0	4.4	2.3
Heptane	<SRL	U	1.0	2.0	0.8	J	1.0	3.8	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	2.3	<SRL	U	1.0	4.2	2.3
4-Methyl-2-pentanone (MIBK)	<SRL	U	1.0	2.0	0.8	J	1.0	3.8	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	2.3	<SRL	U	1.0	4.2	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	2.7	<SRL	U	1.0	5.1	2.7
Toluene	<SRL	U	1.0	1.9	7.7	J	1.0	3.5	1.9
2-Hexanone (MBK)	<SRL	U	1.0	2.0	<SRL	U	1.0	3.8	2.0
Dibromochloromethane	<SRL	U	1.0	4.3	<SRL	U	1.0	8.0	4.3
1,2-Dibromoethane	<SRL	U	1.0	3.8	<SRL	U	1.0	7.2	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	3.4	<SRL	U	1.0	6.3	3.4
Chlorobenzene	<SRL	U	1.0	2.3	<SRL	U	1.0	4.3	2.3
Ethylbenzene	<SRL	U	1.0	2.2	3.2	J	1.0	4.1	2.2
m & p-Xylenes	<SRL	U	1.0	4.3	7.5	J	1.0	8.1	4.3
Bromoform	<SRL	U	1.0	5.2	<SRL	U	1.0	9.6	5.2
Styrene	<SRL	U	1.0	2.1	0.3	J	1.0	4.0	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	3.4	<SRL	U	1.0	6.4	3.4
o-Xylene	<SRL	U	1.0	2.2	3.1	J	1.0	4.1	2.2
4-Ethyltoluene	<SRL	U	1.0	2.5	1.1	J	1.0	4.6	2.5
1,3,5-Trimethylbenzene	<SRL	U	1.0	2.5	1.2	J	1.0	4.6	2.5
1,2,4-Trimethylbenzene	<SRL	U	1.0	2.5	4.4	J	1.0	4.6	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	2.6	<SRL	U	1.0	4.8	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	3.0	<SRL	U	1.0	5.6	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	3.0	3.1	J	1.0	5.6	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	3.0	<SRL	U	1.0	5.6	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	3.7	<SRL	U	1.0	6.9	3.7
Hexachlorobutadiene	<SRL	U	1.0	5.3	<SRL	U	1.0	10.0	5.3
BFB-Surrogate Std. % Recovery			106%				109%		70-130%

U - Compound was analyzed for, but was not detected at or above the SRL.

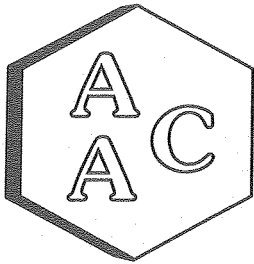
J - Analyte was detected. However the analyte concentration is an estimated value, which is between the Sample Reporting Limit (SRL) and the Sample Quantitation Limit (SQL).

SQL - Sample Quantitation Limit is the Limit Of Quantitation (LOQ) x Dilution Factors.

NR - Not Reported on these analysis.

  
 Marcus Hueppe  
 Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

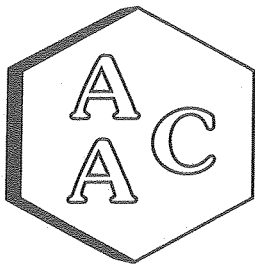
**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : PPB (v/v)

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID Date Sampled Date Analyzed Can Dilution Factor	U-1B-Canister 130559-62861			Sample Reporting Limit (SRL) (MRLxDF's)	U-2-Canister 130559-62870			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	05/07/2013				05/07/2013				
	05/10/2013				05/10/2013				
	2.12				1.99				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.30	J	1.0	1.06	0.32	J	1.0	1.00	0.5
Propene	0.83	J	1.0	2.12	9.33		1.0	1.99	1.0
Dichlorodifluoromethane	0.64	J	1.0	1.06	0.64	J	1.0	1.00	0.5
Chloromethane	0.57	J	1.0	1.06	0.58	J	1.0	1.00	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Vinyl Chloride	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Methanol	7.64	J	1.0	10.6	9.29	J	1.0	10.0	5.0
1,3-Butadiene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Bromomethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Chloroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Dichlorofluoromethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Ethanol	2.80	J	1.0	4.24	3.11	J	1.0	3.99	2.0
Vinyl Bromide	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Acetone	4.63		1.0	4.24	3.13	J	1.0	3.99	2.0
Trichlorofluoromethane	0.30	J	1.0	1.06	0.28	J	1.0	1.00	0.5
2-Propanol (IPA)	0.79	J	1.0	4.24	<SRL	U	1.0	3.99	2.0
Acrylonitrile	<SRL	U	1.0	2.12	<SRL	U	1.0	1.99	1.0
1,1-Dichloroethene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Methylene Chloride (DCM)	2.72		1.0	2.12	1.57	J	1.0	1.99	1.0
Allyl Chloride	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Carbon Disulfide	NR	U	1.0	1.06	NR	U	1.0	1.00	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,1-Dichloroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Vinyl Acetate	<SRL	U	1.0	2.12	<SRL	U	1.0	1.99	1.0
2-Butanone (MEK)	<SRL	U	1.0	2.12	<SRL	U	1.0	1.99	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Hexane	0.47	J	1.0	1.06	0.60	J	1.0	1.00	0.5
Chloroform	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Ethyl Acetate	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Tetrahydrofuran	0.40	J	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,2-Dichloroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise  
 PROJECT NO : 130559  
 MATRIX : AIR  
 UNITS : PPB (v/v)

DATE RECEIVED : 05/09/2013  
 DATE REPORTED : 05/13/2013

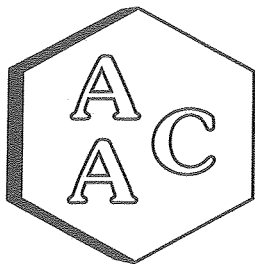
### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-1B-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Result	Qualifier		Analysis DF	Result	Qualifier		
Date Sampled	05/07/2013				05/07/2013				
Date Analyzed	05/10/2013				05/10/2013				
Can Dilution Factor	2.12				1.99				
Benzene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Carbon Tetrachloride	0.11	J	1.0	1.06	0.10	J	1.0	1.00	0.5
Cyclohexane	<SRL	U	1.0	1.06	0.10	J	1.0	1.00	0.5
1,2-Dichloropropane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Bromodichloromethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,4-Dioxane	0.57	J	1.0	1.06	<SRL	U	1.0	1.00	0.5
Trichloroethene (TCE)	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
2,2,4-Trimethylpentane	0.42	J	1.0	1.06	0.44	J	1.0	1.00	0.5
Heptane	0.17	J	1.0	1.06	0.18	J	1.0	1.00	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Toluene	0.91	J	1.0	1.06	1.57	J	1.0	1.00	0.5
2-Hexanone (MBK)	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Dibromochloromethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,2-Dibromoethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Chlorobenzene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Ethylbenzene	0.21	J	1.0	1.06	0.26	J	1.0	1.00	0.5
m & p-Xylenes	0.79	J	1.0	2.12	1.47	J	1.0	1.99	1.0
Bromoform	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Styrene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
o-Xylene	0.38	J	1.0	1.06	0.48	J	1.0	1.00	0.5
4-Ethyltoluene	0.19	J	1.0	1.06	0.14	J	1.0	1.00	0.5
1,3,5-Trimethylbenzene	0.19	J	1.0	1.06	0.18	J	1.0	1.00	0.5
1,2,4-Trimethylbenzene	0.66	J	1.0	1.06	0.52	J	1.0	1.00	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
Hexachlorobutadiene	<SRL	U	1.0	1.06	<SRL	U	1.0	1.00	0.5
BFB-Surrogate Std. % Recovery	110%				109%				70-130%

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

  
 Marcus Hueppe  
 Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : ug/m3

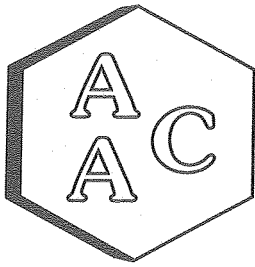
**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-1B-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Result	Qualifier		Analysis DF	Result	Qualifier		
	130559-62861				130559-62870				
Date Sampled	05/07/2013				05/07/2013				
Date Analyzed	05/10/2013				05/10/2013				
Can Dilution Factor	2.12				1.99				
Chlorodifluoromethane	1.1	J	1.0	3.8	1.1	J	1.0	3.5	1.8
Propene	1.4	J	1.0	3.7	16.0		1.0	3.4	1.7
Dichlorodifluoromethane	3.2	J	1.0	5.2	3.2	J	1.0	4.9	2.5
Chloromethane	1.2	J	1.0	2.2	1.2	J	1.0	2.1	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	7.4	<SRL	U	1.0	7.0	3.5
Vinyl Chloride	<SRL	U	1.0	2.7	<SRL	U	1.0	2.5	1.3
Methanol	10.0	J	1.0	13.9	12.2	J	1.0	13.1	6.6
1,3-Butadiene	<SRL	U	1.0	2.3	<SRL	U	1.0	2.2	1.1
Bromomethane	<SRL	U	1.0	4.1	<SRL	U	1.0	3.9	1.9
Chloroethane	<SRL	U	1.0	2.8	<SRL	U	1.0	2.6	1.3
Dichlorofluoromethane	<SRL	U	1.0	4.5	<SRL	U	1.0	4.2	2.1
Ethanol	5.3	J	1.0	8.0	5.9	J	1.0	7.5	3.8
Vinyl Bromide	<SRL	U	1.0	4.6	<SRL	U	1.0	4.4	2.2
Acetone	11.0		1.0	10.1	7.4	J	1.0	9.5	4.8
Trichlorofluoromethane	1.7	J	1.0	6.0	1.6	J	1.0	5.6	2.8
2-Propanol (IPA)	1.9	J	1.0	10.4	<SRL	U	1.0	9.8	4.9
Acrylonitrile	<SRL	U	1.0	4.6	<SRL	U	1.0	4.3	2.2
1,1-Dichloroethene	<SRL	U	1.0	4.2	<SRL	U	1.0	4.0	2.0
Methylene Chloride (DCM)	9.4		1.0	7.4	5.5	J	1.0	6.9	3.5
Allyl Chloride	<SRL	U	1.0	3.3	<SRL	U	1.0	3.1	1.6
Carbon Disulfide	NR	U	1.0	3.3	NR	U	1.0	3.1	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	8.1	<SRL	U	1.0	7.6	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	4.2	<SRL	U	1.0	4.0	2.0
1,1-Dichloroethane	<SRL	U	1.0	4.3	<SRL	U	1.0	4.0	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	3.8	<SRL	U	1.0	3.6	1.8
Vinyl Acetate	<SRL	U	1.0	7.5	<SRL	U	1.0	7.0	3.5
2-Butanone (MEK)	<SRL	U	1.0	6.3	<SRL	U	1.0	5.9	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	4.2	<SRL	U	1.0	4.0	2.0
Hexane	1.7	J	1.0	3.7	2.1	J	1.0	3.5	1.8
Chloroform	<SRL	U	1.0	5.2	<SRL	U	1.0	4.9	2.4
Ethyl Acetate	<SRL	U	1.0	3.8	<SRL	U	1.0	3.6	1.8
Tetrahydrofuran	1.2	J	1.0	3.1	<SRL	U	1.0	2.9	1.5
1,2-Dichloroethane	<SRL	U	1.0	4.3	<SRL	U	1.0	4.0	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	5.8	<SRL	U	1.0	5.4	2.7







# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

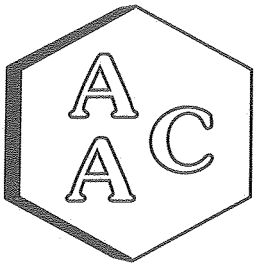
**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : PPB (v/v)

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	U-3-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-1-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	130559-62879				130559-62888				
Date Sampled	05/08/2013				05/07/2013				
Date Analyzed	05/10/2013				05/10/2013				
Can Dilution Factor	2.10				2.16				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.52	J	1.0	1.05	0.50	J	1.0	1.08	0.5
Propene	0.99	J	1.0	2.10	14.2		1.0	2.16	1.0
Dichlorodifluoromethane	0.63	J	1.0	1.05	0.67	J	1.0	1.08	0.5
Chloromethane	0.48	J	1.0	1.05	0.54	J	1.0	1.08	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Vinyl Chloride	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Methanol	20.4		1.0	10.5	44.5		1.0	10.8	5.0
1,3-Butadiene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Bromomethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Chloroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Dichlorofluoromethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Ethanol	5.23		1.0	4.20	10.0		1.0	4.32	2.0
Vinyl Bromide	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Acetone	4.83		1.0	4.20	10.4		1.0	4.32	2.0
Trichlorofluoromethane	0.31	J	1.0	1.05	0.32	J	1.0	1.08	0.5
2-Propanol (IPA)	0.88	J	1.0	4.20	1.92	J	1.0	4.32	2.0
Acrylonitrile	<SRL	U	1.0	2.10	<SRL	U	1.0	2.16	1.0
1,1-Dichloroethene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	2.10	1.29	J	1.0	2.16	1.0
Allyl Chloride	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Carbon Disulfide	NR		1.0	1.05	NR	U	1.0	1.08	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,1-Dichloroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Vinyl Acetate	<SRL	U	1.0	2.10	<SRL	U	1.0	2.16	1.0
2-Butanone (MEK)	<SRL	U	1.0	2.10	4.25		1.0	2.16	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Hexane	0.57	J	1.0	1.05	0.82	J	1.0	1.08	0.5
Chloroform	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Ethyl Acetate	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Tetrahydrofuran	<SRL	U	1.0	1.05	4.06		1.0	1.08	0.5
1,2-Dichloroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : PPB (v/v)

**DATE RECEIVED** : 05/09/2013  
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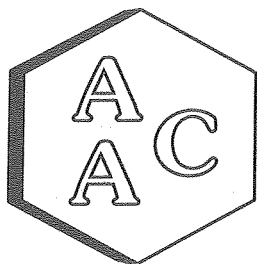
### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-3-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-1-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Result	Qualifier		Analysis DF	Result	Qualifier		
Date Sampled	130559-62879				130559-62888				
Date Analyzed	05/08/2013				05/07/2013				
Can Dilution Factor	05/10/2013				05/10/2013				
	2.10				2.16				
Benzene	<SRL	U	1.0	1.05	21.8	J	1.0	1.08	0.5
Carbon Tetrachloride	0.10	J	1.0	1.05	<SRL	U	1.0	1.08	0.5
Cyclohexane	<SRL	U	1.0	1.05	0.24	J	1.0	1.08	0.5
1,2-Dichloropropane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Bromodichloromethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,4-Dioxane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Trichloroethene (TCE)	0.23	J	1.0	1.05	<SRL	U	1.0	1.08	0.5
2,2,4-Trimethylpentane	0.40	J	1.0	1.05	0.76	J	1.0	1.08	0.5
Heptane	0.23	J	1.0	1.05	0.56	J	1.0	1.08	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
4-Methyl-2-pentanone (MiBK)	0.10	J	1.0	1.05	0.26	J	1.0	1.08	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Toluene	1.15	J	1.0	1.05	4.60	J	1.0	1.08	0.5
2-Hexanone (MBK)	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Dibromochloromethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,2-Dibromoethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Chlorobenzene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Ethylbenzene	0.25	J	1.0	1.05	1.14	J	1.0	1.08	0.5
m & p-Xylenes	0.99	J	1.0	2.10	2.50	J	1.0	2.16	1.0
Bromoform	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Styrene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
o-Xylene	0.44	J	1.0	1.05	0.93	J	1.0	1.08	0.5
4-Ethyltoluene	0.17	J	1.0	1.05	0.28	J	1.0	1.08	0.5
1,3,5-Trimethylbenzene	0.17	J	1.0	1.05	0.28	J	1.0	1.08	0.5
1,2,4-Trimethylbenzene	0.61	J	1.0	1.05	0.95	J	1.0	1.08	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
Hexachlorobutadiene	<SRL	U	1.0	1.05	<SRL	U	1.0	1.08	0.5
BFB-Surrogate Std. % Recovery	108%				109%				70-130%

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

  
 Marcus Hueppe  
 Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

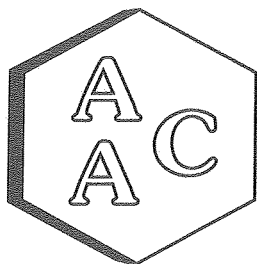
**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : ug/m3

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-3-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-1-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Result	Qualifier		Analysis DF	Result	Qualifier		
	130559-62879				130559-62888				
Date Sampled	05/08/2013				05/07/2013				
Date Analyzed	05/10/2013				05/10/2013				
Can Dilution Factor	2.10				2.16				
Chlorodifluoromethane	1.9	J	1.0	3.7	1.8	J	1.0	3.8	1.8
Propene	1.7	J	1.0	3.6	24.4		1.0	3.7	1.7
Dichlorodifluoromethane	3.1	J	1.0	5.2	3.3	J	1.0	5.3	2.5
Chloromethane	1.0	J	1.0	2.2	1.1	J	1.0	2.2	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	7.3	<SRL	U	1.0	7.5	3.5
Vinyl Chloride	<SRL	U	1.0	2.7	<SRL	U	1.0	2.8	1.3
Methanol	26.8		1.0	13.8	58.3		1.0	14.1	6.6
1,3-Butadiene	<SRL	U	1.0	2.3	<SRL	U	1.0	2.4	1.1
Bromomethane	<SRL	U	1.0	4.1	<SRL	U	1.0	4.2	1.9
Chloroethane	<SRL	U	1.0	2.8	<SRL	U	1.0	2.8	1.3
Dichlorofluoromethane	<SRL	U	1.0	4.4	<SRL	U	1.0	4.5	2.1
Ethanol	9.9		1.0	7.9	18.9		1.0	8.1	3.8
Vinyl Bromide	<SRL	U	1.0	4.6	<SRL	U	1.0	4.7	2.2
Acetone	11.5		1.0	10.0	24.6		1.0	10.3	4.8
Trichlorofluoromethane	1.8	J	1.0	5.9	1.8	J	1.0	6.1	2.8
2-Propanol (IPA)	2.2	J	1.0	10.3	4.7	J	1.0	10.6	4.9
Acrylonitrile	<SRL	U	1.0	4.6	<SRL	U	1.0	4.7	2.2
1,1-Dichloroethene	<SRL	U	1.0	4.2	<SRL	U	1.0	4.3	2.0
Methylene Chloride (DCM)	<SRL	U	1.0	7.3	4.5	J	1.0	7.5	3.5
Allyl Chloride	<SRL	U	1.0	3.3	<SRL	U	1.0	3.4	1.6
Carbon Disulfide	NR		1.0	3.3	NR	U	1.0	3.4	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	8.0	<SRL	U	1.0	8.3	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	4.2	<SRL	U	1.0	4.3	2.0
1,1-Dichloroethane	<SRL	U	1.0	4.2	<SRL	U	1.0	4.4	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	3.8	<SRL	U	1.0	3.9	1.8
Vinyl Acetate	<SRL	U	1.0	7.4	<SRL	U	1.0	7.6	3.5
2-Butanone (MEK)	<SRL	U	1.0	6.2	12.5		1.0	6.4	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	4.2	<SRL	U	1.0	4.3	2.0
Hexane	2.0	J	1.0	3.7	2.9	J	1.0	3.8	1.8
Chloroform	<SRL	U	1.0	5.1	<SRL	U	1.0	5.3	2.4
Ethyl Acetate	<SRL	U	1.0	3.8	<SRL	U	1.0	3.9	1.8
Tetrahydrofuran	<SRL	U	1.0	3.1	12.0		1.0	3.2	1.5
1,2-Dichloroethane	<SRL	U	1.0	4.2	<SRL	U	1.0	4.4	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	5.7	<SRL	U	1.0	5.9	2.7





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : ug/m3

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

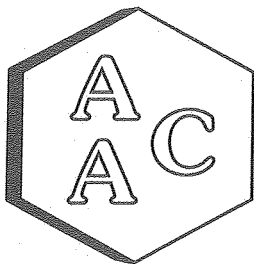
### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	U-3-Canister 130559-62879			Sample Reporting Limit (SRL) (MRLxDF's)	D-1-Canister 130559-62888			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Date Sampled	Date Analyzed	Can Dilution Factor		Date Sampled	Date Analyzed	Can Dilution Factor		
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	<SRL	U	1.0	3.4	69.5	U	1.0	3.4	1.6
Carbon Tetrachloride	0.7	J	1.0	6.6	<SRL	U	1.0	6.8	3.1
Cyclohexane	<SRL	U	1.0	3.6	0.8	J	1.0	3.7	1.7
1,2-Dichloropropane	<SRL	U	1.0	4.9	<SRL	U	1.0	5.0	2.3
Bromodichloromethane	<SRL	U	1.0	7.0	<SRL	U	1.0	7.2	3.4
1,4-Dioxane	<SRL	U	1.0	3.8	<SRL	U	1.0	3.9	1.8
Trichloroethene (TCE)	1.2	J	1.0	5.6	<SRL	U	1.0	5.8	2.7
2,2,4-Trimethylpentane	1.9	J	1.0	4.9	3.5	J	1.0	5.0	2.3
Heptane	1.0	J	1.0	4.3	2.3	J	1.0	4.4	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	4.8	<SRL	U	1.0	4.9	2.3
4-Methyl-2-pentanone (MiBK)	0.4	J	1.0	4.3	1.1	J	1.0	4.4	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	4.8	<SRL	U	1.0	4.9	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	5.7	<SRL	U	1.0	5.9	2.7
Toluene	4.4	J	1.0	4.0	17.3	J	1.0	4.1	1.9
2-Hexanone (MBK)	<SRL	U	1.0	4.3	<SRL	U	1.0	4.4	2.0
Dibromochloromethane	<SRL	U	1.0	8.9	<SRL	U	1.0	9.2	4.3
1,2-Dibromoethane	<SRL	U	1.0	8.1	<SRL	U	1.0	8.3	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	7.1	<SRL	U	1.0	7.3	3.4
Chlorobenzene	<SRL	U	1.0	4.8	<SRL	U	1.0	5.0	2.3
Ethylbenzene	1.1	J	1.0	4.6	5.0	J	1.0	4.7	2.2
m & p-Xylenes	4.3	J	1.0	9.1	10.9	J	1.0	9.4	4.3
Bromoform	<SRL	U	1.0	10.8	<SRL	U	1.0	11.2	5.2
Styrene	<SRL	U	1.0	4.5	<SRL	U	1.0	4.6	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	7.2	<SRL	U	1.0	7.4	3.4
o-Xylene	1.9	J	1.0	4.6	4.0	J	1.0	4.7	2.2
4-Ethyltoluene	0.8	J	1.0	5.2	1.4	J	1.0	5.3	2.5
1,3,5-Trimethylbenzene	0.8	J	1.0	5.2	1.4	J	1.0	5.3	2.5
1,2,4-Trimethylbenzene	3.0	J	1.0	5.2	4.7	J	1.0	5.3	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	5.4	<SRL	U	1.0	5.6	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	6.3	<SRL	U	1.0	6.5	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	6.3	<SRL	U	1.0	6.5	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	6.3	<SRL	U	1.0	6.5	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	7.8	<SRL	U	1.0	8.0	3.7
Hexachlorobutadiene	<SRL	U	1.0	11.2	<SRL	U	1.0	11.5	5.3
BFB-Surrogate Std. % Recovery	108%				109%				70-130%

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

  
 Marcus Hueppe  
 Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

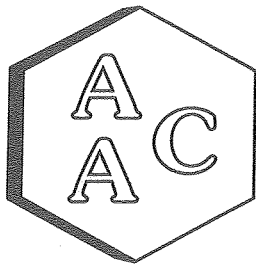
**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : PPB (v/v)

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-2-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-3-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Result	Qualifier		Analysis DF	Result	Qualifier		
	130559-62897								
Date Sampled	05/07/2013				05/08/2013				
Date Analyzed	05/10/2013				05/10/2013				
Can Dilution Factor	1.74				1.74				
Chlorodifluoromethane	0.36	J	1.0	0.87	0.45	J	1.0	0.87	0.5
Propene	3.53		1.0	1.74	0.89	J	1.0	1.74	1.0
Dichlorodifluoromethane	0.63	J	1.0	0.87	0.63	J	1.0	0.87	0.5
Chloromethane	0.47	J	1.0	0.87	0.56	J	1.0	0.87	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Vinyl Chloride	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Methanol	45.9		1.0	8.69	20.6		1.0	8.69	5.0
1,3-Butadiene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Bromomethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Chloroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Dichlorofluoromethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Ethanol	6.81		1.0	3.48	6.22		1.0	3.48	2.0
Vinyl Bromide	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Acetone	6.22		1.0	3.48	4.24		1.0	3.48	2.0
Trichlorofluoromethane	0.30	J	1.0	0.87	0.33	J	1.0	0.87	0.5
2-Propanol (IPA)	1.88	J	1.0	3.48	0.89	J	1.0	3.48	2.0
Acrylonitrile	<SRL	U	1.0	1.74	<SRL	U	1.0	1.74	1.0
1,1-Dichloroethene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Methylene Chloride (DCM)	1.18	J	1.0	1.74	<SRL	U	1.0	1.74	1.0
Allyl Chloride	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Carbon Disulfide	NR	U	1.0	0.87	NR	U	1.0	0.87	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,1-Dichloroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Vinyl Acetate	<SRL	U	1.0	1.74	<SRL	U	1.0	1.74	1.0
2-Butanone (MEK)	2.24		1.0	1.74	0.70	J	1.0	1.74	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Hexane	0.47	J	1.0	0.87	<SRL	U	1.0	0.87	0.5
Chloroform	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Ethyl Acetate	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Tetrahydrofuran	1.74		1.0	0.87	0.21	J	1.0	0.87	0.5
1,2-Dichloroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

**CLIENT** : Soil Water Air Protection Enterprise  
**PROJECT NO** : 130559  
**MATRIX** : AIR  
**UNITS** : PPB (v/v)

**DATE RECEIVED** : 05/09/2013  
**DATE REPORTED** : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

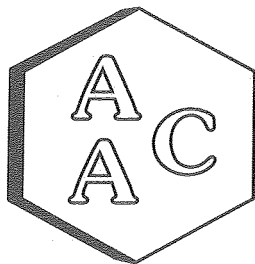
Client ID	D-2-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-3-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	AAC ID	Date Sampled	Date Analyzed		AAC ID	Date Sampled	Date Analyzed		
	130559-62897	05/07/2013	05/10/2013		130559-62906	05/08/2013	05/10/2013		
	1.74				1.74				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	6.12		1.0	0.87	0.73	J	1.0	0.87	0.5
Carbon Tetrachloride	0.10	J	1.0	0.87	0.14	J	1.0	0.87	0.5
Cyclohexane	0.09	J	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,2-Dichloropropane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Bromodichloromethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,4-Dioxane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Trichloroethene (TCE)	<SRL	U	1.0	0.87	0.23	J	1.0	0.87	0.5
2,2,4-Trimethylpentane	0.42	J	1.0	0.87	0.19	J	1.0	0.87	0.5
Heptane	0.24	J	1.0	0.87	0.14	J	1.0	0.87	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
4-Methyl-2-pentanone (MiBK)	0.12	J	1.0	0.87	0.07	J	1.0	0.87	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Toluene	1.98		1.0	0.87	1.22		1.0	0.87	0.5
2-Hexanone (MBK)	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Dibromochloromethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,2-Dibromoethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	0.87	0.09	J	1.0	0.87	0.5
Chlorobenzene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Ethylbenzene	0.57	J	1.0	0.87	0.30	J	1.0	0.87	0.5
m & p-Xylenes	1.51	J	1.0	1.74	1.01	J	1.0	1.74	1.0
Bromoform	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Styrene	<SRL	U	1.0	0.87	0.09	J	1.0	0.87	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
o-Xylene	0.64	J	1.0	0.87	0.47	J	1.0	0.87	0.5
4-Ethyltoluene	0.24	J	1.0	0.87	0.16	J	1.0	0.87	0.5
1,3,5-Trimethylbenzene	0.24	J	1.0	0.87	0.16	J	1.0	0.87	0.5
1,2,4-Trimethylbenzene	0.83	J	1.0	0.87	0.57	J	1.0	0.87	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
Hexachlorobutadiene	<SRL	U	1.0	0.87	<SRL	U	1.0	0.87	0.5
BFB-Surrogate Std. % Recovery	109%				108%				70-130%

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

  
 \_\_\_\_\_  
 Marcus Hueppe  
 Laboratory Director







# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

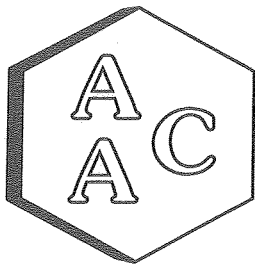
CLIENT : Soil Water Air Protection Enterprise  
 PROJECT NO : 130559  
 MATRIX : AIR  
 UNITS : ug/m3

DATE RECEIVED : 05/09/2013  
 DATE REPORTED : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID Date Sampled Date Analyzed Can Dilution Factor	D-2-Canister 130559-62897			Sample Reporting Limit (SRL) (MRLxDF's)	D-3-Canister 130559-62906			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Result	Qualifier	Analysis DF		05/08/2013				
					Result	Qualifier	Analysis DF		
					05/10/2013				
					1.74				
Chlorodifluoromethane	1.3	J	1.0	3.1	1.6	J	1.0	3.1	1.8
Propene	6.1		1.0	3.0	1.5	J	1.0	3.0	1.7
Dichlorodifluoromethane	3.1	J	1.0	4.3	3.1	J	1.0	4.3	2.5
Chloromethane	1.0	J	1.0	1.8	1.2	J	1.0	1.8	1.0
Dichlorotetrafluoroethane	<SRL	U	1.0	6.1	<SRL	U	1.0	6.1	3.5
Vinyl Chloride	<SRL	U	1.0	2.2	<SRL	U	1.0	2.2	1.3
Methanol	60.1		1.0	11.4	27.0		1.0	11.4	6.6
1,3-Butadiene	<SRL	U	1.0	1.9	<SRL	U	1.0	1.9	1.1
Bromomethane	<SRL	U	1.0	3.4	<SRL	U	1.0	3.4	1.9
Chloroethane	<SRL	U	1.0	2.3	<SRL	U	1.0	2.3	1.3
Dichlorofluoromethane	<SRL	U	1.0	3.7	<SRL	U	1.0	3.7	2.1
Ethanol	12.8		1.0	6.5	11.7		1.0	6.6	3.8
Vinyl Bromide	<SRL	U	1.0	3.8	<SRL	U	1.0	3.8	2.2
Acetone	14.8		1.0	8.3	10.1		1.0	8.3	4.8
Trichlorofluoromethane	1.7	J	1.0	4.9	1.9	J	1.0	4.9	2.8
2-Propanol (IPA)	4.6	J	1.0	8.5	2.2	J	1.0	8.5	4.9
Acrylonitrile	<SRL	U	1.0	3.8	<SRL	U	1.0	3.8	2.2
1,1-Dichloroethene	<SRL	U	1.0	3.4	<SRL	U	1.0	3.4	2.0
Methylene Chloride (DCM)	4.1	J	1.0	6.0	<SRL	U	1.0	6.0	3.5
Allyl Chloride	<SRL	U	1.0	2.7	<SRL	U	1.0	2.7	1.6
Carbon Disulfide	NR	U	1.0	2.7	NR	U	1.0	2.7	1.6
Trichlorotrifluoroethane	<SRL	U	1.0	6.7	<SRL	U	1.0	6.7	3.8
trans-1,2-Dichloroethene	<SRL	U	1.0	3.4	<SRL	U	1.0	3.4	2.0
1,1-Dichloroethane	<SRL	U	1.0	3.5	<SRL	U	1.0	3.5	2.0
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	3.1	<SRL	U	1.0	3.1	1.8
Vinyl Acetate	<SRL	U	1.0	6.1	<SRL	U	1.0	6.1	3.5
2-Butanone (MEK)	6.6		1.0	5.1	2.1	J	1.0	5.1	2.9
cis-1,2-Dichloroethene	<SRL	U	1.0	3.4	<SRL	U	1.0	3.4	2.0
Hexane	1.7	J	1.0	3.1	<SRL	U	1.0	3.1	1.8
Chloroform	<SRL	U	1.0	4.2	<SRL	U	1.0	4.2	2.4
Ethyl Acetate	<SRL	U	1.0	3.1	<SRL	U	1.0	3.1	1.8
Tetrahydrofuran	5.1		1.0	2.6	0.6	J	1.0	2.6	1.5
1,2-Dichloroethane	<SRL	U	1.0	3.5	<SRL	U	1.0	3.5	2.0
1,1,1-Trichloroethane	<SRL	U	1.0	4.7	<SRL	U	1.0	4.7	2.7





# Atmospheric Analysis & Consulting, Inc.

## Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise  
 PROJECT NO : 130559  
 MATRIX : AIR  
 UNITS : ug/m3

DATE RECEIVED : 05/09/2013  
 DATE REPORTED : 05/13/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

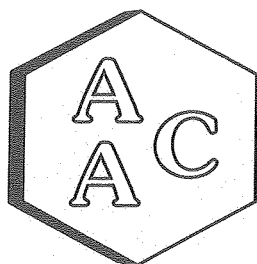
Client ID AAC ID Date Sampled Date Analyzed Can Dilution Factor	D-2-Canister 130559-62897 05/07/2013 05/10/2013 1.74			Sample Reporting Limit (SRL) (MRLxDF's)	D-3-Canister 130559-62906 05/08/2013 05/10/2013 1.74			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	19.5		1.0	2.8	2.3	J	1.0	2.8	1.6
Carbon Tetrachloride	0.7	J	1.0	5.5	0.9	J	1.0	5.5	3.1
Cyclohexane	0.3	J	1.0	3.0	<SRL	U	1.0	3.0	1.7
1,2-Dichloropropane	<SRL	U	1.0	4.0	<SRL	U	1.0	4.0	2.3
Bromodichloromethane	<SRL	U	1.0	5.8	<SRL	U	1.0	5.8	3.4
1,4-Dioxane	<SRL	U	1.0	3.1	<SRL	U	1.0	3.1	1.8
Trichloroethene (TCE)	<SRL	U	1.0	4.7	1.2	J	1.0	4.7	2.7
2,2,4-Trimethylpentane	2.0	J	1.0	4.1	0.9	J	1.0	4.1	2.3
Heptane	1.0	J	1.0	3.6	0.6	J	1.0	3.6	2.0
cis-1,3-Dichloropropene	<SRL	U	1.0	3.9	<SRL	U	1.0	3.9	2.3
4-Methyl-2-pentanone (MiBK)	0.5	J	1.0	3.6	0.3	J	1.0	3.6	2.0
trans-1,3-Dichloropropene	<SRL	U	1.0	3.9	<SRL	U	1.0	3.9	2.3
1,1,2-Trichloroethane	<SRL	U	1.0	4.7	<SRL	U	1.0	4.7	2.7
Toluene	7.5		1.0	3.3	4.6		1.0	3.3	1.9
2-Hexanone (MBK)	<SRL	U	1.0	3.6	<SRL	U	1.0	3.6	2.0
Dibromochloromethane	<SRL	U	1.0	7.4	<SRL	U	1.0	7.4	4.3
1,2-Dibromoethane	<SRL	U	1.0	6.7	<SRL	U	1.0	6.7	3.8
Tetrachloroethene (PCE)	<SRL	U	1.0	5.9	0.6	J	1.0	5.9	3.4
Chlorobenzene	<SRL	U	1.0	4.0	<SRL	U	1.0	4.0	2.3
Ethylbenzene	2.5	J	1.0	3.8	1.3	J	1.0	3.8	2.2
m & p-Xylenes	6.6	J	1.0	7.5	4.4	J	1.0	7.5	4.3
Bromoform	<SRL	U	1.0	9.0	<SRL	U	1.0	9.0	5.2
Styrene	<SRL	U	1.0	3.7	0.4	J	1.0	3.7	2.1
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	6.0	<SRL	U	1.0	6.0	3.4
o-Xylene	2.8	J	1.0	3.8	2.0	J	1.0	3.8	2.2
4-Ethyltoluene	1.2	J	1.0	4.3	0.8	J	1.0	4.3	2.5
1,3,5-Trimethylbenzene	1.2	J	1.0	4.3	0.8	J	1.0	4.3	2.5
1,2,4-Trimethylbenzene	4.1	J	1.0	4.3	2.8	J	1.0	4.3	2.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	4.5	<SRL	U	1.0	4.5	2.6
1,3-Dichlorobenzene	<SRL	U	1.0	5.2	<SRL	U	1.0	5.2	3.0
1,4-Dichlorobenzene	<SRL	U	1.0	5.2	<SRL	U	1.0	5.2	3.0
1,2-Dichlorobenzene	<SRL	U	1.0	5.2	<SRL	U	1.0	5.2	3.0
1,2,4-Trichlorobenzene	<SRL	U	1.0	6.4	<SRL	U	1.0	6.5	3.7
Hexachlorobutadiene	<SRL	U	1.0	9.3	<SRL	U	1.0	9.3	5.3
BFB-Surrogate Std. % Recovery	109%				108%				70-130%

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

Marcus Hueppe  
 Laboratory Director



**TO-15**  
**QC**  
**REPORT**



# Atmospheric Analysis & Consulting, Inc.

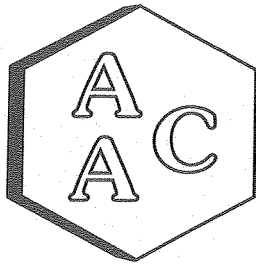
ANALYSIS DATE : 05/10/2013  
 ANALYST : JJG

INSTRUMENT ID : GC/MS-03  
 CALIBRATION STD ID : PS040413-01

**VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15**  
 Continuing Calibration Verification of the 04/18/2013 Calibration

<i>Compounds</i>	<i>Conc</i>	<i>Daily Conc</i>	<i>%REC*</i>
4-BFB (surrogate standard)	10.00	10.66	107
Chlorodifluoromethane	10.10	10.16	101
Propene	11.00	10.57	96
Dichlorodifluoromethane	9.80	10.85	111
Chloromethane	10.10	9.51	94
Dichlorotetrafluoroethane	10.10	10.73	106
Vinyl Chloride	10.20	9.51	93
Methanol	4.90	4.57	93
1,3-Butadiene	10.50	10.05	96
Bromomethane	10.20	9.28	91
Chloroethane	10.00	8.72	87
Dichlorofluoromethane	10.00	10.58	106
Ethanol	9.80	9.01	92
Vinyl Bromide	10.20	10.79	106
Acetone	10.80	8.47	78
Trichlorofluoromethane	10.10	11.47	114
2-Propanol (IPA)	11.00	9.13	83
Acrylonitrile	10.50	10.15	97
1,1-Dichloroethene	10.50	10.11	96
Methylene Chloride (DCM)	10.40	9.59	92
Allyl Chloride	11.00	11.31	103
Carbon Disulfide	10.50	8.83	84
Trichlorotrifluoroethane	10.40	10.30	99
trans-1,2-Dichloroethene	10.40	10.28	99
1,1-Dichloroethane	10.40	9.80	94
Methyl Tert Butyl Ether (MTBE)	10.60	11.07	104
Vinyl Acetate	9.70	9.91	102
2-Butanone (MEK)	10.60	10.36	98
cis-1,2-Dichloroethene	10.60	9.93	94
Hexane	10.70	10.32	96
Chloroform	10.60	11.12	105
Ethyl Acetate	11.00	10.93	99
Tetrahydrofuran	10.80	9.68	90
1,2-Dichloroethane	10.40	11.38	109
1,1,1-Trichloroethane	10.50	11.82	113





# Atmospheric Analysis & Consulting, Inc.

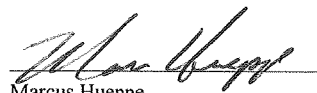
ANALYSIS DATE : 05/10/2013  
ANALYST : JJG

INSTRUMENT ID : GC/MS-03  
CALIBRATION STD ID : PS040413-01

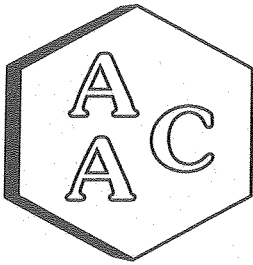
## VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15 Continuing Calibration Verification of the 04/18/2013 Calibration

Compounds	Conc	Daily Conc	%REC*
Benzene	10.50	9.00	86
Carbon Tetrachloride	10.10	11.24	111
Cyclohexane	10.50	9.35	89
1,2-Dichloropropane	10.50	9.23	88
Bromodichloromethane	10.30	10.74	104
1,4-Dioxane	10.30	9.13	89
Trichloroethene (TCE)	10.30	10.36	101
2,2,4-Trimethylpentane	10.90	10.02	92
Heptane	10.70	9.91	93
cis-1,3-Dichloropropene	11.00	10.84	99
4-Methyl-2-pentanone (MiBK)	10.30	9.40	91
trans-1,3-Dichloropropene	9.80	10.03	102
1,1,2-Trichloroethane	10.60	10.00	94
Toluene	10.60	9.78	92
2-Hexanone (MBK)	10.80	9.86	91
Dibromochloromethane	11.00	11.65	106
1,2-Dibromoethane	10.40	10.13	97
Tetrachloroethene (PCE)	10.40	10.44	100
Chlorobenzene	10.60	9.86	93
Ethylbenzene	10.50	10.17	97
m & p-Xylenes	20.60	19.25	93
Bromoform	10.30	10.84	105
Styrene	10.40	9.99	96
1,1,2,2-Tetrachloroethane	10.60	9.88	93
o-Xylene	10.60	10.43	98
4-Ethyltoluene	10.40	10.43	100
1,3,5-Trimethylbenzene	10.20	9.86	97
1,2,4-Trimethylbenzene	10.20	10.38	102
Benzyl Chloride (a-Chlorotoluene)	10.00	11.44	114
1,3-Dichlorobenzene	10.00	10.45	105
1,4-Dichlorobenzene	10.00	9.98	100
1,2-Dichlorobenzene	10.00	9.96	100
1,2,4-Trichlorobenzene	9.30	9.87	106
Hexachlorobutadiene	9.80	10.85	111

\* - %REC should be 70-130%

  
Marcus Hueppe  
Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

## Quality Control/Quality Assurance Report

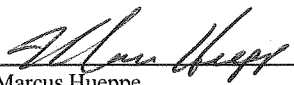
CLIENT ID : Laboratory Control Spike      DATE ANALYZED : 05/10/2013  
AAC ID : LCS/LCSD      DATE REPORTED : 05/10/2013  
MEDIA : Air      UNITS : ppbv

## TO-15 Laboratory Control Spike Recovery

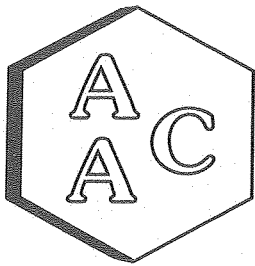
Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
1,1-Dichloroethene	0.0	10.50	10.11	10.05	96	96	0.6
Methylene Chloride (DCM)	0.0	10.40	9.59	9.46	92	91	1.4
Benzene	0.0	10.50	9.00	9.30	86	89	3.3
Trichloroethene (TCE)	0.0	10.30	10.36	10.17	101	99	1.9
Toluene	0.0	10.60	9.78	9.78	92	92	0.0
Tetrachloroethene (PCE)	0.0	10.40	10.44	10.46	100	101	0.2
Chlorobenzene	0.0	10.60	9.86	10.03	93	95	1.7
Ethylbenzene	0.0	10.50	10.17	9.94	97	95	2.3
m & p-Xylenes	0.0	20.60	19.25	18.96	93	92	1.5
o-Xylene	0.0	10.60	10.43	10.31	98	97	1.2

\* Must be 70-130%

\*\* Must be < 25%

  
Marcus Hueppe  
Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

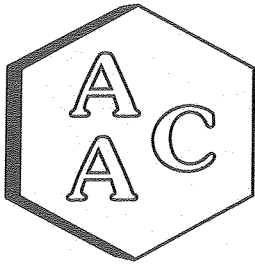
## Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 05/10/2013  
 UNITS : ppbv REPORT DATE : 05/10/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

<i>Client ID</i>	<i>Method Blank</i>	<i>RL</i>
<i>AAC ID</i>	<i>MB 051013</i>	
Chlorodifluoromethane	<RL	0.5
Propene	<RL	1.0
Dichlorodifluoromethane	<RL	0.5
Chloromethane	<RL	0.5
Dichlorotetrafluoroethane	<RL	0.5
Vinyl Chloride	<RL	0.5
Methanol	<RL	5.0
1,3-Butadiene	<RL	0.5
Bromomethane	<RL	0.5
Chloroethane	<RL	0.5
Dichlorofluoromethane	<RL	0.5
Ethanol	<RL	2.0
Vinyl Bromide	<RL	0.5
Acetone	<RL	2.0
Trichlorofluoromethane	<RL	0.5
2-Propanol (IPA)	<RL	2.0
Acrylonitrile	<RL	1.0
1,1-Dichloroethene	<RL	0.5
Methylene Chloride (DCM)	<RL	1.0
Allyl Chloride	<RL	0.5
Carbon Disulfide	<RL	0.5
Trichlorotrifluoroethane	<RL	0.5
trans-1,2-Dichloroethene	<RL	0.5
1,1-Dichloroethane	<RL	0.5
Methyl Tert Butyl Ether (MTBE)	<RL	0.5
Vinyl Acetate	<RL	1.0
2-Butanone (MEK)	<RL	1.0
cis-1,2-Dichloroethene	<RL	0.5
Hexane	<RL	0.5
Chloroform	<RL	0.5
Ethyl Acetate	<RL	0.5
Tetrahydrofuran	<RL	0.5
1,2-Dichloroethane	<RL	0.5
1,1,1-Trichloroethane	<RL	0.5
Benzene	<RL	0.5
Carbon Tetrachloride	<RL	0.5
Cyclohexane	<RL	0.5
1,2-Dichloropropane	<RL	0.5
Bromodichloromethane	<RL	0.5
1,4-Dioxane	<RL	0.5
Trichloroethene (TCE)	<RL	0.5
2,2,4-Trimethylpentane	<RL	0.5
Heptane	<RL	0.5





# Atmospheric Analysis & Consulting, Inc.

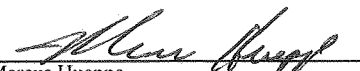
## Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 05/10/2013  
UNITS : ppbv REPORT DATE : 05/10/2013

### VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

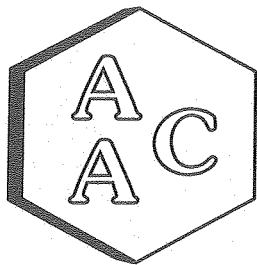
<i>Client ID</i>	<i>Method Blank</i>	<i>RL</i>
<i>AAC ID</i>	<i>MB 051013</i>	
cis-1,3-Dichloropropene	<RL	0.5
4-Methyl-2-pentanone (MiBK)	<RL	0.5
trans-1,3-Dichloropropene	<RL	0.5
1,1,2-Trichloroethane	<RL	0.5
Toluene	<RL	0.5
2-Hexanone (MBK)	<RL	0.5
Dibromochloromethane	<RL	0.5
1,2-Dibromoethane	<RL	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
<b>System Monitoring Compounds</b>		
BFB-Surrogate Std. % Recovery	107%	--

RL - Reporting Limit

  
Marcus Hueppe  
Laboratory Director







# Atmospheric Analysis & Consulting, Inc.

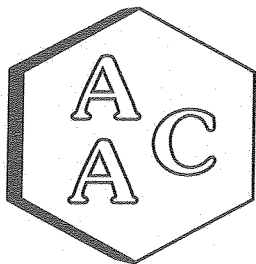
## Quality Control/Quality Assurance Report

AAC ID : 130559-62852      DATE ANALYZED : 05/10/2013  
MATRIX : Air      DATE REPORTED : 05/10/2013  
UNITS : ppbv

### TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane	<SRL	<SRL	0.0
Propene	2.02	2.13	5.3
Dichlorodifluoromethane	<SRL	<SRL	0.0
Chloromethane	<SRL	<SRL	0.0
Dichlorotetrafluoroethane	<SRL	<SRL	0.0
Vinyl Chloride	<SRL	<SRL	0.0
Methanol	>URL	>URL	NA
1,3-Butadiene	<SRL	<SRL	0.0
Bromomethane	<SRL	<SRL	0.0
Chloroethane	<SRL	<SRL	0.0
Dichlorofluoromethane	<SRL	<SRL	0.0
Ethanol	9.37	9.33	0.4
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	10.9	10.7	1.9
Trichlorofluoromethane	<SRL	<SRL	0.0
2-Propanol (IPA)	<SRL	<SRL	0.0
Acrylonitrile	<SRL	<SRL	0.0
1,1-Dichloroethene	<SRL	<SRL	0.0
Methylene Chloride (DCM)	<SRL	<SRL	0.0
Allyl Chloride	<SRL	<SRL	0.0
Carbon Disulfide	<SRL	<SRL	0.0
Trichlorotrifluoroethane	<SRL	<SRL	0.0
trans-1,2-Dichloroethene	<SRL	<SRL	0.0
1,1-Dichloroethane	<SRL	<SRL	0.0
Methyl Tert Butyl Ether (MTBE)	<SRL	<SRL	0.0
Vinyl Acetate	<SRL	<SRL	0.0
2-Butanone (MEK)	4.82	4.74	1.7
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	2.69	2.73	1.5
1,2-Dichloroethane	<SRL	<SRL	0.0
1,1,1-Trichloroethane	<SRL	<SRL	0.0
Benzene	5.06	5.23	3.3
Carbon Tetrachloride	<SRL	<SRL	0.0





# Atmospheric Analysis & Consulting, Inc.

## Quality Control/Quality Assurance Report

AAC ID : 130559-62852      DATE ANALYZED : 05/10/2013  
 MATRIX : Air      DATE REPORTED : 05/10/2013  
 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	2.05	2.15	4.8
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
<b>System Monitoring Compounds</b>			
BFB-Surrogate Std. % Recovery	109%	109%	0.1

SRL - Sample Reporting Limit  
 URL - Upper Reporting Limit

  
 Marcus Hueppe  
 Laboratory Director



**TO-15  
RAW  
DATA**

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101305.D  
 Acq On : 10 May 2013 11:46  
 Operator : JJG  
 Sample : 130559-62851 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 12:18:23 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	12.350	128	151575	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	843095	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	777944	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	486572	10.60	ppbv	0.00

Spiked Amount 10.000 Recovery = 106.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)	Qvalue
2) Chlorodifluoromethane	0.000		0	N.D.			
3) Propene	4.817	42	4473	0.51	ppbv		90
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.			
9) 1,3-Butadiene	0.000		0	N.D.			
10) Bromomethane	0.000		0	N.D.		0.00	
11) Chloroethane	0.000		0	N.D.		0.00	
12) Dichlorofluoromethane	0.000		0	N.D.		0.00	
13) Ethanol	0.000		0	N.D.			
14) VinylBromide	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.		0.00	
16) Trichlorofluoromethane	0.000		0	N.D.			
17) 2-Propanol (IPA)	8.328	45	1287	N.D.		106.00%	
18) Acrylonitrile	0.000		0	N.D.			
19) 1,1-Dichloroethene	0.000		0	N.D.			
20) MethyleneChloride (DCM)	0.000		0	N.D.			
21) AllylChloride	0.000		0	N.D.			90
22) CarbonDisulfide	0.000		0	N.D.			
23) Trichlorotrifluoroethane	0.000		0	N.D.			
24) trans-1,2-Dichloroethene	0.000		0	N.D.			
25) 1,1-Dichloroethane	0.000		0	N.D.			
26) MethylTertButylEther (M...)	0.000		0	N.D.			
27) VinylAcetate	0.000		0	N.D.			
28) 2-Butanone (MEK)	0.000		0	N.D.		0.00	
29) cis-1,2-Dichloroethene	0.000		0	N.D.		0.00	
30) Hexane	0.000		0	N.D.		0.00	
31) Chloroform	0.000		0	N.D.			
32) EthylAcetate	0.000		0	N.D.			

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101305.D  
 Acq On : 10 May 2013 11:46  
 Operator : JJG  
 Sample : 130559-62851 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 2 Sample Multiplier: 1

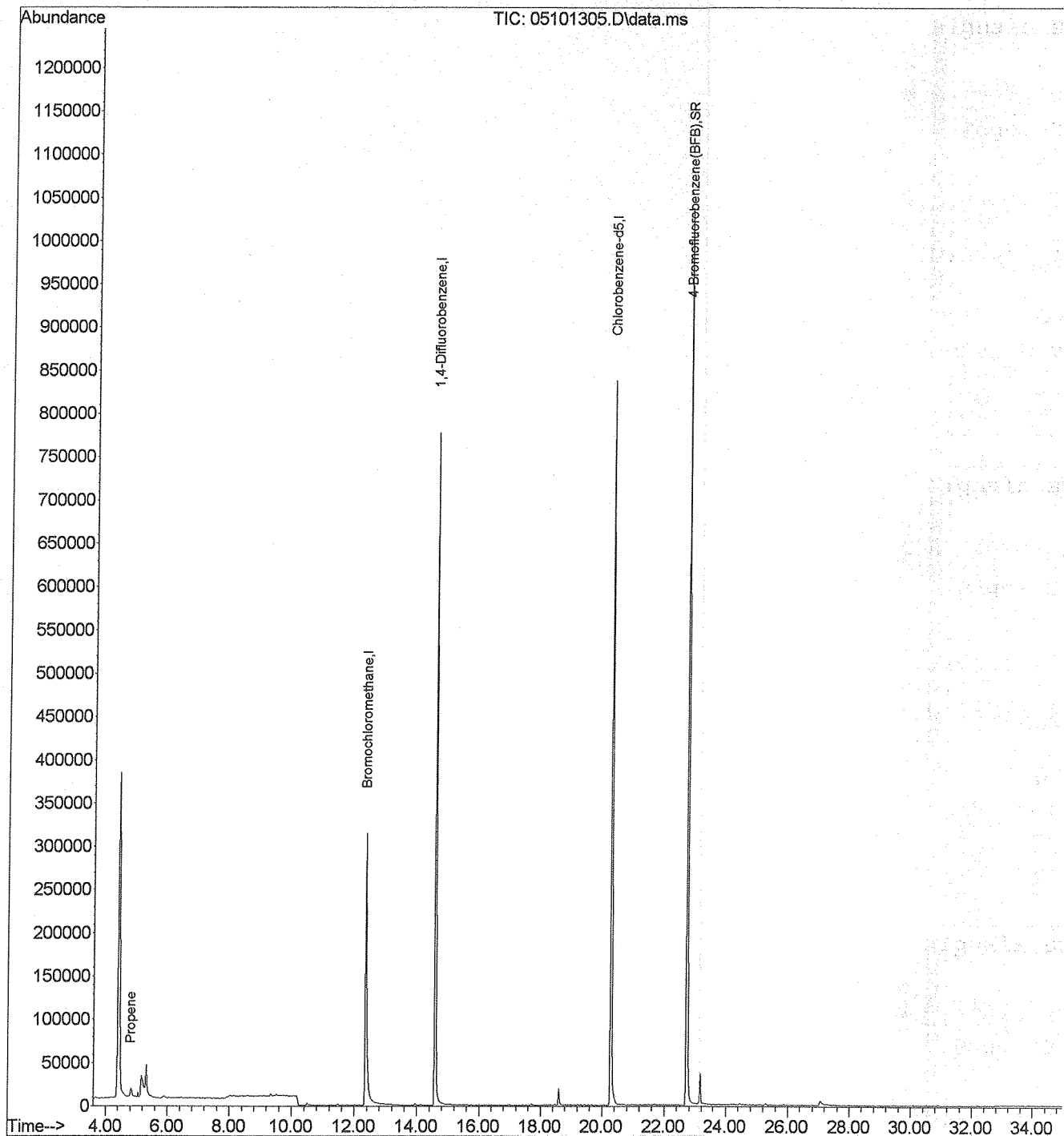
Quant Time: May 10 12:18:23 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

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	13.955	78	2234		N.D.	
38) CarbonTetrachloride	0.000		0		N.D.	
39) Cyclohexane	0.000		0		N.D.	
40) 1,2-Dichloropropane	0.000		0		N.D.	
41) Bromodichloromethane	0.000		0		N.D.	
42) 1,4-Dioxane	0.000		0		N.D.	
43) Trichloroethene (TCE)	0.000		0		N.D.	
44) 2,2,4-Trimethylpentane	0.000		0		N.D.	
45) Heptane	0.000		0		N.D.	
46) cis-1,3-Dichloropropene	0.000		0		N.D.	
47) 4-Methyl-2-pentanone (M...	0.000		0		N.D.	
48) trans-1,3-Dichloropropene	0.000		0		N.D.	
49) 1,1,2-Trichloroethane	0.000		0		N.D.	
50) Toluene	17.700	91	2541		N.D.	165 Dev (min)
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	20.303	114	120		N.D.	
57) Ethylbenzene	20.731	91	321		N.D.	
58) m&p-Xylene	0.000		0		N.D.	
59) Bromoform	0.000		0		N.D.	
60) Styrene	0.000		0		N.D.	
61) 1,1,2,2-Tetrachloroethane	0.000		0		N.D.	
62) o-Xylene	21.712	91	427		N.D.	
64) 4-Ethyltoluene	0.000		0		N.D.	
65) 1,3,5-Trimethylbenzene	0.000		0		N.D.	
66) 1,2,4-Trimethylbenzene	24.565	120	276		N.D.	
67) BenzylChloride (a-Chlor...	25.207	91	110		N.D.	
68) 1,3-Dichlorobenzene	25.082	146	506		N.D.	
69) 1,4-Dichlorobenzene	25.296	146	1201		N.D.	
70) 1,2-Dichlorobenzene	25.867	146	518		N.D.	
71) 1,2,4-Trichlorobenzene	29.469	180	1266		N.D.	
72) Hexachlorobutadiene	30.075	225	225		N.D.	

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101305.D  
 Acq On : 10 May 2013 11:46  
 Operator : JJG  
 Sample : 130559-62851 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 12:18:23 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



*JJG*  
 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101306.D  
 Acq On : 10 May 2013 12:33  
 Operator : JJG  
 Sample : 130559-62852 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 13:53:26 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
<b>Internal Standards</b>						
1) Bromochloromethane	12.350	128	151411	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	835956	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	787824	10.00	ppbv	0.00
<b>System Monitoring Compounds</b>						
63) 4-Bromofluorobenzene (BFB)	22.711	174	504268	10.85	ppbv	0.00
Spiked Amount	10.000		Recovery	=	108.50%	
<b>Target Compounds</b>						
2) Chlorodifluoromethane	4.836	51	6925	0.22	ppbv #	98
3) Propene	4.799	42	9366	1.08	ppbv #	86
4) Dichlorodifluoromethane	4.908	85	16277	0.33	ppbv	99
5) Chloromethane	5.306	52	1451	0.26	ppbv #	11
6) Dichlorotetrafluoroethane	5.342	135	236	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.849	31	183470	Below Cal		
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D.	ppbv	0.00
11) Chloroethane	0.000		0	N.D.	ppbv	0.00
12) Dichlorofluoromethane	0.000		0	N.D.	ppbv	0.00
13) Ethanol	7.080	45	37807	5.02	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	7.984	58	55080	5.84	ppbv	0.00
16) Trichlorofluoromethane	7.659	103	4720	0.17	ppbv #	94
17) 2-Propanol (IPA)	8.201	45	38322	1.19	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.	ppbv #	98
21) AllylChloride	9.233	39	258	N.D.	ppbv #	86
22) CarbonDisulfide	0.000		0	N.D.	ppbv	99
23) Trichlorotrifluoroethane	0.000		0	N.D.	ppbv #	11
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.	ppbv	0.00
26) MethylTertButylEther (M...)	10.424	73	563	N.D.		
27) VinylAcetate	0.000		0	N.D.	d	
28) 2-Butanone (MEK)	11.441	72	23940	2.58	ppbv	0.00
29) cis-1,2-Dichloroethene	0.000		0	N.D.		
30) Hexane	11.459	86	948	0.22	ppbv #	36
31) Chloroform	12.511	83	553	N.D.		
32) EthylAcetate	12.065	43	11815	0.26	ppbv #	95

*[Handwritten Signature]*  
 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101306.D  
 Acq On : 10 May 2013 12:33  
 Operator : JJG  
 Sample : 130559-62852 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 13:53:26 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

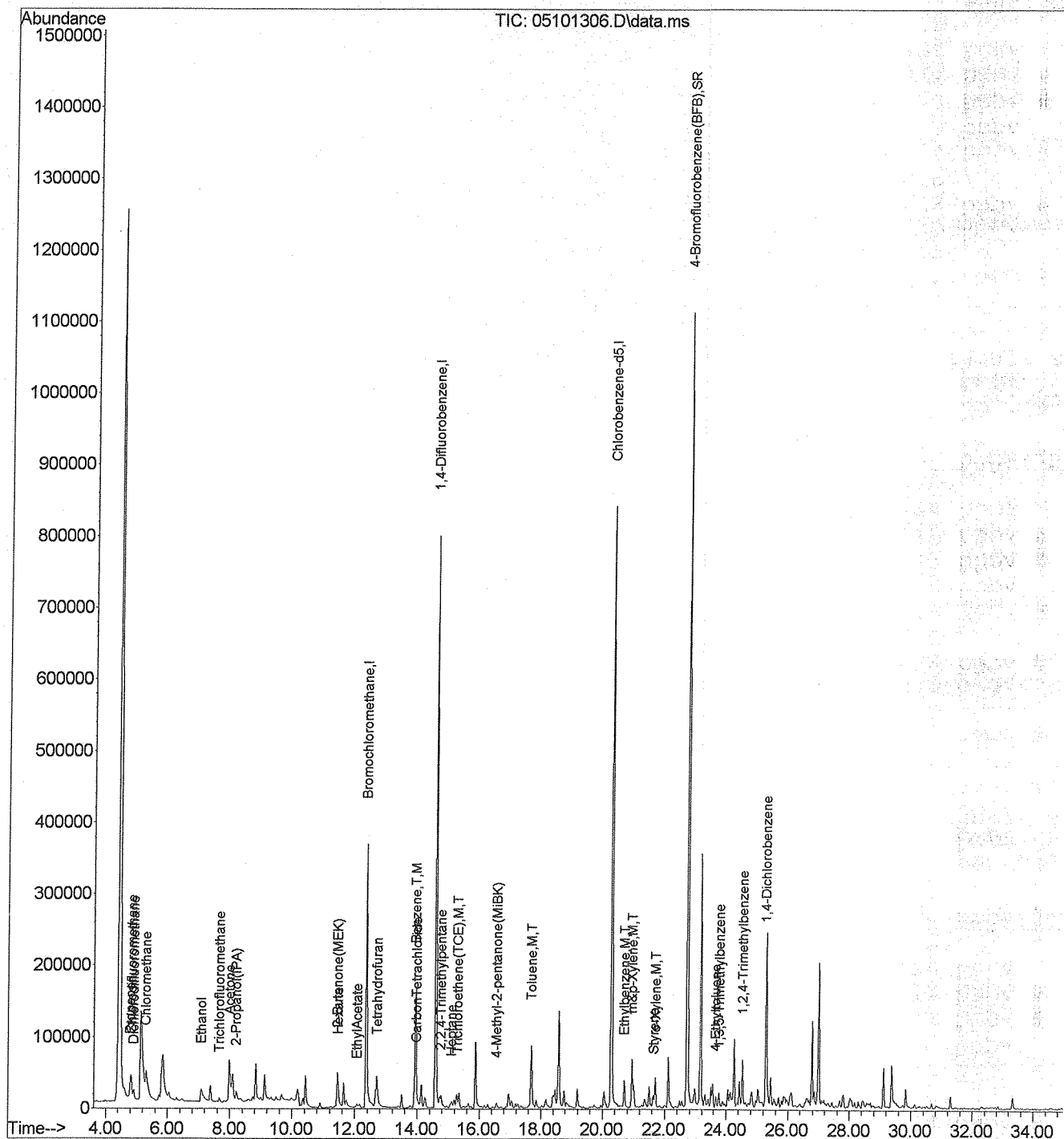
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.707	72	13908	1.44	ppbv #	79
34) 1,2-Dichloroethane	13.616	62	134	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	179303	2.71	ppbv	
38) CarbonTetrachloride	13.973	117	2273	0.05	ppbv	95
39) Cyclohexane	14.009	69	354	N.D.		
40) 1,2-Dichloropropane	15.400	63	245	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.685	88	122	N.D.		
43) Trichloroethene (TCE)	15.293	130	3476	0.12	ppbv	92
44) 2,2,4-Trimethylpentane	14.758	57	17146	0.15	ppbv #	90
45) Heptane	15.096	71	2126	0.10	ppbv #	44
46) cis-1,3-Dichloropropene	16.719	75	678	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.559	58	2592	0.10	ppbv #	76
48) trans-1,3-Dichloropropene	17.682	75	939	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.	d	
50) Toluene	17.682	91	88304	1.10	ppbv	Dev (Min)
51) 2-Hexanone (MBK)	0.000		0	N.D.	d	
52) Dibromochloromethane	19.019	129	365	N.D.	ppbv #	79
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	578	N.D.		
56) Chlorobenzene	20.357	114	295	N.D.	ppbv	
57) Ethylbenzene	20.696	91	42314	0.40	ppbv	95
58) m&p-Xylene	20.945	106	38735	0.92	ppbv #	89
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	2978	0.04	ppbv #	87
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	30694	0.38	ppbv	99
64) 4-Ethyltoluene	23.673	120	4063	0.12	ppbv #	93
65) 1,3,5-Trimethylbenzene	23.780	120	6584	0.13	ppbv #	89
66) 1,2,4-Trimethylbenzene	24.529	120	23329	0.48	ppbv	96
67) BenzylChloride (a-Chlor...)	25.100	91	2332	N.D.	ppbv #	76
68) 1,3-Dichlorobenzene	25.064	146	625	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	20938	0.28	ppbv #	90
70) 1,2-Dichlorobenzene	25.849	146	825	N.D.	ppbv #	81
71) 1,2,4-Trichlorobenzene	29.451	180	1710	N.D.		
72) Hexachlorobutadiene	30.075	225	467	N.D.		

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



Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101306.D  
 Acq On : 10 May 2013 12:33  
 Operator : JJG  
 Sample : 130559-62852 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 13:53:26 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

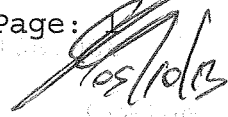


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Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101308.D  
 Acq On : 10 May 2013 14:06  
 Operator : JJG  
 Sample : 130559-62852 x5  
 Misc : IS/Surr: PS082712-02 + 100mL  
 ALS Vial : 3 Sample Multiplier: 5

Quant Time: May 10 14:39:39 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) Bromochloromethane	12.350	128	159478	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	849581	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	791486	10.00	ppbv	0.00
<b>System Monitoring Compounds</b>						
63) 4-Bromofluorobenzene (BFB)	22.710	174	495036	10.60	ppbv	0.00
Spiked Amount	10.000		Recovery	= 106.00%		
<b>Target Compounds</b>						
2) Chlorodifluoromethane	4.835	51	1246	N.D.		Qvalue
3) Propene	4.799	42	2057	N.D.		
4) Dichlorodifluoromethane	4.908	85	3117	N.D.		
5) Chloromethane	5.324	52	305	N.D.		
6) Dichlorotetrafluoroethane	0.000		0	N.D.		
7) VinylChloride	0.000		0	N.D.		Dev (Min)
8) Methanol	5.867	31	394060	34.56	ppbv	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	6.428	96	846	N.D.	ppbv	0.00
11) Chloroethane	0.000		0	N.D.	ppbv	0.00
12) Dichlorofluoromethane	0.000		0	N.D.	ppbv	0.00
13) Ethanol	7.152	45	7172	N.D.		
14) VinylBromide	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.	ppbv	0.00
16) Trichlorofluoromethane	7.658	103	940	N.D.		
17) 2-Propanol (IPA)	8.238	45	10594	N.D.	ppbv	0.00
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		Qvalue
20) MethyleneChloride (DCM)	9.323	84	1536	N.D.		
21) AllylChloride	0.000		0	N.D.		
22) CarbonDisulfide	9.486	76	3419	N.D.		
23) Trichlorotrifluoroethane	0.000		0	N.D.		
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		Dev (Min)
26) MethylTertButylEther (M...)	0.000		0	N.D.	ppbv	
27) VinylAcetate	10.888	43	262	N.D.		
28) 2-Butanone (MEK)	11.494	72	3928	N.D.	ppbv	0.00
29) cis-1,2-Dichloroethene	0.000		0	N.D.	ppbv	0.00
30) Hexane	0.000		0	N.D.	ppbv	0.00
31) Chloroform	0.000		0	N.D.		
32) EthylAcetate	12.118	43	2449	N.D.		

Page: 

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101308.D  
 Acq On : 10 May 2013 14:06  
 Operator : JJG  
 Sample : 130559-62852 x5  
 Misc : IS/Surr: PS082712-02 + 100mL  
 ALS Vial : 3 Sample Multiplier: 5

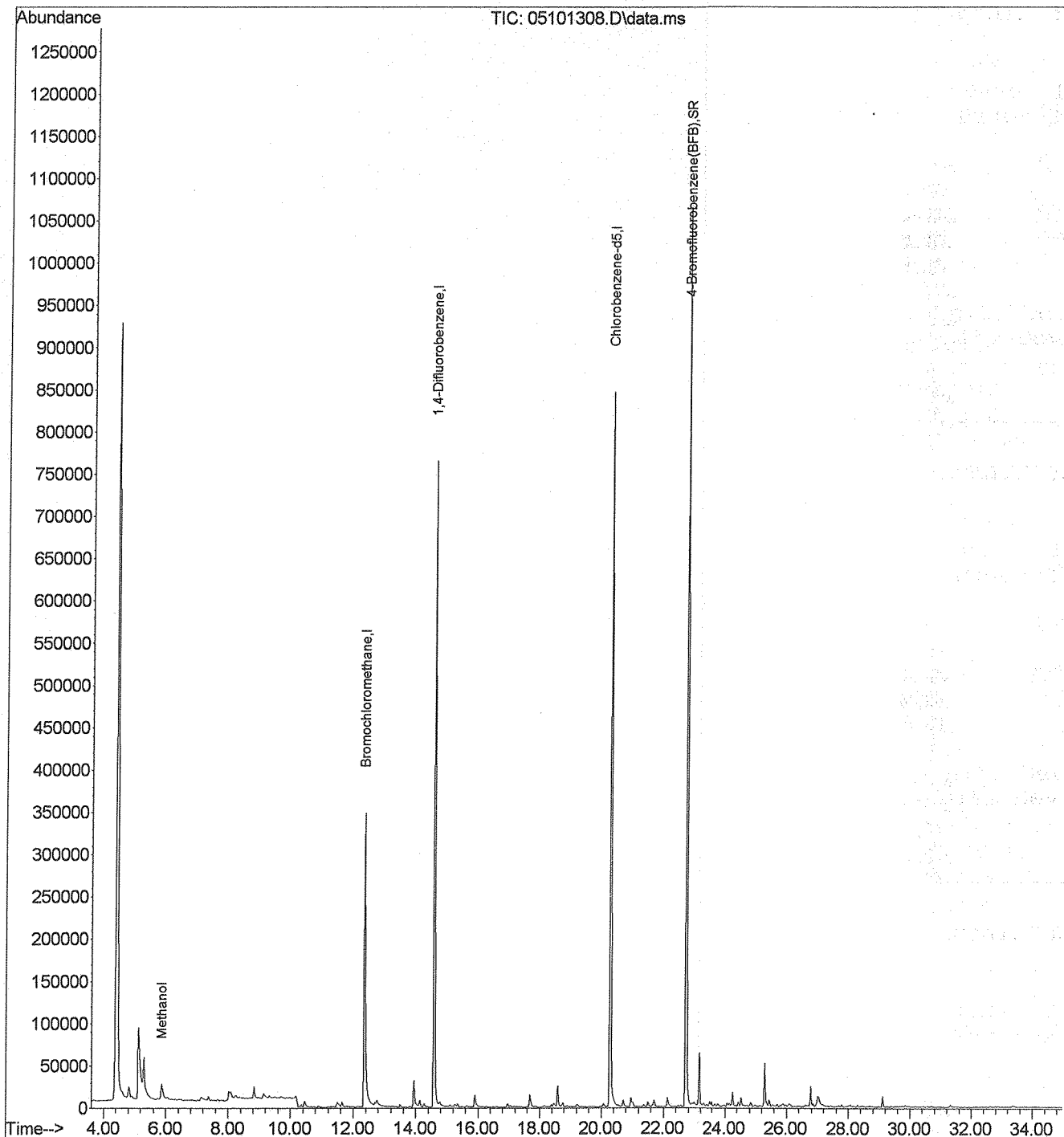
Quant Time: May 10 14:39:39 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.760	72	2589	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	38695	N.D.		
38) CarbonTetrachloride	13.973	117	316	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40) 1,2-Dichloropropane	15.275	63	118	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	15.292	130	710	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	4420	N.D.		
45) Heptane	15.114	71	342	N.D.		
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...	16.594	58	262	N.D.		
48) trans-1,3-Dichloropropene	0.000		0	N.D.		
49) 1,1,2-Trichloroethane	17.860	97	1912	N.D.		
50) Toluene	17.682	91	17381	N.D.		
51) 2-Hexanone (MBK)	0.000		0	N.D.		
52) Dibromochloromethane	0.000		0	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	0.000		0	N.D.		
56) Chlorobenzene	20.285	114	116	N.D.		
57) Ethylbenzene	20.713	91	8253	N.D.		
58) m&p-Xylene	20.963	106	7586	N.D.		
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.676	104	472	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	5862	N.D.		
64) 4-Ethyltoluene	23.691	120	708	N.D.		
65) 1,3,5-Trimethylbenzene	23.780	120	1334	N.D.		
66) 1,2,4-Trimethylbenzene	24.547	120	4149	N.D.		
67) BenzylChloride (a-Chlor...	25.118	91	156	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	144	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	4044	N.D.		
70) 1,2-Dichlorobenzene	0.000		0	N.D.		
71) 1,2,4-Trichlorobenzene	29.469	180	445	N.D.		
72) Hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101308.D  
 Acq On : 10 May 2013 14:06  
 Operator : JJG  
 Sample : 130559-62852 x5  
 Misc : IS/Surr: PS082712-02 + 100mL  
 ALS Vial : 3 Sample Multiplier: 5

Quant Time: May 10 14:39:39 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



*JJG*  
 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101309.D  
 Acq On : 10 May 2013 14:54  
 Operator : JJG  
 Sample : 130559-62861 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 10 15:38:02 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	12.350	128	151275	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	840311	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	789569	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	511563	10.98	ppbv	0.00
Spiked Amount	10.000		Recovery	= 109.80%		

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue	Dev (Min)
2) Chlorodifluoromethane	4.835	51	4485	0.14	ppbv	#	91
3) Propene	4.799	42	3418	0.39	ppbv	#	77
4) Dichlorodifluoromethane	4.908	85	14730	0.30	ppbv		99
5) Chloromethane	5.306	52	1492	0.27	ppbv	#	13
6) Dichlorotetrafluoroethane	5.324	135	274	N.D.			
7) VinylChloride	0.000		0	N.D.			
8) Methanol	5.885	31	20121	3.60	ppbv		
9) 1,3-Butadiene	0.000		0	N.D.			
10) Bromomethane	0.000		0	N.D.	d		0.00
11) Chloroethane	0.000		0	N.D.			0.00
12) Dichlorofluoromethane	0.000		0	N.D.			0.00
13) Ethanol	7.152	45	9919	1.32	ppbv		
14) VinylBromide	0.000		0	N.D.			
15) Acetone	8.020	58	20541	2.18	ppbv		0.00
16) Trichlorofluoromethane	7.658	103	3807	0.14	ppbv		99
17) 2-Propanol (IPA)	8.256	45	12045	0.37	ppbv		99
18) Acrylonitrile	0.000		0	N.D.			
19) 1,1-Dichloroethene	0.000		0	N.D.			
20) MethyleneChloride (DCM)	9.323	84	21865	1.28	ppbv	#	99
21) AllylChloride	0.000		0	N.D.	ppbv	#	77
22) CarbonDisulfide	0.000		0	N.D.	ppbv		99
23) Trichlorotrifluoroethane	0.000		0	N.D.	ppbv	#	13
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.	ppbv		
27) VinylAcetate	10.888	43	1838	N.D.			
28) 2-Butanone (MEK)	0.000		0	N.D.	d		0.00
29) cis-1,2-Dichloroethene	0.000		0	N.D.			0.00
30) Hexane	11.476	86	923	0.22	ppbv		77
31) Chloroform	12.493	83	540	N.D.			
32) EthylAcetate	12.118	43	580	N.D.			

*[Handwritten signature]*

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101309.D  
 Acq On : 10 May 2013 14:54  
 Operator : JJG  
 Sample : 130559-62861 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 10 15:38:02 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

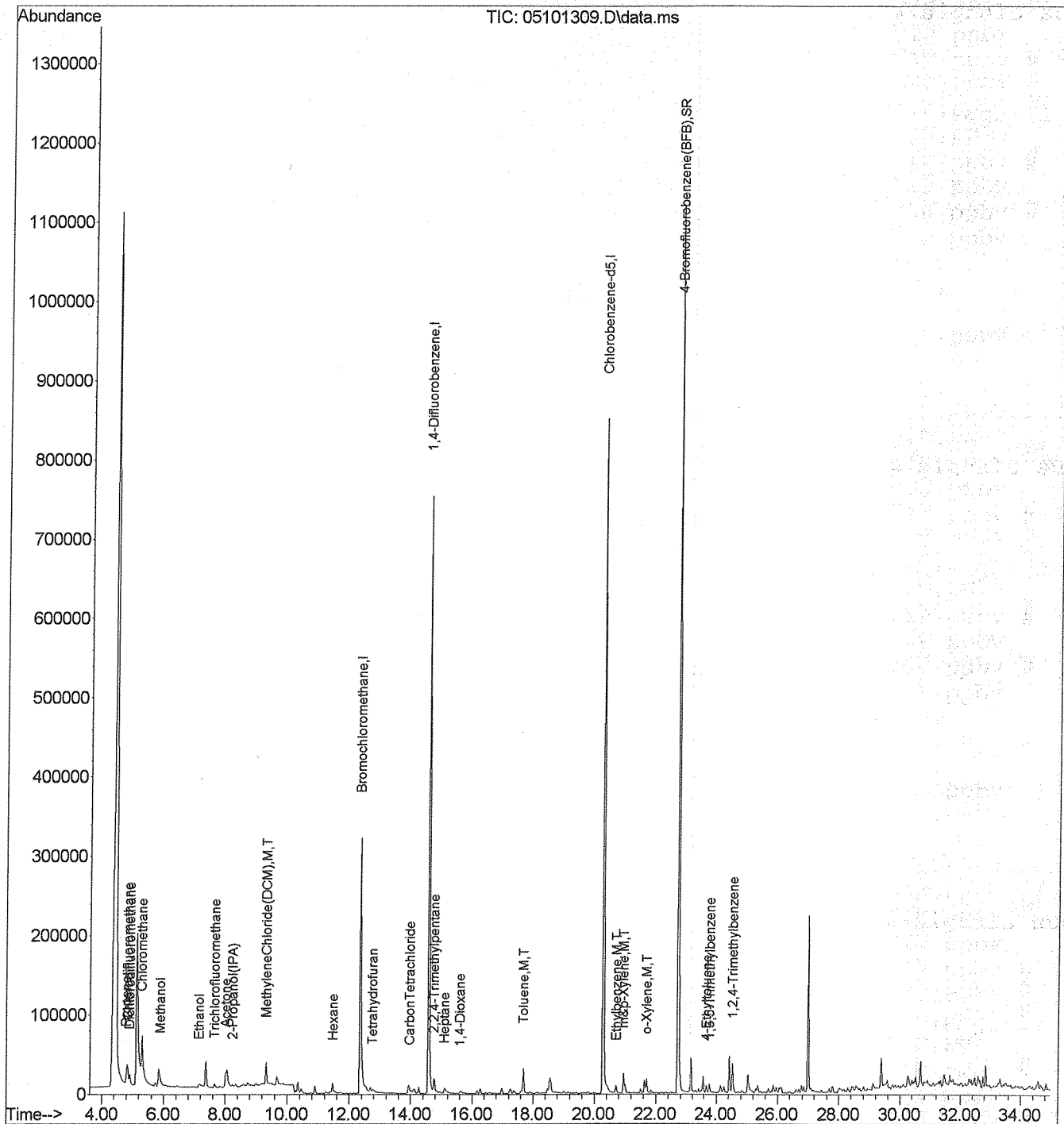
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.760	72	1870	0.19	ppbv #	87
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	0.000		0	N.D.	d	
38) CarbonTetrachloride	13.973	117	2252	0.05	ppbv	98
39) Cyclohexane	14.026	69	319	N.D.		
40) 1,2-Dichloropropane	0.000		0	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.613	88	4438	0.27	ppbv	95
43) Trichloroethene (TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	23796	0.20	ppbv	95
45) Heptane	15.096	71	1712	0.08	ppbv #	75
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	109	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	34350	0.43	ppbv	99
51) 2-Hexanone (MBK)	0.000		0	N.D.		
52) Dibromochloromethane	19.019	129	674	N.D.		
53) 1,2-Dibromoethane	19.251	107	107	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	877	N.D.		
56) Chlorobenzene	0.000		0	N.D.		
57) Ethylbenzene	20.713	91	10107	0.10	ppbv	98
58) m&p-Xylene	20.945	106	15741	0.37	ppbv #	96
59) Bromoform	21.837	173	1542	N.D.		
60) Styrene	21.694	104	589	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	14426	0.18	ppbv #	96
64) 4-Ethyltoluene	23.691	120	3119	0.09	ppbv	83
65) 1,3,5-Trimethylbenzene	23.780	120	4431	0.09	ppbv #	96
66) 1,2,4-Trimethylbenzene	24.529	120	15163	0.31	ppbv	98
67) BenzylChloride (a-Chlor...	25.118	91	150	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	639	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	1012	N.D.		
70) 1,2-Dichlorobenzene	25.849	146	538	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	1671	N.D.		
72) Hexachlorobutadiene	30.075	225	144	N.D.		

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

*Handwritten signature and date: PS/10/13*

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101309.D  
 Acq On : 10 May 2013 14:54  
 Operator : JJG  
 Sample : 130559-62861 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 10 15:38:02 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



*Handwritten signature/initials*  
 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101310.D  
 Acq On : 10 May 2013 15:42  
 Operator : JJG  
 Sample : 130559-62870 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 19:19:11 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	12.350	128	149475	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	837866	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	783482	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.711	174	502681	10.87	ppbv	0.00

Spiked Amount 10.000 Recovery = 108.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.836	51	4913	0.16	ppbv #	93
3) Propene	4.781	42	40076	4.68	ppbv	95
4) Dichlorodifluoromethane	4.908	85	15579	0.32	ppbv #	96
5) Chloromethane	5.288	52	1570	0.29	ppbv #	52
6) Dichlorotetrafluoroethane	5.324	135	260	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.885	31	25440	4.66	ppbv	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D.		0.00
11) Chloroethane	0.000		0	N.D.		0.00
12) Dichlorofluoromethane	0.000		0	N.D.		0.00
13) Ethanol	7.152	45	11595	1.56	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	8.002	58	14669	1.57	ppbv #	96
16) Trichlorofluoromethane	7.659	103	3790	0.14	ppbv #	90
17) 2-Propanol (IPA)	0.000		0	N.D.		
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		
20) MethyleneChloride (DCM)	9.323	84	13372	0.79	ppbv	94
21) AllylChloride	0.000		0	N.D.		95
22) CarbonDisulfide	0.000		0	N.D.		96
23) Trichlorotrifluoroethane	0.000		0	N.D.		52
24) trans-1,2-Dichloroethene	0.000		0	N.D.		97
25) 1,1-Dichloroethane	0.000		0	N.D.		98
26) MethylTertButylEther (M...)	0.000		0	N.D.		99
27) VinylAcetate	0.000		0	N.D.		0.00
28) 2-Butanone (MEK)	0.000		0	N.D.		0.00
29) cis-1,2-Dichloroethene	0.000		0	N.D.		0.00
30) Hexane	11.477	86	1256	0.30	ppbv #	66
31) Chloroform	12.493	83	622	N.D.		
32) EthylAcetate	0.000		0	N.D.		



Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101310.D  
 Acq On : 10 May 2013 15:42  
 Operator : JJG  
 Sample : 130559-62870 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 5 Sample Multiplier: 1

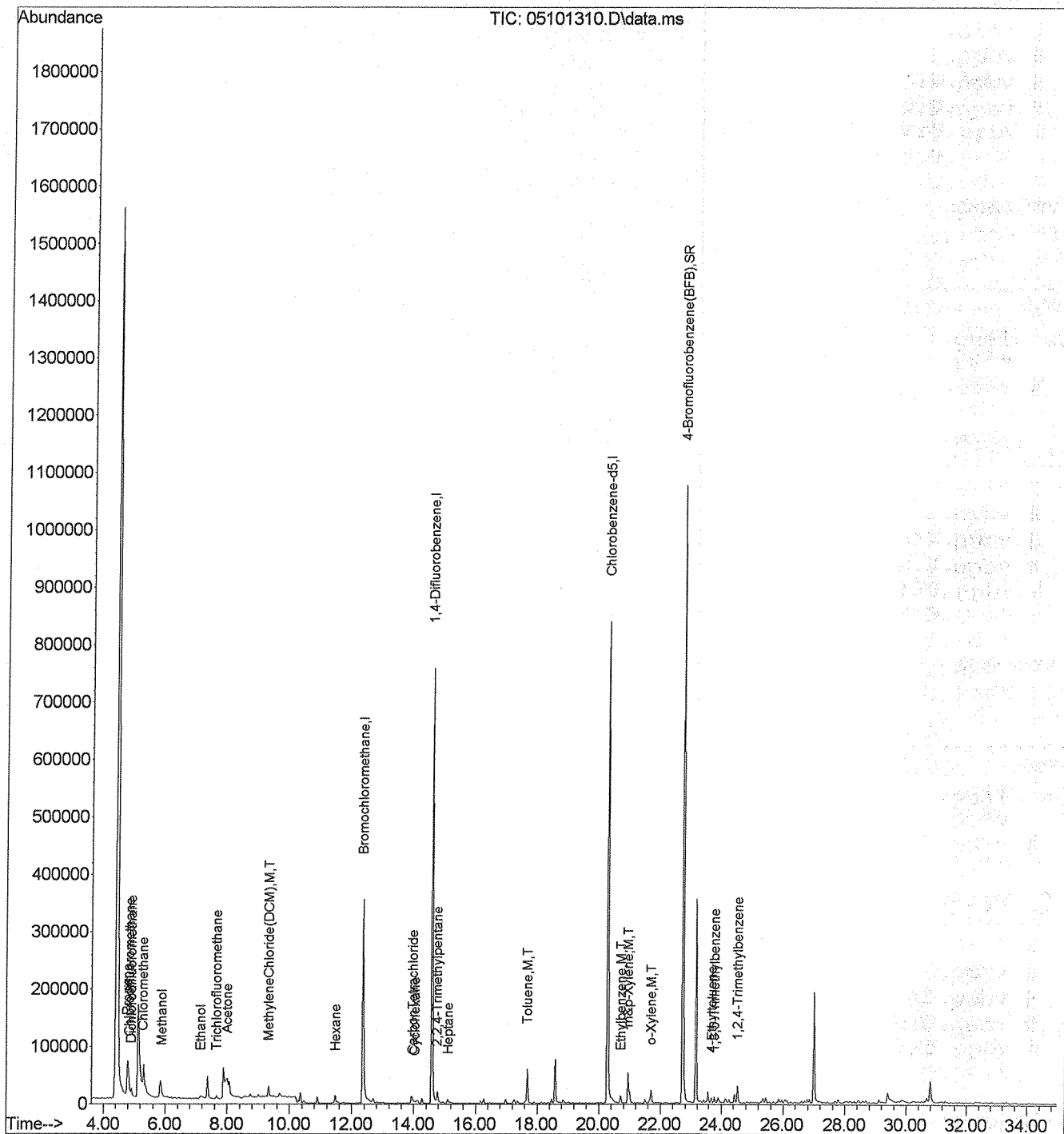
Quant Time: May 10 19:19:11 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

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	13.973	117	2184	0.05	ppbv	91
39) Cyclohexane	14.026	69	468	0.05	ppbv #	18
40) 1,2-Dichloropropane	15.400	63	131	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	14.758	57	25618	0.22	ppbv #	96
45) Heptane	15.114	71	1944	0.09	ppbv	87
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	567	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	63214m	0.79	ppbv Dev (M.I.T)	
51) 2-Hexanone (MBK)	0.000		0	N.D.		
52) Dibromochloromethane	19.019	129	168	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	449	N.D.		
56) Chlorobenzene	20.285	114	154	N.D.		
57) Ethylbenzene	20.713	91	13879	0.13	ppbv	98
58) m&p-Xylene	20.945	106	30845	0.74	ppbv #	90
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.676	104	1102	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	19158	0.24	ppbv #	97
64) 4-Ethyltoluene	23.691	120	2460	0.07	ppbv #	93
65) 1,3,5-Trimethylbenzene	23.781	120	4288	0.09	ppbv #	90
66) 1,2,4-Trimethylbenzene	24.529	120	12450	0.26	ppbv #	92
67) BenzylChloride (a-Chlor...	25.118	91	324	N.D.		
68) 1,3-Dichlorobenzene	0.000		0	N.D.		
69) 1,4-Dichlorobenzene	25.296	146	407	N.D.		
70) 1,2-Dichlorobenzene	0.000		0	N.D.		
71) 1,2,4-Trichlorobenzene	29.469	180	679	N.D.		
72) Hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101310.D  
 Acq On : 10 May 2013 15:42  
 Operator : JJG  
 Sample : 130559-62870 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 19:19:11 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101311.D  
 Acq On : 10 May 2013 16:30  
 Operator : JJG  
 Sample : 130559-62879 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 19:20:53 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	152102	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	842667	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	788833	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.711	174	503011	10.81	ppbv	0.00

Spiked Amount 10.000 Recovery = 108.10%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue
2) Chlorodifluoromethane	4.817	51	7864	0.25	ppbv	#	97
3) Propene	4.781	42	4106	0.47	ppbv	#	72
4) Dichlorodifluoromethane	4.908	85	14942	0.30	ppbv	#	99
5) Chloromethane	5.288	52	1282	0.23	ppbv	#	51
6) Dichlorotetrafluoroethane	5.324	135	170	N.D.			
7) VinylChloride	0.000		0	N.D.			
8) Methanol	5.867	31	51435	9.73	ppbv		
9) 1,3-Butadiene	0.000		0	N.D.			
10) Bromomethane	0.000		0	N.D.			
11) Chloroethane	6.699	66	109	N.D.			
12) Dichlorofluoromethane	0.000		0	N.D.			
13) Ethanol	7.116	45	18882	2.49	ppbv		
14) VinylBromide	0.000		0	N.D.			
15) Acetone	8.002	58	21798	2.30	ppbv		
16) Trichlorofluoromethane	7.659	103	4369	0.15	ppbv	#	91
17) 2-Propanol (IPA)	8.238	45	13594	0.42	ppbv		
18) Acrylonitrile	9.016	52	465	N.D.			
19) 1,1-Dichloroethene	0.000		0	N.D.			
20) MethyleneChloride (DCM)	0.000		0	N.D.			
21) AllylChloride	0.000		0	N.D.			
22) CarbonDisulfide	9.486	76	71941	1.22	ppbv		
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	10.888	43	1758	N.D.			
28) 2-Butanone (MEK)	0.000		0	N.D.			
29) cis-1,2-Dichloroethene	0.000		0	N.D.			
30) Hexane	11.459	86	1170	0.27	ppbv		83
31) Chloroform	12.493	83	696	N.D.			
32) EthylAcetate	12.101	43	1625	N.D.			

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101311.D  
 Acq On : 10 May 2013 16:30  
 Operator : JJG  
 Sample : 130559-62879 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 19:20:53 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

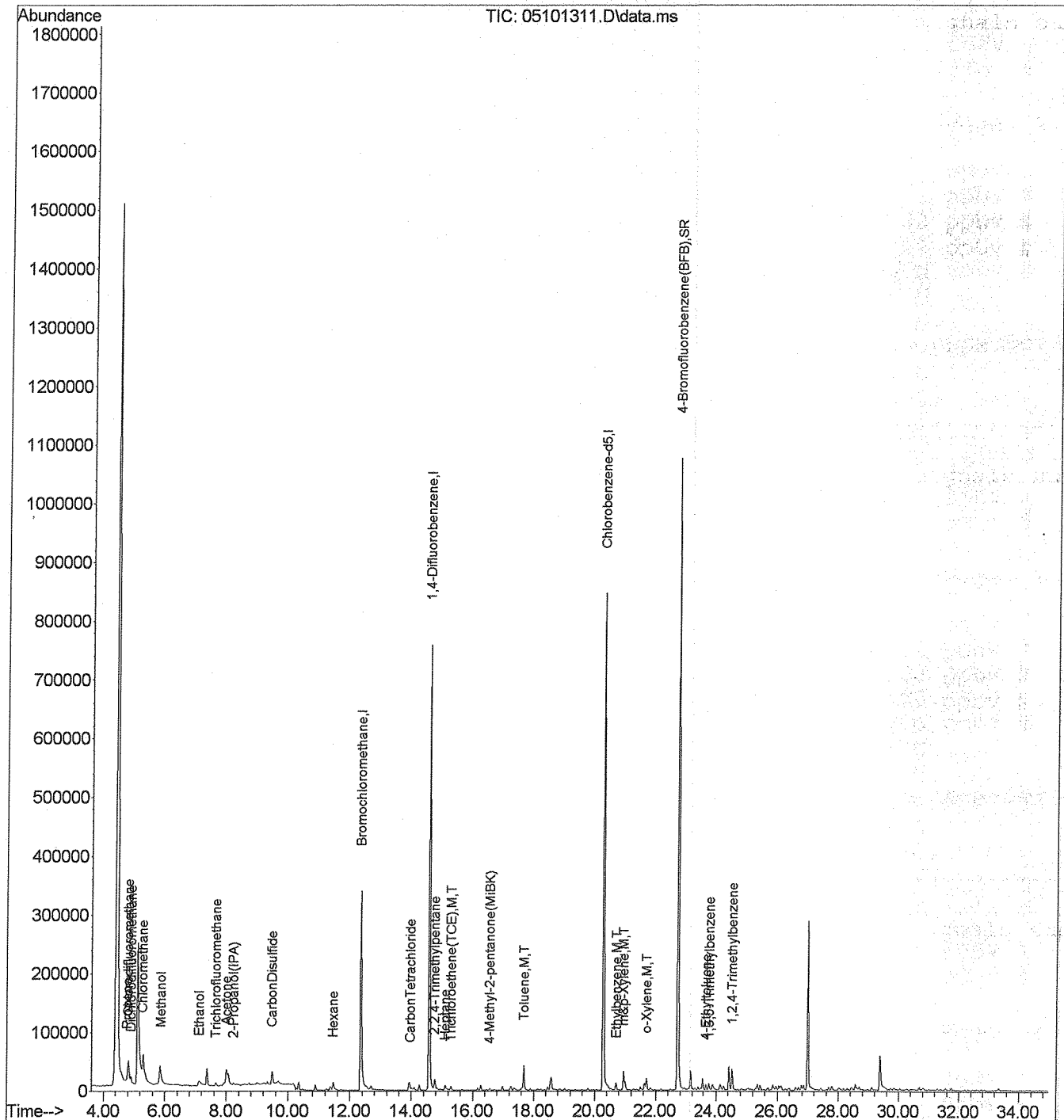
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	0.000		0	N.D.		
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	0.000		0	N.D.	d	
38) CarbonTetrachloride	13.973	117	2234	0.05	ppbv #	98
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	0.000		0	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	15.293	130	3173	0.11	ppbv	93
44) 2,2,4-Trimethylpentane	14.758	57	22922	0.19	ppbv #	94
45) Heptane	15.096	71	2243	0.11	ppbv #	63
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.559	58	1371	0.05	ppbv #	70
48) trans-1,3-Dichloropropene	17.682	75	123	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	44269m	0.55	ppbv	Dev (Min)
51) 2-Hexanone (MBK)	0.000		0	N.D.		
52) Dibromochloromethane	19.019	129	448	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	716	N.D.		
56) Chlorobenzene	20.285	114	244	N.D.		
57) Ethylbenzene	20.713	91	13085	0.12	ppbv #	97
58) m&p-Xylene	20.945	106	19842	0.47	ppbv #	91
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	899	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	16822	0.21	ppbv	97
64) 4-Ethyltoluene	23.691	120	2649	0.08	ppbv #	98
65) 1,3,5-Trimethylbenzene	23.780	120	3968	0.08	ppbv #	88
66) 1,2,4-Trimethylbenzene	24.529	120	14258	0.29	ppbv #	86
67) BenzylChloride (a-Chlor...)	25.118	91	234	N.D.	ppbv #	70
68) 1,3-Dichlorobenzene	0.000		0	N.D.		
69) 1,4-Dichlorobenzene	25.296	146	333	N.D.		
70) 1,2-Dichlorobenzene	0.000		0	N.D.	ppbv #	97
71) 1,2,4-Trichlorobenzene	29.451	180	350	N.D.		
72) Hexachlorobutadiene	0.000		0	N.D.		

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

*[Handwritten signature]*  
 ppbv # 98

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101311.D  
 Acq On : 10 May 2013 16:30  
 Operator : JJG  
 Sample : 130559-62879 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 19:20:53 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



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Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101312.D  
 Acq On : 10 May 2013 17:17  
 Operator : JJG  
 Sample : 130559-62888 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 10 19:23:52 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	12.350	128	152345	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	818483	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	783435	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.711	174	505379	10.93	ppbv	0.00

Spiked Amount 10.000 Recovery = 109.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)	Qvalue
2) Chlorodifluoromethane	4.835	51	7502	0.23	ppbv	#	95
3) Propene	4.799	42	57335	6.57	ppbv	#	86
4) Dichlorodifluoromethane	4.908	85	15140	0.31	ppbv	#	98
5) Chloromethane	5.288	52	1402	0.25	ppbv	#	16
6) Dichlorotetrafluoroethane	5.324	135	304	N.D.			
7) VinylChloride	0.000		0	N.D.			
8) Methanol	5.849	31	96984m	20.60	ppbv		
9) 1,3-Butadiene	0.000		0	N.D.	d		
10) Bromomethane	0.000		0	N.D.	d		0.00
11) Chloroethane	0.000		0	N.D.	d		0.00
12) Dichlorofluoromethane	0.000		0	N.D.	d		0.00
13) Ethanol	7.079	45	35284m	4.65	ppbv		
14) VinylBromide	0.000		0	N.D.			
15) Acetone	7.984	58	45532m	4.80	ppbv		0.00
16) Trichlorofluoromethane	7.659	103	4120	0.15	ppbv		83
17) 2-Propanol (IPA)	8.201	45	28656m	0.89	ppbv		
18) Acrylonitrile	0.000		0	N.D.			
19) 1,1-Dichloroethene	0.000		0	N.D.			Qvalue
20) MethyleneChloride (DCM)	9.323	84	10286	0.60	ppbv	#	96
21) AllylChloride	0.000		0	N.D.	d		86
22) CarbonDisulfide	0.000		0	N.D.	d		98
23) Trichlorotrifluoroethane	8.998	103	975	N.D.	ppbv	#	16
24) trans-1,2-Dichloroethene	0.000		0	N.D.			
25) 1,1-Dichloroethane	0.000		0	N.D.			Dev (Min)
26) MethylTertButylEther (M...)	10.478	73	882	N.D.	ppbv		
27) VinylAcetate	0.000		0	N.D.	d		
28) 2-Butanone (MEK)	11.441	72	18424m	1.97	ppbv		0.00
29) cis-1,2-Dichloroethene	0.000		0	N.D.			0.00
30) Hexane	11.476	86	1623	0.38	ppbv		80
31) Chloroform	12.511	83	733	N.D.			
32) EthylAcetate	0.000		0	N.D.	d		

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101312.D  
 Acq On : 10 May 2013 17:17  
 Operator : JJG  
 Sample : 130559-62888 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 7 Sample Multiplier: 1

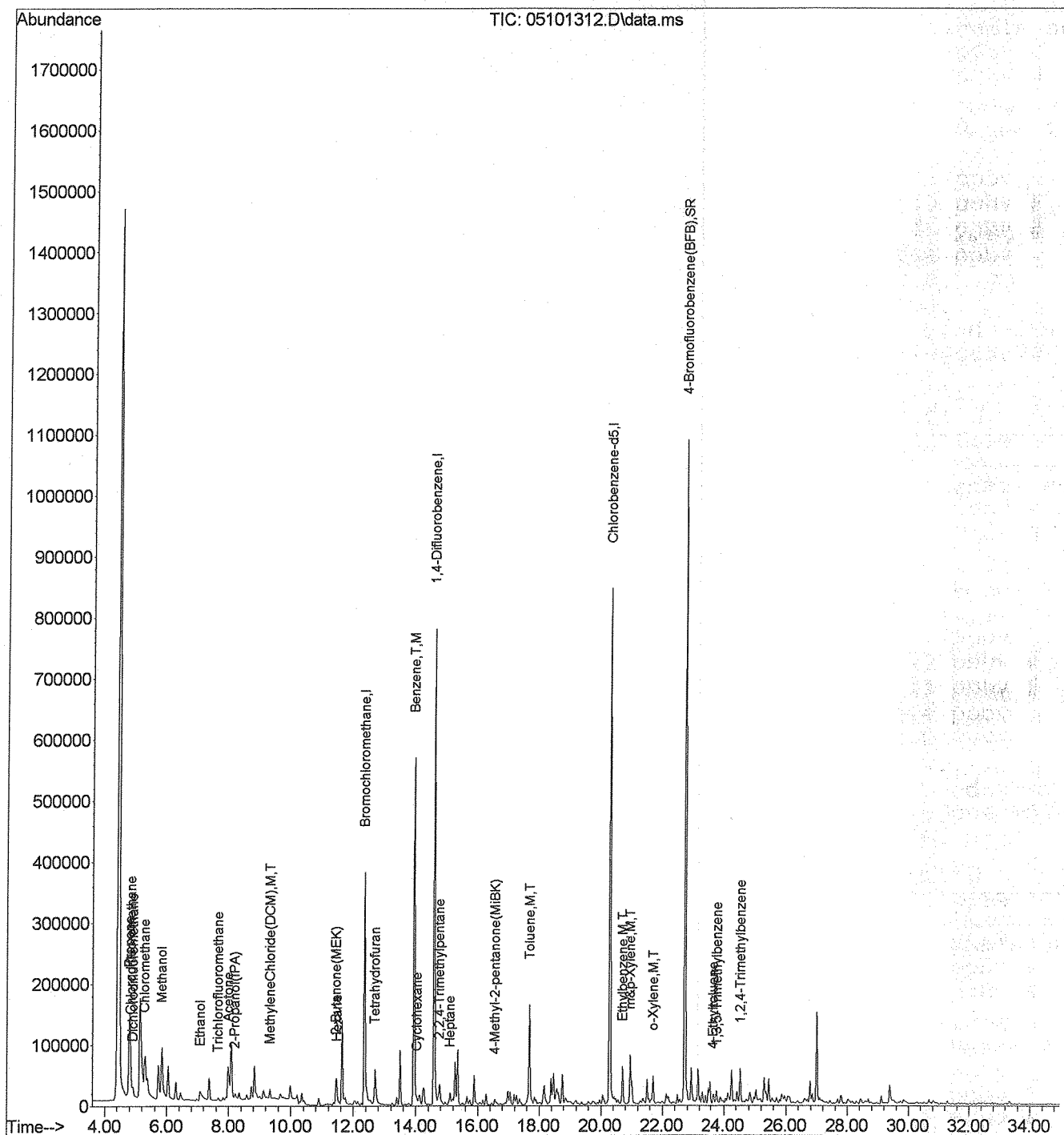
Quant Time: May 10 19:23:52 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.689	72	18269	1.88	ppbv #	62
34) 1,2-Dichloroethane	13.616	62	118	N.D.		
35) 1,1,1-Trichloroethane	13.331	97	277	N.D.		
37) Benzene	13.937	78	653732	10.08	ppbv	98
38) CarbonTetrachloride	0.000		0	N.D.	d	
39) Cyclohexane	14.026	69	1025	0.11	ppbv #	2
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)	15.292	130	292	N.D.		
44) 2,2,4-Trimethylpentane	14.758	57	39793	0.35	ppbv #	96
45) Heptane	15.096	71	5422	0.26	ppbv #	82
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...	16.559	58	3024	0.12	ppbv	84
48) trans-1,3-Dichloropropene	17.682	75	1284	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.	d	
50) Toluene	17.682	91	167290	2.13	ppbv	98
51) 2-Hexanone (MBK)	0.000		0	N.D.	d	
52) Dibromochloromethane	19.019	129	846	N.D.	ppbv #	62
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	1100	N.D.		
56) Chlorobenzene	20.357	114	556	N.D.	ppbv	
57) Ethylbenzene	20.696	91	55155	0.53	ppbv	99
58) m&p-Xylene	20.945	106	48367	1.16	ppbv #	87
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	2177	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	34804	0.43	ppbv	98
64) 4-Ethyltoluene	23.673	120	4331	0.13	ppbv #	95
65) 1,3,5-Trimethylbenzene	23.780	120	6266	0.13	ppbv #	87
66) 1,2,4-Trimethylbenzene	24.529	120	21517	0.44	ppbv	93
67) BenzylChloride (a-Chlor...	25.118	91	1201	N.D.	ppbv	84
68) 1,3-Dichlorobenzene	25.064	146	126	N.D.		
69) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
70) 1,2-Dichlorobenzene	0.000		0	N.D.	ppbv	98
71) 1,2,4-Trichlorobenzene	29.451	180	517	N.D.	d	
72) Hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101312.D  
 Acq On : 10 May 2013 17:17  
 Operator : JJG  
 Sample : 130559-62888 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 10 19:23:52 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



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Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101313.D  
 Acq On : 10 May 2013 18:05  
 Operator : JJG  
 Sample : 130559-62897 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 10 19:30:02 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	12.350	128	151546	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	826710	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	779686	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	501658	10.90	ppbv	0.00

Spiked Amount 10.000 Recovery = 109.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)	Qvalue
2) Chlorodifluoromethane	4.817	51	6824	0.21	ppbv	#	98
3) Propene	4.781	42	17627	2.03	ppbv		88
4) Dichlorodifluoromethane	4.908	85	17618	0.36	ppbv		99
5) Chloromethane	5.288	52	1478	0.27	ppbv	#	35
6) Dichlorotetrafluoroethane	5.324	135	278	N.D.			
7) VinylChloride	0.000		0	N.D.		Dev (Min)	
8) Methanol	5.831	31	115446	26.41	ppbv		
9) 1,3-Butadiene	0.000		0	N.D.	d		
10) Bromomethane	0.000		0	N.D.	ppbv		0.00
11) Chloroethane	0.000		0	N.D.	ppbv		0.00
12) Dichlorofluoromethane	0.000		0	N.D.	ppbv		0.00
13) Ethanol	7.079	45	29596	3.92	ppbv		
14) VinylBromide	0.000		0	N.D.			
15) Acetone	7.984	58	33852	3.58	ppbv		0.00
16) Trichlorofluoromethane	7.658	103	4767	0.17	ppbv	#	98
17) 2-Propanol (IPA)	8.201	45	34867	1.08	ppbv		0.00
18) Acrylonitrile	0.000		0	N.D.			
19) 1,1-Dichloroethene	0.000		0	N.D.			Qvalue
20) MethyleneChloride (DCM)	9.323	84	11535	0.68	ppbv	#	96
21) AllylChloride	9.323	39	240	N.D.	ppbv		88
22) CarbonDisulfide	0.000		0	N.D.	ppbv		99
23) Trichlorotrifluoroethane	0.000		0	N.D.	ppbv	#	35
24) trans-1,2-Dichloroethene	0.000		0	N.D.			
25) 1,1-Dichloroethane	0.000		0	N.D.		Dev (Min)	
26) MethylTertButylEther (M...)	10.496	73	124	N.D.	ppbv		
27) VinylAcetate	0.000		0	N.D.	d		
28) 2-Butanone (MEK)	11.458	72	12025	1.29	ppbv	#	26
29) cis-1,2-Dichloroethene	0.000		0	N.D.			0.00
30) Hexane	11.458	86	1139	0.27	ppbv	#	14
31) Chloroform	12.493	83	670	N.D.	ppbv		
32) EthylAcetate	0.000		0	N.D.	d		

*JJG*  
 5/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101313.D  
 Acq On : 10 May 2013 18:05  
 Operator : JJG  
 Sample : 130559-62897 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 8 Sample Multiplier: 1

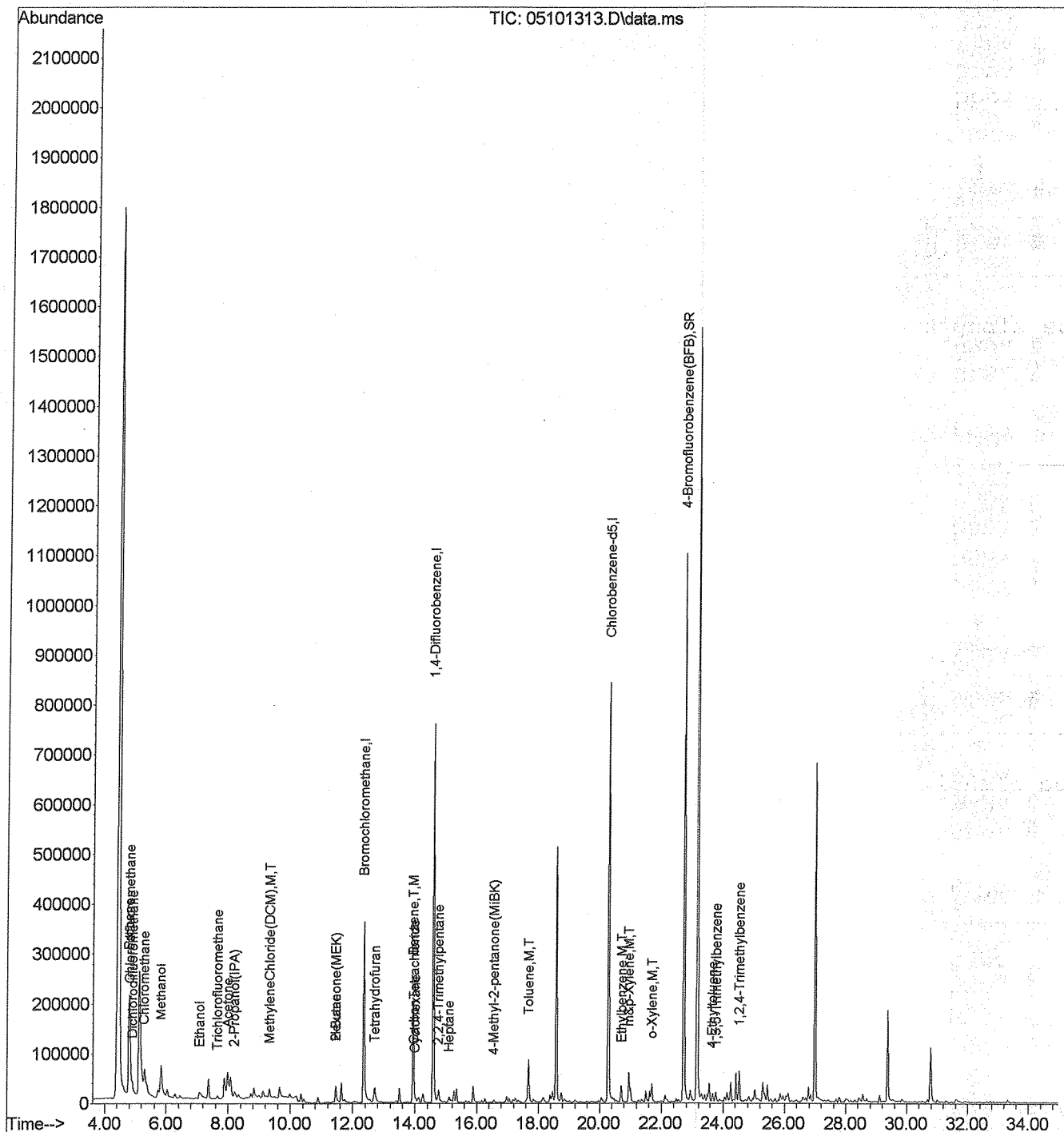
Quant Time: May 10 19:30:02 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.707	72	9612	1.00	ppbv #	71
34) 1,2-Dichloroethane	13.616	62	111	N.D.		
35) 1,1,1-Trichloroethane	13.331	97	242	N.D.		
37) Benzene	13.937	78	230815	3.52	ppbv	98
38) CarbonTetrachloride	13.973	117	2573	0.06	ppbv #	92
39) Cyclohexane	14.008	69	465	0.05	ppbv #	1
40) 1,2-Dichloropropane	15.346	63	503	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	27460	0.24	ppbv #	94
45) Heptane	15.096	71	2979	0.14	ppbv #	71
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.558	58	1604	0.07	ppbv #	73
48) trans-1,3-Dichloropropene	17.682	75	1012	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.	d	
50) Toluene	17.682	91	90514	1.14	ppbv	98
51) 2-Hexanone (MBK)	0.000		0	N.D.	d	
52) Dibromochloromethane	19.019	129	644	N.D.	ppbv #	71
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	767	N.D.		
56) Chlorobenzene	20.357	114	116	N.D.	ppbv	98
57) Ethylbenzene	20.713	91	34254	0.33	ppbv #	98
58) m&p-Xylene	20.945	106	36111	0.87	ppbv #	95
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	1763	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	29678	0.37	ppbv	97
64) 4-Ethyltoluene	23.673	120	4688	0.14	ppbv	95
65) 1,3,5-Trimethylbenzene	23.780	120	6876	0.14	ppbv #	96
66) 1,2,4-Trimethylbenzene	24.529	120	23152	0.48	ppbv	94
67) BenzylChloride (a-Chlor...)	25.100	91	751	N.D.		73
68) 1,3-Dichlorobenzene	0.000		0	N.D.		
69) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
70) 1,2-Dichlorobenzene	0.000		0	N.D.	ppbv	98
71) 1,2,4-Trichlorobenzene	29.451	180	377	N.D.		74
72) Hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101313.D  
 Acq On : 10 May 2013 18:05  
 Operator : JJG  
 Sample : 130559-62897 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 10 19:30:02 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101314.D  
 Acq On : 10 May 2013 18:52  
 Operator : JJG  
 Sample : 130559-62906 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 10 19:31:47 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	12.350	128	153376	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	856276	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	789275	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.711	174	502001	10.78	ppbv	0.00

Spiked Amount 10.000 Recovery = 107.80%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.817	51	8290	0.26	ppbv #	98
3) Propene	4.799	42	4520	0.51	ppbv #	58
4) Dichlorodifluoromethane	4.908	85	17670	0.36	ppbv	99
5) Chloromethane	5.288	52	1785	0.32	ppbv #	27
6) Dichlorotetrafluoroethane	5.324	135	431	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.849	31	61877	11.87	ppbv	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D.		
11) Chloroethane	0.000		0	N.D.		
12) Dichlorofluoromethane	0.000		0	N.D.		
13) Ethanol	7.079	45	27339	3.58	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	7.966	58	23314	2.44	ppbv #	90
16) Trichlorofluoromethane	7.659	103	5394	0.19	ppbv	94
17) 2-Propanol (IPA)	8.220	45	16568	0.51	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.		
21) AllylChloride	9.323	39	104	N.D.		
22) CarbonDisulfide	0.000		0	N.D.		
23) Trichlorotrifluoroethane	0.000		0	N.D.		
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylEther (M...)	0.000		0	N.D.		
27) VinylAcetate	10.888	43	880	N.D.		
28) 2-Butanone (MEK)	11.476	72	3801	0.40	ppbv #	4
29) cis-1,2-Dichloroethene	0.000		0	N.D.		
30) Hexane	0.000		0	N.D.		
31) Chloroform	12.511	83	350	N.D.		
32) EthylAcetate	0.000		0	N.D.		

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101314.D  
 Acq On : 10 May 2013 18:52  
 Operator : JJG  
 Sample : 130559-62906 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 10 19:31:47 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

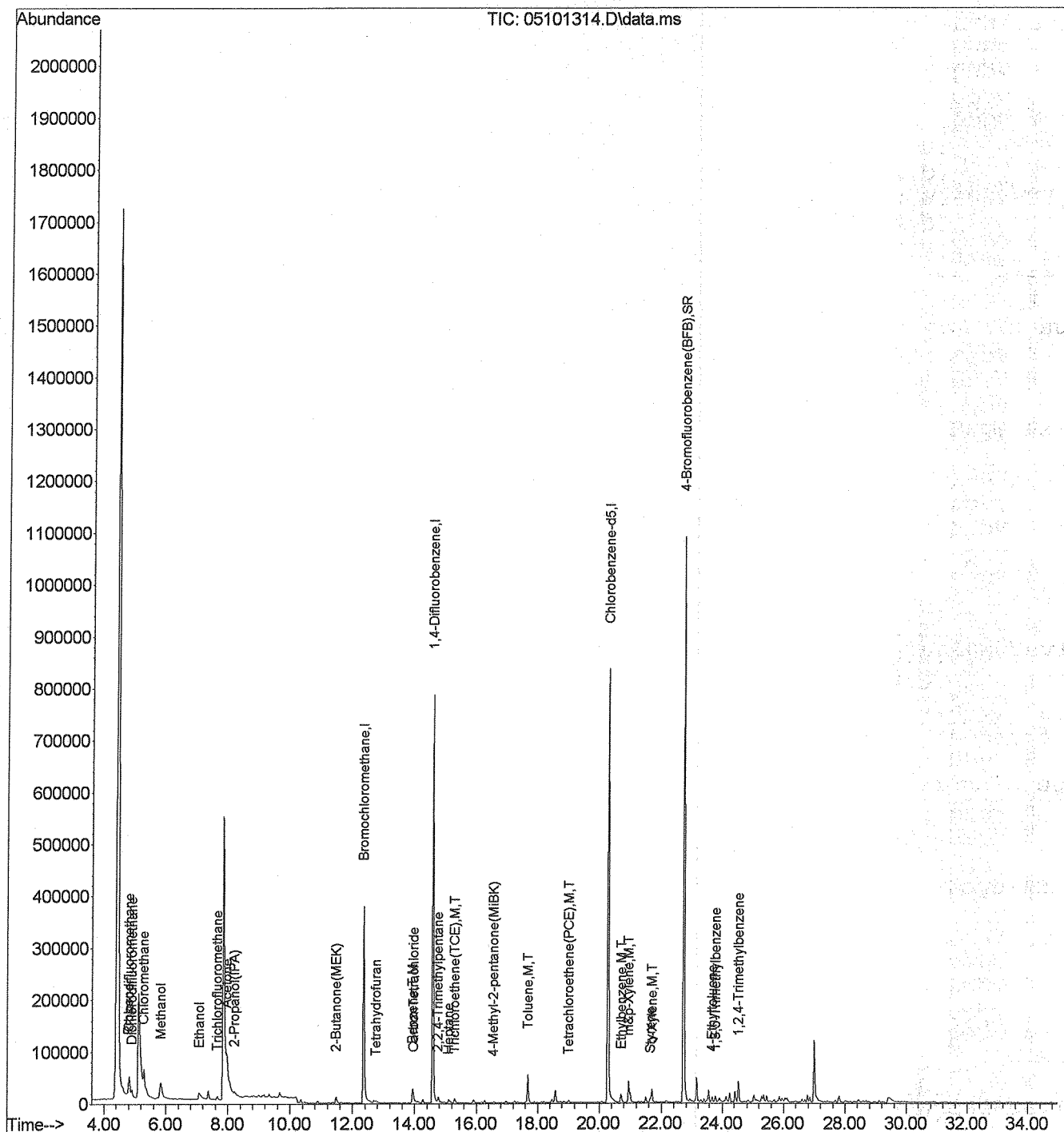
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.760	72	1131	0.12	ppbv #	82
34) 1,2-Dichloroethane	13.616	62	116	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	28500	0.42	ppbv	98
38) CarbonTetrachloride	13.973	117	3924	0.08	ppbv #	90
39) Cyclohexane	14.026	69	134	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)	15.293	130	4088	0.13	ppbv	91
44) 2,2,4-Trimethylpentane	14.758	57	13099	0.11	ppbv	97
45) Heptane	15.096	71	1766	0.08	ppbv #	63
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.559	58	1057	0.04	ppbv #	84
48) trans-1,3-Dichloropropene	17.682	75	486	N.D.		
49) 1,1,2-Trichloroethane	17.842	97	332	N.D.		
50) Toluene	17.682	91	572050	0.70	ppbv Dev (Min)	
51) 2-Hexanone (MBK)	0.000		0	N.D.		
52) Dibromochloromethane	19.019	129	1387	N.D.	ppbv #	82
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	2068	0.05	ppbv #	89
56) Chlorobenzene	20.285	114	127	N.D.	ppbv	95
57) Ethylbenzene	20.713	91	18261	0.17	ppbv #	98
58) m&p-Xylene	20.945	106	24550	0.58	ppbv #	88
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	3091	0.05	ppbv #	81
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	21774	0.27	ppbv	95
64) 4-Ethyltoluene	23.691	120	3257	0.09	ppbv	93
65) 1,3,5-Trimethylbenzene	23.780	120	4657	0.09	ppbv #	96
66) 1,2,4-Trimethylbenzene	24.529	120	16207	0.33	ppbv	92
67) BenzylChloride (a-Chlor...)	25.118	91	385	N.D.	ppbv #	81
68) 1,3-Dichlorobenzene	0.000		0	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	1626	N.D.		
70) 1,2-Dichlorobenzene	0.000		0	N.D.	ppbv Dev (Min)	
71) 1,2,4-Trichlorobenzene	29.451	180	321	N.D.		
72) Hexachlorobutadiene	0.000		0	N.D.		

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

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Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101314.D  
 Acq On : 10 May 2013 18:52  
 Operator : JJG  
 Sample : 130559-62906 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 10 19:31:47 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



*Handwritten signature/initials*

**TO-15  
RAW QC  
& ICAL  
SUMMARY**

# MS #3 Instrument Logbook

Sequence Name: C:\msdchem\1\sequence\2013\051013.S

Comment: GCMS-03

Operator: JJG

Data Path: C:\MSDCHEM\1\MS03\2013\051013\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Line	Sample Name/Misc Info
1) Sample	1 05101301 TO15-5MS TO15 BFB 051013
2) Sample	1 05101302 TO15-5MS TO15 CCV 051013
3) Sample	1 05101303 TO15-5MS TO15 LCSD 051013
4) Sample	1 05101304 TO15-5MS TO15 MB 051013
5) Sample	2 05101305 TO15-5MS 130559-62851 x1
6) Sample	3 05101306 TO15-5MS 130559-62852 x1
7) Sample	3 05101307 TO15-5MS 130559-62852 x1 dp
8) Sample	3 05101308 TO15-5MS 130559-62852 x5
9) Sample	4 05101309 TO15-5MS 130559-62861 x1
10) Sample	5 05101310 TO15-5MS 130559-62870 x1
11) Sample	6 05101311 TO15-5MS 130559-62879 x1
12) Sample	7 05101312 TO15-5MS 130559-62888 x1
13) Sample	8 05101313 TO15-5MS 130559-62897 x1
14) Sample	9 05101314 TO15-5MS 130559-62906 x1
15) Sample	1 05101315 TO15-5MS Flow Check#051013-01
16) Sample	2 05101316 TO15-5MS Can Check#000704
17) Sample	3 05101317 TO15-5MS Can Check#000705
18) Sample	4 05101318 TO15-5MS Can Check#000706
19) Sample	5 05101319 TO15-5MS Can Check#000716
20) Sample	6 05101320 TO15-5MS Can Check#000687
21) Sample	7 05101321 TO15-5MS Can Check#000783
22) Sample	8 05101322 TO15-5MS Can Check#000750
23) Sample	9 05101323 TO15-5MS Can Check#000397
24) Sample	10 05101324 TO15-5MS Can Check#000778
25) Sample	11 05101325 TO15-5MS Can Check#000781
26) Sample	12 05101326 TO15-5MS Can Check#000776
27) Sample	13 05101327 TO15-5MS Can Check#000780
28) Sample	14 05101328 TO15-5MS Can Check#000788
29) Sample	15 05101329 TO15-5MS Can Check#000413
30) Sample	16 05101330 TO15-5MS Can Check#000554
31) Sample	1 05101331 TO15-5MS Can Check#000433

Comments: \_\_\_\_\_

Analyst: James Ford

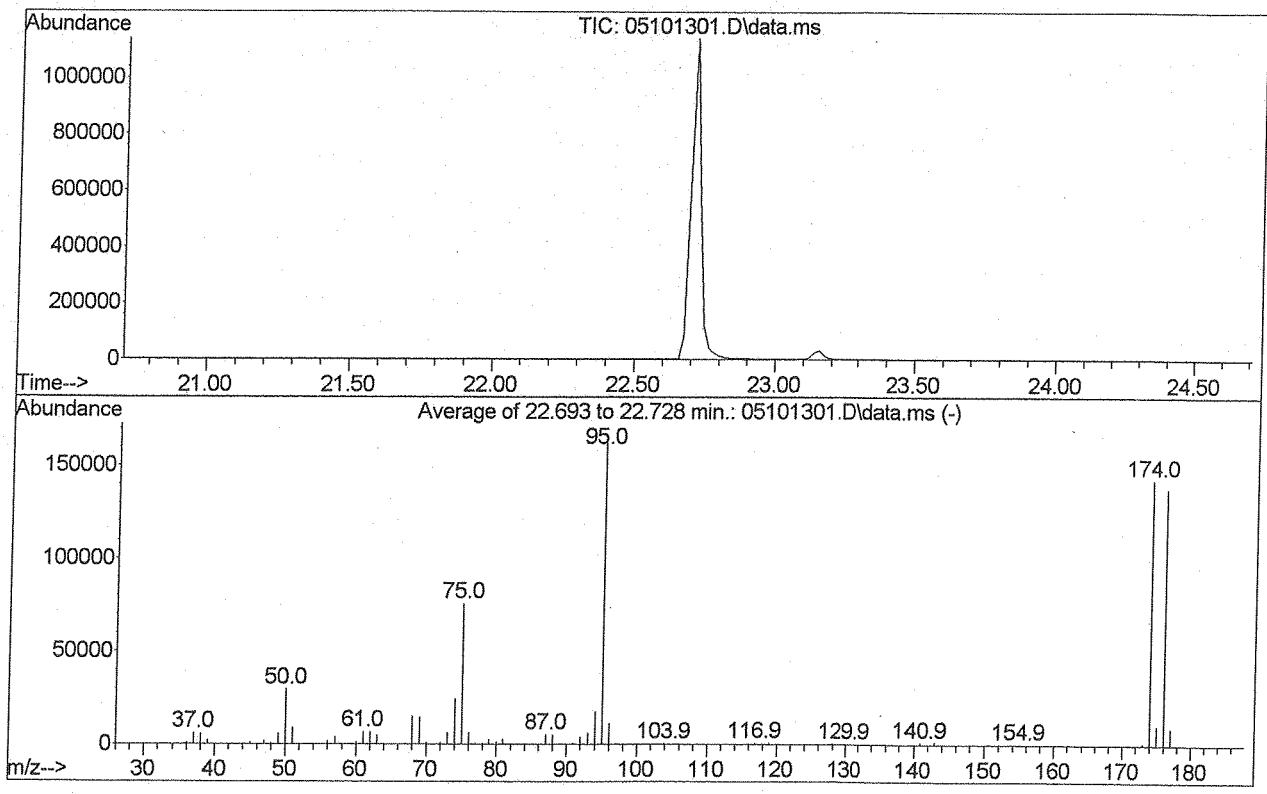
Date: 05/01/13



Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101301.D  
 Acq On : 10 May 2013 8:38 am  
 Operator : JJG  
 Sample : TO15 BFB 051013  
 Misc : IS/Surr: PS082712-02 + 500mL cc#000410  
 ALS Vial : 1 Sample Multiplier: 1

Integration File: PAMS.P

Method : C:\msdchem\1\METHODS\2013\041813.M  
 Title : TO-15/TO-14  
 Last Update : Thu Apr 18 19:34:22 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	18.0	29603	PASS
75	95	30	60	46.1	75685	PASS
95	95	100	100	100.0	164197	PASS
96	95	5	9	6.7	11022	PASS
173	174	0.00	2	0.8	1196	PASS
174	95	50	100	86.8	142480	PASS
175	174	5	9	7.4	10554	PASS
176	174	95	101	96.7	137848	PASS
177	176	5	9	6.6	9164	PASS

Handwritten signature and date: 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101302.D  
 Acq On : 10 May 2013 9:24  
 Operator : JJG  
 Sample : TO15 CCV 051013  
 Misc : IS/Surr: PS082712-02 + Cal: PS040413-01  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 10:27:12 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	156202	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	832551	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	777633	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	489311	10.66	ppbv	0.00

Spiked Amount 10.000 Recovery = 106.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.817	51	332678m	10.16	ppbv	
3) Propene	4.799	42	94648m	10.57	ppbv	
4) Dichlorodifluoromethane	4.908	85	545851m	10.85	ppbv	100
5) Chloromethane	5.306	52	53710m	9.51	ppbv	
6) Dichlorotetrafluoroethane	5.342	135	363076m	10.73	ppbv	89
7) VinylChloride	5.668	62	179586m	9.51	ppbv	
8) Methanol	5.867	31	26089m	4.57	ppbv	
9) 1,3-Butadiene	5.867	54	124684m	10.05	ppbv	
10) Bromomethane	6.446	96	118997m	9.28	ppbv	0.00
11) Chloroethane	6.754	66	28360m	8.72	ppbv	0.00
12) Dichlorofluoromethane	7.025	67	395483m	10.58	ppbv	0.00
13) Ethanol	7.061	45	70076m	9.01	ppbv	
14) VinylBromide	7.260	108	158666m	10.79	ppbv	
15) Acetone	7.966	58	82428m	8.47	ppbv	0.00
16) Trichlorofluoromethane	7.677	103	332877m	11.47	ppbv	99
17) 2-Propanol (IPA)	8.165	45	303000m	9.13	ppbv	0.00
18) Acrylonitrile	8.961	52	144838m	10.15	ppbv	
19) 1,1-Dichloroethene	8.726	96	187648m	10.11	ppbv	Qvalue
20) MethyleneChloride (DCM)	9.323	84	168893m	9.59	ppbv	
21) AllylChloride	9.305	39	170377m	11.31	ppbv	
22) CarbonDisulfide	9.486	76	535642m	8.83	ppbv	0.00
23) Trichlorotrifluoroethane	8.998	103	262180m	10.30	ppbv	98
24) trans-1,2-Dichloroethene	10.424	96	203654m	10.28	ppbv	85
25) 1,1-Dichloroethane	10.906	63	403469m	9.80	ppbv	99
26) MethylTertButylEther (M...)	10.460	73	566847m	11.07	ppbv	97
27) VinylAcetate	10.888	43	501862m	9.91	ppbv	
28) 2-Butanone (MEK)	11.423	72	99184m	10.36	ppbv	0.00
29) cis-1,2-Dichloroethene	11.904	96	218089m	9.93	ppbv	95
30) Hexane	11.476	86	45192m	10.32	ppbv	95
31) Chloroform	12.511	83	470589m	11.12	ppbv	99
32) EthylAcetate	12.029	43	513135m	10.93	ppbv	98

*JJG*  
 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101302.D  
 Acq On : 10 May 2013 9:24  
 Operator : JJG  
 Sample : TO15 CCV 051013  
 Misc : IS/Surr: PS082712-02 + Cal: PS040413-01  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 10:27:12 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

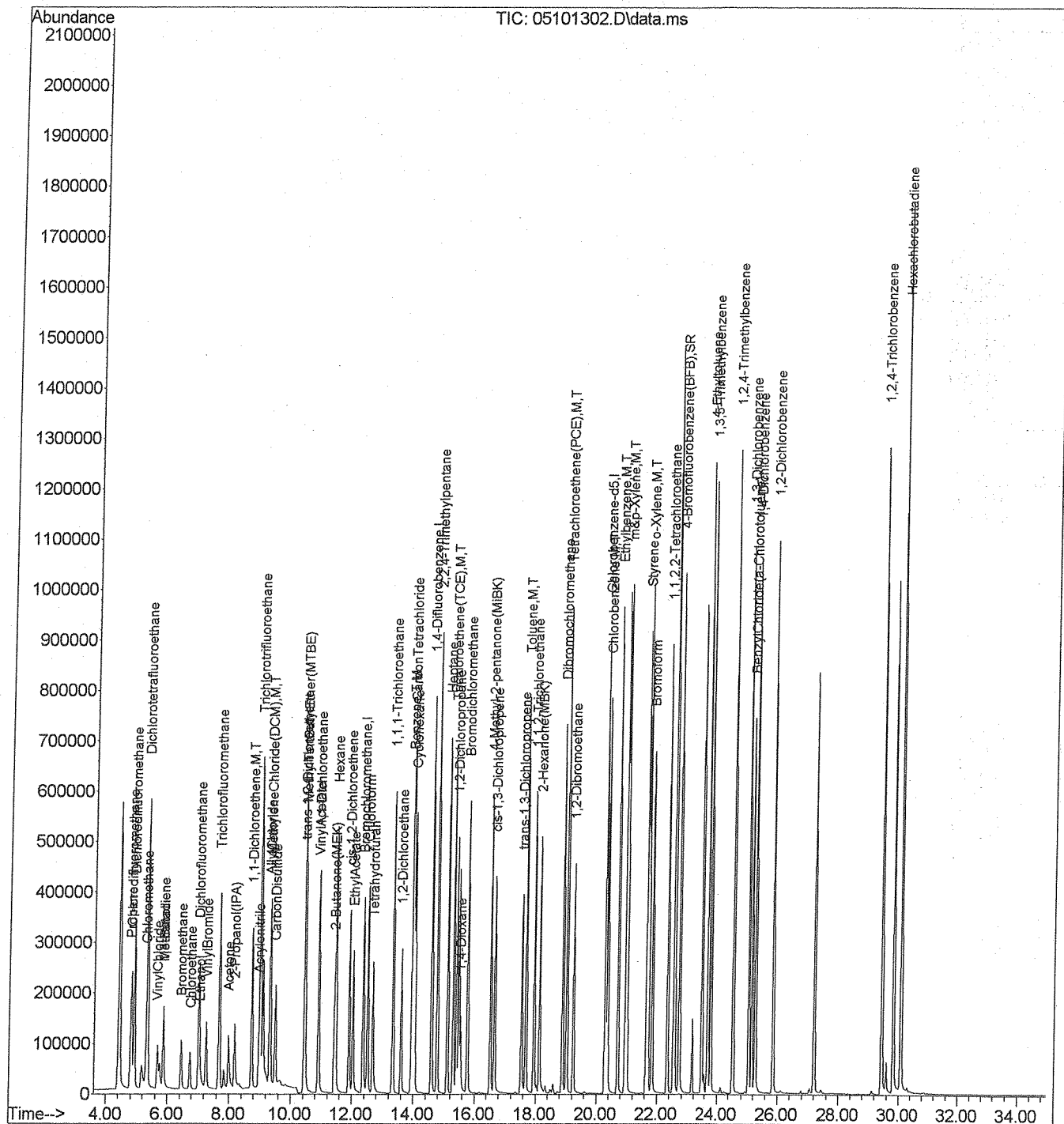
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.671	72	96243m	9.68	ppbv	
34) 1,2-Dichloroethane	13.598	62	350364	11.38	ppbv	97
35) 1,1,1-Trichloroethane	13.331	97	525197	11.82	ppbv	98
37) Benzene	13.937	78	593766	9.00	ppbv	97
38) CarbonTetrachloride	13.973	117	521167	11.24	ppbv	98
39) Cyclohexane	14.026	69	90946	9.35	ppbv	97
40) 1,2-Dichloropropane	15.399	63	251077	9.23	ppbv #	93
41) Bromodichloromethane	15.756	85	332059	10.74	ppbv	99
42) 1,4-Dioxane	15.524	88	147393m	9.13	ppbv	
43) Trichloroethene (TCE)	15.292	130	306346	10.36	ppbv	100
44) 2,2,4-Trimethylpentane	14.775	57	1174617	10.02	ppbv	97
45) Heptane	15.114	71	208937	9.91	ppbv	98
46) cis-1,3-Dichloropropene	16.648	75	390662	10.84	ppbv	93
47) 4-Methyl-2-pentanone (M...)	16.523	58	231987	9.40	ppbv	95
48) trans-1,3-Dichloropropene	17.539	75	354711	10.03	ppbv	98
49) 1,1,2-Trichloroethane	17.932	97	285667	10.00	ppbv	97
50) Toluene	17.682	91	782081	9.78	ppbv	99
51) 2-Hexanone (MBK)	18.128	58	299853	9.86	ppbv	94
52) Dibromochloromethane	18.877	129	584744	11.65	ppbv	99
53) 1,2-Dibromoethane	19.233	107	458809	10.13	ppbv	98
54) Tetrachloroethene (PCE)	19.019	166	433025	10.44	ppbv	99
56) Chlorobenzene	20.357	114	206158	9.86	ppbv	99
57) Ethylbenzene	20.695	91	1054970	10.17	ppbv	99
58) m&p-Xylene	20.999	106	796165	19.25	ppbv	95
59) Bromoform	21.819	173	559034	10.84	ppbv #	96
60) Styrene	21.641	104	667659	9.99	ppbv	98
61) 1,1,2,2-Tetrachloroethane	22.336	83	622015	9.88	ppbv	97
62) o-Xylene	21.694	91	838082	10.43	ppbv	98
64) 4-Ethyltoluene	23.673	120	356573	10.43	ppbv	98
65) 1,3,5-Trimethylbenzene	23.780	120	481372	9.86	ppbv	95
66) 1,2,4-Trimethylbenzene	24.529	120	498246	10.38	ppbv	95
67) BenzylChloride (a-Chlor...)	25.153	91	828742	11.44	ppbv	100
68) 1,3-Dichlorobenzene	25.046	146	766834	10.45	ppbv	99
69) 1,4-Dichlorobenzene	25.260	146	744375m	9.98	ppbv	97
70) 1,2-Dichlorobenzene	25.831	146	780200m	9.96	ppbv	99
71) 1,2,4-Trichlorobenzene	29.433	180	729388m	9.87	ppbv	99
72) Hexachlorobutadiene	30.075	225	604897	10.85	ppbv	98

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

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 5/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101302.D  
 Acq On : 10 May 2013 9:24  
 Operator : JJG  
 Sample : TO15 CCV 051013  
 Misc : IS/Surr: PS082712-02 + Cal: PS040413-01  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 10:27:12 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101303.D  
 Acq On : 10 May 2013 10:10  
 Operator : JJG  
 Sample : TO15 LCSD 051013  
 Misc : IS/Surr: PS082712-02 + Cal: PS040413-01  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 10:45:25 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	157242	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	833570	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	793417	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.711	174	494478	10.56	ppbv	0.00

Spiked Amount 10.000 Recovery = 105.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.817	51	325176m	9.86	ppbv	
3) Propene	4.781	42	94860m	10.53	ppbv	
4) Dichlorodifluoromethane	4.908	85	547003m	10.80	ppbv	99
5) Chloromethane	5.288	52	54931m	9.66	ppbv	
6) Dichlorotetrafluoroethane	5.342	135	373676m	10.97	ppbv	84
7) VinylChloride	5.668	62	193311m	10.17	ppbv	
8) Methanol	5.831	31	26610m	4.63	ppbv	
9) 1,3-Butadiene	5.867	54	127681m	10.23	ppbv	
10) Bromomethane	6.446	96	126356m	9.79	ppbv	
11) Chloroethane	6.736	66	29137m	8.90	ppbv	98
12) Dichlorofluoromethane	7.025	67	398566m	10.60	ppbv	
13) Ethanol	7.061	45	69627m	8.89	ppbv	
14) VinylBromide	7.260	108	154100m	10.41	ppbv	99
15) Acetone	7.966	58	81214m	8.29	ppbv	
16) Trichlorofluoromethane	7.677	103	329676m	11.28	ppbv	100
17) 2-Propanol (IPA)	8.165	45	305784m	9.15	ppbv	
18) Acrylonitrile	8.961	52	145855m	10.15	ppbv	
19) 1,1-Dichloroethene	8.726	96	187872m	10.05	ppbv	
20) MethyleneChloride (DCM)	9.323	84	167723m	9.46	ppbv	
21) AllylChloride	9.305	39	169029m	11.15	ppbv	
22) CarbonDisulfide	9.486	76	530170m	8.68	ppbv	
23) Trichlorotrifluoroethane	8.998	103	265575m	10.36	ppbv	98
24) trans-1,2-Dichloroethene	10.424	96	215994m	10.83	ppbv	
25) 1,1-Dichloroethane	10.906	63	406958m	9.82	ppbv	99
26) MethylTertButylEther (M...)	10.460	73	562754m	10.92	ppbv	98
27) VinylAcetate	10.888	43	506210m	9.93	ppbv	
28) 2-Butanone (MEK)	11.423	72	99301m	10.30	ppbv	
29) cis-1,2-Dichloroethene	11.904	96	219886m	9.95	ppbv	96
30) Hexane	11.476	86	44548m	10.11	ppbv	92
31) Chloroform	12.511	83	472263m	11.08	ppbv	99
32) EthylAcetate	12.029	43	512358m	10.84	ppbv	99

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 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101303.D  
 Acq On : 10 May 2013 10:10  
 Operator : JJG  
 Sample : TO15 LCSD 051013  
 Misc : IS/Surr: PS082712-02 + Cal: PS040413-01  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 10:45:25 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

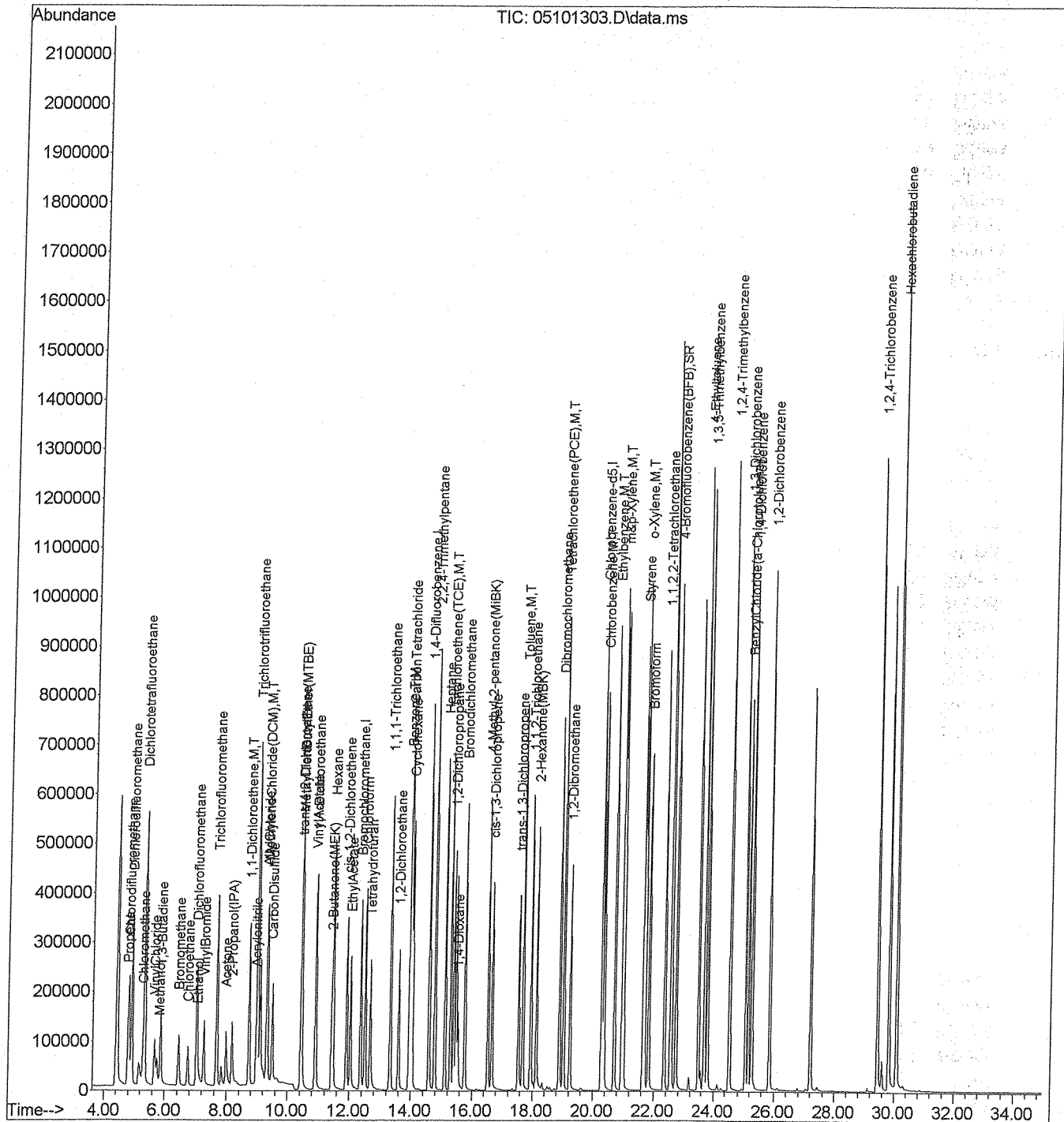
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.671	72	967220	9.66	ppbv	
34) 1,2-Dichloroethane	13.598	62	345864	11.16	ppbv	97
35) 1,1,1-Trichloroethane	13.331	97	520472	11.63	ppbv	98
37) Benzene	13.937	78	614448	9.30	ppbv	98
38) CarbonTetrachloride	13.973	117	522653	11.26	ppbv	97
39) Cyclohexane	14.026	69	91538	9.40	ppbv	97
40) 1,2-Dichloropropane	15.399	63	249088	9.15	ppbv	94
41) Bromodichloromethane	15.756	85	334768	10.81	ppbv	98
42) 1,4-Dioxane	15.524	88	1492020	9.23	ppbv	
43) Trichloroethene (TCE)	15.292	130	301045	10.17	ppbv	99
44) 2,2,4-Trimethylpentane	14.775	57	1159849	9.88	ppbv	98
45) Heptane	15.114	71	200805	9.51	ppbv	97
46) cis-1,3-Dichloropropene	16.648	75	390367	10.82	ppbv	93
47) 4-Methyl-2-pentanone (M...)	16.523	58	234936	9.51	ppbv	95
48) trans-1,3-Dichloropropene	17.539	75	355238	10.04	ppbv	99
49) 1,1,2-Trichloroethane	17.932	97	285694	9.98	ppbv	96
50) Toluene	17.682	91	782390	9.78	ppbv	99
51) 2-Hexanone (MBK)	18.128	58	305182	10.02	ppbv	95
52) Dibromochloromethane	18.877	129	602875	11.99	ppbv	99
53) 1,2-Dibromoethane	19.233	107	466239	10.28	ppbv	100
54) Tetrachloroethene (PCE)	19.019	166	434280	10.46	ppbv	99
56) Chlorobenzene	20.357	114	213892	10.03	ppbv	99
57) Ethylbenzene	20.695	91	1051482	9.94	ppbv	98
58) m&p-Xylene	20.945	106	799786	18.96	ppbv	92
59) Bromoform	21.837	173	571522	10.86	ppbv	99
60) Styrene	21.641	104	666258	9.77	ppbv	98
61) 1,1,2,2-Tetrachloroethane	22.336	83	622398	9.69	ppbv	98
62) o-Xylene	21.694	91	845094	10.31	ppbv	98
64) 4-Ethyltoluene	23.673	120	358716	10.28	ppbv	98
65) 1,3,5-Trimethylbenzene	23.780	120	484125	9.72	ppbv	95
66) 1,2,4-Trimethylbenzene	24.529	120	503508	10.28	ppbv	96
67) BenzylChloride (a-Chlor...)	25.153	91	856200	11.58	ppbv	99
68) 1,3-Dichlorobenzene	25.046	146	786483	10.50	ppbv	99
69) 1,4-Dichlorobenzene	25.260	146	760881(m)	10.00	ppbv	96
70) 1,2-Dichlorobenzene	25.831	146	777304(m)	9.72	ppbv	95
71) 1,2,4-Trichlorobenzene	29.433	180	756103(m)	10.03	ppbv	95
72) Hexachlorobutadiene	30.075	225	600101	10.55	ppbv	99

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

*Handwritten signature/initials*  
 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101303.D  
 Acq On : 10 May 2013 10:10  
 Operator : JJG  
 Sample : TO15 LCSD 051013  
 Misc : IS/Surr: PS082712-02 + Cal: PS040413-01  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 10:45:25 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



*Handwritten signature/initials*

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101304.D  
 Acq On : 10 May 2013 10:58  
 Operator : JJG  
 Sample : TO15 MB 051013  
 Misc : IS/Surr: PS082712-02 + 500mL cc#000410  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 11:32:06 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	155538	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	857600	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	792440	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	500408	10.70	ppbv	0.00

Spiked Amount 10.000 Recovery = 107.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	0.000		0		N.D.	
3) Propene	4.836	42	132		N.D.	
4) Dichlorodifluoromethane	0.000		0		N.D.	
5) Chloromethane	0.000		0		N.D.	
6) Dichlorotetrafluoroethane	0.000		0		N.D.	
7) VinylChloride	0.000		0		N.D.	
8) Methanol	0.000		0		N.D. d	
9) 1,3-Butadiene	0.000		0		N.D.	
10) Bromomethane	0.000		0		N.D. d	
11) Chloroethane	6.772	66	124		N.D.	
12) Dichlorofluoromethane	0.000		0		N.D.	
13) Ethanol	0.000		0		N.D.	
14) VinylBromide	0.000		0		N.D.	
15) Acetone	0.000		0		N.D. pd	
16) Trichlorofluoromethane	0.000		0		N.D.	
17) 2-Propanol (IPA)	8.310	45	255		N.D.	
18) Acrylonitrile	9.088	52	117		N.D.	
19) 1,1-Dichloroethene	0.000		0		N.D.	
20) MethyleneChloride (DCM)	0.000		0		N.D. d	
21) AllylChloride	0.000		0		N.D.	
22) CarbonDisulfide	9.504	76	1451		N.D.	
23) Trichlorotrifluoroethane	0.000		0		N.D.	
24) trans-1,2-Dichloroethene	0.000		0		N.D.	
25) 1,1-Dichloroethane	0.000		0		N.D.	
26) MethylTertButylEther (M...)	0.000		0		N.D.	
27) VinylAcetate	0.000		0		N.D.	
28) 2-Butanone (MEK)	0.000		0		N.D.	
29) cis-1,2-Dichloroethene	0.000		0		N.D.	
30) Hexane	0.000		0		N.D.	
31) Chloroform	0.000		0		N.D.	
32) EthylAcetate	12.136	43	149		N.D.	

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 05/10/13



Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101304.D  
 Acq On : 10 May 2013 10:58  
 Operator : JJG  
 Sample : TO15 MB 051013  
 Misc : IS/Surr: PS082712-02 + 500mL cc#000410  
 ALS Vial : 1 Sample Multiplier: 1

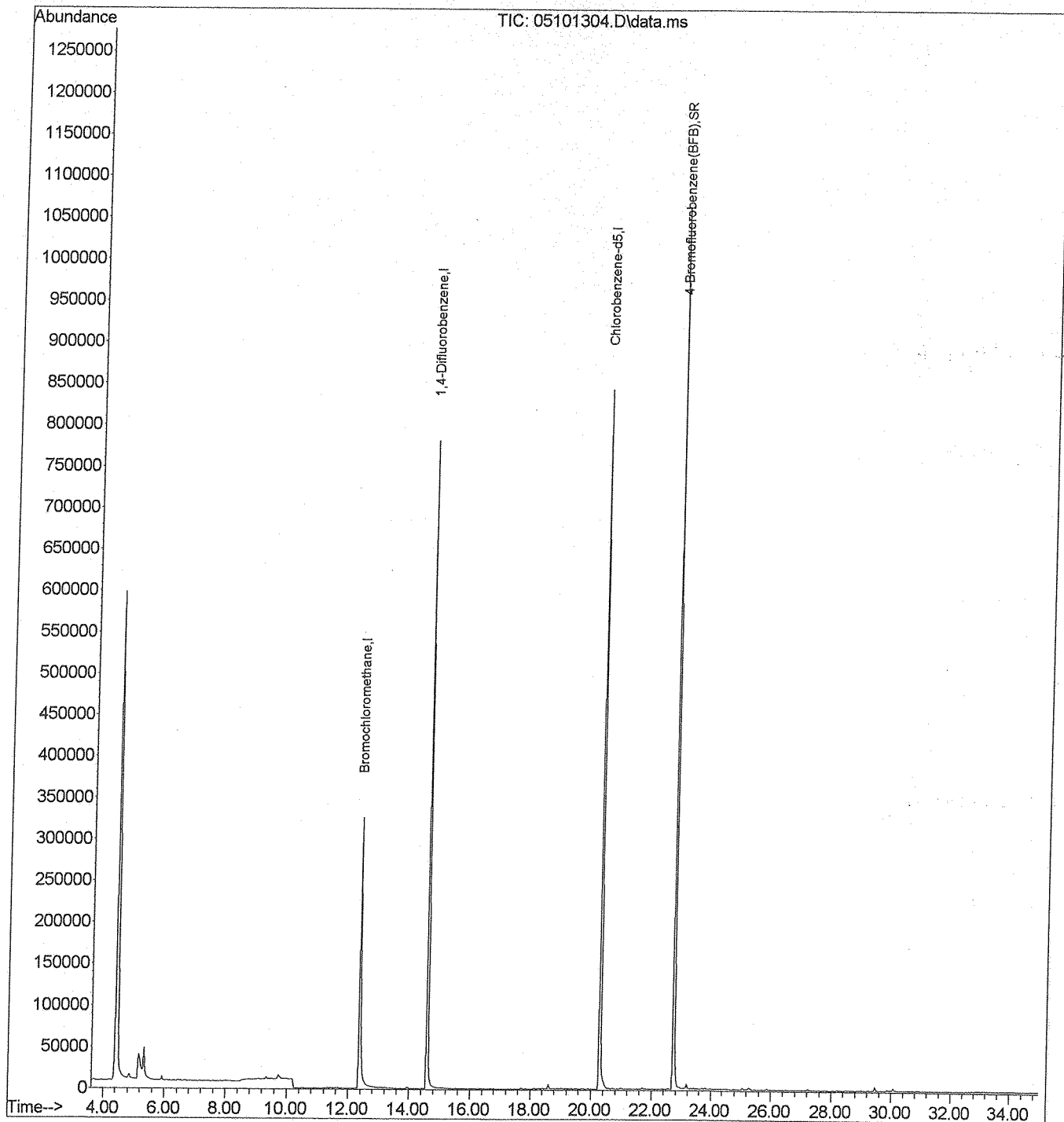
Quant Time: May 10 11:32:06 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

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	13.955	78	2390		N.D.	
38) CarbonTetrachloride	0.000		0		N.D.	
39) Cyclohexane	0.000		0		N.D.	
40) 1,2-Dichloropropane	0.000		0		N.D.	
41) Bromodichloromethane	0.000		0		N.D.	
42) 1,4-Dioxane	0.000		0		N.D.	
43) Trichloroethene (TCE)	0.000		0		N.D.	
44) 2,2,4-Trimethylpentane	0.000		0		N.D.	
45) Heptane	0.000		0		N.D.	
46) cis-1,3-Dichloropropene	0.000		0		N.D.	
47) 4-Methyl-2-pentanone (M...)	0.000		0		N.D.	
48) trans-1,3-Dichloropropene	0.000		0		N.D.	
49) 1,1,2-Trichloroethane	0.000		0		N.D.	
50) Toluene	17.700	91	1481		N.D.	
51) 2-Hexanone (MBK)	0.000		0		N.D.	
52) Dibromochloromethane	19.019	129	468		N.D.	
53) 1,2-Dibromoethane	0.000		0		N.D.	
54) Tetrachloroethene (PCE)	19.019	166	532		N.D.	
56) Chlorobenzene	20.374	114	386		N.D.	
57) Ethylbenzene	20.713	91	1102		N.D.	
58) m&p-Xylene	20.999	106	1299		N.D.	
59) Bromoform	0.000		0		N.D.	
60) Styrene	21.694	104	865		N.D.	
61) 1,1,2,2-Tetrachloroethane	22.354	83	422		N.D.	
62) o-Xylene	21.712	91	1085		N.D.	
64) 4-Ethyltoluene	23.709	120	273		N.D.	
65) 1,3,5-Trimethylbenzene	23.798	120	159		N.D.	
66) 1,2,4-Trimethylbenzene	24.565	120	362		N.D.	
67) BenzylChloride (a-Chlor...)	25.207	91	1075		N.D.	
68) 1,3-Dichlorobenzene	25.064	146	2330		N.D.	
69) 1,4-Dichlorobenzene	25.296	146	2823		N.D.	
70) 1,2-Dichlorobenzene	25.867	146	1624		N.D.	
71) 1,2,4-Trichlorobenzene	0.000		0		N.D.	d
72) Hexachlorobutadiene	30.075	225	1168		N.D.	

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
Data File : 05101304.D  
Acq On : 10 May 2013 10:58  
Operator : JJG  
Sample : TO15 MB 051013  
Misc : IS/Surr: PS082712-02 + 500mL cc#000410  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 11:32:06 2013  
Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
Quant Title : TO-15/TO-14  
QLast Update : Thu Apr 18 19:34:22 2013  
Response via : Initial Calibration



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05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101306.D  
 Acq On : 10 May 2013 12:33  
 Operator : JJG  
 Sample : 130559-62852 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 13:53:26 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	151411	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	835956	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	787824	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.711	174	504268	10.85	ppbv	0.00

Spiked Amount 10.000 Recovery = 108.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.836	51	6925	0.22	ppbv #	98
3) Propene	4.799	42	9366	1.08	ppbv #	86
4) Dichlorodifluoromethane	4.908	85	16277	0.33	ppbv	99
5) Chloromethane	5.306	52	1451	0.26	ppbv #	11
6) Dichlorotetrafluoroethane	5.342	135	236	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.849	31	183470	Below Cal		
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D.		
11) Chloroethane	0.000		0	N.D.		
12) Dichlorofluoromethane	0.000		0	N.D.		
13) Ethanol	7.080	45	37807	5.02	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	7.984	58	55080	5.84	ppbv	
16) Trichlorofluoromethane	7.659	103	4720	0.17	ppbv #	94
17) 2-Propanol(IPA)	8.201	45	38322	1.19	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.		
21) AllylChloride	9.233	39	258	N.D.		
22) CarbonDisulfide	0.000		0	N.D.		
23) Trichlorotrifluoroethane	0.000		0	N.D.		
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylEther(M...)	10.424	73	563	N.D.		
27) VinylAcetate	0.000		0	N.D.		
28) 2-Butanone(MEK)	11.441	72	23940	2.58	ppbv	
29) cis-1,2-Dichloroethene	0.000		0	N.D.		
30) Hexane	11.459	86	948	0.22	ppbv #	36
31) Chloroform	12.511	83	553	N.D.		
32) EthylAcetate	12.065	43	11815	0.26	ppbv #	95

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Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101306.D  
 Acq On : 10 May 2013 12:33  
 Operator : JJG  
 Sample : 130559-62852 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

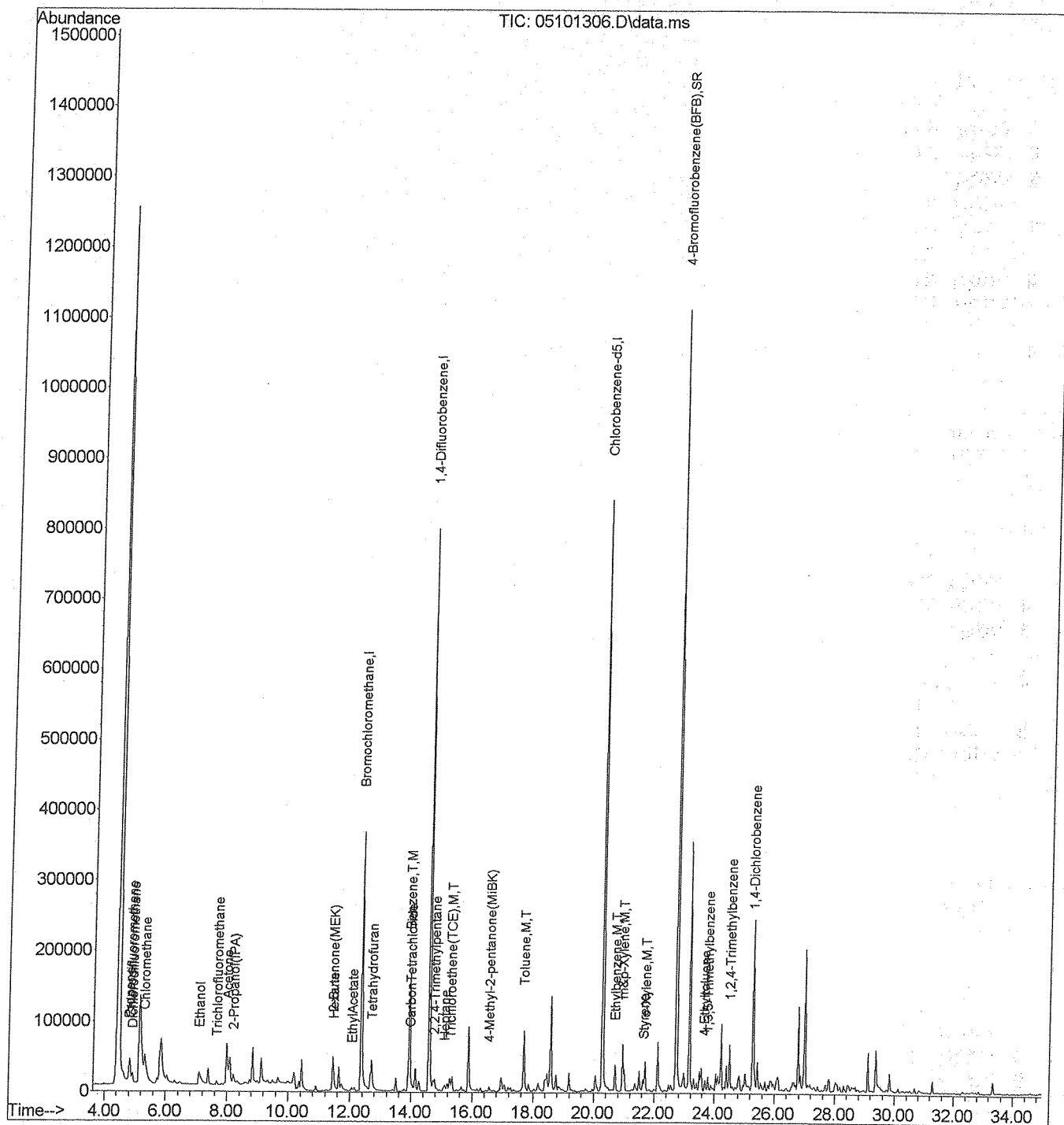
Quant Time: May 10 13:53:26 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.707	72	13908	1.44	ppbv #	79
34) 1,2-Dichloroethane	13.616	62	134	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	1793030	2.71	ppbv	
38) CarbonTetrachloride	13.973	117	2273	0.05	ppbv	95
39) Cyclohexane	14.009	69	354	N.D.		
40) 1,2-Dichloropropane	15.400	63	245	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.685	88	122	N.D.		
43) Trichloroethene (TCE)	15.293	130	3476	0.12	ppbv	92
44) 2,2,4-Trimethylpentane	14.758	57	17146	0.15	ppbv #	90
45) Heptane	15.096	71	2126	0.10	ppbv #	44
46) cis-1,3-Dichloropropene	16.719	75	678	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.559	58	2592	0.10	ppbv #	76
48) trans-1,3-Dichloropropene	17.682	75	939	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.	d	
50) Toluene	17.682	91	883040	1.10	ppbv Dev (min)	
51) 2-Hexanone (MBK)	0.000		0	N.D.	d	
52) Dibromochloromethane	19.019	129	365	N.D.	#	79
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	578	N.D.		
56) Chlorobenzene	20.357	114	295	N.D.		
57) Ethylbenzene	20.696	91	42314	0.40	ppbv	95
58) m&p-Xylene	20.945	106	38735	0.92	ppbv #	89
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	2978	0.04	ppbv #	87
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	30694	0.38	ppbv	99
64) 4-Ethyltoluene	23.673	120	4063	0.12	ppbv #	93
65) 1,3,5-Trimethylbenzene	23.780	120	6584	0.13	ppbv #	89
66) 1,2,4-Trimethylbenzene	24.529	120	23329	0.48	ppbv	96
67) BenzylChloride (a-Chlor...)	25.100	91	2332	N.D.	#	76
68) 1,3-Dichlorobenzene	25.064	146	625	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	20938	0.28	ppbv #	90
70) 1,2-Dichlorobenzene	25.849	146	825	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	1710	N.D.		
72) Hexachlorobutadiene	30.075	225	467	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101306.D  
 Acq On : 10 May 2013 12:33  
 Operator : JJG  
 Sample : 130559-62852 x1  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 13:53:26 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



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 105/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101307.D  
 Acq On : 10 May 2013 13:21  
 Operator : JJG  
 Sample : 130559-62852 x1 dp  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 13:57:35 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	153865	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	814736	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.285	117	784513	10.00	ppbv	0.00
System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	502694	10.86	ppbv	0.00

Spiked Amount 10.000 Recovery = 108.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.835	51	7129	0.22	ppbv #	95
3) Propene	4.799	42	10008	1.14	ppbv #	90
4) Dichlorodifluoromethane	4.908	85	16562	0.33	ppbv	97
5) Chloromethane	5.306	52	1631	0.29	ppbv #	44
6) Dichlorotetrafluoroethane	5.324	135	259	N.D.		
7) VinylChloride	0.000		0	N.D.		
8) Methanol	5.849	31	184312	Below Cal		
9) 1,3-Butadiene	5.867	54	128	N.D.		
10) Bromomethane	0.000		0	N.D.		
11) Chloroethane	0.000		0	N.D.		
12) Dichlorofluoromethane	0.000		0	N.D.		
13) Ethanol	7.079	45	38323	5.00	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	7.984	58	55171	5.75	ppbv	90
16) Trichlorofluoromethane	7.658	103	4642	0.16	ppbv #	95
17) 2-Propanol (IPA)	8.201	45	39550	1.21	ppbv	
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		Qvalue
20) MethyleneChloride (DCM)	0.000		0	N.D.	ppbv #	95
21) AllylChloride	9.233	39	513	N.D.	ppbv #	90
22) CarbonDisulfide	0.000		0	N.D.	ppbv	90
23) Trichlorotrifluoroethane	0.000		0	N.D.	ppbv #	94
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylEther (M...)	10.424	73	854	N.D.	Cal	
27) VinylAcetate	0.000		0	N.D.	d	
28) 2-Butanone (MEK)	11.441	72	23963	2.54	ppbv	
29) cis-1,2-Dichloroethene	0.000		0	N.D.		
30) Hexane	11.476	86	826	0.19	ppbv #	25
31) Chloroform	12.511	83	537	N.D.	ppbv	
32) EthylAcetate	12.065	43	11230	0.24	ppbv #	95

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 05/10/13

Data Path : C:\msdchem\1\MS03\2013\051013\  
Data File : 05101307.D  
Acq On : 10 May 2013 13:21  
Operator : JJG  
Sample : 130559-62852 x1 dp  
Misc : IS/Surr: PS082712-02 + 500mL  
ALS Vial : 3 Sample Multiplier: 1

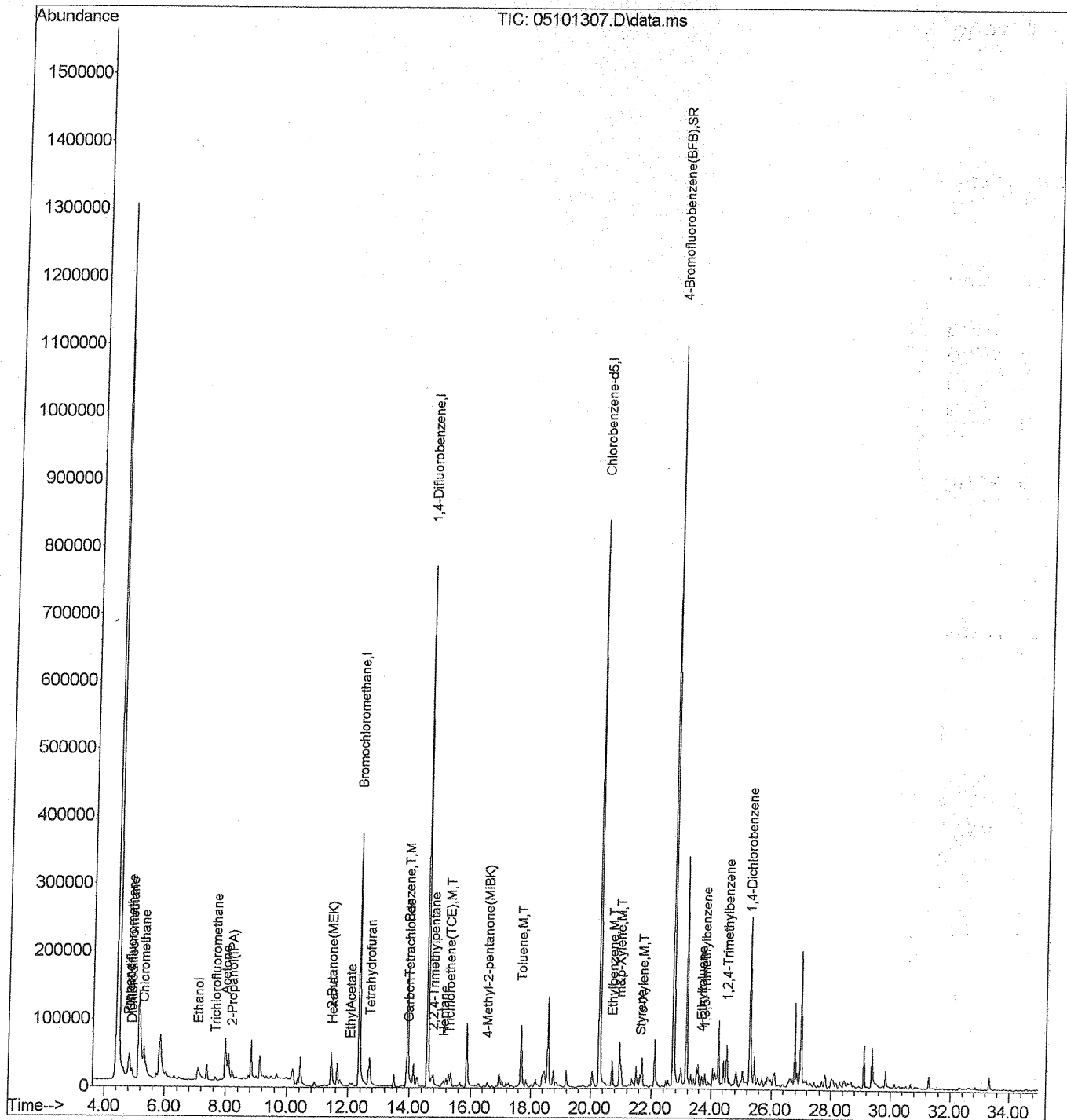
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Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
Quant Title : TO-15/TO-14  
QLast Update : Thu Apr 18 19:34:22 2013  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.707	72	14271	1.46	ppbv	92
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	180983	2.80	ppbv	97
38) CarbonTetrachloride	13.973	117	2183	0.05	ppbv #	79
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	15.346	63	537	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.685	88	118	N.D.		
43) Trichloroethene (TCE)	15.292	130	3716	0.13	ppbv	93
44) 2,2,4-Trimethylpentane	14.775	57	17817	0.16	ppbv #	94
45) Heptane	15.114	71	2123	0.10	ppbv #	55
46) cis-1,3-Dichloropropene	16.701	75	887	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.558	58	2602	0.11	ppbv #	77
48) trans-1,3-Dichloropropene	17.682	75	925	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.	d	
50) Toluene	17.682	91	89656	1.15	ppbv	97
51) 2-Hexanone (MBK)	0.000		0	N.D.	d	
52) Dibromochloromethane	19.019	129	450	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	704	N.D.		
56) Chlorobenzene	20.357	114	165	N.D.		
57) Ethylbenzene	20.695	91	42917	0.41	ppbv	98
58) m&p-Xylene	20.945	106	38938	0.93	ppbv #	90
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	3118	0.05	ppbv #	86
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	31427	0.39	ppbv	95
64) 4-Ethyltoluene	23.673	120	4519	0.13	ppbv #	94
65) 1,3,5-Trimethylbenzene	23.780	120	6457	0.13	ppbv #	97
66) 1,2,4-Trimethylbenzene	24.529	120	23000	0.47	ppbv	91
67) BenzylChloride (a-Chlor...)	25.118	91	2203	N.D.	#	77
68) 1,3-Dichlorobenzene	25.064	146	417	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	20778	0.28	ppbv #	91
70) 1,2-Dichlorobenzene	25.849	146	650	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	1377	N.D.		
72) Hexachlorobutadiene	30.075	225	362	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\051013\  
 Data File : 05101307.D  
 Acq On : 10 May 2013 13:21  
 Operator : JJG  
 Sample : 130559-62852 x1 dp  
 Misc : IS/Surr: PS082712-02 + 500mL  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 13:57:35 2013  
 Quant Method : C:\msdchem\1\METHODS\2013\041813.M  
 Quant Title : TO-15/TO-14  
 QLast Update : Thu Apr 18 19:34:22 2013  
 Response via : Initial Calibration



*Handwritten signature*



Method Path : C:\msdchem\1\METHODS\2013\  
 Method File : 041813.M  
 Title : TO-15/TO-14  
 Last Update : Thu Apr 18 19:34:22 2013  
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.5	1	10	C:\msdchem\1\MS03\2013\041813\04181312.D
2	1.0	1	10	C:\msdchem\1\MS03\2013\041813\04181311.D
3	2.0	2	10	C:\msdchem\1\MS03\2013\041813\04181310.D
4	5.0	5	10	C:\msdchem\1\MS03\2013\041813\04181309.D
5	10	10	10	C:\msdchem\1\MS03\2013\041813\04181308.D
6	20	20	10	C:\msdchem\1\MS03\2013\041813\04181307.D
7	50	51	10	C:\msdchem\1\MS03\2013\041813\04181306.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.5	Apr 18 19:27 2013	Apr 18 18:22 2013	18 Apr 2013 17:14
2	1.0	Apr 18 19:27 2013	Apr 18 18:19 2013	18 Apr 2013 16:27
3	2.0	Apr 18 19:27 2013	Apr 18 18:16 2013	18 Apr 2013 15:41
4	5.0	Apr 18 19:27 2013	Apr 18 18:12 2013	18 Apr 2013 14:56
5	10	Apr 18 19:26 2013	Apr 18 18:09 2013	18 Apr 2013 14:10
6	20	Apr 18 19:26 2013	Apr 18 17:51 2013	18 Apr 2013 13:24
7	50	Apr 18 19:26 2013	Apr 18 17:48 2013	18 Apr 2013 12:37

041813.M Thu Apr 18 19:35:59 2013

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\  
 Method File : 041813.M  
 Title : TO-15/TO-14  
 Last Update : Thu Apr 18 19:34:22 2013  
 Response Via : Initial Calibration

Calibration Files  
 0.5 =04181312.D 1.0 =04181311.D 2.0 =04181310.D 5.0 =04181309.D 10 =04181308.D 20 =04181307.D  
 50 =04181306.D

Compound	0.5	1.0	2.0	5.0	10	20	50	Avg	%RSD
1) I Bromochloromethane									
2) Chlorodifluoro...	2.331	2.349	2.207	2.147	2.057	1.841	1.744	2.097	11.10
3) Propene	0.617	0.618	0.586	0.590	0.574	0.526	0.500	0.573	7.75
4) Dichlorodifluo...	3.497	3.598	3.458	3.260	3.167	2.826	2.740	3.221	10.35
5) Chloromethane	0.384	0.420	0.409	0.387	0.367	0.310	0.255	0.362	16.23
6) Dichlorotetra...	2.316	2.434	2.322	2.237	2.162	1.950	1.738	2.166	11.22
7) Vinylchloride	1.221	1.283	1.246	1.234	1.252	1.112	1.115	1.209	5.61
8) Methanol		0.506	0.439	0.384	0.370	0.343	0.295	0.390	19.02
9) 1,3-Butadiene	0.811	0.840	0.838	0.830	0.839	0.732	0.668	0.794	8.53
10) Bromomethane	0.946	0.912	0.866	0.821	0.822	0.753	0.624	0.821	13.08
11) Chloroethane	0.279	0.228	0.209	0.199	0.194	0.177	0.171	0.208	17.60
12) Dichlorofluoro...	2.483	2.601	2.534	2.439	2.432	2.227	2.030	2.392	8.26
13) Ethanol	0.598	0.564	0.525	0.519	0.488	0.425	0.367	0.498	16.01
14) VinylBromide	0.923	0.971	0.977	0.980	0.982	0.904	0.853	0.941	5.29
15) Acetone	0.841	0.776	0.679	0.550	0.538	0.506	0.472	0.623	22.99
16) Trichlorofluor...	2.065	2.035	1.955	1.894	1.840	1.682	1.535	1.858	10.31
17) 2-Propanol (IPA)	2.559	2.647	2.472	2.287	1.909	1.581	1.417	2.125	23.14
18) Acrylonitrile	0.926	0.982	0.941	0.996	0.940	0.868	0.743	0.914	9.42
19) M,T 1,1-Dichloroet...	1.261	1.279	1.259	1.226	1.218	1.090	0.987	1.189	9.16
20) M,T Methylenechlor...	1.365	1.275	1.133	1.126	1.117	1.011	0.864	1.127	14.57
21) Allylchloride	1.095	1.091	1.066	1.027	0.943	0.818	0.708	0.964	15.54
22) Carbondisulfide	4.932	4.577	4.018	3.753	3.606	3.306	2.987	3.883	17.69
23) Trichlorotrifl...	1.880	1.895	1.802	1.692	1.596	1.384	1.160	1.630	16.77
24) trans-1,2-Dich...	1.311	1.399	1.360	1.306	1.288	1.150	1.063	1.268	9.40
25) 1,1-Dichloroet...	2.932	3.039	2.856	2.799	2.618	2.287	1.921	2.636	15.16
26) MethylTertButy...	3.644	3.688	3.616	3.428	3.208	2.859	2.494	3.277	13.84
27) VinylAcetate	3.406	3.442	3.484	3.480	3.358	3.064	2.466	3.243	11.47
28) 2-Butanone (MEK)	0.568	0.661	0.641	0.649	0.655	0.577	0.540	0.613	8.08

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\  
 Method File : 041813.M  
 Title : TO-15/TO-14

Method	Path	File	Title	Response Factor	Retention Time
29)	cis-1,2-Dichlo...			1.433	10.60
30)	Hexane			0.317	14.96
31)	Chloroform			2.984	11.28
32)	EthylAcetate			3.170	11.45
33)	Tetrahydrofuran			0.684	10.34
34)	1,2-Dichloroet...			2.152	10.24
35)	1,1,1-Trichlor...			3.142	11.46
36)	I 1,4-Difluorobenzene			0.966	18.29
37)	T,M Benzene			0.629	15.22
38)	CarbonTetrachl...			0.134	15.65
39)	Cyclohexane			0.382	16.06
40)	1,2-Dichloropr...			0.405	13.03
41)	Bromodichlorom...			0.215	11.78
42)	1,4-Dioxane			0.397	13.30
43)	M,T Trichloroethen...			1.651	19.18
44)	2,2,4-Trimethy...			0.272	14.04
45)	Heptane			0.452	10.27
46)	cis-1,3-Dichlo...			0.313	14.32
47)	4-Methyl-2-pen...			0.424	7.88
48)	trans-1,3-Dich...			0.390	15.30
49)	1,1,2-Trichlor...			1.105	15.80
50)	M,T Toluene			0.378	12.45
51)	2-Hexanone (MBK)			0.672	14.04
52)	Dibromochlorom...			0.594	14.01
53)	1,2-Dibromoethane			0.586	18.27
54)	M,T Tetrachloroeth...			0.318	15.10
55)	I Chlorobenzene-d5			1.561	17.61
56)	M,T Chlorobenzene			0.634	19.32
57)	M,T Ethylbenzene			0.759	17.24
58)	M,T m&p-Xylene			0.958	14.28
59)	Bromoform			0.933	19.64
60)	Styrene			1.247	19.47
61)	1,1,2,2-Tetrac...			0.586	0.76
62)	M,T o-Xylene			0.489	16.45
63)	SR 4-Bromofluorob...			0.504	
64)	4-Ethyltoluene			0.490	

041813.M Thu Apr 18 19:36:08 2013

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\  
 Method File : 041813.M

Method Title	TO-15	TO-14	Response Factor														Area
65) 1,3,5-Trimethy...	0.732	0.727	0.693	0.670	0.623	0.525	0.425	0.628	18.23								
66) 1,2,4-Trimethy...	0.688	0.714	0.683	0.653	0.613	0.545	0.427	0.618	16.41								
67) Benzylchloride...	0.903	0.848	0.935	1.003	1.018	0.953	0.863	0.932	7.01								
68) 1,3-Dichlorobe...	1.025	1.051	1.060	1.015	0.956	0.828	0.670	0.944	15.30								
69) 1,4-Dichlorobe...	1.121	1.134	1.072	0.993	0.920	0.814	0.657	0.959	18.28								
70) 1,2-Dichlorobe...	1.220	1.211	1.112	1.034	0.964	0.841	0.671	1.008	19.89								
71) 1,2,4-Trichlor...	1.059	1.130	1.066	0.991	0.936	0.826	0.645	0.950	17.61								
72) Hexachlorobuta...	0.887	0.876	0.817	0.749	0.680	0.579	0.432	0.717	23.26								

(#) = Out of Range