

Atmospheric Analysis & Consulting, Inc.

CLIENT : Soil Water Air Protection Enterprise
PROJECT NAME : Bridgeton Sanitary Landfill Air Quality Assessment
AAC PROJECT NO. : 130958
REPORT DATE : 07/29/2013

On July 24, 2013, Atmospheric Analysis & Consulting, Inc. received four (4) Six-Liter Summa Canisters for Volatile Organic Compounds analysis by EPA method TO-15. Upon receipt each sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab ID	Return Pressure (mmHg)
U-1 W6-Canister	130958-64795	498.4
U-2 FR Services-Canister	130958-64796	596.1
D-1 K-Canister	130958-64797	307.6
D-2 Helena-Canister	130958-64798	564.1

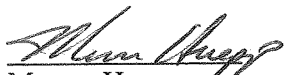
An initial reading of each canister's vacuum was taken and recorded. Subsequently, each canister was brought to positive pressure using UHP-He and the final pressure was recorded.

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

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

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

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


Marcus Hueppe
Laboratory Director

This report consists of 56 pages.





SAMPLE RECEIPT / LOG-IN REPORT

AAC Project 130958

Received By: W. Horn

<u>Sample Receipt Date</u>	<u>Project Desc</u>	<u>Clients ID</u>	<u>Matrix</u>	<u>Sampling Date/Time</u>	<u>Sampled By</u>	<u>Sample #</u>	<u>Analysis Requested</u>
7/24/2013 1225	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-1 W6	Summa Canister	7/19/2013	Client	64795	TO15 ASTM D5504 TO15
7/24/2013 1225	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-2 FR Services	Summa Canister	7/19/2013	Client	64796	TO15 ASTM D5504
7/24/2013 1225	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-1 K	Summa Canister	7/19/2013	Client	64797	TO15 ASTM D5504
7/24/2013 1225	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-2 Helena	Summa Canister	7/19/2013	Client	64798	TO15 ASTM D5504

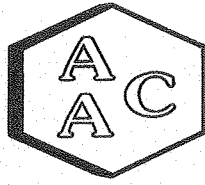
TURN AROUND TIME: Normal (10days)

Lab Due Date: 7/31/2013

Total Samples: 4

REMARKS:

Client returned 4 x Summa Canisters + 4 x Flows.



CANISTER PRESSURE LOG

Client: Soil Water Air Protection Ent Project No.: 130958
Date: 7/24/2013

Canister #	Sample #	Initial Pressure	Final Pressure
741	64795	498.4	1014.6
740	64796	596.1	1015.5
799	64797	307.6	1015.2
578	64798	564.1	1014.8

AA#132958

Bridgeton Sanitary Landfill Air Quality Assessment

[illegible]

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

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

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

Sample Name and/or ID No.: **U-1 W6** Canister # **741** Flow Control # **692**

AAC Batch ID: 130958 AAC Sample ID: 69795

SAMPLING INFORMATION

Start Date/Time: **July 19th, 2013 / 10:35** Stop Date/Time: **July 19th, 2013 / 14:35**

Start Temp/Pressure*: **28C / 30.02 psi** Stop Temp/Pressure*: **34C / 29.98 psi**

Initial Can Pressure**: **-29** Final Can Pressure**: **-18**

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

Comments: _____

John Blank
Sampler Name (Print)


July 19th 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 – Liter

Sampling Period: 4 – Hour

Canister Serial No.: # **741**

Flow Controller Serial No: # **692**

Initial Pressure: 4.1

Certified Flow Rate: 18.0

Return Pressure: 498.4

Certified By/Date: JJ 7/8/13

Final Pressure: 1014.6

Flow Rate upon Return: 17.6 ml/min

Date Shipped From Lab: 7/8/13

Shipped By: JJ

Date Returned to Lab: 7/24/13

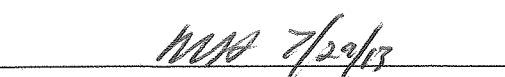
Received By: WJ 7/24/13

Flow Controller Certification File ID: 4802/07021306

Canister Certification File ID: 4803/06121317

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


Chemist Signature/Date


Lab Manager Signature/Date

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

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

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

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

Sample Name and/or ID No.: **U-2 F-R Services** **Canister # 740** **Flow Control # 693**

AAC Batch ID: 130958 AAC Sample ID: 64796

SAMPLING INFORMATION

Start Date/Time: **July 19th, 2013 / 10:25** Stop Date/Time: **July 19th, 2013 / 14:25**

Start Temp/Pressure*: **28C / 30.02 psi** Stop Temp/Pressure*: **34C / 29.98 psi**

Initial Can Pressure**: **- 27** Final Can Pressure**: **- 3**

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

Comments: _____

John Blank
Sampler Name (Print)


Sampler Signature/Date

July 19th 2013

LABORATORY INFORMATION

Canister Size: 6 – Liter

Sampling Period: 4 – Hour

Canister Serial No.: **# 740**

Flow Controller Serial No: **# 693**

Initial Pressure: 4.1

Certified Flow Rate: 18.0

Return Pressure: 596.1

Certified By/Date: 7/7 7/8/13

Final Pressure: 1015.5

Flow Rate upon Return: 20.7 mL/min

Date Shipped From Lab: 7/8/13

Shipped By: 7/7

Date Returned to Lab: 7/24/13

Received By: W-77

Flow Controller Certification File ID: MS02/07021306

Canister Certification File ID: MS03/06121315

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


Chemist Signature/Date

7/24/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.
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Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

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

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

Sample Name and/or ID No.: **D-1 K** Canister # **799** Flow Control # **808**

AAC Batch ID: 130958 AAC Sample ID: 64797

SAMPLING INFORMATION

Start Date/Time: **July 19th, 2013 / 9:25** Stop Date/Time: **July 19th, 2013 / 13:25**

Start Temp/Pressure*: **28C / 30.02 psi** Stop Temp/Pressure*: **34C / 29.98 psi**

Initial Can Pressure**: **- 31** Final Can Pressure**: **- 18**

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

Comments: _____

John Blank
Sampler Name (Print)


July 19th 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 – Liter

Sampling Period: 4 – Hour

Canister Serial No.: # **799**

Flow Controller Serial No: # **808**

Initial Pressure: 4.4

Certified Flow Rate: 18.0

Return Pressure: 307.6

Certified By/Date: JB 7/8/13

Final Pressure: 1015.2

Flow Rate upon Return: 12.2 ml/min

Date Shipped From Lab: 7/8/13

Shipped By: JB

Date Returned to Lab: 7/24/13

Received By: WJF

Flow Controller Certification File ID: 15026002306

Canister Certification File ID: 150306121318

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


Chemist Signature/Date

MD 7/29/13
Lab Manager Signature/Date

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

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

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

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

Sample Name and/or ID No.: **D-2 Helena** Canister # **578** Flow Control # **806**

AAC Batch ID: 130958 AAC Sample ID: 64798

SAMPLING INFORMATION

Start Date/Time: **July 19th, 2013 / 10:10** Stop Date/Time: **July 19th, 2013 / 14:10**

Start Temp/Pressure*: **28C / 30.02 psi** Stop Temp/Pressure*: **34C / 29.98 psi**

Initial Can Pressure**: **-29** Final Can Pressure**: **-6**

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

Comments: _____

John Blank
Sampler Name (Print)


Sampler Signature/Date

July 19th 2013

LABORATORY INFORMATION

Canister Size: 6 – Liter

Sampling Period: 4 – Hour

Canister Serial No.: **# 578**

Flow Controller Serial No: **# 806**

Initial Pressure: 4.1

Certified Flow Rate: 18.0

Return Pressure: 564.1

Certified By/Date: JJ 7/18/13

Final Pressure: 1014.8

Flow Rate upon Return: 21.0 mL/min

Date Shipped From Lab: 7/18/13

Shipped By: JJ

Date Returned to Lab: 7/24/13

Received By: WJF

Flow Controller Certification File ID: 1490267021306

Canister Certification File ID: 1403/06021324

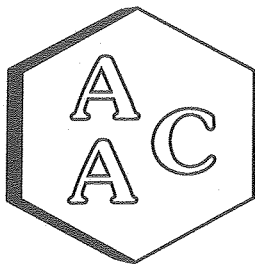
Certification Type: SIM _____ SCAN ☒ NJLL _____ PAMS _____ Other _____


Chemist Signature/Date


Lab Manager Signature/Date

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

TO-15 REPORTS



Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

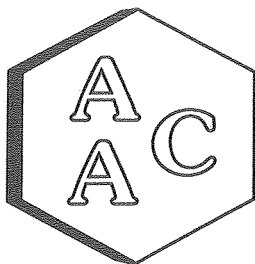
CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130958
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/24/2013
DATE REPORTED : 07/29/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	U-1 W6-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2 FR Services-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130958-64795				130958-64796				
Date Sampled	07/19/2013				07/19/2013				
Date Analyzed	07/26/2013				07/26/2013				
Can Dilution Factor	2.04				1.70				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.33	J	1.0	1.02	0.34	J	1.0	0.85	0.5
Propene	1.02	J	1.0	2.04	0.94	J	1.0	1.70	1.0
Dichlorodifluoromethane	0.57	J	1.0	1.02	0.56	J	1.0	0.85	0.5
Chloromethane	0.59	J	1.0	1.02	0.56	J	1.0	0.85	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Vinyl Chloride	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Methanol	19.4		1.0	10.2	14.7		1.0	8.52	5.0
1,3-Butadiene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Bromomethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Chloroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Dichlorofluoromethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Ethanol	6.94		1.0	4.07	5.13		1.0	3.41	2.0
Vinyl Bromide	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Acetone	7.51		1.0	4.07	6.56		1.0	3.41	2.0
Trichlorofluoromethane	0.26	J	1.0	1.02	0.29	J	1.0	0.85	0.5
2-Propanol (IPA)	1.47	J	1.0	4.07	0.99	J	1.0	3.41	2.0
Acrylonitrile	<SRL	U	1.0	2.04	<SRL	U	1.0	1.70	1.0
1,1-Dichloroethene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	2.04	<SRL	U	1.0	1.70	1.0
Allyl Chloride	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Carbon Disulfide	NR	U	1.0	1.02	NR	U	1.0	0.85	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,1-Dichloroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Vinyl Acetate	<SRL	U	1.0	2.04	<SRL	U	1.0	1.70	1.0
2-Butanone (MEK)	1.08	J	1.0	2.04	0.80	J	1.0	1.70	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Hexane	0.63	J	1.0	1.02	0.49	J	1.0	0.85	0.5
Chloroform	0.24	J	1.0	1.02	0.19	J	1.0	0.85	0.5
Ethyl Acetate	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Tetrahydrofuran	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,2-Dichloroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130958
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/24/2013
DATE REPORTED : 07/29/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

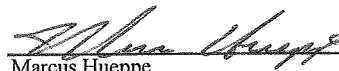
Client ID	U-1 W6-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	U-2 FR Services-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130958-64795				130958-64796				
Date Sampled	07/19/2013				07/19/2013				
Date Analyzed	07/26/2013				07/26/2013				
Can Dilution Factor	2.04				1.70				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	0.49	J	1.0	1.02	0.32	J	1.0	0.85	0.5
Carbon Tetrachloride	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Cyclohexane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,2-Dichloropropane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Bromodichloromethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,4-Dioxane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Trichloroethene (TCE)	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
2,2,4-Trimethylpentane	0.37	J	1.0	1.02	0.29	J	1.0	0.85	0.5
Heptane	0.18	J	1.0	1.02	0.17	J	1.0	0.85	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Toluene	1.77		1.0	1.02	1.19		1.0	0.85	0.5
2-Hexanone (MBK)	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Dibromochloromethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,2-Dibromoethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Chlorobenzene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Ethylbenzene	0.47	J	1.0	1.02	0.26	J	1.0	0.85	0.5
m & p-Xylenes	1.47	J	1.0	2.04	0.85	J	1.0	1.70	1.0
Bromoform	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Styrene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
o-Xylene	0.53	J	1.0	1.02	0.34	J	1.0	0.85	0.5
4-Ethyltoluene	0.18	J	1.0	1.02	0.12	J	1.0	0.85	0.5
1,3,5-Trimethylbenzene	0.16	J	1.0	1.02	0.10	J	1.0	0.85	0.5
1,2,4-Trimethylbenzene	0.63	J	1.0	1.02	0.39	J	1.0	0.85	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,4-Dichlorobenzene	0.12	J	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
Hexachlorobutadiene	<SRL	U	1.0	1.02	<SRL	U	1.0	0.85	0.5
BFB-Surrogate Std. % Recovery	104%				104%				70-130%

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

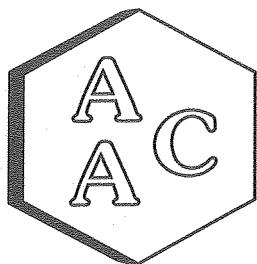
J - Analyte was detected. However the analyte concentration is an estimated value, which is between the Sample Reporting Limit (SRL) and the Sample Quantitation Limit (SQL).

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

NR - Not Reported on these analysis.


Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

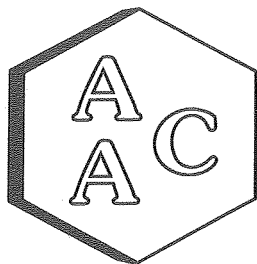
CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130958
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/24/2013
DATE REPORTED : 07/29/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-1 K-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 Helena-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130958-64797				130958-64798				
Date Sampled	07/19/2013				07/19/2013				
Date Analyzed	07/26/2013				07/26/2013				
Can Dilution Factor	3.30				1.80				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	0.36	J	1.0	1.65	0.36	J	1.0	0.90	0.5
Propene	1.95	J	1.0	3.30	0.85	J	1.0	1.80	1.0
Dichlorodifluoromethane	0.59	J	1.0	1.65	0.56	J	1.0	0.90	0.5
Chloromethane	0.66	J	1.0	1.65	0.54	J	1.0	0.90	0.5
Dichlorotetrafluoroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Vinyl Chloride	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Methanol	25.0		1.0	16.5	16.5		1.0	8.99	5.0
1,3-Butadiene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Bromomethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Chloroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Dichlorofluoromethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Ethanol	13.7		1.0	6.60	6.89		1.0	3.60	2.0
Vinyl Bromide	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Acetone	8.05		1.0	6.60	7.03		1.0	3.60	2.0
Trichlorofluoromethane	0.33	J	1.0	1.65	0.29	J	1.0	0.90	0.5
2-Propanol (IPA)	2.44	J	1.0	6.60	1.73	J	1.0	3.60	2.0
Acrylonitrile	<SRL	U	1.0	3.30	<SRL	U	1.0	1.80	1.0
1,1-Dichloroethene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Methylene Chloride (DCM)	<SRL	U	1.0	3.30	<SRL	U	1.0	1.80	1.0
Allyl Chloride	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Carbon Disulfide	NR	U	1.0	1.65	NR	J	1.0	0.90	0.5
Trichlorotrifluoroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
trans-1,2-Dichloroethene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,1-Dichloroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Vinyl Acetate	<SRL	U	1.0	3.30	<SRL	U	1.0	1.80	1.0
2-Butanone (MEK)	1.49	J	1.0	3.30	1.21	J	1.0	1.80	1.0
cis-1,2-Dichloroethene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Hexane	1.29	J	1.0	1.65	0.61	J	1.0	0.90	0.5
Chloroform	0.46	J	1.0	1.65	0.23	J	1.0	0.90	0.5
Ethyl Acetate	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Tetrahydrofuran	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,2-Dichloroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,1,1-Trichloroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Soil Water Air Protection Enterprise
PROJECT NO : 130958
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/24/2013
DATE REPORTED : 07/29/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	D-1 K-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	D-2 Helena-Canister			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	130958-64797				130958-64798				
Date Sampled	07/19/2013				07/19/2013				
Date Analyzed	07/26/2013				07/26/2013				
Can Dilution Factor	3.30				1.80				
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Benzene	1.35	J	1.0	1.65	0.65	J	1.0	0.90	0.5
Carbon Tetrachloride	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Cyclohexane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,2-Dichloropropane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Bromodichloromethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,4-Dioxane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Trichloroethene (TCE)	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
2,2,4-Trimethylpentane	0.73	J	1.0	1.65	0.32	J	1.0	0.90	0.5
Heptane	0.40	J	1.0	1.65	0.18	J	1.0	0.90	0.5
cis-1,3-Dichloropropene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
4-Methyl-2-pentanone (MiBK)	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
trans-1,3-Dichloropropene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,1,2-Trichloroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Toluene	2.67		1.0	1.65	1.35		1.0	0.90	0.5
2-Hexanone (MBK)	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Dibromochloromethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,2-Dibromoethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Tetrachloroethene (PCE)	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Chlorobenzene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Ethylbenzene	0.53	J	1.0	1.65	0.29	J	1.0	0.90	0.5
m & p-Xylenes	1.65	J	1.0	3.30	0.74	J	1.0	1.80	1.0
Bromoform	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Styrene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,1,2,2-Tetrachloroethane	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
o-Xylene	0.66	J	1.0	1.65	0.29	J	1.0	0.90	0.5
4-Ethyltoluene	0.26	J	1.0	1.65	0.11	J	1.0	0.90	0.5
1,3,5-Trimethylbenzene	0.23	J	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,2,4-Trimethylbenzene	0.86	J	1.0	1.65	0.32	J	1.0	0.90	0.5
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,3-Dichlorobenzene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,4-Dichlorobenzene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,2-Dichlorobenzene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
1,2,4-Trichlorobenzene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
Hexachlorobutadiene	<SRL	U	1.0	1.65	<SRL	U	1.0	0.90	0.5
REP Surrogate Std. % Recovery	103%				100%				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).

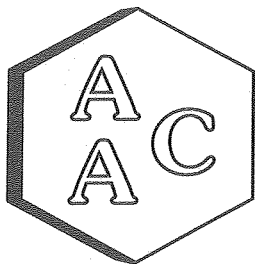
SQL - Sample Quantitation Limit is the Limit Of Quantitation (LOQ) x Dilution Factors.

NR - Not Reported on these analysis.


Marcus Hueppe
Laboratory Director



TO-15 QC REPORT



Atmospheric Analysis & Consulting, Inc.

ANALYSIS DATE : 07/26/2013
ANALYST : JJG

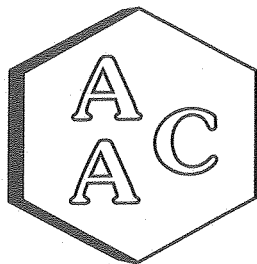
INSTRUMENT ID : GC/MS-03
CALIBRATION STD ID : PS071613-02

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 07/22/2013 Calibration

Compounds	Conc	Daily Conc	%REC*
4-BFB (surrogate standard)	10.00	9.97	100
Chlorodifluoromethane	10.10	8.28	82
Propene	11.00	9.03	82
Dichlorodifluoromethane	9.80	8.79	90
Chloromethane	10.10	8.26	82
Dichlorotetrafluoroethane	10.10	9.46	94
Vinyl Chloride	10.20	8.84	87
Methanol	4.90	3.89	79
1,3-Butadiene	10.50	8.99	86
Bromomethane	10.20	7.57	74
Chloroethane	10.00	9.43	94
Dichlorofluoromethane	10.00	8.82	88
Ethanol	9.80	8.14	83
Vinyl Bromide	10.20	9.76	96
Acetone	10.80	8.25	76
Trichlorofluoromethane	10.10	9.01	89
2-Propanol (IPA)	11.00	8.87	81
Acrylonitrile	10.50	8.70	83
1,1-Dichloroethene	10.50	10.31	98
Methylene Chloride (DCM)	10.40	10.01	96
Allyl Chloride	11.00	8.84	80
Carbon Disulfide	10.50	9.54	91
Trichlorotrifluoroethane	10.40	9.69	93
trans-1,2-Dichloroethene	10.40	10.59	102
1,1-Dichloroethane	10.40	9.69	93
Methyl Tert Butyl Ether (MTBE)	10.60	11.06	104
Vinyl Acetate	9.70	8.19	84
2-Butanone (MEK)	10.60	10.57	100
cis-1,2-Dichloroethene	10.60	10.17	96
Hexane	10.70	10.54	99
Chloroform	10.60	9.89	93
Ethyl Acetate	11.00	9.28	84
Tetrahydrofuran	10.80	10.29	95
1,2-Dichloroethane	10.40	9.52	92
1,1,1-Trichloroethane	10.50	9.80	93





Atmospheric Analysis & Consulting, Inc.

ANALYSIS DATE : 07/26/2013
ANALYST : JJG

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

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

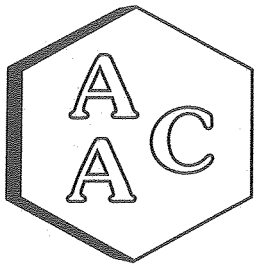
Continuing Calibration Verification of the 07/22/2013 Calibration

Compounds	Conc	Daily Conc	%REC*
Benzene	10.50	9.86	94
Carbon Tetrachloride	10.10	9.30	92
Cyclohexane	10.50	9.74	93
1,2-Dichloropropane	10.50	9.35	89
Bromodichloromethane	10.30	9.22	90
1,4-Dioxane	10.30	9.41	91
Trichloroethene (TCE)	10.30	10.12	98
2,2,4-Trimethylpentane	10.90	9.56	88
Heptane	10.70	10.15	95
cis-1,3-Dichloropropene	11.00	10.30	94
4-Methyl-2-pentanone (MiBK)	10.30	9.38	91
trans-1,3-Dichloropropene	9.80	8.91	91
1,1,2-Trichloroethane	10.60	9.87	93
Toluene	10.60	10.22	96
2-Hexanone (MBK)	10.80	9.60	89
Dibromochloromethane	11.00	10.68	97
1,2-Dibromoethane	10.40	9.84	95
Tetrachloroethene (PCE)	10.40	10.19	98
Chlorobenzene	10.60	10.02	95
Ethylbenzene	10.50	9.67	92
m & p-Xylenes	20.60	19.17	93
Bromoform	10.30	9.45	92
Styrene	10.40	9.86	95
1,1,2,2-Tetrachloroethane	10.60	9.42	89
o-Xylene	10.60	9.46	89
4-Ethyltoluene	10.40	10.00	96
1,3,5-Trimethylbenzene	10.20	9.30	91
1,2,4-Trimethylbenzene	10.20	9.73	95
Benzyl Chloride (a-Chlorotoluene)	10.00	9.77	98
1,3-Dichlorobenzene	10.00	9.84	98
1,4-Dichlorobenzene	10.00	9.35	94
1,2-Dichlorobenzene	10.00	9.28	93
1,2,4-Trichlorobenzene	9.30	8.96	96
Hexachlorobutadiene	9.80	9.14	93

* - %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 : 07/26/2013
AAC ID : LCS/LCSD DATE REPORTED : 07/26/2013
MEDIA : Air UNITS : ppbv

TO-15 Laboratory Control Spike Recovery

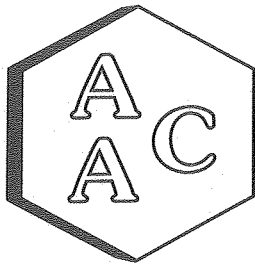
Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD**
1,1-Dichloroethene	0.0	10.50	10.31	10.39	98	99	0.8
Methylene Chloride (DCM)	0.0	10.40	10.01	9.68	96	93	3.4
Benzene	0.0	10.50	9.86	9.81	94	93	0.5
Trichloroethene (TCE)	0.0	10.30	10.12	10.01	98	97	1.1
Toluene	0.0	10.60	10.22	10.18	96	96	0.4
Tetrachloroethene (PCE)	0.0	10.40	10.19	10.18	98	98	0.1
Chlorobenzene	0.0	10.60	10.02	10.34	95	98	3.1
Ethylbenzene	0.0	10.50	9.67	10.12	92	96	4.5
m & p-Xylenes	0.0	20.60	19.17	19.91	93	97	3.8
o-Xylene	0.0	10.60	9.46	9.87	89	93	4.2

* Must be 70-130%

** Must be < 25%

Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

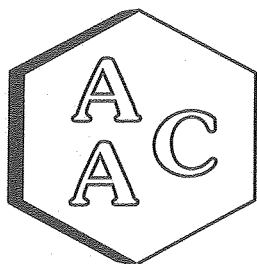
Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 07/26/2013
UNITS : ppbv REPORT DATE : 07/26/2013

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Method Blank MB 072613	RL
Chlorodifluoromethane	<RL	0.5
Propene	<RL	1.0
Dichlorodifluoromethane	<RL	0.5
Chloromethane	<RL	0.5
Dichlorotetrafluoroethane	<RL	0.5
Vinyl Chloride	<RL	0.5
Methanol	<RL	5.0
1,3-Butadiene	<RL	0.5
Bromomethane	<RL	0.5
Chloroethane	<RL	0.5
Dichlorofluoromethane	<RL	0.5
Ethanol	<RL	2.0
Vinyl Bromide	<RL	0.5
Acetone	<RL	2.0
Trichlorofluoromethane	<RL	0.5
2-Propanol (IPA)	<RL	2.0
Acrylonitrile	<RL	1.0
1,1-Dichloroethene	<RL	0.5
Methylene Chloride (DCM)	<RL	1.0
Allyl Chloride	<RL	0.5
Carbon Disulfide	<RL	0.5
Trichlorotrifluoroethane	<RL	0.5
trans-1,2-Dichloroethene	<RL	0.5
1,1-Dichloroethane	<RL	0.5
Methyl Tert Butyl Ether (MTBE)	<RL	0.5
Vinyl Acetate	<RL	1.0
2-Butanone (MEK)	<RL	1.0
cis-1,2-Dichloroethene	<RL	0.5
Hexane	<RL	0.5
Chloroform	<RL	0.5
Ethyl Acetate	<RL	0.5
Tetrahydrofuran	<RL	0.5
1,2-Dichloroethane	<RL	0.5
1,1,1-Trichloroethane	<RL	0.5
Benzene	<RL	0.5
Carbon Tetrachloride	<RL	0.5
Cyclohexane	<RL	0.5
1,2-Dichloropropane	<RL	0.5
Bromodichloromethane	<RL	0.5
1,4-Dioxane	<RL	0.5
Trichloroethene (TCE)	<RL	0.5
2,2,4-Trimethylpentane	<RL	0.5
Heptane	<RL	0.5





Atmospheric Analysis & Consulting, Inc.

Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 07/26/2013
UNITS : ppbv REPORT DATE : 07/26/2013

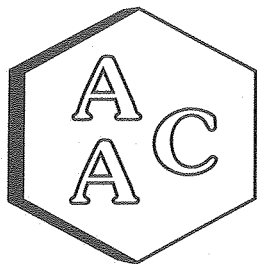
VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Method Blank MB 072613	RL
cis-1,3-Dichloropropene	<RL	0.5
4-Methyl-2-pentanone (MiBK)	<RL	0.5
trans-1,3-Dichloropropene	<RL	0.5
1,1,2-Trichloroethane	<RL	0.5
Toluene	<RL	0.5
2-Hexanone (MBK)	<RL	0.5
Dibromochloromethane	<RL	0.5
1,2-Dibromoethane	<RL	0.5
Tetrachloroethene (PCE)	<RL	0.5
Chlorobenzene	<RL	0.5
Ethylbenzene	<RL	0.5
m & p-Xylenes	<RL	1.0
Bromoform	<RL	0.5
Styrene	<RL	0.5
1,1,2,2-Tetrachloroethane	<RL	0.5
o-Xylene	<RL	0.5
4-Ethyltoluene	<RL	0.5
1,3,5-Trimethylbenzene	<RL	0.5
1,2,4-Trimethylbenzene	<RL	0.5
Benzyl Chloride (a-Chlorotoluene)	<RL	0.5
1,3-Dichlorobenzene	<RL	0.5
1,4-Dichlorobenzene	<RL	0.5
1,2-Dichlorobenzene	<RL	0.5
1,2,4-Trichlorobenzene	<RL	0.5
Hexachlorobutadiene	<RL	0.5
System Monitoring Compounds		
BFB-Surrogate Std. % Recovery	103%	--

RL - Reporting Limit


Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

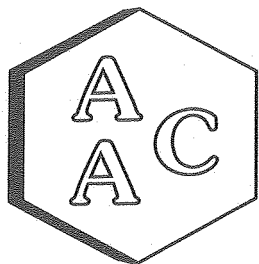
AAC ID : 130958-64795
MATRIX : Air

DATE ANALYZED : 07/26/2013
DATE REPORTED : 07/26/2013
UNITS : ppbv

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane	<SRL	<SRL	0.0
Propene	<SRL	<SRL	0.0
Dichlorodifluoromethane	<SRL	<SRL	0.0
Chloromethane	<SRL	<SRL	0.0
Dichlorotetrafluoroethane	<SRL	<SRL	0.0
Vinyl Chloride	<SRL	<SRL	0.0
Methanol	19.4	19.6	1.0
1,3-Butadiene	<SRL	<SRL	0.0
Bromomethane	<SRL	<SRL	0.0
Chloroethane	<SRL	<SRL	0.0
Dichlorofluoromethane	<SRL	<SRL	0.0
Ethanol	6.94	7.19	3.5
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	7.51	7.70	2.5
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)	<SRL	<SRL	0.0
cis-1,2-Dichloroethene	<SRL	<SRL	0.0
Hexane	<SRL	<SRL	0.0
Chloroform	<SRL	<SRL	0.0
Ethyl Acetate	<SRL	<SRL	0.0
Tetrahydrofuran	<SRL	<SRL	0.0
1,2-Dichloroethane	<SRL	<SRL	0.0
1,1,1-Trichloroethane	<SRL	<SRL	0.0
Benzene	<SRL	<SRL	0.0
Carbon Tetrachloride	<SRL	<SRL	0.0





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

AAC ID : 130958-64795 DATE ANALYZED : 07/26/2013
MATRIX : Air DATE REPORTED : 07/26/2013
UNITS : ppbv

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Cyclohexane	<SRL	<SRL	0.0
1,2-Dichloropropane	<SRL	<SRL	0.0
Bromodichloromethane	<SRL	<SRL	0.0
1,4-Dioxane	<SRL	<SRL	0.0
Trichloroethene (TCE)	<SRL	<SRL	0.0
2,2,4-Trimethylpentane	<SRL	<SRL	0.0
Heptane	<SRL	<SRL	0.0
cis-1,3-Dichloropropene	<SRL	<SRL	0.0
4-Methyl-2-pentanone (MiBK)	<SRL	<SRL	0.0
trans-1,3-Dichloropropene	<SRL	<SRL	0.0
1,1,2-Trichloroethane	<SRL	<SRL	0.0
Toluene	1.77	1.77	0.0
2-Hexanone (MBK)	<SRL	<SRL	0.0
Dibromochloromethane	<SRL	<SRL	0.0
1,2-Dibromoethane	<SRL	<SRL	0.0
Tetrachloroethene (PCE)	<SRL	<SRL	0.0
Chlorobenzene	<SRL	<SRL	0.0
Ethylbenzene	<SRL	<SRL	0.0
m & p-Xylenes	<SRL	<SRL	0.0
Bromoform	<SRL	<SRL	0.0
Styrene	<SRL	<SRL	0.0
1,1,2,2-Tetrachloroethane	<SRL	<SRL	0.0
o-Xylene	<SRL	<SRL	0.0
4-Ethyltoluene	<SRL	<SRL	0.0
1,3,5-Trimethylbenzene	<SRL	<SRL	0.0
1,2,4-Trimethylbenzene	<SRL	<SRL	0.0
Benzyl Chloride (a-Chlorotoluene)	<SRL	<SRL	0.0
1,3-Dichlorobenzene	<SRL	<SRL	0.0
1,4-Dichlorobenzene	<SRL	<SRL	0.0
1,2-Dichlorobenzene	<SRL	<SRL	0.0
1,2,4-Trichlorobenzene	<SRL	<SRL	0.0
Hexachlorobutadiene	<SRL	<SRL	0.0
System Monitoring Compounds			
BFB-Surrogate Std. % Recovery	104%	103%	0.6
SRL - Sample Reporting Limit			


Marcus Hueppe
Laboratory Director



TO-15 RAW DATA

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261305.D
 Acq On : 26 Jul 2013 11:36
 Operator : JJG
 Sample : 130958-64795 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 26 12:48:31 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	223883	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1286141	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1170109	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	696751	10.36	ppbv	0.00

Spiked Amount 10.000 Recovery = 103.60%

Target Compounds					Qvalue
2) Chlorodifluoromethane	4.836	51	9452	0.16 ppbv	# 98
3) Propene	4.799	42	8695	0.50 ppbv	# 83
4) Dichlorodifluoromethane	4.908	85	22450	0.28 ppbv	# 99
5) Chloromethane	5.288	52	3250	0.29 ppbv	# 48
6) Dichlorotetrafluoroethane	5.342	135	302	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.867	31	129625	9.54 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	6.718	66	130	N.D.	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.116	45	51230	3.41 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	62735	3.69 ppbv	
16) Trichlorofluoromethane	7.659	103	5869	0.13 ppbv	# 89
17) 2-Propanol (IPA)	8.220	45	39172	0.72 ppbv	
18) Acrylonitrile	0.000		0	N.D.	
19) 1,1-Dichloroethene	0.000		0	N.D.	
20) MethyleneChloride (DCM)	0.000		0	N.D. d	
21) AllylChloride	9.323	39	135	N.D.	
22) CarbonDisulfide	0.000		0	N.D. d	
23) Trichlorotrifluoroethane	0.000		0	N.D. d	
24) trans-1,2-Dichloroethene	0.000		0	N.D.	
25) 1,1-Dichloroethane	0.000		0	N.D.	
26) MethylTertButylEther (M...)	0.000		0	N.D.	
27) VinylAcetate	0.000		0	N.D. d	
28) 2-Butanone (MEK)	11.476	72	8314	0.53 ppbv	# 47
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	2113	0.31 ppbv	# 88
31) Chloroform	12.493	83	7847	0.12 ppbv	# 94
32) EthylAcetate	0.000		0	N.D. d	

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261305.D
 Acq On : 26 Jul 2013 11:36
 Operator : JJG
 Sample : 130958-64795 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

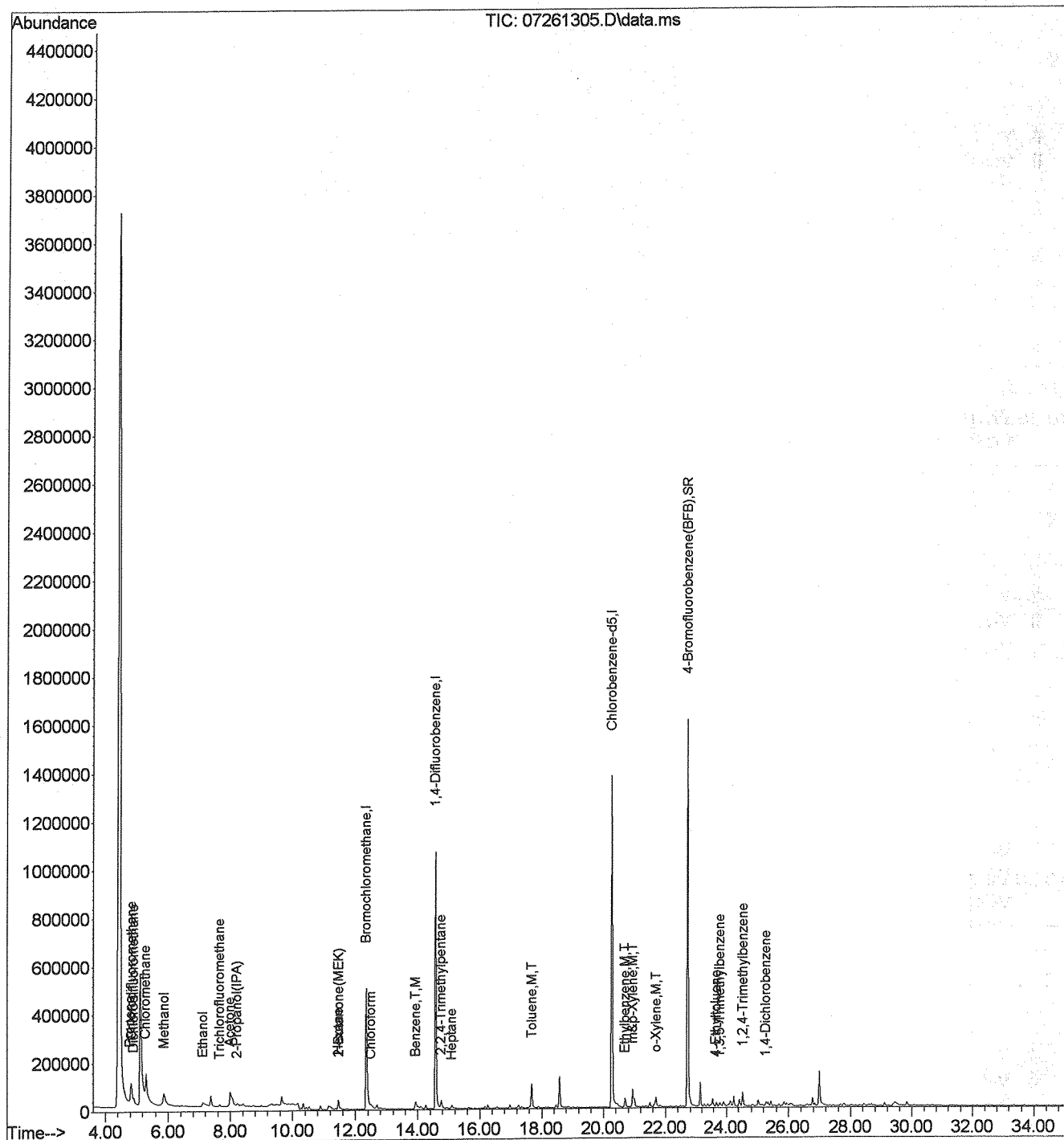
Quant Time: Jul 26 12:48:31 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	0.000		0	N.D.	d	
34) 1,2-Dichloroethane	13.598	62	114	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	26638	0.24	ppbv	99
38) CarbonTetrachloride	0.000		0	N.D.	d	
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	15.381	63	993	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.702	88	119	N.D.		
43) Trichloroethene (TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	39581	0.18	ppbv	98
45) Heptane	15.096	71	3339	0.09	ppbv #	90
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	0.000		0	N.D.	d	
48) trans-1,3-Dichloropropene	17.682	75	1117	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	115660m	0.87	ppbv	ev (min)
51) 2-Hexanone (MBK)	18.234	58	787	N.D.		
52) Dibromochloromethane	19.001	129	414	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	535	N.D.		
56) Chlorobenzene	20.356	114	563	N.D.		
57) Ethylbenzene	20.695	91	38029	0.23	ppbv	96
58) m&p-Xylene	20.945	106	45262	0.72	ppbv	99
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	3269	N.D.		
61) 1,1,2,2-Tetrachloroethane	22.354	83	397	N.D.		
62) o-Xylene	21.694	91	32993	0.26	ppbv	98
64) 4-Ethyltoluene	23.673	120	4431	0.09	ppbv #	88
65) 1,3,5-Trimethylbenzene	23.780	120	5976	0.08	ppbv #	95
66) 1,2,4-Trimethylbenzene	24.529	120	22269	0.31	ppbv	99
67) BenzylChloride (a-Chlor...)	25.171	91	1661	N.D.		
68) 1,3-Dichlorobenzene	25.046	146	1362	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	6033	0.06	ppbv	97
70) 1,2-Dichlorobenzene	25.849	146	1347	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	3012	N.D.		
72) Hexachlorobutadiene	30.075	225	639	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\072613\
Data File : 07261305.D
Acq On : 26 Jul 2013 11:36
Operator : JJG
Sample : 130958-64795 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 26 12:48:31 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261307.D
 Acq On : 26 Jul 2013 13:11
 Operator : JJG
 Sample : 130958-64796 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 26 15:21:11 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	207775	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1227340	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1145221	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	686311	10.43	ppbv	0.00

Spiked Amount 10.000 Recovery = 104.30%

Target Compounds					Qvalue
2) Chlorodifluoromethane	4.835	51	10439	0.20 ppbv	# 96
3) Propene	4.799	42	8916	0.55 ppbv	# 83
4) Dichlorodifluoromethane	4.908	85	24723	0.33 ppbv	# 99
5) Chloromethane	5.288	52	3400	0.33 ppbv	# 36
6) Dichlorotetrafluoroethane	5.324	135	384	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.867	31	108530	8.61 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	0.00
11) Chloroethane	0.000		0	N.D. d	0.00
12) Dichlorofluoromethane	7.025	67	121	N.D.	0.00
13) Ethanol	7.134	45	41912	3.01 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	8.002	58	60706	3.85 ppbv	0.00
16) Trichlorofluoromethane	7.658	103	7277	0.17 ppbv	96
17) 2-Propanol (IPA)	8.219	45	29243	0.58 ppbv	0%
18) Acrylonitrile	0.000		0	N.D.	
19) 1,1-Dichloroethene	0.000		0	N.D.	Qvalue
20) MethyleneChloride (DCM)	0.000		0	N.D. d	# 96
21) AllylChloride	9.287	39	257	N.D.	# 83
22) CarbonDisulfide	0.000		0	N.D. d	# 99
23) Trichlorotrifluoroethane	0.000		0	N.D. d	# 36
24) trans-1,2-Dichloroethene	0.000		0	N.D.	
25) 1,1-Dichloroethane	0.000		0	N.D.	
26) MethylTertButylEther (M...)	0.000		0	N.D.	
27) VinylAcetate	0.000		0	N.D. d	
28) 2-Butanone (MEK)	11.458	72	6855	0.47 ppbv	# 1
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	1863	0.29 ppbv	96
31) Chloroform	12.493	83	7175	0.11 ppbv	# 91
32) EthylAcetate	0.000		0	N.D. d	

8/26/13
 QV 100

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261307.D
 Acq On : 26 Jul 2013 13:11
 Operator : JJG
 Sample : 130958-64796 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 26 15:21:11 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

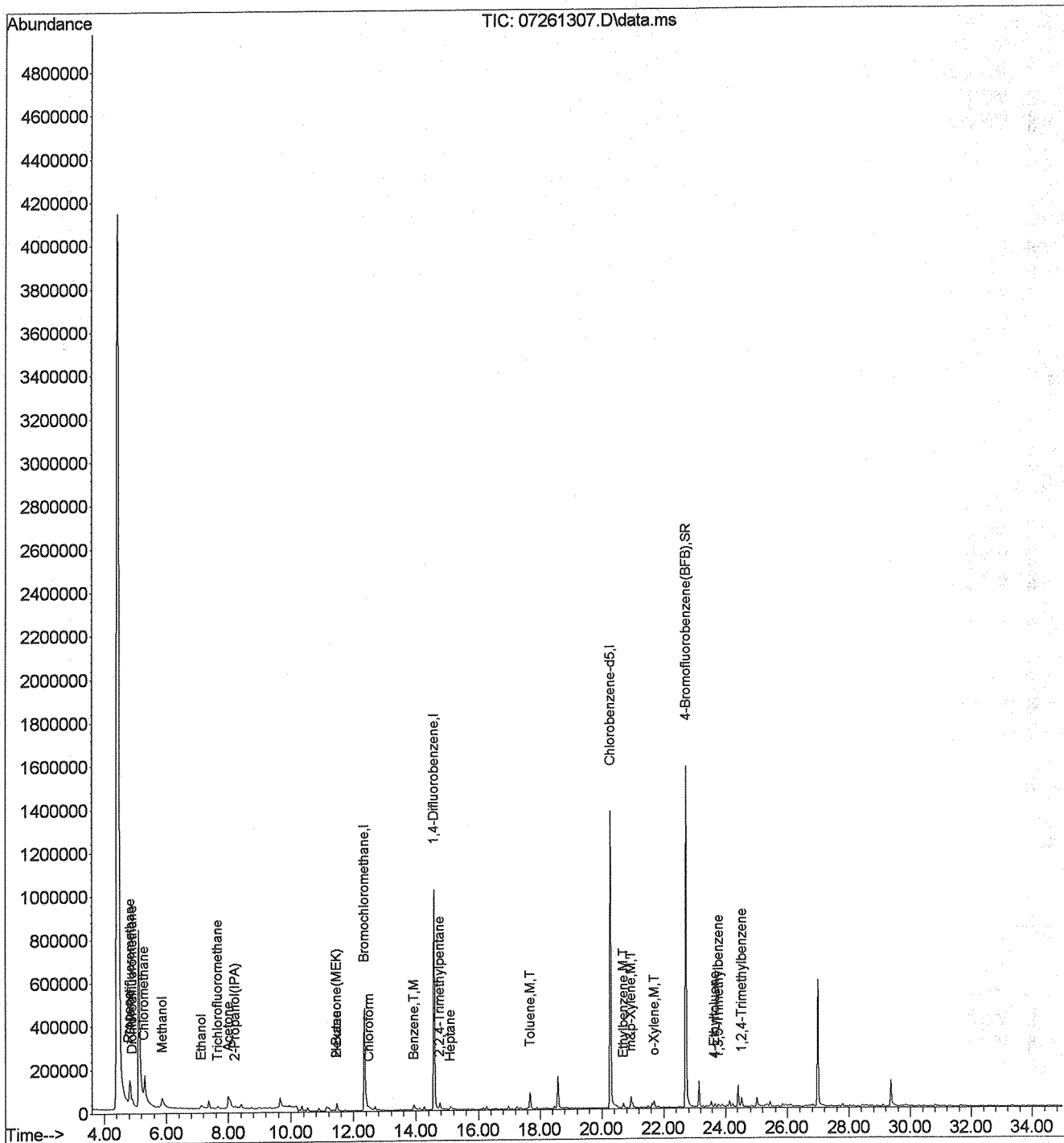
Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.760	72	560	N.D.		
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	20441	0.19	ppbv	98
38) CarbonTetrachloride	0.000		0	N.D.	d	
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	0.000		0	N.D.	d	
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.667	88	863	N.D.		
43) Trichloroethene (TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	35699	0.17	ppbv	98
45) Heptane	15.096	71	3333	0.10	ppbv #	79
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	16.558	58	1570	N.D.		
48) trans-1,3-Dichloropropene	17.664	75	883	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	88923	0.70	ppbv	99
51) 2-Hexanone (MBK)	0.000		0	N.D.		
52) Dibromochloromethane	19.001	129	310	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	327	N.D.		
56) Chlorobenzene	20.339	114	265	N.D.		
57) Ethylbenzene	20.695	91	23791	0.15	ppbv	97
58) m&p-Xylene	20.945	106	30613	0.50	ppbv #	95
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	2269	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	25187	0.20	ppbv	97
64) 4-Ethyltoluene	23.673	120	3711	0.07	ppbv #	90
65) 1,3,5-Trimethylbenzene	23.780	120	4373	0.06	ppbv #	90
66) 1,2,4-Trimethylbenzene	24.529	120	16143	0.23	ppbv	95
67) BenzylChloride (a-Chlor...)	25.189	91	910	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	342	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	1122	N.D.		
70) 1,2-Dichlorobenzene	25.849	146	317	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	1020	N.D.		
72) Hexachlorobutadiene	30.057	225	327	N.D.		

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

(QT Reviewed)

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Data Path : C:\msdchem\1\MS03\2013\072613\  
Data File : 07261307.D  
Acq On    : 26 Jul 2013   13:11  
Operator  : JJG  
Sample    : 130958-64796 x1  
Misc      : IS/Surr: PS082212-01 + 500mL  
ALS Vial  : 3      Sample Multiplier: 1
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Quant Time: Jul 26 15:21:11 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261308.D
 Acq On : 26 Jul 2013 13:58
 Operator : JJG
 Sample : 130958-64797 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 26 16:06:09 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	214175	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1210942	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1105704	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	655357	10.31	ppbv	0.00

Spiked Amount 10.000 Recovery = 103.10%

Target Compounds						Qvalue
2) Chlorodifluoromethane	4.835	51	6199	0.11	ppbv #	96
3) Propene	4.799	42	9860	0.59	ppbv	91
4) Dichlorodifluoromethane	4.908	85	14230	0.18	ppbv	99
5) Chloromethane	5.306	52	2147	0.20	ppbv #	1
6) Dichlorotetrafluoroethane	0.000		0	N.D.		
7) VinylChloride	0.000		0	N.D.	Dev(Min)	
8) Methanol	5.885	31	98279	7.56	ppbv	
9) 1,3-Butadiene	0.000		0	N.D.		
10) Bromomethane	0.000		0	N.D. d		0.00
11) Chloroethane	0.000		0	N.D. d		0.00
12) Dichlorofluoromethane	0.000		0	N.D.		0.00
13) Ethanol	7.116	45	59708	4.16	ppbv	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	8.002	58	39652	2.44	ppbv	0.00
16) Trichlorofluoromethane	7.659	103	4210	0.10	ppbv	95
17) 2-Propanol (IPA)	8.220	45	38801	0.74	ppbv	
18) Acrylonitrile	0.000		0	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.	Qvalue	
20) MethyleneChloride (DCM)	0.000		0	N.D. d		96
21) AllylChloride	9.233	39	721	N.D.		91
22) CarbonDisulfide	0.000		0	N.D. d		95
23) Trichlorotrifluoroethane	8.998	103	1182	N.D.		1
24) trans-1,2-Dichloroethene	0.000		0	N.D.	Dev(Min)	
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylEther (M...)	0.000		0	N.D. ppbv		
27) VinylAcetate	0.000		0	N.D. d		
28) 2-Butanone (MEK)	11.476	72	6787	0.45	ppbv #	0.01
29) cis-1,2-Dichloroethene	0.000		0	N.D.		0.00
30) Hexane	11.458	86	2564	0.39	ppbv	91
31) Chloroform	12.493	83	8915	0.14	ppbv #	93
32) EthylAcetate	0.000		0	N.D. d		0.00

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261308.D
 Acq On : 26 Jul 2013 13:58
 Operator : JJG
 Sample : 130958-64797 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 4 Sample Multiplier: 1

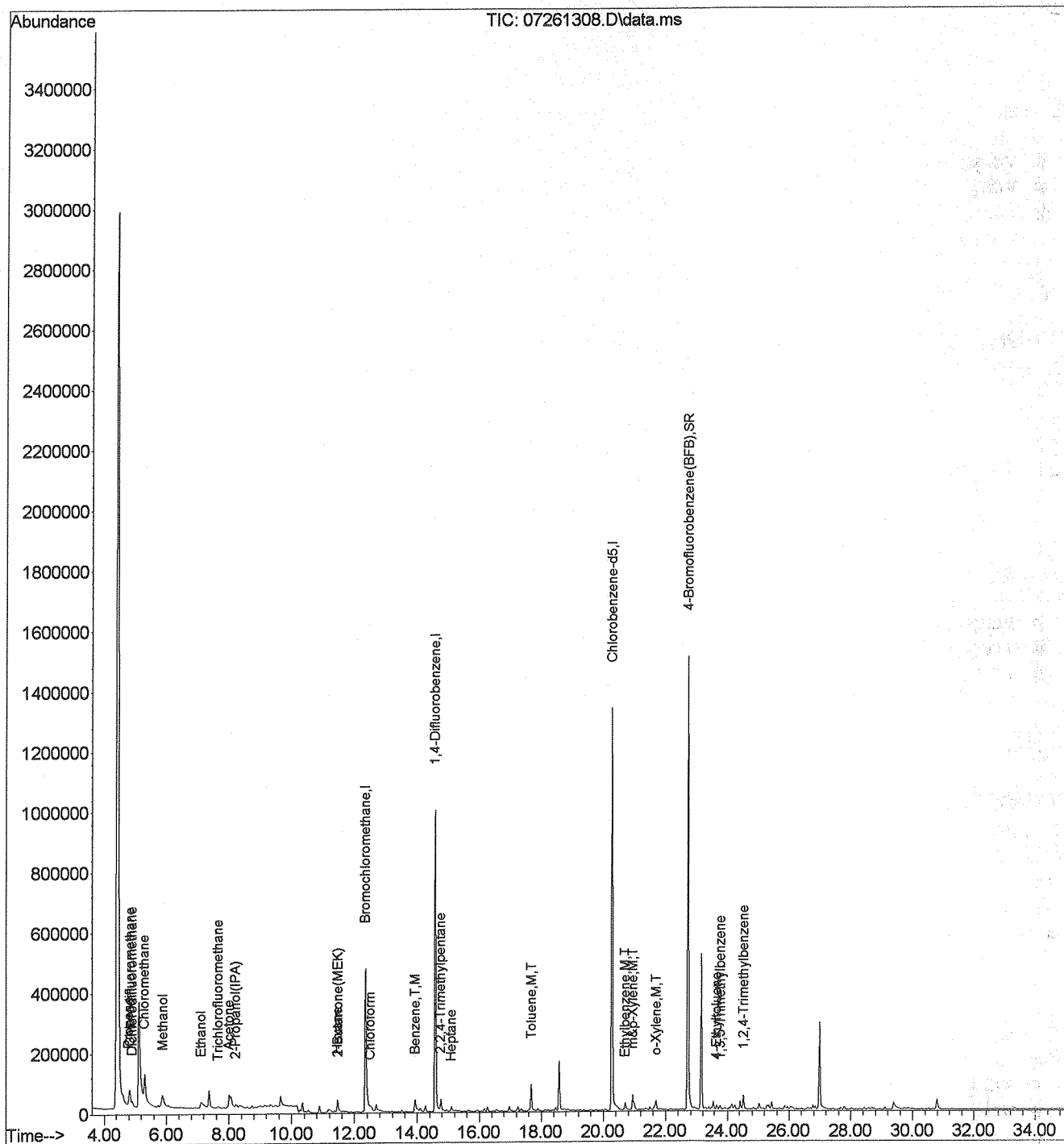
Quant Time: Jul 26 16:06:09 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	0.000		0	N.D.	d	
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	43344	0.41	ppbv	98
38) CarbonTetrachloride	13.973	117	1750	N.D.		
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	0.000		0	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	0.000		0	N.D.		
43) Trichloroethene (TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	45609	0.22	ppbv	96
45) Heptane	15.096	71	3983	0.12	ppbv	94
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...	0.000		0	N.D.	d	
48) trans-1,3-Dichloropropene	17.664	75	837	N.D.		
49) 1,1,2-Trichloroethane	17.842	97	872	N.D.		
50) Toluene	17.682	91	101676	0.81	ppbv	Dev (min)
51) 2-Hexanone (MBK)	18.217	58	121	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	20.356	114	113	N.D.		
57) Ethylbenzene	20.695	91	24643	0.16	ppbv	98
58) m&p-Xylene	20.945	106	29488	0.50	ppbv	99
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.676	104	1965	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	24889	0.20	ppbv #	98
64) 4-Ethyltoluene	23.673	120	3880	0.08	ppbv #	90
65) 1,3,5-Trimethylbenzene	23.780	120	4900	0.07	ppbv #	89
66) 1,2,4-Trimethylbenzene	24.529	120	17346	0.26	ppbv	91
67) BenzylChloride (a-Chlor...	25.189	91	546	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	315	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	1261	N.D.		
70) 1,2-Dichlorobenzene	25.849	146	135	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	667	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\072613\
Data File : 07261308.D
Acq On : 26 Jul 2013 13:58
Operator : JJG
Sample : 130958-64797 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 26 16:06:09 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261309.D
 Acq On : 26 Jul 2013 14:46
 Operator : JJG
 Sample : 130958-64798 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 26 16:45:56 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	12.350	128	204466	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1213345	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1120442	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	640585	9.95	ppbv	0.00

Spiked Amount 10.000 Recovery = 99.50%

Target Compounds					Qvalue
2) Chlorodifluoromethane	4.836	51	10657	0.20 ppbv	# 98
3) Propene	4.799	42	7520	0.47 ppbv	# 83
4) Dichlorodifluoromethane	4.908	85	22796	0.31 ppbv	# 99
5) Chloromethane	5.288	52	3051	0.30 ppbv	# 50
6) Dichlorotetrafluoroethane	5.324	135	325	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.867	31	113981	9.19 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	
11) Chloroethane	6.718	66	149	N.D.	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.116	45	52500	3.83 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	60739	3.91 ppbv	
16) Trichlorofluoromethane	7.659	103	6723	0.16 ppbv	# 98
17) 2-Propanol (IPA)	8.220	45	48021	0.96 ppbv	
18) Acrylonitrile	0.000		0	N.D.	
19) 1,1-Dichloroethene	0.000		0	N.D.	
20) MethyleneChloride (DCM)	0.000		0	N.D. d	
21) AllylChloride	9.233	39	672	N.D.	
22) CarbonDisulfide	9.486	76	22272	0.26 ppbv	
23) Trichlorotrifluoroethane	0.000		0	N.D. d	
24) trans-1,2-Dichloroethene	0.000		0	N.D.	
25) 1,1-Dichloroethane	0.000		0	N.D.	
26) MethylTertButylEther (M...)	10.424	73	340	N.D.	
27) VinylAcetate	10.888	43	3744	N.D.	
28) 2-Butanone (MEK)	11.458	72	9568	0.67 ppbv	# 6
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	2123	0.34 ppbv	# 81
31) Chloroform	12.493	83	8252	0.13 ppbv	# 91
32) EthylAcetate	0.000		0	N.D. d	

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261309.D
 Acq On : 26 Jul 2013 14:46
 Operator : JJG
 Sample : 130958-64798 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 26 16:45:56 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

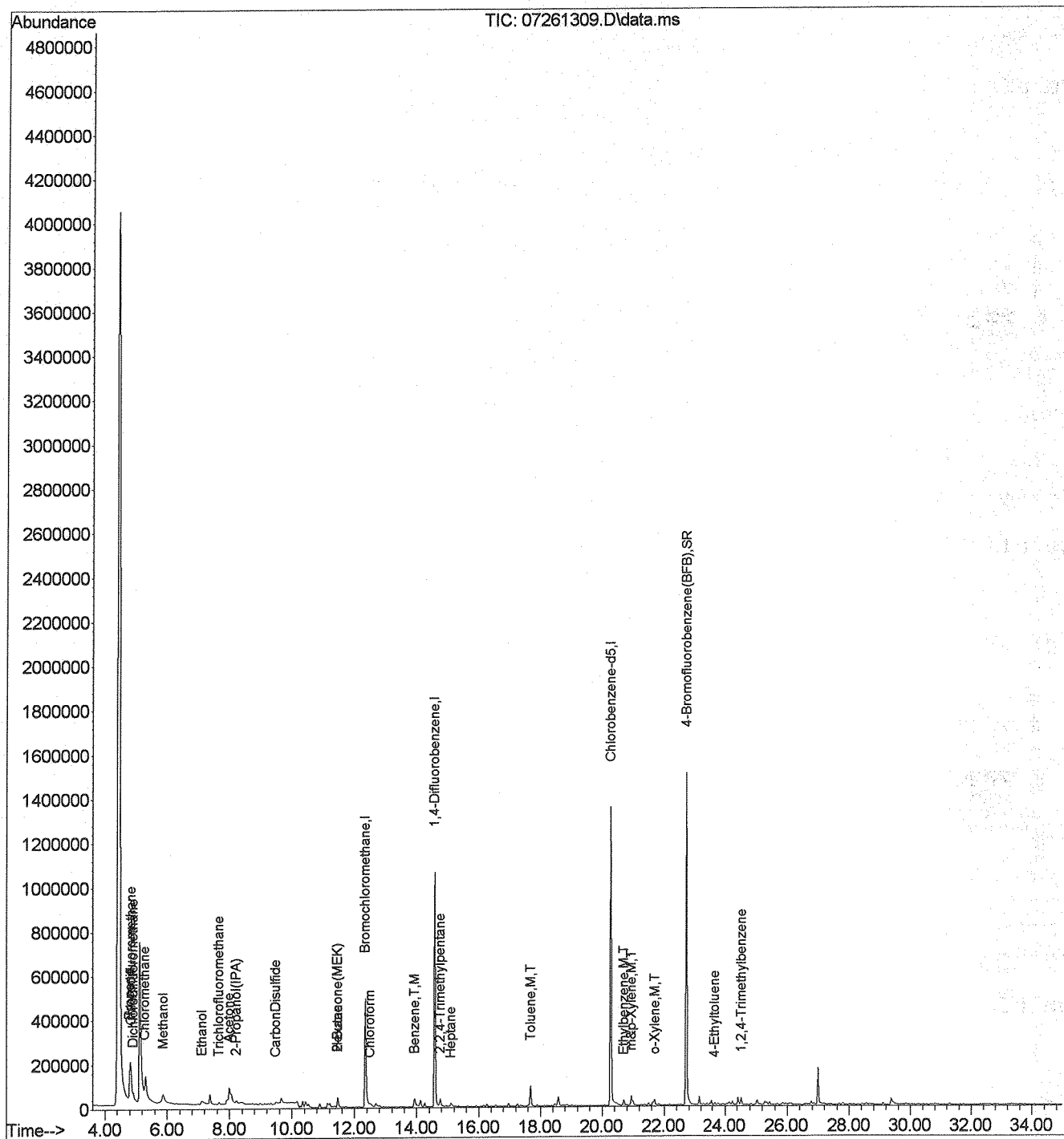
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.	d	
34) 1,2-Dichloroethane	13.598	62	123	N.D.		
35) 1,1,1-Trichloroethane	13.331	97	111	N.D.		
37) Benzene	13.937	78	38097	0.36	ppbv	100
38) CarbonTetrachloride	0.000		0	N.D.	d	
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	15.292	63	1678	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.702	88	107	N.D.		
43) Trichloroethene (TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	37051	0.18	ppbv	94
45) Heptane	15.096	71	3318	0.10	ppbv #	71
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	0.000		0	N.D.	d	
48) trans-1,3-Dichloropropene	17.664	75	2173	N.D.		
49) 1,1,2-Trichloroethane	17.842	97	775	N.D.		
50) Toluene	17.682	91	94453	0.75	ppbv	98
51) 2-Hexanone (MBK)	18.217	58	1073	N.D.		
52) Dibromochloromethane	19.019	129	353	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.001	166	375	N.D.		
56) Chlorobenzene	20.357	114	132	N.D.		
57) Ethylbenzene	20.695	91	25221	0.16	ppbv	97
58) m&p-Xylene	20.945	106	24462	0.41	ppbv	95
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	1712	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	20295	0.16	ppbv #	98
64) 4-Ethyltoluene	23.673	120	2697	0.06	ppbv #	84
65) 1,3,5-Trimethylbenzene	0.000		0	N.D.	d	
66) 1,2,4-Trimethylbenzene	24.529	120	12433	0.18	ppbv	95
67) BenzylChloride (a-Chlor...)	25.189	91	348	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	234	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	2094	N.D.		
70) 1,2-Dichlorobenzene	25.849	146	127	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	613	N.D.		
72) Hexachlorobutadiene	0.000		0	N.D.		

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

[Handwritten signature]

Data Path : C:\msdchem\1\MS03\2013\072613\
Data File : 07261309.D
Acq On : 26 Jul 2013 14:46
Operator : JJG
Sample : 130958-64798 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 26 16:45:56 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



07/26/13

TO-15 RAW QC & ICAL SUMMARY

MS #3 Instrument Logbook

Sequence Name: C:\msdchem\1\sequence\2013\072613.S

Comment: GCMS-03

Operator: JJG

Data Path: C:\MSDCHEM\1\MS03\2013\072613\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run

On A Barcode Mismatch

(X) Full Method

(X) Inject Anyway

() Reprocessing Only

() Don't Inject

Line	Sample Name/Misc Info
1) Sample	1 07261301 TO15-5MS TO15 BFB 072613
2) Sample	1 07261302 TO15-5MS TO15 CCV 072613
3) Sample	1 07261303 TO15-5MS TO15 LCSD 072613
4) Sample	1 07261304 TO15-5MS TO15 MB 072613
5) Sample	2 07261305 TO15-5MS 130958-64795 x1
6) Sample	2 07261306 TO15-5MS 130958-64795 x1 dp
7) Sample	3 07261307 TO15-5MS 130958-64796 x1
8) Sample	4 07261308 TO15-5MS 130958-64797 x1
9) Sample	5 07261309 TO15-5MS 130958-64798 x1
10) Sample	6 07261310 TO15-5MS 130957-64787 x20
11) Sample	7 07261311 TO15-5MS 130957-64788 x20
12) Sample	13 07261312 TO15-5MS 130963-64842 x20
13) Sample	14 07261313 TO15-5MS 130963-64843 x20
14) Sample	15 07261314 TO15-5MS 130963-64844 x20
15) Sample	16 07261315 TO15-5MS 130963-64845 x20
16) Sample	13 07261316 TO15-5MS Lab Air 072613 x1
17) Sample	14 07261317 TO15-5MS Lab Air 072613 x1
18) Sample	15 07261318 TO15-5MS Lab Air 072613 x1
19) Sample	16 07261319 TO15-5MS Lab Air 072613 x1
20) Sample	13 07261320 TO15-5MS Lab Air 072613 x1
21) Sample	14 07261321 TO15-5MS Lab Air 072613 x1
22) Sample	15 07261322 TO15-5MS Lab Air 072613 x1

Comments: _____

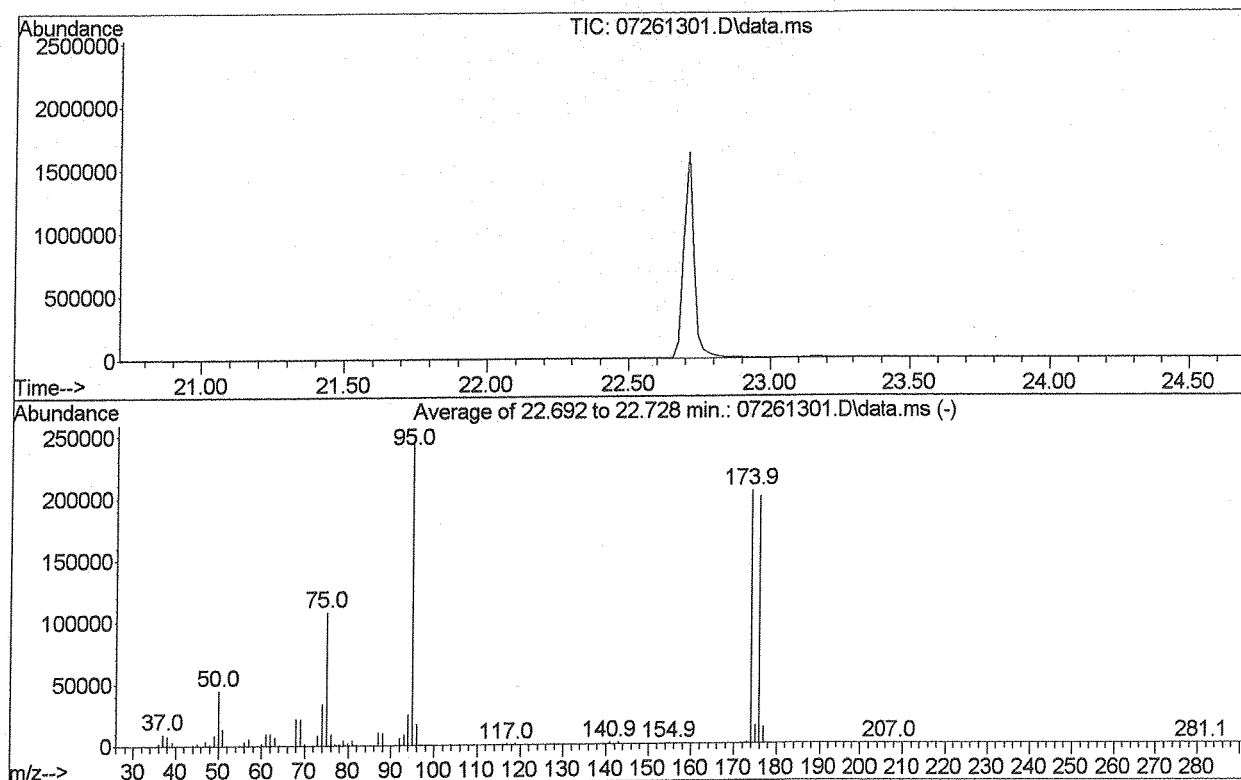
Analyst: _____

Date: _____

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261301.D
 Acq On : 26 Jul 2013 8:27 am
 Operator : JJG
 Sample : TO15 BFB 072613
 Misc : IS/Surr: PS082212-01 + 500mL cc#000141
 ALS Vial : 1 Sample Multiplier: 1

Integration File: PAMS.P

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



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

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	44875	PASS
75	95	30	60	43.8	108189	PASS
95	95	100	100	100.0	247104	PASS
96	95	5	9	6.7	16672	PASS
173	174	0.00	2	0.6	1317	PASS
174	95	50	100	82.9	204800	PASS
175	174	5	9	7.3	14849	PASS
176	174	95	101	97.7	200064	PASS
177	176	5	9	6.6	13245	PASS

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261302.D
 Acq On : 26 Jul 2013 9:14
 Operator : JJG
 Sample : TO15 CCV 072613
 Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 26 12:10:56 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	250886	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1341182	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1300746	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	745359	9.97	ppbv	0.00

Spiked Amount 10.000 Recovery = 99.70%

Target Compounds					Qvalue
2) Chlorodifluoromethane	4.817	51	532254m	8.28	ppbv
3) Propene	4.781	42	175507	9.03	ppbv 98
4) Dichlorodifluoromethane	4.908	85	795088	8.79	ppbv 99
5) Chloromethane	5.306	52	102978m	8.26	ppbv
6) Dichlorotetrafluoroethane	5.342	135	508541	9.46	ppbv 88
7) VinylChloride	5.668	62	337925m	8.84	ppbv
8) Methanol	5.867	31	59284m	3.89	ppbv
9) 1,3-Butadiene	5.867	54	229003m	8.99	ppbv
10) Bromomethane	6.446	96	193249m	7.57	ppbv
11) Chloroethane	6.736	66	52674	9.43	ppbv 96
12) Dichlorofluoromethane	7.025	67	651358	8.82	ppbv 98
13) Ethanol	7.061	45	136920m	8.14	ppbv
14) VinylBromide	7.260	108	259912m	9.76	ppbv
15) Acetone	7.966	58	157169m	8.25	ppbv
16) Trichlorofluoromethane	7.677	103	464082	9.01	ppbv 99
17) 2-Propanol (IPA)	8.165	45	543110m	8.87	ppbv
18) Acrylonitrile	8.961	52	243951m	8.70	ppbv
19) 1,1-Dichloroethene	8.726	96	308759	10.31	ppbv 95
20) MethyleneChloride (DCM)	9.323	84	308967m	10.01	ppbv
21) AllylChloride	9.305	39	278641m	8.84	ppbv
22) CarbonDisulfide	9.486	76	991858m	9.54	ppbv
23) Trichlorotrifluoroethane	8.998	103	412971	9.69	ppbv 98
24) trans-1,2-Dichloroethene	10.424	96	359436m	10.59	ppbv
25) 1,1-Dichloroethane	10.906	63	749674m	9.69	ppbv
26) MethylTertButylether (M...)	10.442	73	927399	11.06	ppbv 97
27) VinylAcetate	10.888	43	953221m	8.19	ppbv
28) 2-Butanone (MEK)	11.423	72	185920	10.57	ppbv 65
29) cis-1,2-Dichloroethene	11.904	96	379248	10.17	ppbv 89
30) Hexane	11.458	86	81631	10.54	ppbv 82
31) Chloroform	12.493	83	752810	9.89	ppbv 98
32) EthylAcetate	12.011	43	928495	9.28	ppbv # 98

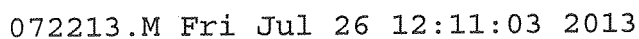
Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261302.D
 Acq On : 26 Jul 2013 9:14
 Operator : JJG
 Sample : TO15 CCV 072613
 Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 26 12:10:56 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.671	72	183246	10.29	ppbv	74
34) 1,2-Dichloroethane	13.580	62	529545	9.52	ppbv	97
35) 1,1,1-Trichloroethane	13.331	97	776429	9.80	ppbv	99
37) Benzene	13.937	78	1157121	9.86	ppbv	98
38) CarbonTetrachloride	13.973	117	734683	9.30	ppbv	99
39) Cyclohexane	14.026	69	175297	9.74	ppbv	91
40) 1,2-Dichloropropane	15.399	63	479841	9.35	ppbv	98
41) Bromodichloromethane	15.756	85	521997	9.22	ppbv	98
42) 1,4-Dioxane	15.524	88	262801m	9.41	ppbv	
43) Trichloroethene (TCE)	15.292	130	484678	10.12	ppbv	97
44) 2,2,4-Trimethylpentane	14.757	57	2163060	9.56	ppbv	99
45) Heptane	15.096	71	385423	10.15	ppbv	85
46) cis-1,3-Dichloropropene	16.647	75	680983	10.30	ppbv	96
47) 4-Methyl-2-pentanone (M...)	16.505	58	433226	9.38	ppbv	96
48) trans-1,3-Dichloropropene	17.521	75	587814	8.91	ppbv	96
49) 1,1,2-Trichloroethane	17.931	97	489851	9.87	ppbv	96
50) Toluene	17.664	91	1423896	10.22	ppbv	99
51) 2-Hexanone (MBK)	18.110	58	551491	9.60	ppbv	91
52) Dibromochloromethane	18.876	129	879428	10.68	ppbv	98
53) 1,2-Dibromoethane	19.215	107	751100	9.84	ppbv	99
54) Tetrachloroethene (PCE)	19.019	166	648372	10.19	ppbv	97
56) Chlorobenzene	20.339	114	345642	10.02	ppbv	92
57) Ethylbenzene	20.695	91	1783877	9.67	ppbv	99
58) m&p-Xylene	20.945	106	1331252	19.17	ppbv	97
59) Bromoform	21.819	173	834272	9.45	ppbv	98
60) Styrene	21.640	104	1097650	9.86	ppbv	96
61) 1,1,2,2-Tetrachloroethane	22.336	83	1092387	9.42	ppbv	99
62) o-Xylene	21.694	91	1356964	9.46	ppbv	98
64) 4-Ethyltoluene	23.673	120	564871	10.00	ppbv	97
65) 1,3,5-Trimethylbenzene	23.780	120	747091	9.30	ppbv	97
66) 1,2,4-Trimethylbenzene	24.529	120	769903	9.73	ppbv	95
67) BenzylChloride (a-Chlor...)	25.153	91	1268182	9.77	ppbv	99
68) 1,3-Dichlorobenzene	25.028	146	1137298	9.84	ppbv	97
69) 1,4-Dichlorobenzene	25.260	146	1088330m	9.35	ppbv	96
70) 1,2-Dichlorobenzene	25.831	146	1124692m	9.28	ppbv	95
71) 1,2,4-Trichlorobenzene	29.433	180	1026866m	8.96	ppbv	91
72) Hexachlorobutadiene	30.075	225	815564m	9.14	ppbv	96

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

Quant Time: Jul 26 12:10:56 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



403
6/2/63

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261303.D
 Acq On : 26 Jul 2013 10:00
 Operator : JJG
 Sample : TO15 LCSD 072613
 Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 26 12:14:02 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	245019	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1334505	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1261815	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	730721	10.08	ppbv	0.00

Spiked Amount 10.000 Recovery = 100.80%

Target Compounds					Qvalue
2) Chlorodifluoromethane	4.817	51	547878m	8.73	ppbv
3) Propene	4.781	42	180171m	9.49	ppbv
4) Dichlorodifluoromethane	4.908	85	810875m	9.18	ppbv
5) Chloromethane	5.288	52	102848m	8.45	ppbv
6) Dichlorotetrafluoroethane	5.342	135	512373	9.76	ppbv 86
7) VinylChloride	5.668	62	335532m	8.99	ppbv
8) Methanol	5.867	31	56892m	3.83	ppbv
9) 1,3-Butadiene	5.867	54	228196m	9.18	ppbv
10) Bromomethane	6.446	96	198130m	7.94	ppbv
11) Chloroethane	6.736	66	52687	9.65	ppbv 95
12) Dichlorofluoromethane	7.025	67	660270m	9.15	ppbv
13) Ethanol	7.061	45	134007m	8.16	ppbv
14) VinylBromide	7.260	108	254726m	9.79	ppbv
15) Acetone	7.966	58	158793m	8.54	ppbv
16) Trichlorofluoromethane	7.677	103	451336m	8.97	ppbv
17) 2-Propanol (IPA)	8.165	45	553213m	9.25	ppbv
18) Acrylonitrile	8.962	52	259118m	9.46	ppbv
19) 1,1-Dichloroethene	8.726	96	303832m	10.39	ppbv
20) MethyleneChloride (DCM)	9.323	84	291922m	9.68	ppbv
21) AllylChloride	9.305	39	258647m	8.41	ppbv
22) CarbonDisulfide	9.486	76	961047m	9.46	ppbv
23) Trichlorotrifluoroethane	8.998	103	410315	9.85	ppbv 98
24) trans-1,2-Dichloroethene	10.424	96	375442m	11.33	ppbv
25) 1,1-Dichloroethane	10.906	63	741426	9.82	ppbv 99
26) MethylTertButylEther (M...)	10.442	73	943968	11.53	ppbv 97
27) VinylAcetate	10.888	43	989826m	8.71	ppbv
28) 2-Butanone (MEK)	11.423	72	187702	10.92	ppbv # 66
29) cis-1,2-Dichloroethene	11.904	96	366914	10.08	ppbv 89
30) Hexane	11.458	86	83428	11.03	ppbv 80
31) Chloroform	12.493	83	738689	9.94	ppbv 99
32) EthylAcetate	12.011	43	931489	9.54	ppbv 97

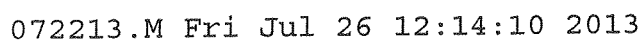
Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261303.D
 Acq On : 26 Jul 2013 10:00
 Operator : JJG
 Sample : TO15 LCSD 072613
 Misc : IS/Surr: PS082212-01 + Cal: PS071613-02
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 26 12:14:02 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) Tetrahydrofuran	12.671	72	182459	10.49	ppbv	74
34) 1,2-Dichloroethane	13.580	62	523410	9.64	ppbv	97
35) 1,1,1-Trichloroethane	13.331	97	776097	10.03	ppbv	98
37) Benzene	13.937	78	1145458	9.81	ppbv	98
38) CarbonTetrachloride	13.973	117	739805	9.42	ppbv	98
39) Cyclohexane	14.026	69	174408	9.73	ppbv	92
40) 1,2-Dichloropropane	15.399	63	482800	9.46	ppbv	98
41) Bromodichloromethane	15.756	85	517670	9.19	ppbv	99
42) 1,4-Dioxane	15.524	88	267411m	9.63	ppbv	
43) Trichloroethene (TCE)	15.292	130	477404	10.01	ppbv	98
44) 2,2,4-Trimethylpentane	14.757	57	2192400	9.74	ppbv	99
45) Heptane	15.096	71	376401	9.96	ppbv	85
46) cis-1,3-Dichloropropene	16.647	75	680853	10.34	ppbv	96
47) 4-Methyl-2-pentanone (M...)	16.523	58	430112	9.36	ppbv	91
48) trans-1,3-Dichloropropene	17.521	75	590360	8.99	ppbv	96
49) 1,1,2-Trichloroethane	17.931	97	492920	9.98	ppbv	96
50) Toluene	17.664	91	1410403	10.18	ppbv	99
51) 2-Hexanone (MBK)	18.110	58	568418	9.94	ppbv	91
52) Dibromochloromethane	18.876	129	867115	10.58	ppbv	98
53) 1,2-Dibromoethane	19.215	107	743225	9.78	ppbv	100
54) Tetrachloroethene (PCE)	19.001	166	644629	10.18	ppbv	93
56) Chlorobenzene	20.357	114	346057	10.34	ppbv	96
57) Ethylbenzene	20.695	91	1810578	10.12	ppbv	99
58) m&p-Xylene	20.945	106	1341198	19.91	ppbv	96
59) Bromoform	21.819	173	836572	9.77	ppbv	99
60) Styrene	21.640	104	1115391	10.32	ppbv	96
61) 1,1,2,2-Tetrachloroethane	22.336	83	1108179	9.85	ppbv	100
62) o-Xylene	21.694	91	1373757	9.87	ppbv	98
64) 4-Ethyltoluene	23.673	120	572086	10.44	ppbv	98
65) 1,3,5-Trimethylbenzene	23.780	120	767640	9.86	ppbv	97
66) 1,2,4-Trimethylbenzene	24.529	120	773337	10.07	ppbv	97
67) BenzylChloride (a-Chlor...	25.153	91	1311499	10.41	ppbv	99
68) 1,3-Dichlorobenzene	25.028	146	1142139	10.18	ppbv	97
69) 1,4-Dichlorobenzene	25.260	146	1107541m	9.81	ppbv	98
70) 1,2-Dichlorobenzene	25.831	146	1157047m	9.84	ppbv	98
71) 1,2,4-Trichlorobenzene	29.433	180	1043179m	9.38	ppbv	91
72) Hexachlorobutadiene	30.075	225	824904m	9.53	ppbv	98

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

Quant Time: Jul 26 12:14:02 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



age 43
07/26/13

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261304.D
 Acq On : 26 Jul 2013 10:48
 Operator : JJG
 Sample : TO15 MB 072613
 Misc : IS/Surr: PS082212-01 + 500mL cc#000141
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 26 12:45:43 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	12.350	128	235192	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1324267	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1213209	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	719368	10.32	ppbv	0.00

Spiked Amount 10.000

Recovery = 103.20%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Chlorodifluoromethane	4.872	51	117	N.D.		
3) Propene	0.000		0	N.D.	d	
4) Dichlorodifluoromethane	0.000		0	N.D.		
5) Chloromethane	0.000		0	N.D.	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.	dev	0.00
11) Chloroethane	0.000		0	N.D.	dev	0.00
12) Dichlorofluoromethane	0.000		0	N.D.		0.00
13) Ethanol	0.000		0	N.D.	d	
14) VinylBromide	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.	d	0.00
16) Trichlorofluoromethane	0.000		0	N.D.		
17) 2-Propanol (IPA)	0.000		0	N.D.	d	
18) Acrylonitrile	9.106	52	521	N.D.		
19) 1,1-Dichloroethene	0.000		0	N.D.		Qvalue
20) MethyleneChloride (DCM)	0.000		0	N.D.	d	
21) AllylChloride	9.305	39	381	N.D.		
22) CarbonDisulfide	0.000		0	N.D.	d	
23) Trichlorotrifluoroethane	0.000		0	N.D.		
24) trans-1,2-Dichloroethene	0.000		0	N.D.		
25) 1,1-Dichloroethane	0.000		0	N.D.		
26) MethylTertButylEther (M...)	0.000		0	N.D.		
27) VinylAcetate	10.959	43	124	N.D.		
28) 2-Butanone (MEK)	11.423	72	135	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	1352	N.D.		

07/26/13

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261304.D
 Acq On : 26 Jul 2013 10:48
 Operator : JJG
 Sample : TO15 MB 072613
 Misc : IS/Surr: PS082212-01 + 500mL cc#000141
 ALS Vial : 1 Sample Multiplier: 1

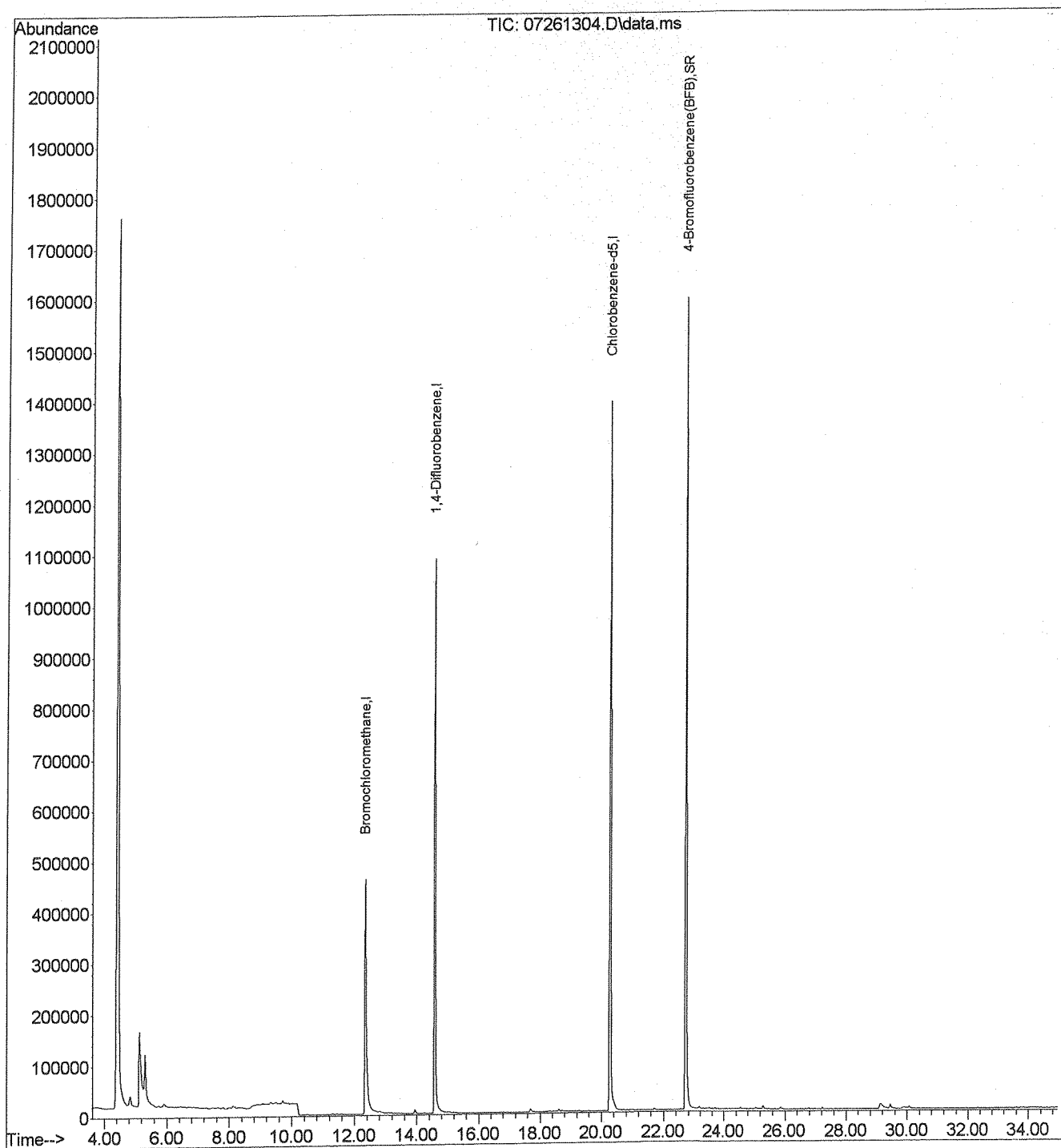
Quant Time: Jul 26 12:45:43 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	12.814	72	289	N.D.		
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	0.000		0	N.D.	d	
38) CarbonTetrachloride	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40) 1,2-Dichloropropane	15.417	63	297	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.720	88	161	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...	16.612	58	258	N.D.		
48) trans-1,3-Dichloropropene	0.000		0	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	0.000		0	N.D.	d	
51) 2-Hexanone (MBK)	18.270	58	882	N.D.		
52) Dibromochloromethane	19.019	129	126	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	0.000		0	N.D.		
56) Chlorobenzene	0.000		0	N.D.	d	
57) Ethylbenzene	20.713	91	2485	N.D.		
58) m&p-Xylene	21.016	106	1162	N.D.		
59) Bromoform	21.854	173	257	N.D.		
60) Styrene	21.676	104	1400	N.D.		
61) 1,1,2,2-Tetrachloroethane	22.354	83	651	N.D.		
62) o-Xylene	21.694	91	1278	N.D.		
64) 4-Ethyltoluene	23.709	120	704	N.D.		
65) 1,3,5-Trimethylbenzene	23.798	120	578	N.D.		
66) 1,2,4-Trimethylbenzene	24.547	120	926	N.D.		
67) BenzylChloride (a-Chlor...	25.189	91	3266	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	3728	N.D.		
69) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
70) 1,2-Dichlorobenzene	25.849	146	2493	N.D.		
71) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
72) Hexachlorobutadiene	30.075	225	1498	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\072613\
Data File : 07261304.D
Acq On : 26 Jul 2013 10:48
Operator : JJG
Sample : TO15 MB 072613
Misc : IS/Surr: PS082212-01 + 500mL cc#000141
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 26 12:45:43 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261305.D
 Acq On : 26 Jul 2013 11:36
 Operator : JJG
 Sample : 130958-64795 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 26 12:48:31 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	223883	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1286141	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1170109	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene (BFB)	22.710	174	696751	10.36	ppbv	0.00

Spiked Amount 10.000

Recovery = 103.60%

Target Compounds					Qvalue
2) Chlorodifluoromethane	4.836	51	9452	0.16 ppbv	# 98
3) Propene	4.799	42	8695	0.50 ppbv	# 83
4) Dichlorodifluoromethane	4.908	85	22450	0.28 ppbv	# 99
5) Chloromethane	5.288	52	3250	0.29 ppbv	# 48
6) Dichlorotetrafluoroethane	5.342	135	302	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.867	31	129625	9.54 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D.	
11) Chloroethane	6.718	66	130	N.D.	
12) Dichlorofluoromethane	0.000		0	N.D.	
13) Ethanol	7.116	45	51230	3.41 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	62735	3.69 ppbv	
16) Trichlorofluoromethane	7.659	103	5869	0.13 ppbv	# 89
17) 2-Propanol (IPA)	8.220	45	39172	0.72 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	135	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	0.000		0	N.D.	
28) 2-Butanone (MEK)	11.476	72	8314	0.53 ppbv	# 47
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	2113	0.31 ppbv	# 88
31) Chloroform	12.493	83	7847	0.12 ppbv	# 94
32) EthylAcetate	0.000		0	N.D.	

Handwritten signature and date:
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Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261305.D
 Acq On : 26 Jul 2013 11:36
 Operator : JJG
 Sample : 130958-64795 x1
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

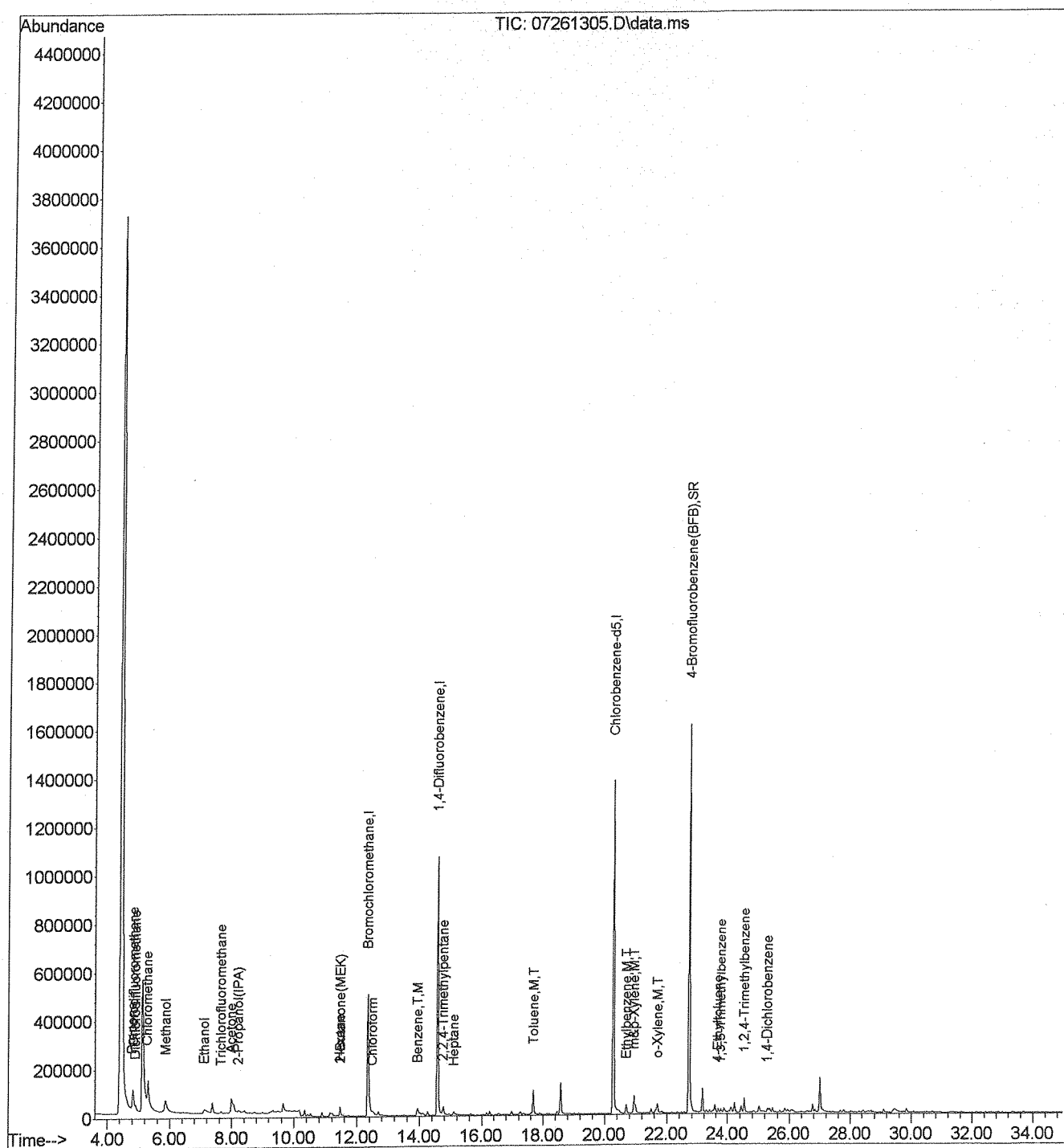
Quant Time: Jul 26 12:48:31 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.	d	
34) 1,2-Dichloroethane	13.598	62	114	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	26638	0.24	ppbv	99
38) CarbonTetrachloride	0.000		0	N.D.	d	
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	15.381	63	993	N.D.		
41) Bromodichloromethane	0.000		0	N.D.		
42) 1,4-Dioxane	15.702	88	119	N.D.		
43) Trichloroethene (TCE)	0.000		0	N.D.		
44) 2,2,4-Trimethylpentane	14.757	57	39581	0.18	ppbv	98
45) Heptane	15.096	71	3339	0.09	ppbv #	90
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...	0.000		0	N.D.	d	
48) trans-1,3-Dichloropropene	17.682	75	1117	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	115660	0.87	ppbv	
51) 2-Hexanone (MBK)	18.234	58	787	N.D.		
52) Dibromochloromethane	19.001	129	414	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	535	N.D.		
56) Chlorobenzene	20.356	114	563	N.D.		
57) Ethylbenzene	20.695	91	38029	0.23	ppbv	96
58) m&p-Xylene	20.945	106	45262	0.72	ppbv	99
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	3269	N.D.		
61) 1,1,2,2-Tetrachloroethane	22.354	83	397	N.D.		
62) o-Xylene	21.694	91	32993	0.26	ppbv	98
64) 4-Ethyltoluene	23.673	120	4431	0.09	ppbv #	88
65) 1,3,5-Trimethylbenzene	23.780	120	5976	0.08	ppbv #	95
66) 1,2,4-Trimethylbenzene	24.529	120	22269	0.31	ppbv	99
67) BenzylChloride (a-Chlor...	25.171	91	1661	N.D.		
68) 1,3-Dichlorobenzene	25.046	146	1362	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	6033	0.06	ppbv	97
70) 1,2-Dichlorobenzene	25.849	146	1347	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	3012	N.D.		
72) Hexachlorobutadiene	30.075	225	639	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\072613\
Data File : 07261305.D
Acq On : 26 Jul 2013 11:36
Operator : JJG
Sample : 130958-64795 x1
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 26 12:48:31 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261306.D
 Acq On : 26 Jul 2013 12:23
 Operator : JJG
 Sample : 130958-64795 x1 dp
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 26 13:14:44 2013
 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	12.350	128	216402	10.00	ppbv	0.00
36) 1,4-Difluorobenzene	14.579	114	1274682	10.00	ppbv	0.00
55) Chlorobenzene-d5	20.267	117	1172838	10.00	ppbv	0.00

System Monitoring Compounds						
63) 4-Bromofluorobenzene(BFB)	22.710	174	694243	10.30	ppbv	0.00

Spiked Amount 10.000 Recovery = 103.00%

Target Compounds					Qvalue
2) Chlorodifluoromethane	4.835	51	9871	0.18 ppbv	# 96
3) Propene	4.799	42	8734	0.52 ppbv	90
4) Dichlorodifluoromethane	4.908	85	21619	0.28 ppbv	99
5) Chloromethane	5.306	52	3338	0.31 ppbv	# 44
6) Dichlorotetrafluoroethane	5.342	135	278	N.D.	
7) VinylChloride	0.000		0	N.D.	
8) Methanol	5.867	31	126581	9.64 ppbv	
9) 1,3-Butadiene	0.000		0	N.D.	
10) Bromomethane	0.000		0	N.D. d	0.00
11) Chloroethane	0.000		0	N.D. d	0.00
12) Dichlorofluoromethane	0.000		0	N.D. d	0.00
13) Ethanol	7.116	45	51233	3.53 ppbv	
14) VinylBromide	0.000		0	N.D.	
15) Acetone	7.984	58	62057	3.78 ppbv	0.00
16) Trichlorofluoromethane	7.658	103	5890	0.13 ppbv	# 93
17) 2-Propanol (IPA)	8.219	45	38172	0.72 ppbv	
18) Acrylonitrile	0.000		0	N.D.	
19) 1,1-Dichloroethene	0.000		0	N.D.	Qvalue
20) MethyleneChloride (DCM)	0.000		0	N.D. d	0.00
21) AllylChloride	9.215	39	799	N.D.	0.00
22) CarbonDisulfide	0.000		0	N.D. d	0.00
23) Trichlorotrifluoroethane	0.000		0	N.D. d	0.00
24) trans-1,2-Dichloroethene	0.000		0	N.D.	
25) 1,1-Dichloroethane	0.000		0	N.D.	
26) MethylTertButylEther (M...)	0.000		0	N.D.	
27) VinylAcetate	0.000		0	N.D. d	
28) 2-Butanone (MEK)	11.476	72	7895	0.52 ppbv	# 1
29) cis-1,2-Dichloroethene	0.000		0	N.D.	
30) Hexane	11.458	86	1971	0.30 ppbv	98
31) Chloroform	12.492	83	7841	0.12 ppbv	# 89
32) EthylAcetate	0.000		0	N.D. d	

07/26/13

Data Path : C:\msdchem\1\MS03\2013\072613\
 Data File : 07261306.D
 Acq On : 26 Jul 2013 12:23
 Operator : JJG
 Sample : 130958-64795 x1 dp
 Misc : IS/Surr: PS082212-01 + 500mL
 ALS Vial : 2 Sample Multiplier: 1

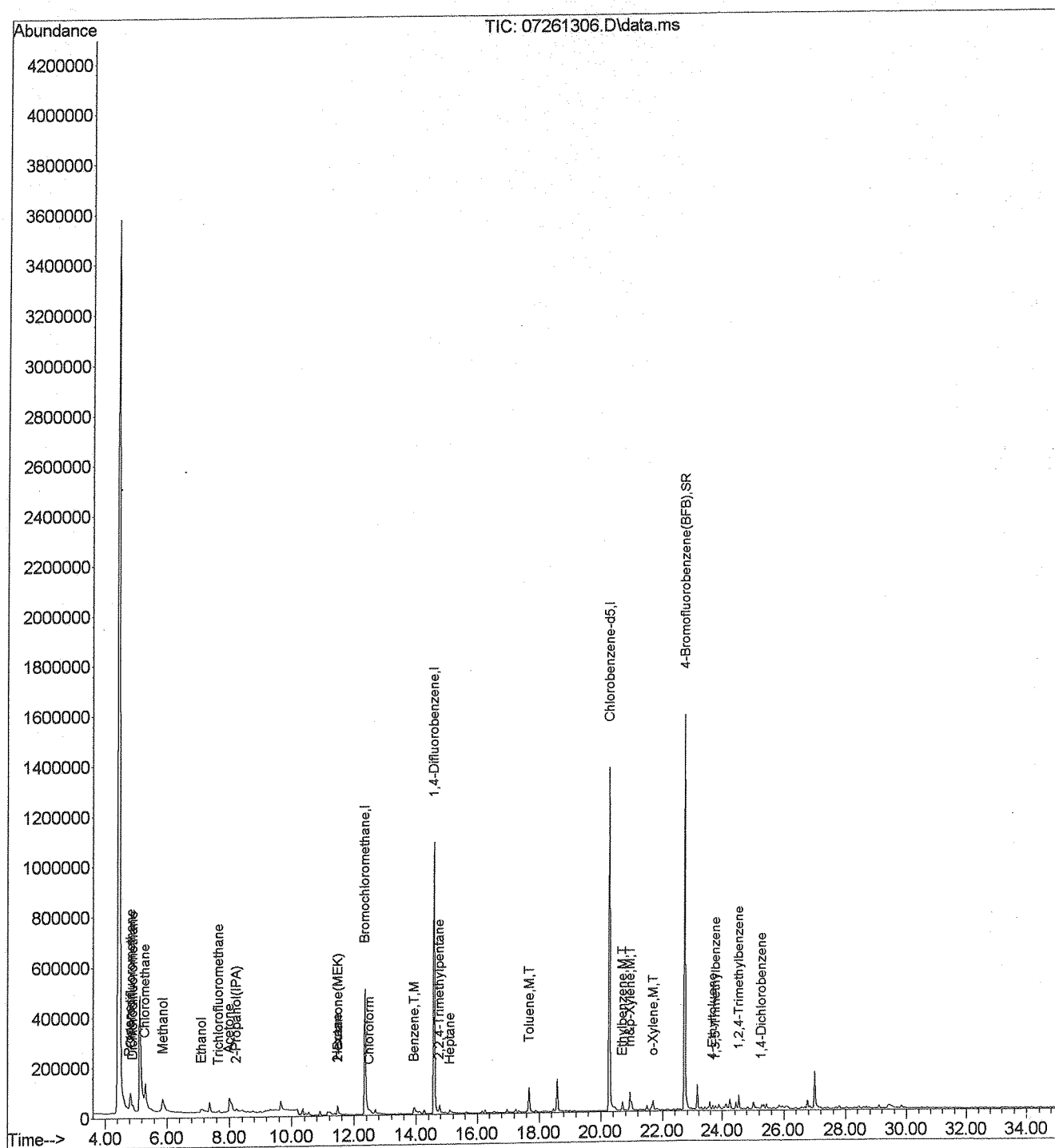
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 Quant Method : C:\msdchem\1\METHODS\2013\072213.M
 Quant Title : TO-15/TO-14
 QLast Update : Tue Jul 23 12:50:49 2013
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) Tetrahydrofuran	0.000		0	N.D.	d	
34) 1,2-Dichloroethane	0.000		0	N.D.		
35) 1,1,1-Trichloroethane	0.000		0	N.D.		
37) Benzene	13.937	78	25396	0.23	ppbv	96
38) CarbonTetrachloride	13.955	117	2809	N.D.		
39) Cyclohexane	0.000		0	N.D.	d	
40) 1,2-Dichloropropane	15.399	63	850	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	38955	0.18	ppbv	98
45) Heptane	15.096	71	3589	0.10	ppbv	94
46) cis-1,3-Dichloropropene	0.000		0	N.D.		
47) 4-Methyl-2-pentanone (M...)	0.000		0	N.D.	d	
48) trans-1,3-Dichloropropene	17.664	75	1065	N.D.		
49) 1,1,2-Trichloroethane	0.000		0	N.D.		
50) Toluene	17.682	91	114728m	0.87	ppbv	
51) 2-Hexanone (MBK)	18.252	58	367	N.D.		
52) Dibromochloromethane	19.019	129	367	N.D.		
53) 1,2-Dibromoethane	0.000		0	N.D.		
54) Tetrachloroethene (PCE)	19.019	166	427	N.D.		
56) Chlorobenzene	20.356	114	426	N.D.		
57) Ethylbenzene	20.695	91	37233	0.22	ppbv	98
58) m&p-Xylene	20.945	106	43679	0.70	ppbv	98
59) Bromoform	0.000		0	N.D.		
60) Styrene	21.658	104	2919	N.D.		
61) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
62) o-Xylene	21.694	91	32743	0.25	ppbv	99
64) 4-Ethyltoluene	23.673	120	4332	0.09	ppbv #	90
65) 1,3,5-Trimethylbenzene	23.780	120	5499	0.08	ppbv #	94
66) 1,2,4-Trimethylbenzene	24.529	120	21714	0.30	ppbv	97
67) BenzylChloride (a-Chlor...	25.171	91	771	N.D.		
68) 1,3-Dichlorobenzene	25.064	146	629	N.D.		
69) 1,4-Dichlorobenzene	25.278	146	5420	0.05	ppbv #	94
70) 1,2-Dichlorobenzene	25.849	146	718	N.D.		
71) 1,2,4-Trichlorobenzene	29.451	180	1810	N.D.		
72) Hexachlorobutadiene	30.075	225	317	N.D.		

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

Data Path : C:\msdchem\1\MS03\2013\072613\
Data File : 07261306.D
Acq On : 26 Jul 2013 12:23
Operator : JJG
Sample : 130958-64795 x1 dp
Misc : IS/Surr: PS082212-01 + 500mL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 26 13:14:44 2013
Quant Method : C:\msdchem\1\METHODS\2013\072213.M
Quant Title : TO-15/TO-14
QLast Update : Tue Jul 23 12:50:49 2013
Response via : Initial Calibration



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

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

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

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

Response Factor Report MS03 Enhanced

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

Calibration Files

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

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

Method Path : C:\msdchem\1\METHODS\2013\

Method File : 072213.M

Title : TO-15/TO-14

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

Response Factor Report MS03 Enhanced

Method Path : C:\msdchem\1\METHODS\2013\
Method File : 072213.M

Title : TO-15/TO-14

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

(#) = Out of Range

07/24/13