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Electronic Comprehensive Validation Package (eCVP)

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COMPREHENSIVE VALIDATION PACKAGE

Modified TO-15 (5&20 ppbv)

INVENTORY SHEET

Work Order #: 1607235F

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Comments:

Completed by:

Vera Belitsky	Vera Belitsky / Document Control	8/3/16
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1607235F

Work Order Summary

CLIENT:	Mr. Terry Taylor Anderson Mulholland & Associates, Inc. 2700 Westchester Avenue Suite 417 Purchase, NY 10577	**BILL TO:**	Accounts Payable Anderson Mulholland & Associates, Inc. 2700 Westchester Avenue Suite 417 Purchase, NY 10577
PHONE:	(914) 251-0400	**P.O. #**	
FAX:		**PROJECT #**	Building 18 VI
DATE RECEIVED:	07/14/2016	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	07/27/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B18IA-1	Modified TO-15 (5&20 ppbv	5.5 "Hg	5.1 psi
02A	B18IA-2	Modified TO-15 (5&20 ppbv	6.7 "Hg	4.8 psi
03A	B18IA-3	Modified TO-15 (5&20 ppbv	5.1 "Hg	5 psi
04A	B18IA-4	Modified TO-15 (5&20 ppbv	4.7 "Hg	5.2 psi
05A	B18IA-5	Modified TO-15 (5&20 ppbv	5.9 "Hg	5 psi
06A	B18IA-1D	Modified TO-15 (5&20 ppbv	5.5 "Hg	5.2 psi
08A	B18SS-1	Modified TO-15 (5&20 ppbv	4.7 "Hg	15.1 psi
09A	B18SS-2	Modified TO-15 (5&20 ppbv	4.7 "Hg	14.8 psi
10A	B18SS-3	Modified TO-15 (5&20 ppbv	4.7 "Hg	15.1 psi
11A	B18SS-4	Modified TO-15 (5&20 ppbv	5.5 "Hg	15 psi
12A	B18SS-5	Modified TO-15 (5&20 ppbv	4.3 "Hg	14.8 psi
13A	B18SS-1D	Modified TO-15 (5&20 ppbv	4.5 "Hg	15.1 psi
14A	B18AA-071216	Modified TO-15 (5&20 ppbv	4.7 "Hg	5 psi
15A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
16A	CCV	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 07/27/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
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LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
Anderson Mulholland & Associates, Inc.
Workorder# 1607235F

Seven 6 Liter Summa Canister (100% Certified) and six 1 Liter Summa Canister (100% Certified) samples were received on July 14, 2016. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) information for sample B18AA-071216 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

Analytical Notes

Due to the sensitivity of the instrument, the reporting limit for Methanol was raised from 50ppbv to 100ppbv.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
B18IA-1	1607235F-01A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-2	1607235F-02A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-3	1607235F-03A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-4	1607235F-04A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-5	1607235F-05A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-1D	1607235F-06A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18SS-1	1607235F-08A	7/11/2016	7/14/2016	NA	8	7/19/2016	NA	Good
B18SS-2	1607235F-09A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
B18SS-3	1607235F-10A	7/11/2016	7/14/2016	NA	8	7/19/2016	NA	Good
B18SS-4	1607235F-11A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
B18SS-5	1607235F-12A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
B18SS-1D	1607235F-13A	7/11/2016	7/14/2016	NA	8	7/19/2016	NA	Good
B18AA-071216	1607235F-14A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
Lab Blank	1607235F-15A	NA	NA	NA	NA	7/19/2016	NA	Good
CCV	1607235F-16A	NA	NA	NA	NA	7/19/2016	NA	Good

Sample Results and Raw Data

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18IA-1

Lab ID#: 1607235F-01A

No Detections Were Found.

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Client Sample ID: B18IA-1

Lab ID#: 1607235F-01A

EPA METHOD TO-15 GC/MS

File Name:	**14071924**	**Date of Collection:**	**7/9/16 7:02:00 PM**
Dil. Factor:	**1.65**	**Date of Analysis:**	**7/19/16 05:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	160	Not Detected	220	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071924.d
Lab Smp Id: 1607235F-01A
Inj Date : 19-JUL-2016 17:48
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #33531
Misc Info : 5.5"Hg -> 5.1psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 2
Dil Factor: 1.65000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	118356	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	92893			48.38- 108.38	78.49
5.319	5.319 (1.000)	49	245822			122.49- 182.49	207.70
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	523435	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	96429			0.00- 47.28	18.42
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	476407	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	306908			33.96- 93.96	64.42
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	249150	404.748	404.75	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	116697			22.50- 82.50	46.84
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.212)	98	584487	400.804	400.80	80.00- 120.00	100.00
7.813	7.813 (1.212)	70	71774			0.00- 42.36	12.28

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.813	7.813 (1.212)	100	384239			36.13- 96.13	65.74
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	229950	390.597	390.60	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	392243			113.45- 173.45	170.58
9.632	9.632 (1.082)	176	214140			68.10- 128.10	93.12

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071924.d
Lab Smp Id: 1607235F-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.5"Hg -> 5.1psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	118356	2.40
123 1,4-Difluorobenze	512594	307556	717632	523435	2.11
163 Chlorobenzene-d5	458000	274800	641200	476407	4.02

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

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RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1607235F-01A
Level: LOW
Operator: mjs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.5"Hg -> 5.1psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	404.75	101.19	70-130
$ 146 Toluene-d8	400.00	400.80	100.20	70-130
$ 177 4-Bromofluorobenze	400.00	390.60	97.65	70-130

Data File: /chem/msd14.i/19jul16.b/14071924.d

Date : 19-JUL-2016 17:48

Client ID:

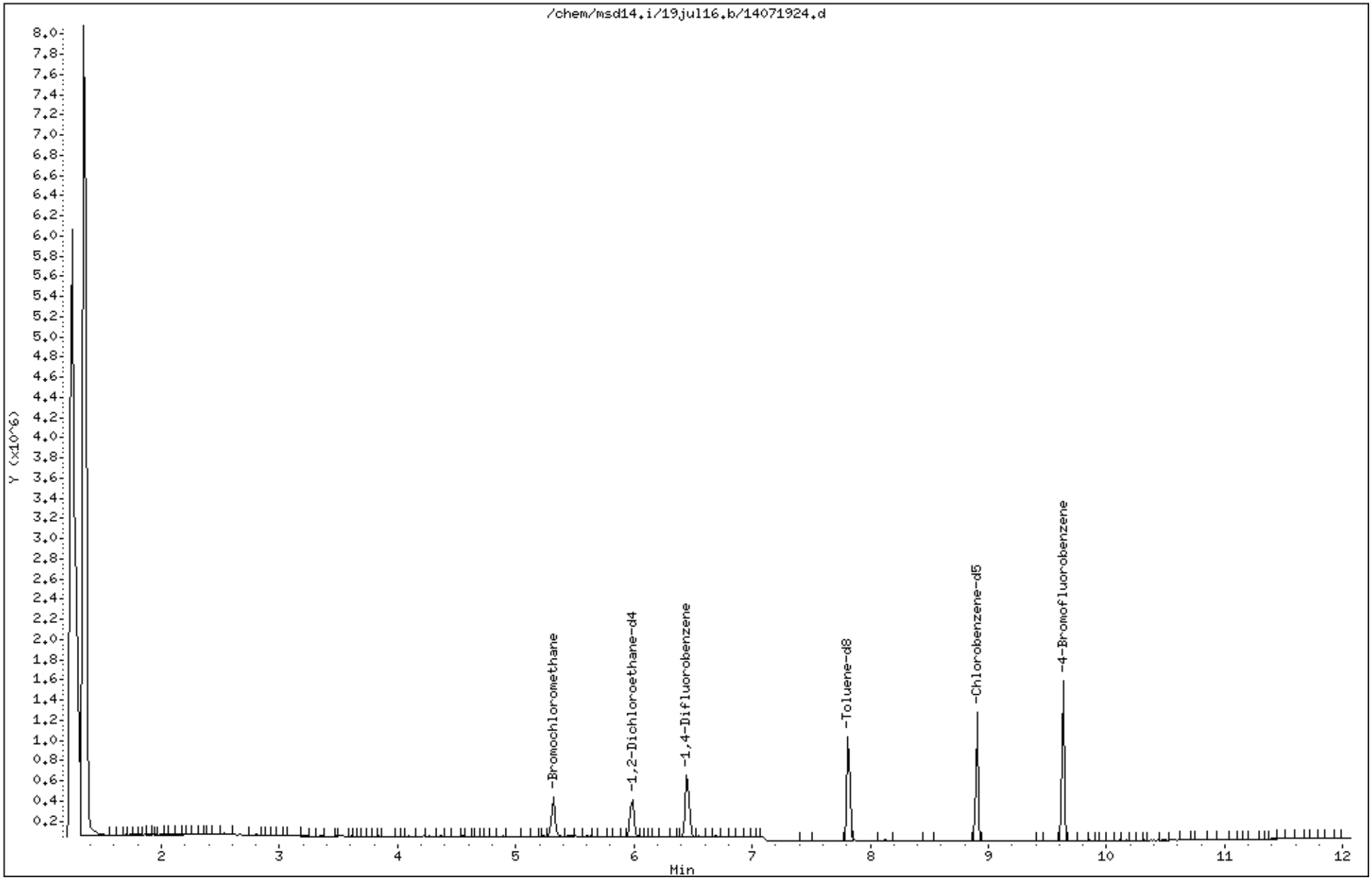
Instrument: msd14.i

Sample Info: 50ml #33531

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18IA-2

Lab ID#: 1607235F-02A

No Detections Were Found.

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Client Sample ID: B18IA-2

Lab ID#: 1607235F-02A

EPA METHOD TO-15 GC/MS

File Name:	**14071925**	**Date of Collection:**	**7/9/16 6:49:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/19/16 06:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	170	Not Detected	220	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071925.d
Lab Smp Id: 1607235F-02A
Inj Date : 19-JUL-2016 18:33
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #6L0015
Misc Info : 6.7"Hg -> 4.8psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 1.71000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	119218	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	93082			48.38- 108.38	78.08
5.319	5.319 (1.000)	49	243165			122.49- 182.49	203.97
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	500672	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	94298			0.00- 47.28	18.83
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	474639	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	308392			33.96- 93.96	64.97
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	245934	396.635	396.63	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	117724			22.50- 82.50	47.87
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.813 (1.212)	98	572906	410.723	410.72	80.00- 120.00	100.00
7.814	7.813 (1.212)	70	71389			0.00- 42.36	12.46

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.814	7.813	(1.212)	100	377457			36.13- 96.13	65.88
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.632	9.632	(1.082)	174	233380	397.900	397.90	80.00- 120.00	100.00
9.632	9.632	(1.082)	95	400638			113.45- 173.45	171.67
9.632	9.632	(1.082)	176	218075			68.10- 128.10	93.44

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071925.d
Lab Smp Id: 1607235F-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 6.7"Hg -> 4.8psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	119218	3.15
123 1,4-Difluorobenze	512594	307556	717632	500672	-2.33
163 Chlorobenzene-d5	458000	274800	641200	474639	3.63

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1607235F-02A
Level: LOW
Operator: mjs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 6.7"Hg -> 4.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	396.63	99.16	70-130
$ 146 Toluene-d8	400.00	410.72	102.68	70-130
$ 177 4-Bromofluorobenze	400.00	397.90	99.48	70-130

Data File: /chem/msd14.i/19jul16.b/14071925.d

Date : 19-JUL-2016 18:33

Client ID:

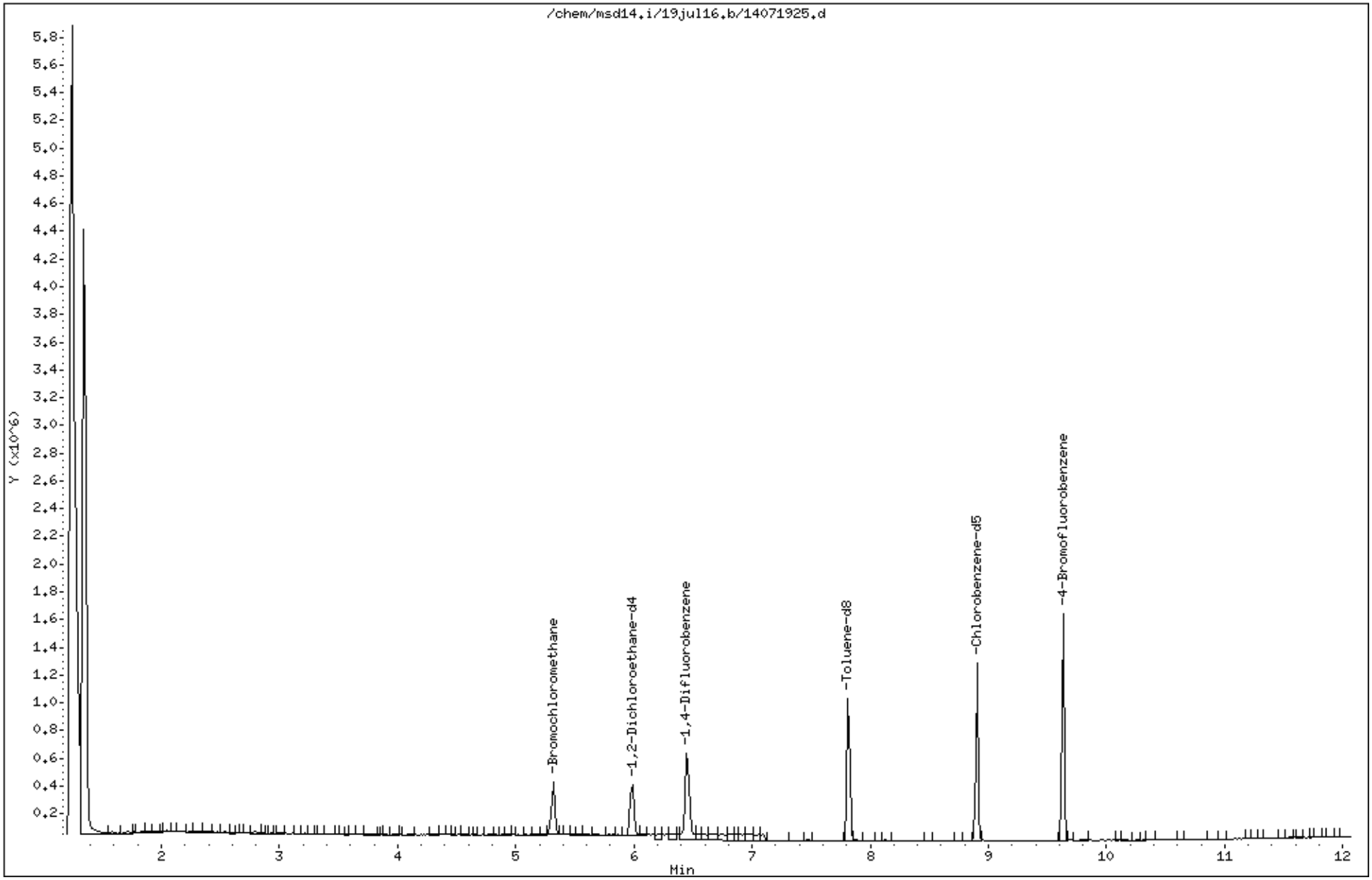
Instrument: msd14.i

Sample Info: 50ml #6L0015

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18IA-3

Lab ID#: 1607235F-03A

No Detections Were Found.

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Client Sample ID: B18IA-3

Lab ID#: 1607235F-03A

EPA METHOD TO-15 GC/MS

File Name:	**14071926**	**Date of Collection:**	**7/9/16 6:27:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**7/19/16 07:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	160	Not Detected	210	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071926.d
Lab Smp Id: 1607235F-03A
Inj Date : 19-JUL-2016 19:12
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #6L0509
Misc Info : 5.1"Hg -> 5.0psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 2
Dil Factor: 1.61000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	114837	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	92341			48.38- 108.38	80.41
5.319	5.319 (1.000)	49	247791			122.49- 182.49	215.78
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.458	6.444 (1.000)	114	507457	400.000		80.00- 120.00	100.00
6.458	6.444 (1.000)	88	97067			0.00- 47.28	19.13
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	465309	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	310114			33.96- 93.96	66.65
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	247452	414.308	414.31	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	120477			22.50- 82.50	48.69
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.210)	98	577162	408.242	408.24	80.00- 120.00	100.00
7.813	7.813 (1.210)	70	71974			0.00- 42.36	12.47

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.813	7.813 (1.210)	100	375834			36.13- 96.13	65.12
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	230092	400.160	400.16	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	391524			113.45- 173.45	170.16
9.632	9.632 (1.082)	176	216599			68.10- 128.10	94.14

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071926.d
Lab Smp Id: 1607235F-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.1"Hg -> 5.0psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	114837	-0.64
123 1,4-Difluorobenze	512594	307556	717632	507457	-1.00
163 Chlorobenzene-d5	458000	274800	641200	465309	1.60

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.46	0.22
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 19jul16
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1607235F-03A
Level: LOW Operator: mjs
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926Spectra.spk Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.1"Hg -> 5.0psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	414.31	103.58	70-130
$ 146 Toluene-d8	400.00	408.24	102.06	70-130
$ 177 4-Bromofluorobenze	400.00	400.16	100.04	70-130

Data File: /chem/msd14.i/19jul16.b/14071926.d

Date : 19-JUL-2016 19:12

Client ID:

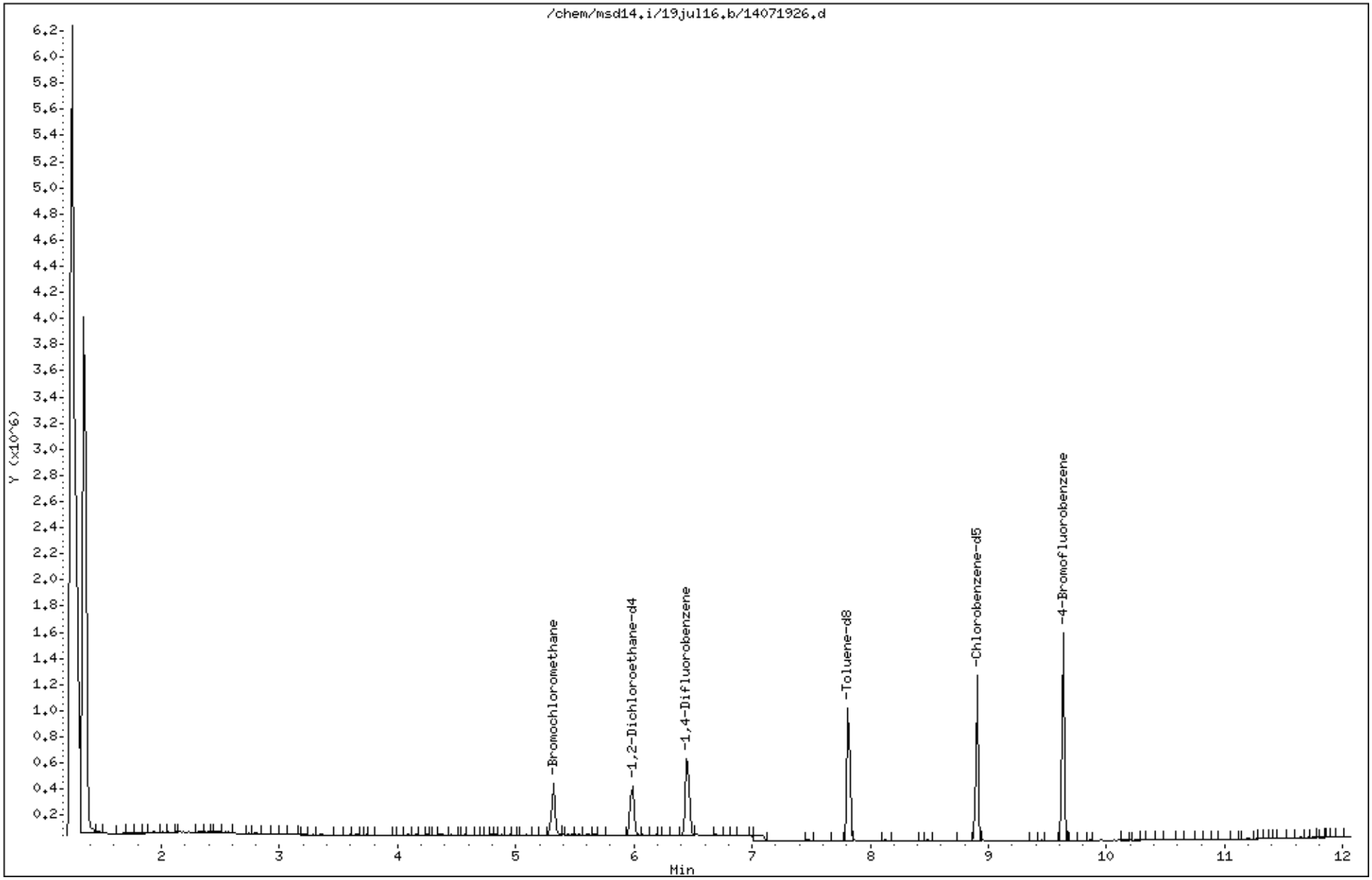
Instrument: msd14.i

Sample Info: 50ml #6L0509

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18IA-4

Lab ID#: 1607235F-04A

No Detections Were Found.

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Client Sample ID: B18IA-4

Lab ID#: 1607235F-04A

EPA METHOD TO-15 GC/MS

File Name:	**14071927**	**Date of Collection:**	**7/9/16 6:35:00 PM**
Dil. Factor:	**1.60**	**Date of Analysis:**	**7/19/16 07:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	160	Not Detected	210	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071927.d
Lab Smp Id: 1607235F-04A
Inj Date : 19-JUL-2016 19:35
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #12082
Misc Info : 4.7"Hg -> 5.2psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 1.60000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	116928	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	89363			48.38- 108.38	76.43
5.319	5.319 (1.000)	49	243003			122.49- 182.49	207.82
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	506773	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	93582			0.00- 47.28	18.47
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	460778	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	303747			33.96- 93.96	65.92
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	243976	401.183	401.18	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	114416			22.50- 82.50	46.90
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.813 (1.212)	98	575905	407.903	407.90	80.00- 120.00	100.00
7.814	7.813 (1.212)	70	74444			0.00- 42.36	12.93

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.814	7.813 (1.212)	100	375584			36.13- 96.13	65.22
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	225928	396.782	396.78	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	387333			113.45- 173.45	171.44
9.632	9.632 (1.082)	176	218093			68.10- 128.10	96.53

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071927.d
Lab Smp Id: 1607235F-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 5.2psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	116928	1.17
123 1,4-Difluorobenze	512594	307556	717632	506773	-1.14
163 Chlorobenzene-d5	458000	274800	641200	460778	0.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 19jul16
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1607235F-04A
Level: LOW Operator: mjs
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926Spectra.spk Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 5.2psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	401.18	100.30	70-130
$ 146 Toluene-d8	400.00	407.90	101.98	70-130
$ 177 4-Bromofluorobenze	400.00	396.78	99.20	70-130

Data File: /chem/msd14.i/19jul16.b/14071927.d

Date : 19-JUL-2016 19:35

Client ID:

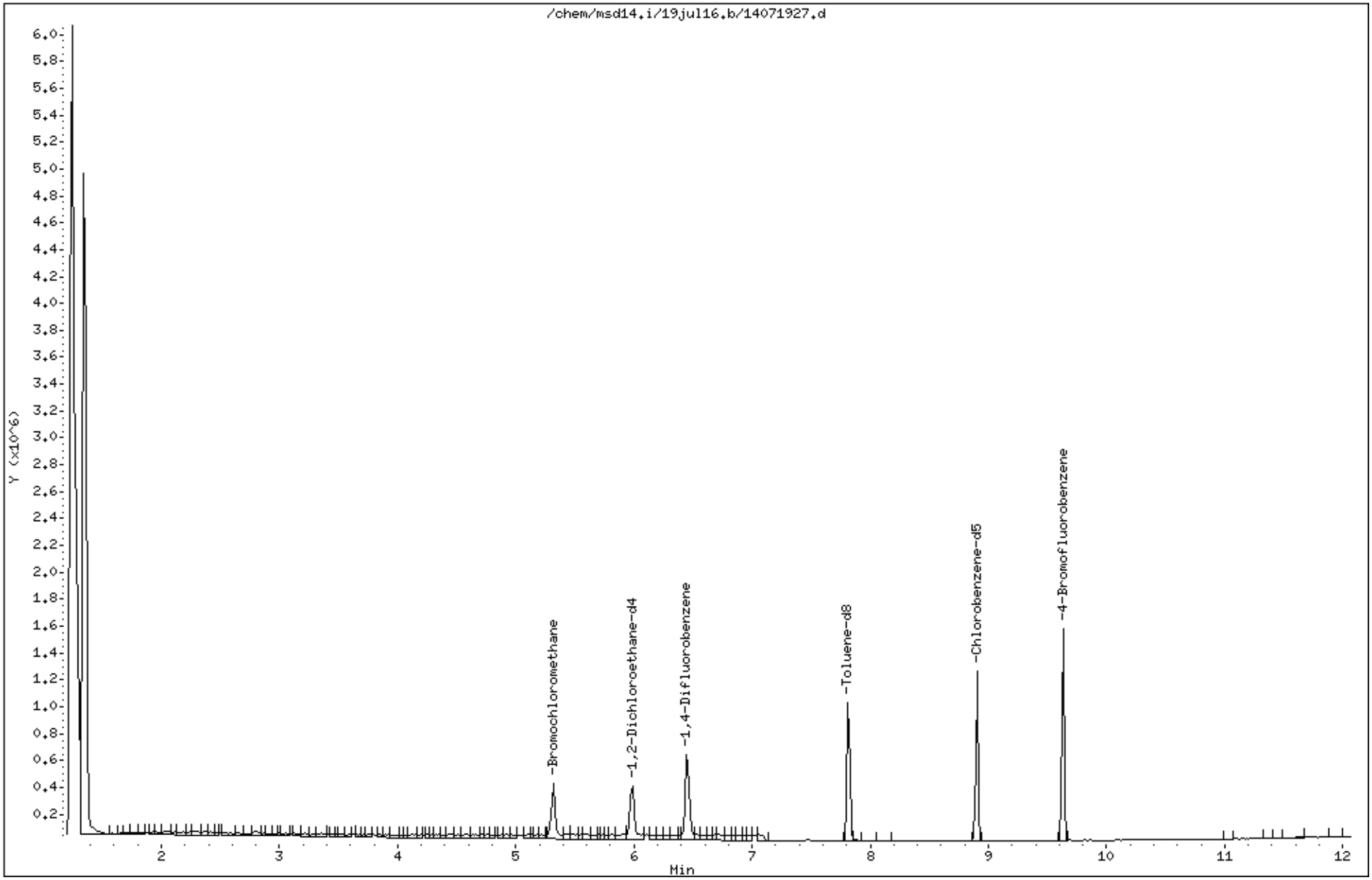
Instrument: msd14.i

Sample Info: 50ml #12082

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18IA-5

Lab ID#: 1607235F-05A

No Detections Were Found.

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Client Sample ID: B18IA-5

Lab ID#: 1607235F-05A

EPA METHOD TO-15 GC/MS

File Name:	**14071928**	**Date of Collection:**	**7/9/16 6:44:00 PM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**7/19/16 08:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	170	Not Detected	220	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071928.d
Lab Smp Id: 1607235F-05A
Inj Date : 19-JUL-2016 20:01
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #31146
Misc Info : 5.9"Hg -> 5.0psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 1.67000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	119806	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	91417			48.38- 108.38	76.30
5.319	5.319 (1.000)	49	242756			122.49- 182.49	202.62
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.458	6.444 (1.000)	114	504750	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	93587			0.00- 47.28	18.54
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	462322	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	304906			33.96- 93.96	65.95
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	243048	390.057	390.06	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	116519			22.50- 82.50	47.94
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.210)	98	567330	403.440	403.44	80.00- 120.00	100.00
7.813	7.813 (1.210)	70	70178			0.00- 42.36	12.37

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.813	7.813 (1.210)	100	378731			36.13- 96.13	66.76
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	224723	393.348	393.35	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	381277			113.45- 173.45	169.67
9.632	9.632 (1.082)	176	211775			68.10- 128.10	94.24

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071928.d
Lab Smp Id: 1607235F-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.9"Hg -> 5.0psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	119806	3.66
123 1,4-Difluorobenze	512594	307556	717632	504750	-1.53
163 Chlorobenzene-d5	458000	274800	641200	462322	0.94

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.46	0.22
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1607235F-05A
Level: LOW
Operator: mjs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.9"Hg -> 5.0psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	390.06	97.51	70-130
$ 146 Toluene-d8	400.00	403.44	100.86	70-130
$ 177 4-Bromofluorobenze	400.00	393.35	98.34	70-130

Data File: /chem/msd14.i/19jul16.b/14071928.d

Date : 19-JUL-2016 20:01

Client ID:

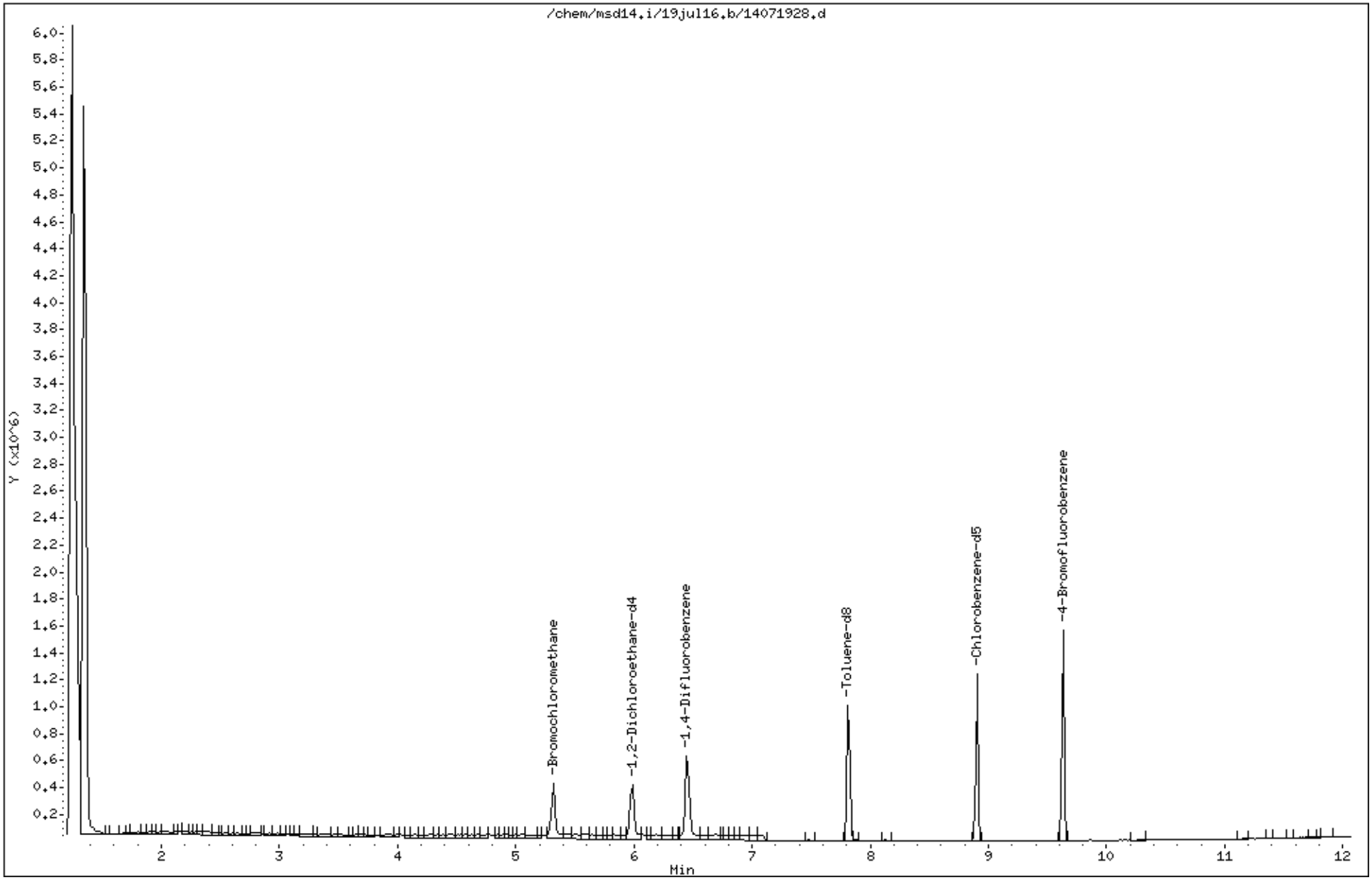
Instrument: msd14.i

Sample Info: 50ml #31146

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18IA-1D

Lab ID#: 1607235F-06A

No Detections Were Found.

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Client Sample ID: B18IA-1D

Lab ID#: 1607235F-06A

EPA METHOD TO-15 GC/MS

File Name:	**14071929**	**Date of Collection:**	**7/9/16 7:02:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**7/19/16 08:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	170	Not Detected	220	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071929.d
Lab Smp Id: 1607235F-06A
Inj Date : 19-JUL-2016 20:35
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #21011
Misc Info : 5.5"Hg -> 5.2psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 1.66000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	116514	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	95038			48.38- 108.38	81.57
5.319	5.319 (1.000)	49	242699			122.49- 182.49	208.30
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.459	6.444 (1.000)	114	495487	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	95635			0.00- 47.28	19.30
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	462820	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	303555			33.96- 93.96	65.59
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	239921	395.917	395.92	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	118145			22.50- 82.50	49.24
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.813 (1.210)	98	565532	409.680	409.68	80.00- 120.00	100.00
7.814	7.813 (1.210)	70	69856			0.00- 42.36	12.35

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.814	7.813 (1.210)	100	380285			36.13- 96.13	67.24
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.633	9.632 (1.082)	174	220209	385.032	385.03	80.00- 120.00	100.00
9.633	9.632 (1.082)	95	374396			113.45- 173.45	170.02
9.633	9.632 (1.082)	176	213442			68.10- 128.10	96.93

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071929.d
Lab Smp Id: 1607235F-06A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.5"Hg -> 5.2psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	116514	0.81
123 1,4-Difluorobenze	512594	307556	717632	495487	-3.34
163 Chlorobenzene-d5	458000	274800	641200	462820	1.05

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.46	0.22
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1607235F-06A
Level: LOW
Operator: mjs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.5"Hg -> 5.2psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	395.92	98.98	70-130
$ 146 Toluene-d8	400.00	409.68	102.42	70-130
$ 177 4-Bromofluorobenze	400.00	385.03	96.26	70-130

Data File: /chem/msd14.i/19jul16.b/14071929.d

Date : 19-JUL-2016 20:35

Client ID:

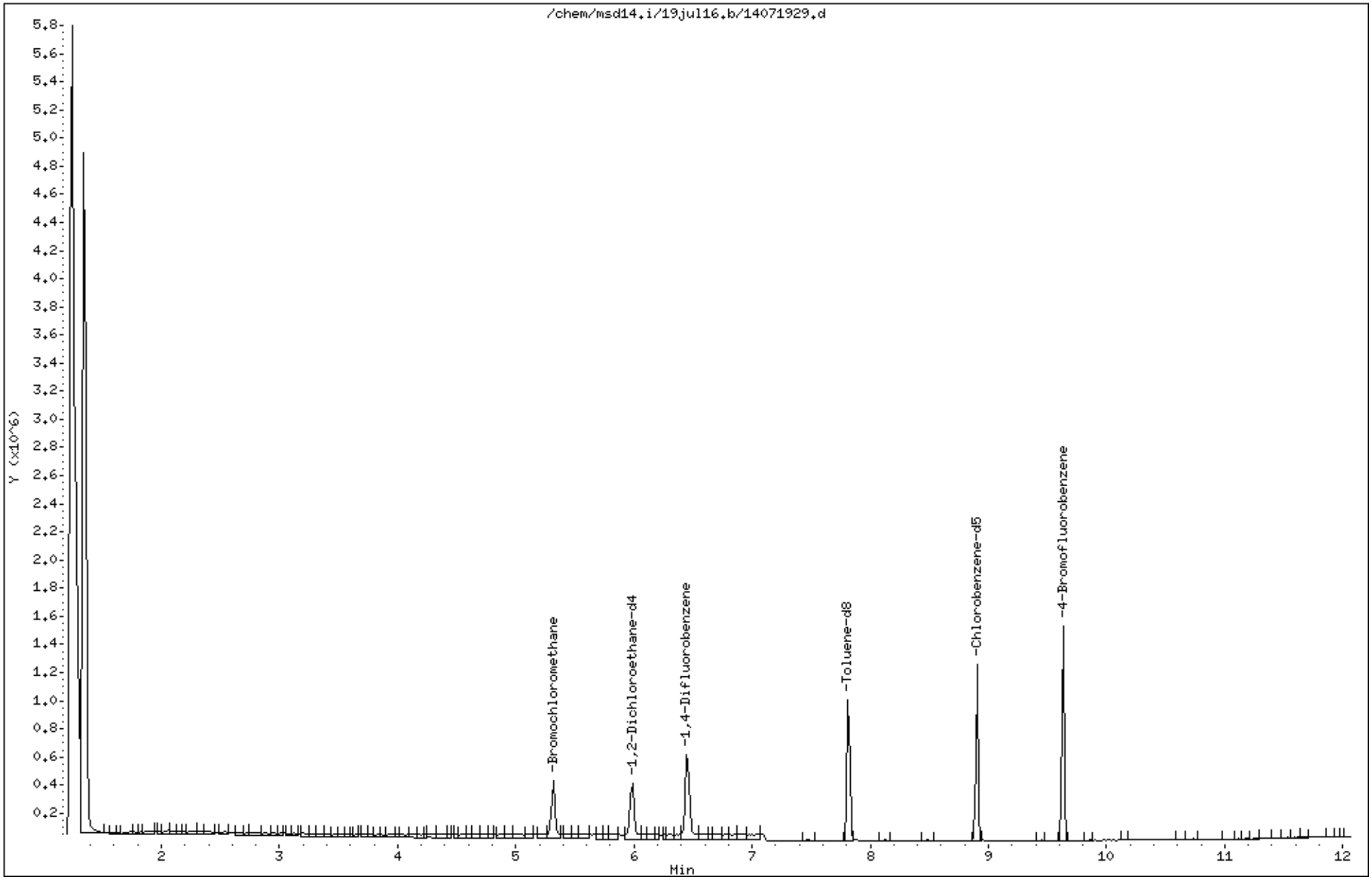
Instrument: msd14.i

Sample Info: 50ml #21011

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18SS-1

Lab ID#: 1607235F-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	240	240	310	320

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Client Sample ID: B18SS-1

Lab ID#: 1607235F-08A

EPA METHOD TO-15 GC/MS

File Name:	**14071916**	**Date of Collection:**	**7/11/16 6:00:00 PM**
Dil. Factor:	**2.40**	**Date of Analysis:**	**7/19/16 01:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	240	240	310	320

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071916.d
Lab Smp Id: 1607235F-08A
Inj Date : 19-JUL-2016 13:46
Operator : jcw Inst ID: msd14.i
Smp Info : 50ml #36376
Misc Info : 4.7"Hg -> 15.1psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 13:50 jwu Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 2.40000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	112717	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	85968			48.38- 108.38	76.27
5.319	5.319 (1.000)	49	235988			122.49- 182.49	209.36
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	506403	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	94513			0.00- 47.28	18.66
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	468360	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	309130			33.96- 93.96	66.00
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	237036	404.334	404.33	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	112505			22.50- 82.50	47.46
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.813 (1.212)	98	578027	409.705	409.70	80.00- 120.00	100.00
7.814	7.813 (1.212)	70	70989			0.00- 42.36	12.28

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.814	7.813	(1.212)	100	379899			36.13- 96.13	65.72
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.633	9.632	(1.082)	174	229478	396.493	396.49	80.00- 120.00	100.00
9.633	9.632	(1.082)	95	379805			113.45- 173.45	165.51
9.633	9.632	(1.082)	176	212744			68.10- 128.10	92.71
28 Methanol						CAS #: 67-56-1		
2.042	2.042	(0.384)	31	27204	102.121	245.09	0.00- 0.00	100.00
2.042	2.027	(0.384)	32	32224			0.00- 0.00	118.45

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071916.d
Lab Smp Id: 1607235F-08A
Analysis Type: VOA
Quant Type: ISTD
Operator: jcw
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 15.1psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	112717	-2.48
123 1,4-Difluorobenze	512594	307556	717632	506403	-1.21
163 Chlorobenzene-d5	458000	274800	641200	468360	2.26

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 19-Jul-2016 15:10

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 19jul16
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1607235F-08A
Level: LOW Operator: jcw
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926Spectra.spk Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 15.1psi

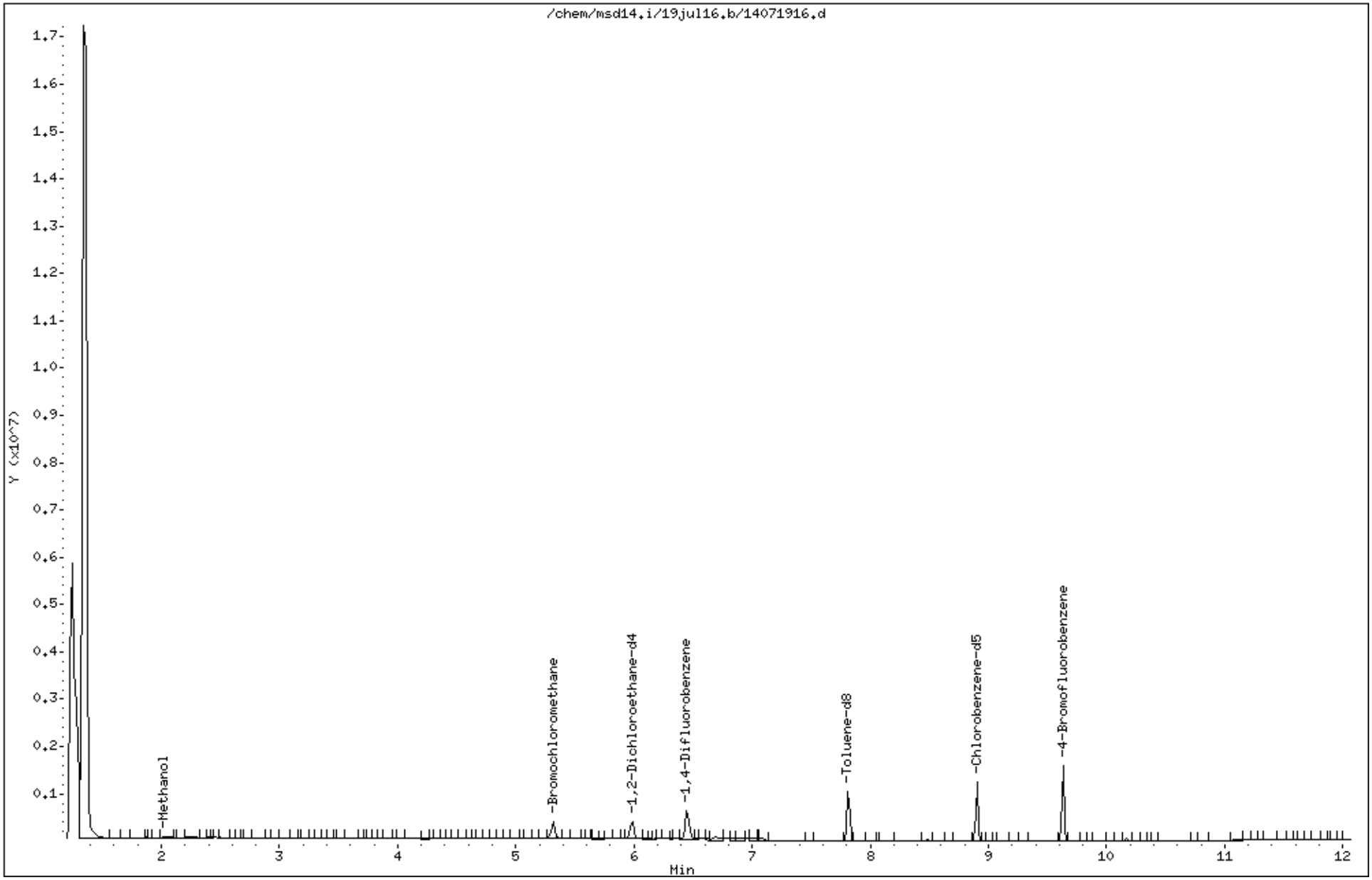
SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	404.33	101.08	70-130
$ 146 Toluene-d8	400.00	409.70	102.43	70-130
$ 177 4-Bromofluorobenze	400.00	396.49	99.12	70-130

Data File: /chem/msd14.i/19jul16.b/14071916.d
Date : 19-JUL-2016 13:46
Client ID:
Sample Info: 50ml #36376

Column phase: RTX-624

Instrument: msd14.i

Operator: jcw
Column diameter: 0.18



Data File: /chem/msd14.i/19jul16.b/14071916.d

Date : 19-JUL-2016 13:46

Client ID:

Instrument: msd14.i

Sample Info: 50ml #36376

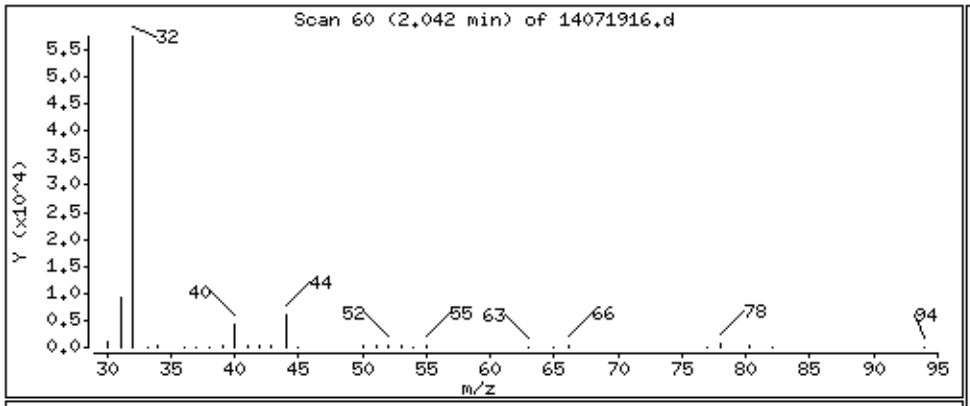
Operator: jcw

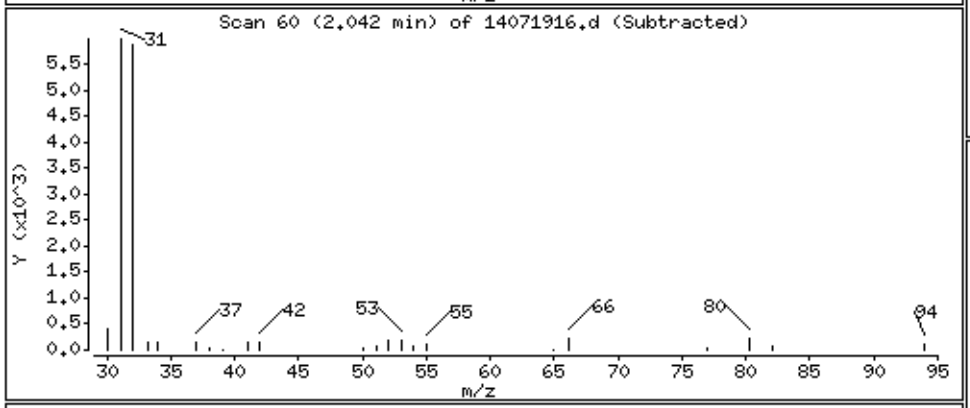
Column phase: RTX-624

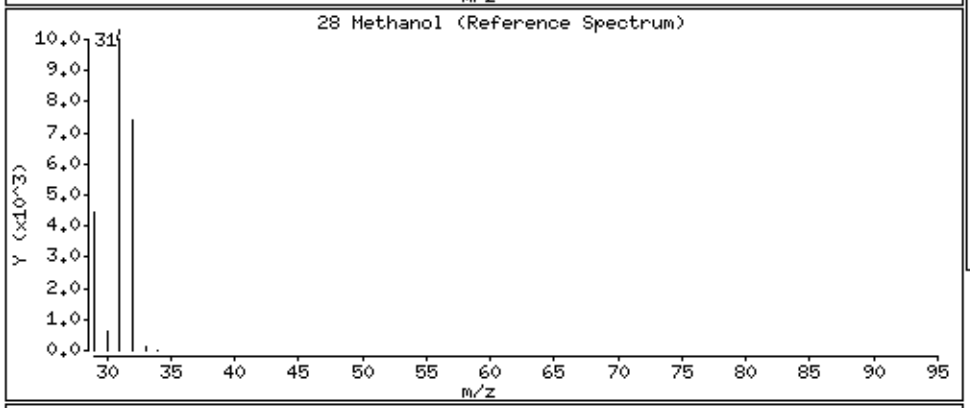
Column diameter: 0.18

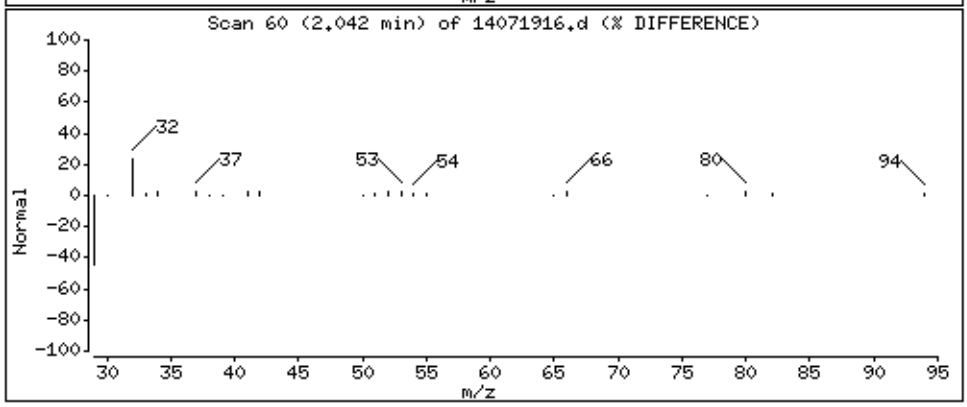
28 Methanol

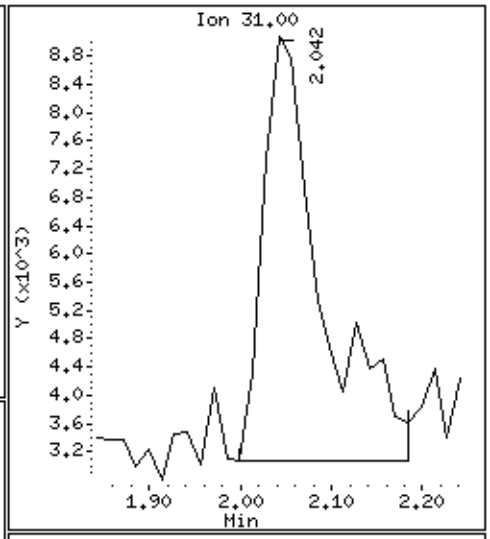
Concentration: 245.09 PPBV

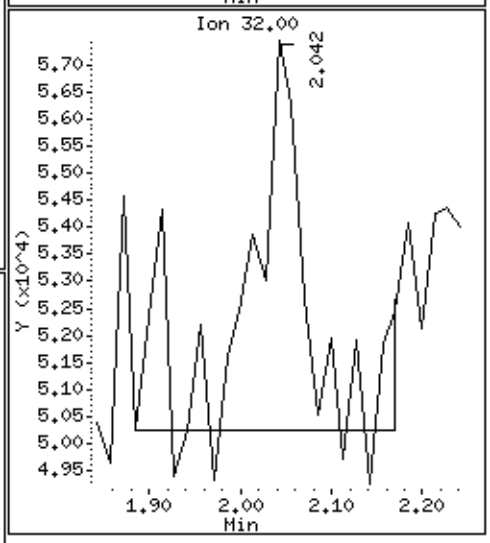












Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18SS-2

Lab ID#: 1607235F-09A

No Detections Were Found.

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Client Sample ID: B18SS-2

Lab ID#: 1607235F-09A

EPA METHOD TO-15 GC/MS

File Name:	**14071917**	**Date of Collection:**	**7/12/16 7:37:00 PM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**7/19/16 03:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	240	Not Detected	310	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071917.d
Lab Smp Id: 1607235F-09A
Inj Date : 19-JUL-2016 15:13
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #3043
Misc Info : 4.7"Hg -> 14.8psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:35 jwu Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 2.38000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	116013	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	86386			48.38- 108.38	74.46
5.319	5.319 (1.000)	49	237466			122.49- 182.49	204.69
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	500029	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	97106			0.00- 47.28	19.42
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	460434	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	297664			33.96- 93.96	64.65
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	235232	389.854	389.85	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	112905			22.50- 82.50	48.00
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.813 (1.212)	98	564712	405.370	405.37	80.00- 120.00	100.00
7.814	7.813 (1.212)	70	69385			0.00- 42.36	12.29

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.814	7.813	(1.212)	100	375341			36.13- 96.13	66.47
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.633	9.632	(1.082)	174	226380	397.873	397.87	80.00- 120.00	100.00
9.633	9.632	(1.082)	95	383392			113.45- 173.45	169.36
9.633	9.632	(1.082)	176	212068			68.10- 128.10	93.68

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071917.d
Lab Smp Id: 1607235F-09A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 14.8psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	116013	0.38
123 1,4-Difluorobenze	512594	307556	717632	500029	-2.45
163 Chlorobenzene-d5	458000	274800	641200	460434	0.53

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 19-Jul-2016 15:36

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1607235F-09A
Level: LOW
Operator: mjs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 14.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	389.85	97.46	70-130
$ 146 Toluene-d8	400.00	405.37	101.34	70-130
$ 177 4-Bromofluorobenze	400.00	397.87	99.47	70-130

Data File: /chem/msd14.i/19jul16.b/14071917.d

Date : 19-JUL-2016 15:13

Client ID:

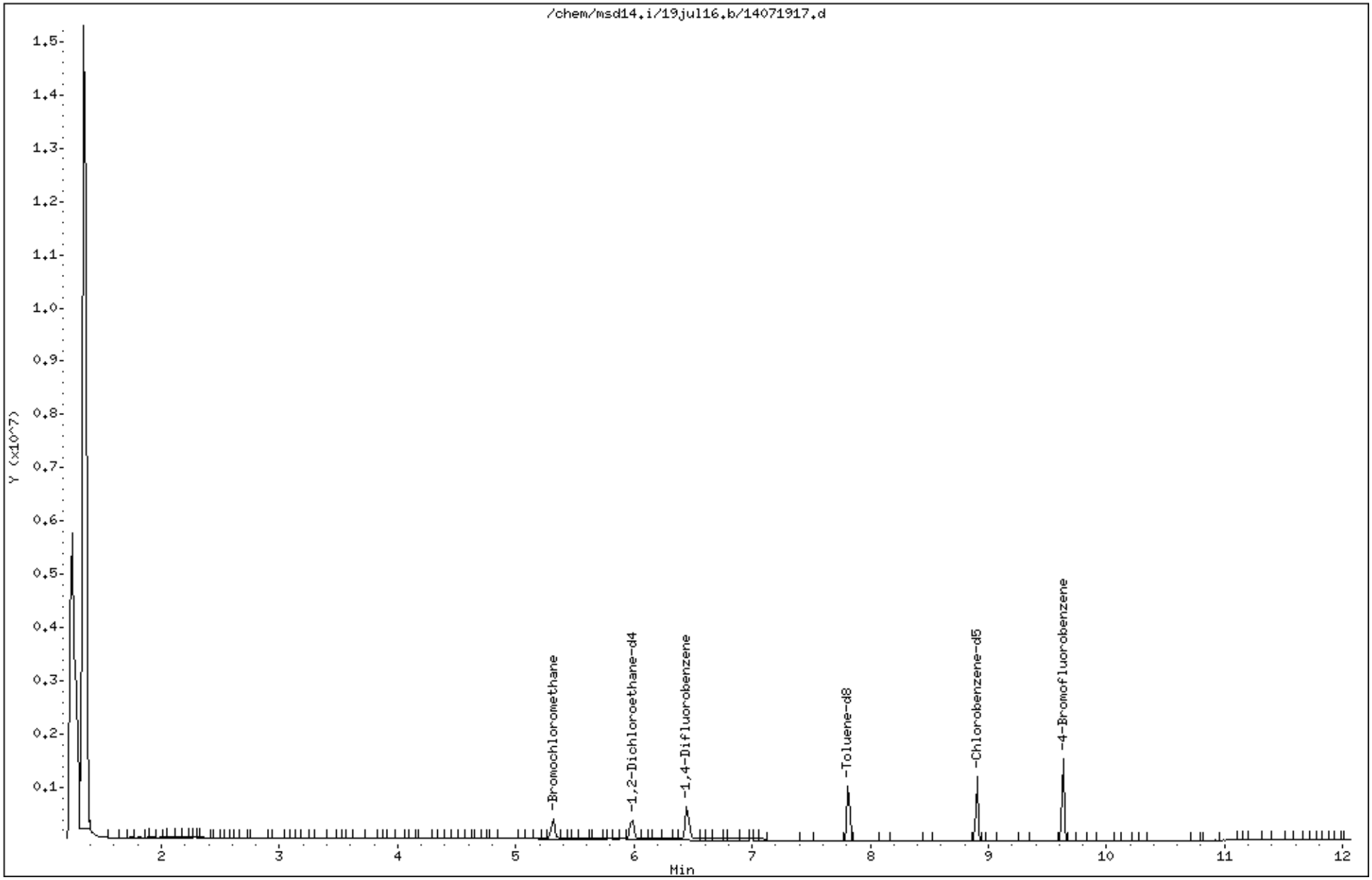
Instrument: msd14.i

Sample Info: 50ml #3043

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18SS-3

Lab ID#: 1607235F-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	240	310	310	400

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Client Sample ID: B18SS-3

Lab ID#: 1607235F-10A

EPA METHOD TO-15 GC/MS

File Name:	**14071918**	**Date of Collection:**	**7/11/16 6:49:00 PM**
Dil. Factor:	**2.40**	**Date of Analysis:**	**7/19/16 03:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	240	310	310	400

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071918.d
Lab Smp Id: 1607235F-10A
Inj Date : 19-JUL-2016 15:36
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #8031
Misc Info : 4.7"Hg -> 15.1psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 2.40000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	114591	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	91816			48.38- 108.38	80.12
5.319	5.319 (1.000)	49	234154			122.49- 182.49	204.34
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	505959	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	95656			0.00- 47.28	18.91
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	457443	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	304314			33.96- 93.96	66.53
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	238893	400.835	400.83	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	110056			22.50- 82.50	46.07
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.813 (1.212)	98	561262	398.172	398.17	80.00- 120.00	100.00
7.814	7.813 (1.212)	70	72551			0.00- 42.36	12.93

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.814	7.813	(1.212)	100	368051			36.13- 96.13	65.58
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.632	9.632	(1.082)	174	222236	393.144	393.14	80.00- 120.00	100.00
9.632	9.632	(1.082)	95	382505			113.45- 173.45	172.12
9.632	9.632	(1.082)	176	214236			68.10- 128.10	96.40
28 Methanol						CAS #: 67-56-1		
2.042	2.042	(0.384)	31	34765	128.369	308.08	0.00- 0.00	100.00
2.056	2.042	(0.387)	32	59083			0.00- 0.00	169.95

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071918.d
Lab Smp Id: 1607235F-10A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 15.1psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	114591	-0.85
123 1,4-Difluorobenze	512594	307556	717632	505959	-1.29
163 Chlorobenzene-d5	458000	274800	641200	457443	-0.12

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 19-Jul-2016 15:56

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1607235F-10A
Level: LOW
Operator: mjs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 15.1psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	400.83	100.21	70-130
$ 146 Toluene-d8	400.00	398.17	99.54	70-130
$ 177 4-Bromofluorobenze	400.00	393.14	98.29	70-130

Data File: /chem/msd14.i/19jul16.b/14071918.d

Date : 19-JUL-2016 15:36

Client ID:

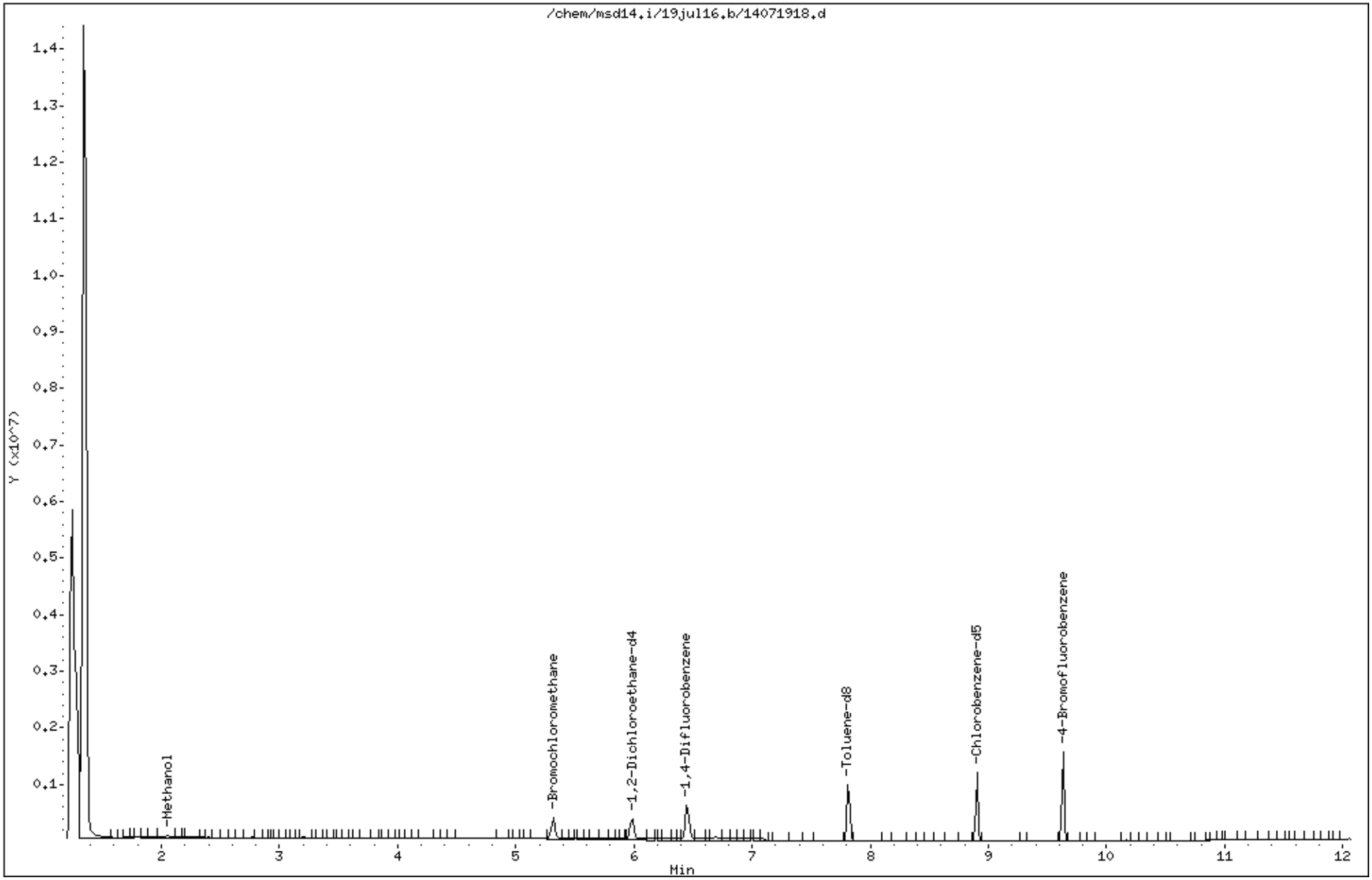
Sample Info: 50ml #8031

Column phase: RTX-624

Instrument: msd14.i

Operator: mjs

Column diameter: 0.18



Data File: /chem/msd14.i/19jul16.b/14071918.d

Date : 19-JUL-2016 15:36

Client ID:

Instrument: msd14.i

Sample Info: 50ml #8031

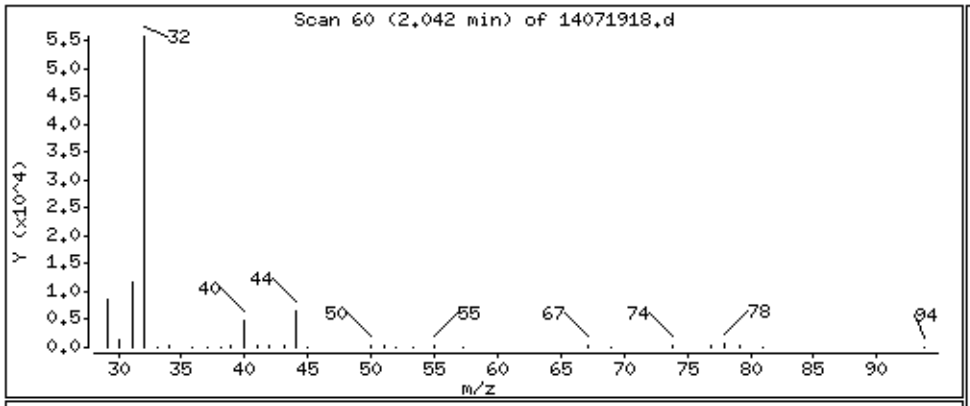
Operator: mjs

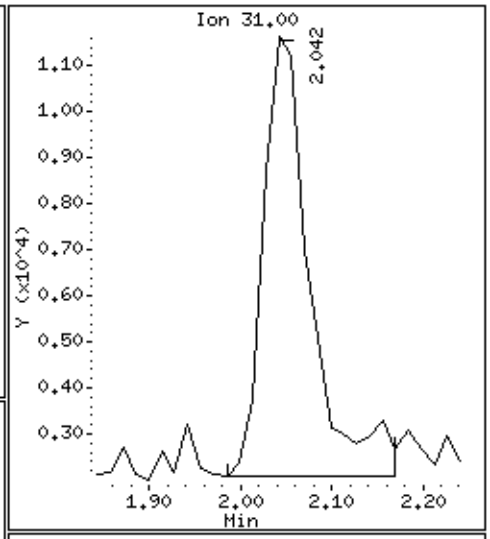
Column phase: RTX-624

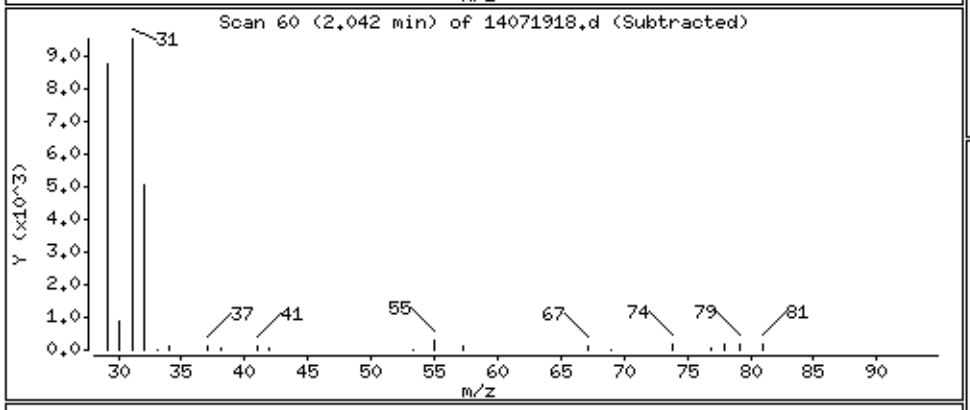
Column diameter: 0.18

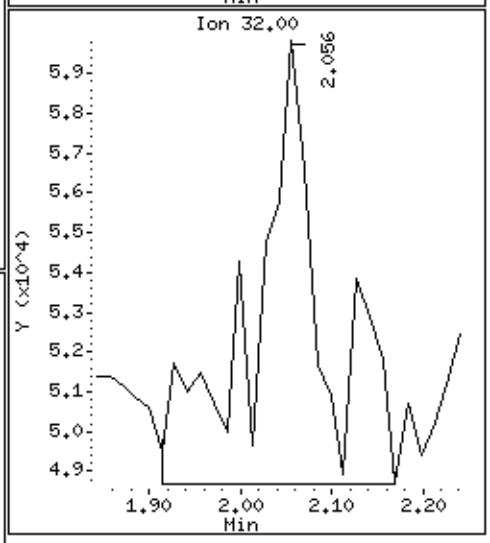
28 Methanol

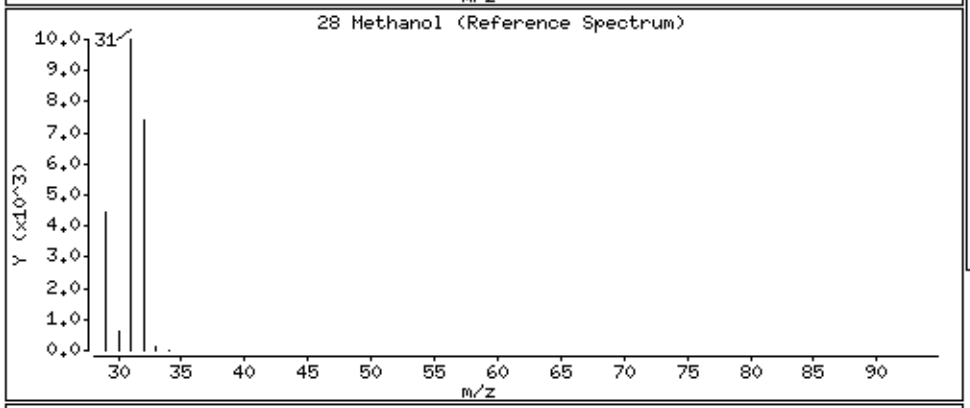
Concentration: 308.08 PPBV

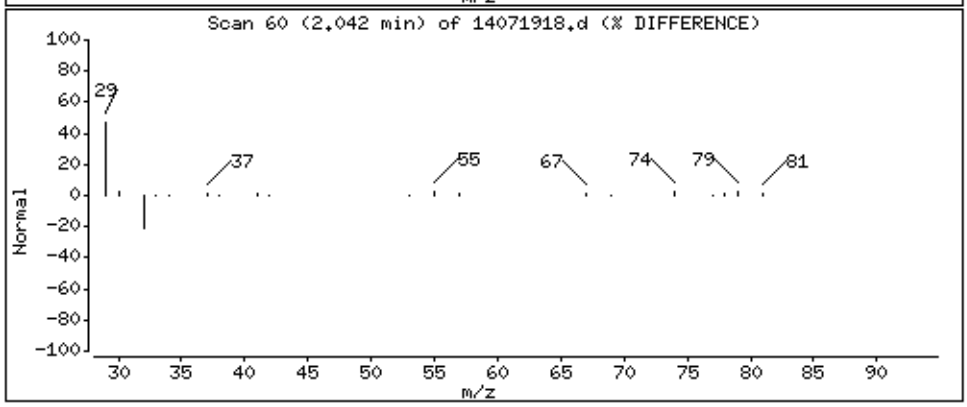












Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18SS-4

Lab ID#: 1607235F-11A

No Detections Were Found.

eurofins | Air Toxics

Client Sample ID: B18SS-4

Lab ID#: 1607235F-11A

EPA METHOD TO-15 GC/MS

File Name:	**14071919**	**Date of Collection:**	**7/12/16 6:50:00 PM**
Dil. Factor:	**2.48**	**Date of Analysis:**	**7/19/16 03:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	250	Not Detected	320	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	100	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071919.d
Lab Smp Id: 1607235F-11A
Inj Date : 19-JUL-2016 15:56
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml 1025
Misc Info : 5.5"Hg -> 15psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 2
Dil Factor: 2.48000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	111379	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	87334			48.38- 108.38	78.41
5.319	5.319 (1.000)	49	232655			122.49- 182.49	208.89
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	484506	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	94325			0.00- 47.28	19.47
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	457886	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	297552			33.96- 93.96	64.98
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	238499	411.716	411.72	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	113597			22.50- 82.50	47.63
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.212)	98	567499	420.422	420.42	80.00- 120.00	100.00
7.813	7.813 (1.212)	70	67650			0.00- 42.36	11.92

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.813	7.813 (1.212)	100	371934			36.13- 96.13	65.54
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	227178	401.499	401.50	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	382785			113.45- 173.45	168.49
9.632	9.632 (1.082)	176	217662			68.10- 128.10	95.81

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071919.d
Lab Smp Id: 1607235F-11A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.5"Hg -> 15psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	111379	-3.63
123 1,4-Difluorobenze	512594	307556	717632	484506	-5.48
163 Chlorobenzene-d5	458000	274800	641200	457886	-0.02

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 19-Jul-2016 16:16

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 19jul16
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1607235F-11A
Level: LOW Operator: mjs
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926Spectra.spk Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 5.5"Hg -> 15psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	411.72	102.93	70-130
$ 146 Toluene-d8	400.00	420.42	105.11	70-130
$ 177 4-Bromofluorobenze	400.00	401.50	100.37	70-130

Data File: /chem/msd14.i/19jul16.b/14071919.d

Date : 19-JUL-2016 15:56

Client ID:

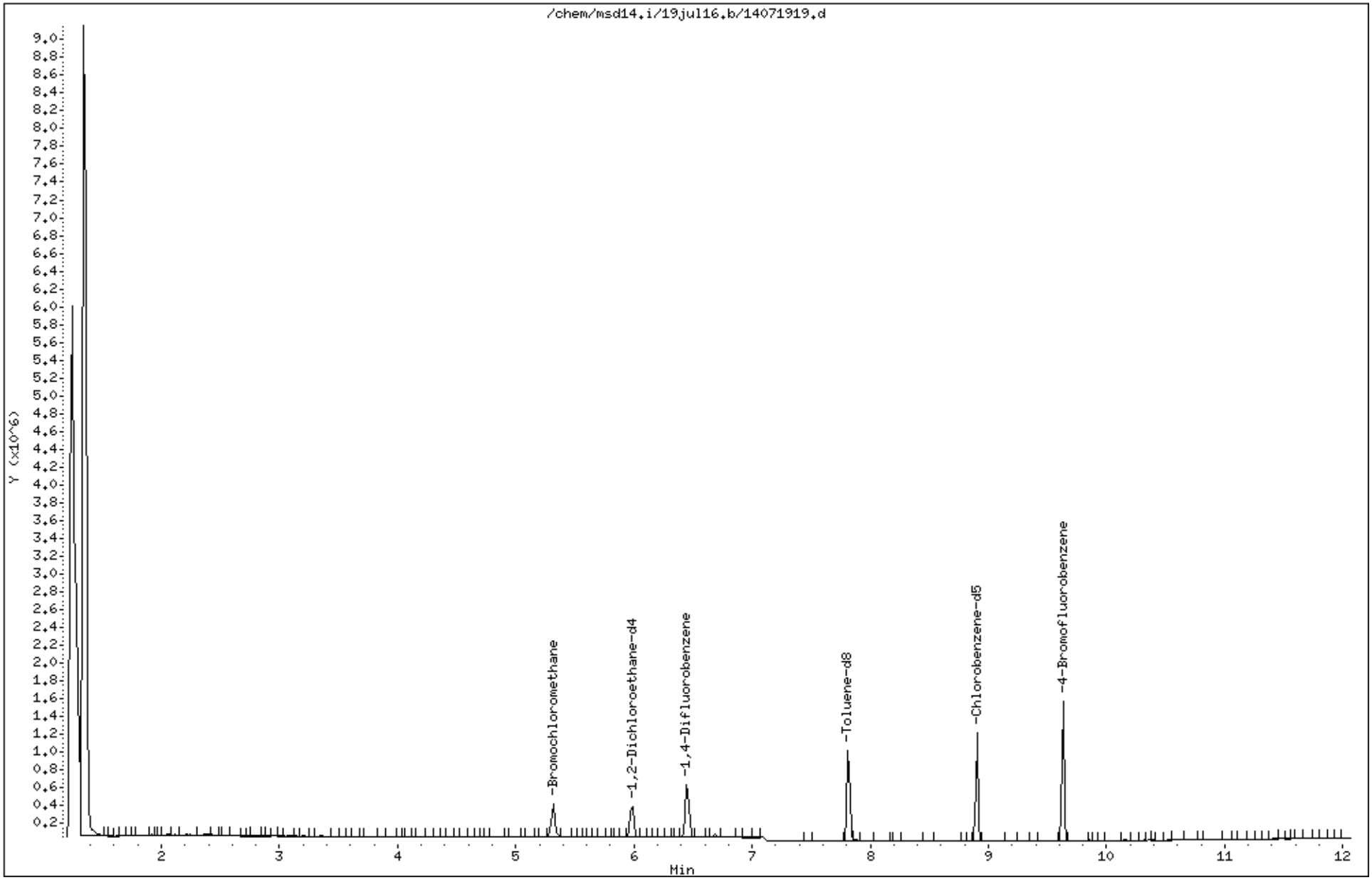
Instrument: msd14.i

Sample Info: 50ml 1025

Operator: mjs

Column phase: RTX-624

Column diameter: 0.18



Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18SS-5

Lab ID#: 1607235F-12A

No Detections Were Found.

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Client Sample ID: B18SS-5

Lab ID#: 1607235F-12A

EPA METHOD TO-15 GC/MS

File Name:	**14071921**	**Date of Collection:**	**7/12/16 6:01:00 PM**
Dil. Factor:	**2.34**	**Date of Analysis:**	**7/19/16 04:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	230	Not Detected	310	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071921.d
Lab Smp Id: 1607235F-12A
Inj Date : 19-JUL-2016 16:31
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #36525
Misc Info : 4.3"Hg -> 14.8psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 4
Dil Factor: 2.34000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	112726	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	87333			48.38- 108.38	77.47
5.319	5.319 (1.000)	49	227400			122.49- 182.49	201.73
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	483843	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	91473			0.00- 47.28	18.91
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	447753	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	296814			33.96- 93.96	66.29
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	229080	390.730	390.73	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	111849			22.50- 82.50	48.83
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.212)	98	557288	413.423	413.42	80.00- 120.00	100.00
7.813	7.813 (1.212)	70	68322			0.00- 42.36	12.26

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.813	7.813 (1.212)	100	366311			36.13- 96.13	65.73
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	217971	393.944	393.94	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	365930			113.45- 173.45	167.88
9.632	9.632 (1.082)	176	212089			68.10- 128.10	97.30

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071921.d
Lab Smp Id: 1607235F-12A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.3"Hg -> 14.8psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	112726	-2.47
123 1,4-Difluorobenze	512594	307556	717632	483843	-5.61
163 Chlorobenzene-d5	458000	274800	641200	447753	-2.24

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 19jul16
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1607235F-12A
Level: LOW Operator: mjs
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926Spectra.spk Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.3"Hg -> 14.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	390.73	97.68	70-130
$ 146 Toluene-d8	400.00	413.42	103.36	70-130
$ 177 4-Bromofluorobenze	400.00	393.94	98.49	70-130

Data File: /chem/msd14.i/19jul16.b/14071921.d

Date : 19-JUL-2016 16:31

Client ID:

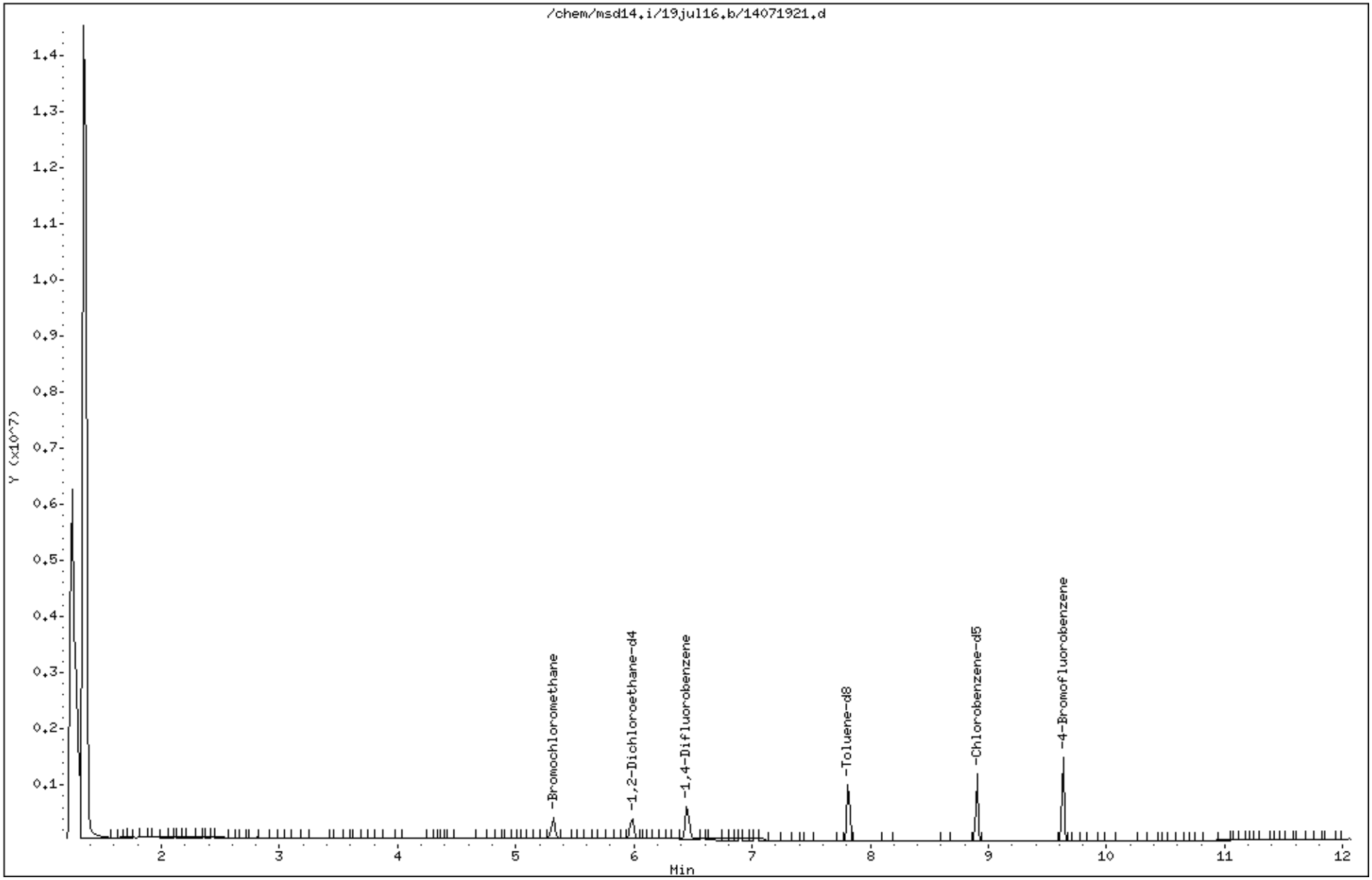
Sample Info: 50ml #36525

Column phase: RTX-624

Instrument: msd14.i

Operator: mjs

Column diameter: 0.18



Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18SS-1D

Lab ID#: 1607235F-13A

No Detections Were Found.

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Client Sample ID: B18SS-1D

Lab ID#: 1607235F-13A

EPA METHOD TO-15 GC/MS

File Name:	**14071922**	**Date of Collection:**	**7/11/16 5:59:00 PM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**7/19/16 05:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	240	Not Detected	310	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071922.d
Lab Smp Id: 1607235F-13A
Inj Date : 19-JUL-2016 17:04
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #30832
Misc Info : 4.5"Hg -> 15.1psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 2.38000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	111498	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	88648			48.38- 108.38	79.51
5.319	5.319 (1.000)	49	233017			122.49- 182.49	208.99
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	491047	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	90348			0.00- 47.28	18.40
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	451851	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	302282			33.96- 93.96	66.90
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	234608	404.566	404.57	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	114790			22.50- 82.50	48.93
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.212)	98	565661	413.478	413.48	80.00- 120.00	100.00
7.813	7.813 (1.212)	70	71038			0.00- 42.36	12.56

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.813	7.813 (1.212)	100	367896			36.13- 96.13	65.04
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	217653	389.801	389.80	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	373670			113.45- 173.45	171.68
9.632	9.632 (1.082)	176	207134			68.10- 128.10	95.17

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071922.d
Lab Smp Id: 1607235F-13A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.5"Hg -> 15.1psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	111498	-3.53
123 1,4-Difluorobenze	512594	307556	717632	491047	-4.20
163 Chlorobenzene-d5	458000	274800	641200	451851	-1.34

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1607235F-13A
Level: LOW
Operator: mjs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.5"Hg -> 15.1psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	404.57	101.14	70-130
$ 146 Toluene-d8	400.00	413.48	103.37	70-130
$ 177 4-Bromofluorobenze	400.00	389.80	97.45	70-130

Data File: /chem/msd14.i/19jul16.b/14071922.d

Date : 19-JUL-2016 17:04

Client ID:

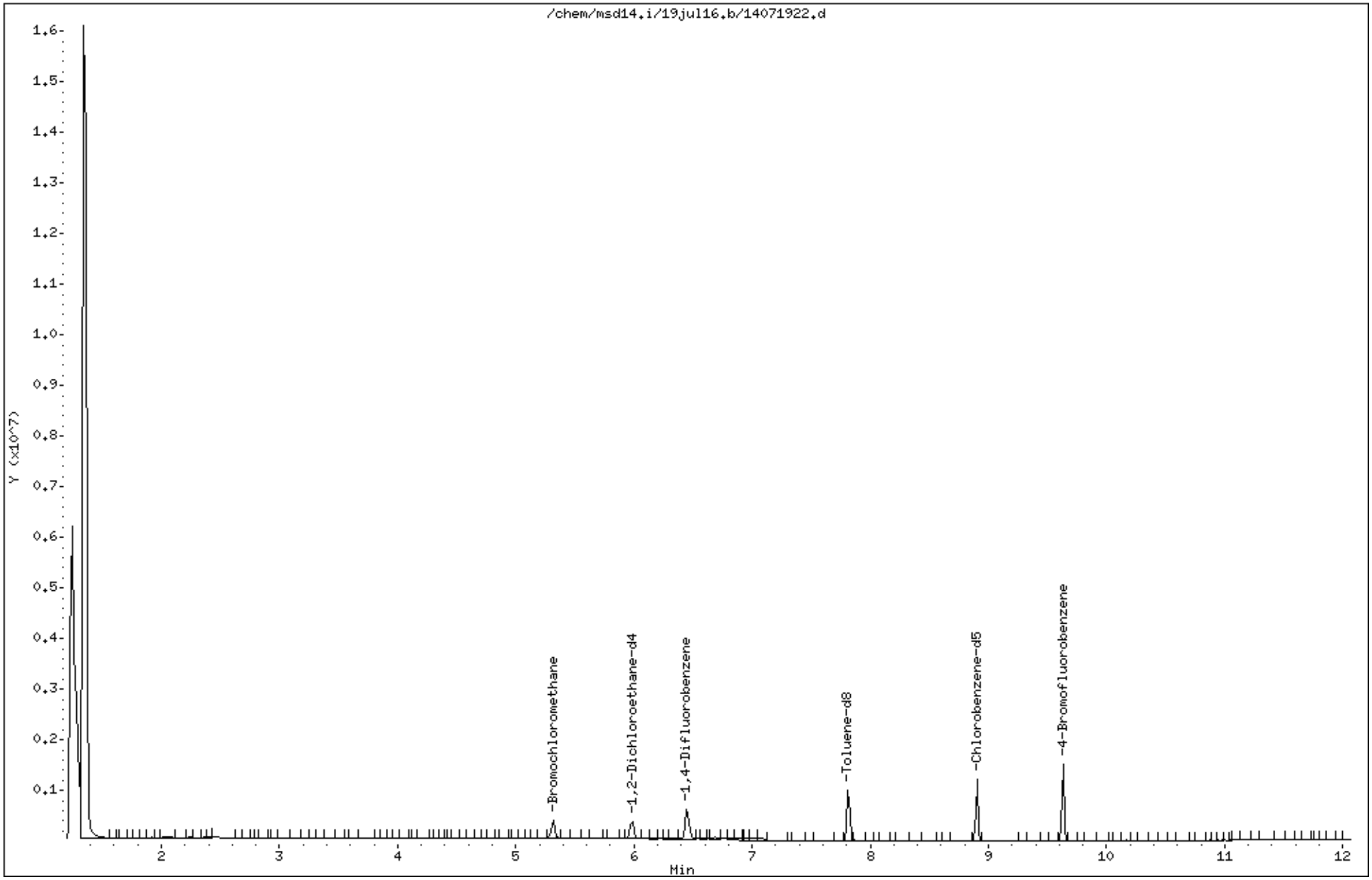
Sample Info: 50ml #30832

Column phase: RTX-624

Instrument: msd14.i

Operator: mjs

Column diameter: 0.18



Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B18AA-071216

Lab ID#: 1607235F-14A

No Detections Were Found.

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Client Sample ID: B18AA-071216

Lab ID#: 1607235F-14A

EPA METHOD TO-15 GC/MS

File Name:	**14071923**	**Date of Collection:**	**7/12/16 2:08:00 PM**
Dil. Factor:	**1.59**	**Date of Analysis:**	**7/19/16 05:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	160	Not Detected	210	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071923.d
Lab Smp Id: 1607235F-14A
Inj Date : 19-JUL-2016 17:28
Operator : mjs Inst ID: msd14.i
Smp Info : 50ml #12947
Misc Info : 4.7"Hg -> 5.0psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 15:56 mskidmor Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1
Dil Factor: 1.59000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane					CAS #: 74-97-5		
5.319	5.319 (1.000)	130	120659	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	91525			48.38- 108.38	75.85
5.319	5.319 (1.000)	49	249258			122.49- 182.49	206.58
* 123 1,4-Difluorobenzene					CAS #: 540-36-3		
6.444	6.444 (1.000)	114	505708	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	98912			0.00- 47.28	19.56
* 163 Chlorobenzene-d5					CAS #: 3114-55-4		
8.905	8.905 (1.000)	117	470816	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	311492			33.96- 93.96	66.16
$ 117 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.988	5.988 (1.126)	65	243139	387.444	387.44	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	119523			22.50- 82.50	49.16
$ 146 Toluene-d8					CAS #: 2037-26-5		
7.814	7.813 (1.212)	98	588507	417.707	417.71	80.00- 120.00	100.00
7.814	7.813 (1.212)	70	73092			0.00- 42.36	12.42

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.814	7.813	(1.212)	100	389858			36.13- 96.13	66.25
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.633	9.632	(1.082)	174	227869	391.659	391.66	80.00- 120.00	100.00
9.633	9.632	(1.082)	95	388552			113.45- 173.45	170.52
9.633	9.632	(1.082)	176	212382			68.10- 128.10	93.20

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071923.d
Lab Smp Id: 1607235F-14A
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 5.0psi

Calibration Date: 19-JUL-2016
Calibration Time: 12:41

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	120659	4.40
123 1,4-Difluorobenze	512594	307556	717632	505708	-1.34
163 Chlorobenzene-d5	458000	274800	641200	470816	2.80

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 27-Jul-2016 14:27

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 19jul16
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1607235F-14A
Level: LOW Operator: mjs
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926Spectra.spk Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 4.7"Hg -> 5.0psi

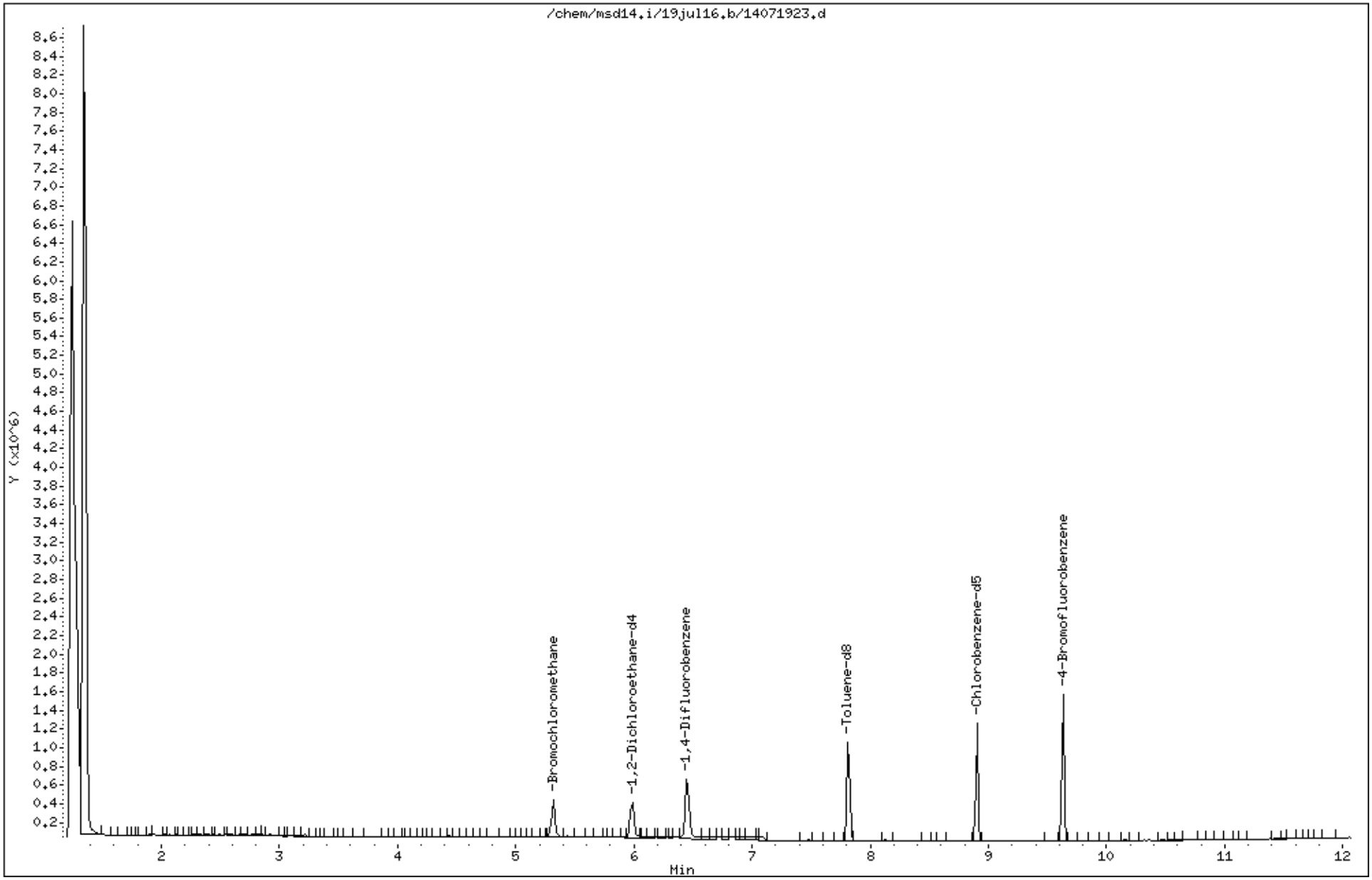
SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	387.44	96.86	70-130
$ 146 Toluene-d8	400.00	417.71	104.43	70-130
$ 177 4-Bromofluorobenze	400.00	391.66	97.91	70-130

Data File: /chem/msd14.i/19jul16.b/14071923.d
Date : 19-JUL-2016 17:28
Client ID:
Sample Info: 50ml #12947

Column phase: RTX-624

Instrument: msd14.i

Operator: mjs
Column diameter: 0.18



QC Results and Raw Data

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Client Sample ID: Lab Blank

Lab ID#: 1607235F-15A

EPA METHOD TO-15 GC/MS

File Name:	**14071915**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 01:16 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	100	Not Detected	130	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071915.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 19-JUL-2016 13:16
Operator : jcw Inst ID: msd14.i
Smp Info : 50mL #36041
Misc Info : Humid
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 13:50 jwu Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	126347	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	97111			48.38- 108.38	76.86
5.319	5.319 (1.000)	49	257209			122.49- 182.49	203.57
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	552128	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	107016			0.00- 47.28	19.38
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	494422	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	323890			33.96- 93.96	65.51
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	260010	395.676	395.68	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	122197			22.50- 82.50	47.00
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.212)	98	620855	403.617	403.62	80.00- 120.00	100.00
7.813	7.813 (1.212)	70	79937			0.00- 42.36	12.88

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.813	7.813	(1.212)	100	408739			36.13- 96.13	65.83
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.632	9.632	(1.082)	174	247352	404.848	404.85	80.00- 120.00	100.00
9.632	9.632	(1.082)	95	405151			113.45- 173.45	163.80
9.632	9.632	(1.082)	176	231398			68.10- 128.10	93.55

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071915.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: jcw
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: Humid

Calibration Date: 19-JUL-2016
Calibration Time: 12:41
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	126347	9.32
123 1,4-Difluorobenze	512594	307556	717632	552128	7.71
163 Chlorobenzene-d5	458000	274800	641200	494422	7.95

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 19-Jul-2016 13:52

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19jul16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Client Smp ID: Lab Blank
Level: LOW
Operator: jcw
Data Type: MS DATA
SampleType: BLANK
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	395.68	98.92	70-130
$ 146 Toluene-d8	400.00	403.62	100.90	70-130
$ 177 4-Bromofluorobenze	400.00	404.85	101.21	70-130

Data File: /chem/msd14.i/19jul16.b/14071915.d

Date : 19-JUL-2016 13:16

Client ID: Lab Blank

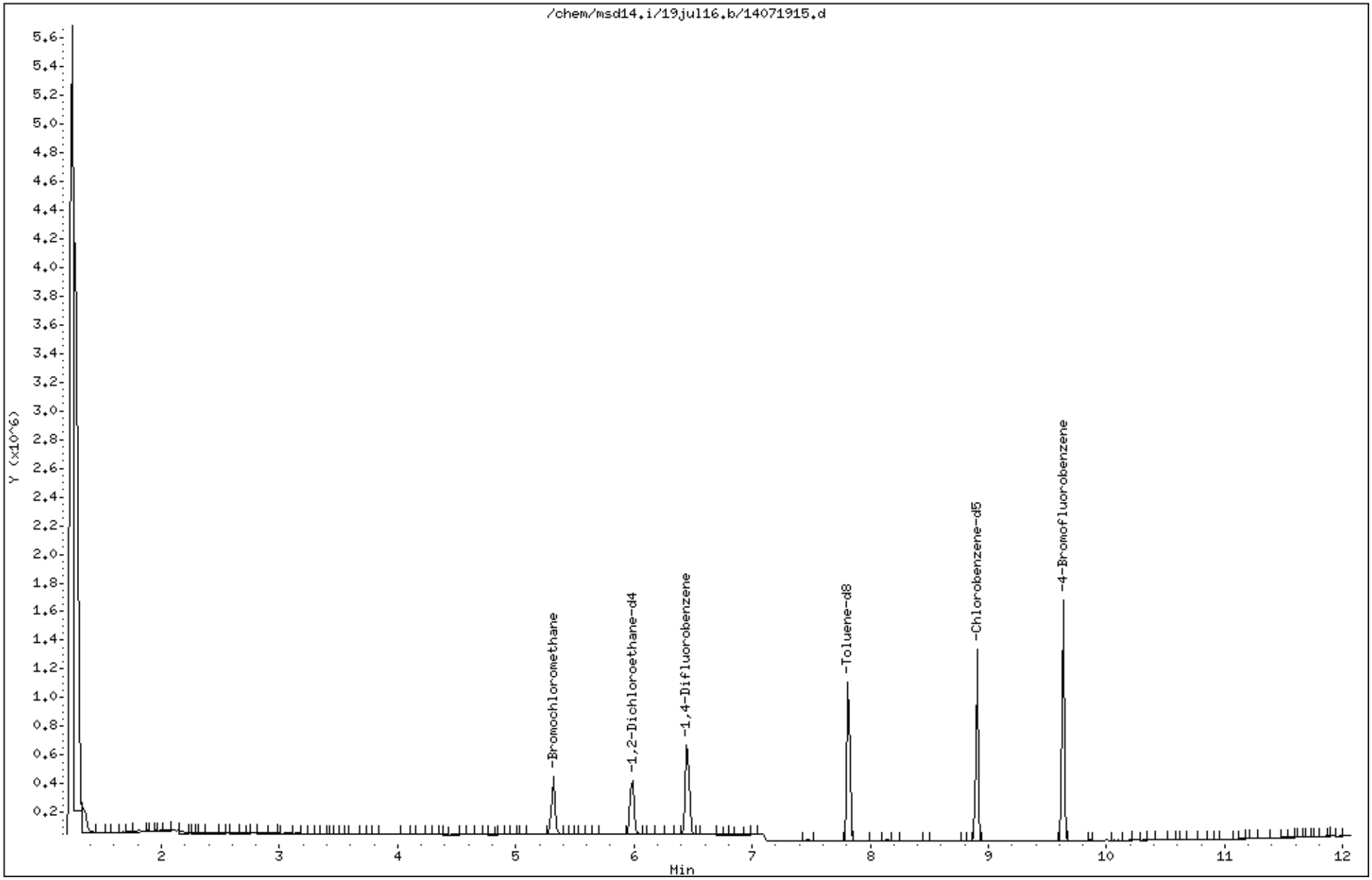
Sample Info: 50mL #36041

Column phase: RTX-624

Instrument: msd14.i

Operator: jcw

Column diameter: 0.18



LEVEL-IV VALIDATABLE

EPA METHOD TO-15 GC/MS

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 1607235F

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	B18IA-1	101		100		98				0
02	B18IA-2	99		103		99				0
03	B18IA-3	104		102		100				0
04	B18IA-4	100		102		99				0
05	B18IA-5	98		101		98				0
06	B18IA-1D	99		102		96				0
07	B18SS-1	101		102		99				0
08	B18SS-2	97		101		99				0
09	B18SS-3	100		100		98				0
10	B18SS-4	103		105		100				0
11	B18SS-5	98		103		98				0
12	B18SS-1D	101		103		97				0
13	B18AA-071216	97		104		98				0
14	Lab Blank	99		101		101				0
15	CCV	100		100		100				0
16										0
17										0
18										0
19										0
20										0
21										0
22										0
23										0
24										0

Surrogate Recovery Limits

1,2-Dichloroethane-d4 70 - 130
Toluene-d8 70 - 130
4-Bromofluorobenzene 70 - 130

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD

SDG No: 1607235F

Lab File ID: 14071914a.d

Date Analyzed: 07/19/2016

Instrument ID: msd14.i

Time Analyzed: 12:41 PM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	458000		8.9		512594		6.44		115579		5.32	
	UPPER LIMIT	641200		09.23		717632		06.77		161811		05.65	
	LOWER LIMIT	274800		08.57		307556		06.11		69347		04.99	
	CLIENT SAMPLE NO												
01	B18IA-1	476407		8.9		523435		6.44		118356		5.32	
02	B18IA-2	474639		8.9		500672		6.44		119218		5.32	
03	B18IA-3	465309		8.9		507457		6.46		114837		5.32	
04	B18IA-4	460778		8.9		506773		6.44		116928		5.32	
05	B18IA-5	462322		8.9		504750		6.46		119806		5.32	
06	B18IA-1D	462820		8.9		495487		6.46		116514		5.32	
07	B18SS-1	468360		8.9		506403		6.44		112717		5.32	
08	B18SS-2	460434		8.9		500029		6.44		116013		5.32	
09	B18SS-3	457443		8.9		505959		6.44		114591		5.32	
10	B18SS-4	457886		8.9		484506		6.44		111379		5.32	
11	B18SS-5	447753		8.9		483843		6.44		112726		5.32	
12	B18SS-1D	451851		8.9		491047		6.44		111498		5.32	
13	B18AA-071216	470816		8.9		505708		6.44		120659		5.32	
14	Lab Blank	494422		8.9		552128		6.44		126347		5.32	
15	CCV	458000		8.9		512594		6.44		115579		5.32	
16													
17													
18													
19													
20													
21													
22													

'Area Upper Limit=+40% of internal standard area'

'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JUL-2016 12:41
End Cal Date : 19-JUL-2016 12:41
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/19jul16.b/MEOH0719a.m
Cal Date : 19-Jul-2016 15:33 jwu
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd14.i/19jul16.b/14071914.d

Compound	100.000 Level 5	___ RRF	% RSD
28 Methanol	0.94536	0.94536	0.000
$ 117 1,2-Dichloroethane-d4	2.08040	2.08040	0.000
$ 146 Toluene-d8	1.11440	1.11440	0.000
$ 177 4-Bromofluorobenzene	0.49429	0.49429	0.000

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JUL-2016 12:41
End Cal Date : 19-JUL-2016 12:41
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/19jul16.b/MEOH0719a.m
Cal Date : 19-Jul-2016 15:33 jwu
Curve Type : Average

Average %RSD Results.	
Calculated Average %RSD =	0
Maximun Average %RSD =	30
* Passed Average %RSD Test.	

Calibration History

Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Start Cal Date: 19-JUL-2016 12:41
End Cal Date : 19-JUL-2016 12:41

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 5 , Cal Amount: 100.00000		
19-JUL-2016 12:41	MEOH	/chem/msd14.i/19jul16.b/14071914.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 5

Ccal Level: 5 , Ccal Amount: 100.00		
19-JUL-2016 12:41	MEOH	/chem/msd14.i/19jul16.b/14071914.d
Ccal Level: 5 , Ccal Amount: 100.00		
19-JUL-2016 12:41	MEOH	/chem/msd14.i/19jul16.b/14071914a.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JUL-2016 12:41
End Cal Date : 19-JUL-2016 12:41
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/19jul16.b/MEOH0719a.m
Cal Date : 19-Jul-2016 15:33 jwu
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd14.i/19jul16.b/14071914.d

JW 7/19/16

Compound	100.000 Level 5	RRF	% RSD
28 Methanol	0.94536	0.94536	0.000
$ 117 1,2-Dichloroethane-d4	2.08040	2.08040	0.000
$ 146 Toluene-d8	1.11440	1.11440	0.000
$ 177 4-Bromofluorobenzene	0.49429	0.49429	0.000

MEOH0719a.M
Initial Calibration Narrative

A 1-point Methanol initial calibration was analyzed on MSD-14 on 7/19/16.

The quantitation ion peak (31 amu) is sufficiently resolved for accurate quantification of Methanol at the reporting limit of 100ppbv. However, the confirmation mass ion peak (32 amu) for Methanol is not baseline-resolved. Identification of Methanol based on the presence and abundance ratio of confirmation ion is less reliable at the lowest concentrations due to minimal baseline-resolvement.

No ICV or MDL needed.

BFB Tune file - 14071911

Eurofins Air Toxics, Inc. **MSD-14** **Logbook #2809**

BFB Verification of 176/174 m/z Ratio: (207488/217152)x100 ~~95.55~~ 95.55% 7/19/16	
Method Name: MECH0719A	

IS/S Std. #: 2789-202	Exp. Date: 9/27/16
BCM	115579
1,4-DFB	512594
CB-d5	458000

Verified CCV IS vs ICAL mid-point (-40%D): JW

SOP# (Circle one): 6 / 83 / 38 / 91 / 109 / 132 Method (Circle one): TO-14A/TO-15/TO-17

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
1	✓	14071911	BFB TUNE check	2789-1436	50ng	2.0 µL	1.00	JW	7/19/16	1123	JW	
2	✓	12	System Blank	36041	Humid	50 mL	1.00	JW		1140	JW	
3	X	13	ICAL level 4	2789-145	50 ppbv	25 mL	1.00	JW		1200	JW	exp: 8/17/16
4	✓	14	ICAL level 5		100 ppbv	5.0 mL	1.00	JW		1241	JW	↓ MeOH
5	✓	15	Lab Blank	36041	Humid	50 mL	1.00	JW		1316	JW	
6		16	~~16072351-08A~~	~~36376~~	~~4.74 Hg 15.1 psi~~	~~50 mL~~	~~2.40~~	JW				
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												JW 7/19/16

Reviewed Date 7/19/16

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Client Sample ID: CCV

Lab ID#: 1607235F-16A

EPA METHOD TO-15 GC/MS

File Name:	**14071914a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 12:41 PM**	

Compound	**%Recovery**
Methanol	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 19-JUL-2016 12:41
Lab File ID: 14071914a.d Init. Cal. Date(s): 19-JUL-2016 19-JUL-2016
Analysis Type: AIR Init. Cal. Times: 12:41 12:41
Lab Sample ID: ccv Quant Type: ISTD
Method: /chem/msd14.i/19jul16.b/MEOH0719a.m

COMPOUND	RRF / AMOUNT	RF100	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 117 1,2-Dichloroethane-d4	2.08040	2.08040	0.010	0.000e+00	30.00000	Averaged
$ 146 Toluene-d8	1.11440	1.11440	0.010	0.000e+00	30.00000	Averaged
$ 177 4-Bromofluorobenzene	0.49429	0.49429	0.010	0.000e+00	30.00000	Averaged
28 Methanol	0.94536	0.94536	0.010	0.000e+00	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 100
Maximun Average %D/Drift = 30.00000
* Failed Average %D/Drift Test.

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/19jul16.b/14071914a.d
Lab Smp Id: ccv Client Smp ID: ccv
Inj Date : 19-JUL-2016 12:41
Operator : JCW Inst ID: msd14.i
Smp Info : 5.0mL # 2789-145
Misc Info : 100ppbv (1000ppbv) MeOH
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/19jul16.b/MEOH0719a.m
Meth Date : 19-Jul-2016 13:50 jwu Quant Type: ISTD
Cal Date : 19-JUL-2016 12:41 Cal File: 14071914.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	115579	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	92151			48.38- 108.38	79.73
5.319	5.319 (1.000)	49	232007			122.49- 182.49	200.73
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	512594	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	97709			0.00- 47.28	19.06
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	458000	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	300752			33.96- 93.96	65.67
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	240450	400.000	400.00	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	115055			22.50- 82.50	47.85
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.813 (1.212)	98	571234	400.000	400.00	80.00- 120.00	100.00
7.813	7.813 (1.212)	70	68921			0.00- 42.36	12.07

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.813	7.813 (1.212)	100	385218			36.13- 96.13	67.44
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	226387	400.000	400.00	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	375133			113.45- 173.45	165.70
9.632	9.632 (1.082)	176	214362			68.10- 128.10	94.69
28 Methanol					CAS #: 67-56-1		
2.042	2.042 (0.384)	31	27316	100.000	100.00	0.00- 0.00	100.00
2.027	2.027 (0.381)	32	31554			0.00- 0.00	115.51

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14071914a.d
Lab Smp Id: ccv
Analysis Type: VOA
Quant Type: ISTD
Operator: JCW
Method File: /chem/msd14.i/19jul16.b/MEOH0719a.m
Misc Info: 100ppbv (1000ppbv) MeOH

Calibration Date: 19-JUL-2016
Calibration Time: 12:41
Client Smp ID: ccv
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	115579	69347	161811	115579	0.00
123 1,4-Difluorobenze	512594	307556	717632	512594	0.00
163 Chlorobenzene-d5	458000	274800	641200	458000	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	5.32	4.99	5.65	5.32	0.00
123 1,4-Difluorobenze	6.44	6.11	6.77	6.44	0.00
163 Chlorobenzene-d5	8.90	8.57	9.23	8.90	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd14.i/19jul16.b/14071914a.d

Page 1

Date : 19-JUL-2016 12:41

Client ID: ccv

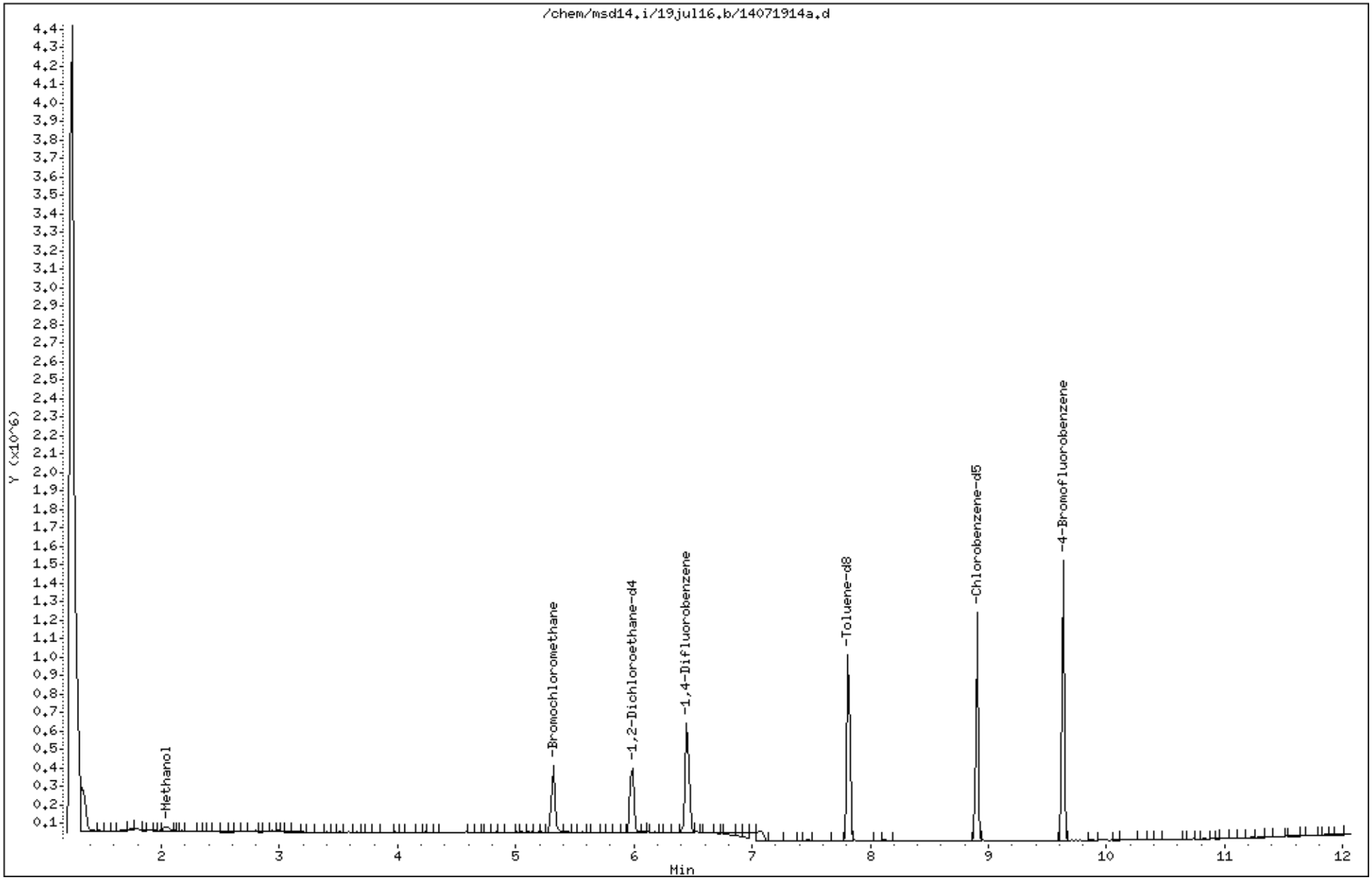
Instrument: msd14.i

Sample Info: 5.0mL # 2789-145

Operator: JCW

Column phase: RTX-624

Column diameter: 0.18



Eurofins Air Toxics, Inc. **MSD-14** **Logbook #2809**

BFB Verification of 176/174 m/z Ratio: (207488/217152)x100 = 95.55% (7/19/16)	
Method Name: MEOH0719A	

IS/S Std. #: 2789-202	Exp. Date: 9/27/16
BCM	115579
1,4-DFB	512594
CB-d5	458000

Verified CCV IS vs ICAL mid-point (-40%D): JW

SOP# (Circle one): 6 / 83 / 38 / 91 / 109 / 132 Method (Circle one): TO-14A/TO-15/TO-17

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
1	✓	14071911	BFB TUNE check	2249-1476	50ng	2.0 mL	1.00	JW	7/19/16	1123	JW	
2	✓	12	System Blank	36041	Humid	50mL	1.00	JW		1140	JW	
3	X	13	ICAL level 4	2789-145	50 ppbv	25mL	1.00	JW		1200	JW	exp: 8/17/16
4	✓	14	ICAL level 5		100 ppbv	5.0 mL	1.00	JW		1241	JW	↓ MeOH
5	✓	15	Lab Blank	36041	Humid	50mL	1.00	JW		1316	JW	
6	✓	16	1607235F-08A	36376	4.7"Hg-15.1psi	50mL	2.40	JW		1346	MB	
7	✓	17	-09A	3043	4.7"Hg→14.8psi	50mL	2.38	MB		1513	MB	
8	✓	18	-10A	8031	4.7"Hg→15.1psi	50mL	2.40	MB		1536	MB	
9	✓	19	-11A	1025	5.5"Hg→15psi	50mL	2.48	MB		1556	MB	
10	✓	20	-07A	6L0493	5.7"Hg→4.8psi	50mL	1.64	MB		1613	MB	
11	✓	21	-12A	36525	4.3"Hg→14.8psi	50mL	2.34	MB		1631	MB	
12	✓	22	-13A	30832	4.5"Hg→15.1psi	50mL	2.38	MB		1704	MB	
13	✓	23	-14A	12947	4.7"Hg→5.0psi	50mL	1.59	MB		1728	MB	
14	✓	24	-01A	33531	5.5"Hg→5.1psi	50mL	1.65	MB		1748	MB	
15	✓	25	-02A	6L0015	6.7"Hg→4.8psi	50mL	1.71	MB		1833	MB	
16	✓	26	-03A	6L0504	5.1"Hg→5.0psi	50mL	1.61	MB		1912	MB	
17	✓	27	-04A	12082	4.7"Hg→5.2psi	50mL	1.60	MB		1935	MB	

MB
Reviewed

7/19/16
Date

Eurofins Air Toxics, Inc. **MSD-14** **Logbook #2809**

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
18	✓	14071928	1607235F-05A	31146	5.9"Hg→5.0psi	50mL	1.67	MB	7/19/16	2001	MB	
19	✓	↓ 29	↓ ✓ -06A	21011	5.5"Hg→5.2psi	50mL	1.66	MB	↓	2035	MB	
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38										MB	7/19/16	
39												

MB
Reviewed

7/19/16
Date

Eurofins Air Toxics Inc.

Data file : /var/chem/msd14.i/19jul16.b/14071911.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 19-JUL-2016 11:23
Operator : jcw Inst ID: msd14.i
Smp Info : 2.0uL# 2299-1476; BFB; BFB
Misc Info : 50ng
Comment :
Method : /var/chem/msd14.i/19jul16.b/bfb20.m
Meth Date : 19-Jul-2016 11:34 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
2.745	2.483	0.262	95	405077			100.00- 100.00	100.00
2.745	2.483	0.262	50	106528			8.00- 40.00	26.30
2.745	2.483	0.262	75	210709			30.00- 66.00	52.02
2.745	2.483	0.262	96	25602			5.00- 9.00	6.32
2.745	2.483	0.262	173	2748			0.00- 1.99	1.27
2.745	2.483	0.262	174	217173			50.01- 120.00	53.61
2.745	2.483	0.262	175	16684			4.00- 9.00	7.68
2.745	2.483	0.262	176	207488			93.00- 101.00	95.54
2.745	2.483	0.262	177	14682			5.00- 9.00	7.08

Data File: /var/chem/msd14.i/19jul16.b/14071911.d

Date : 19-JUL-2016 11:23

Client ID: BFB

Instrument: msd14.i

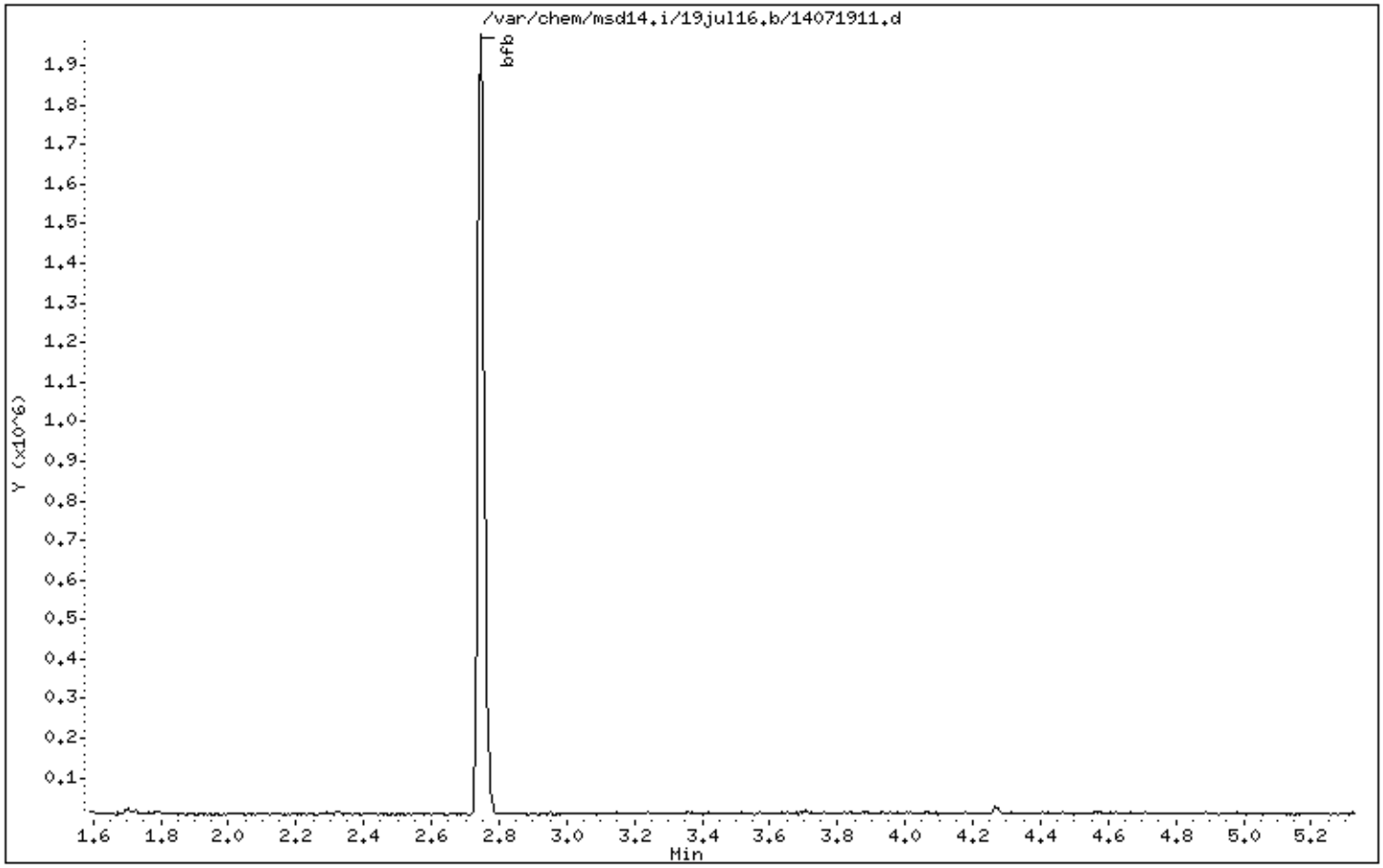
Sample Info: 2.0uL# 2299-1476; BFB; BFB

Volume Injected (uL): 1.0

Operator: jcw

Column phase:

Column diameter: 2.00



Data File: /var/chem/msd14.i/19jul16.b/14071911.d

Date : 19-JUL-2016 11:23

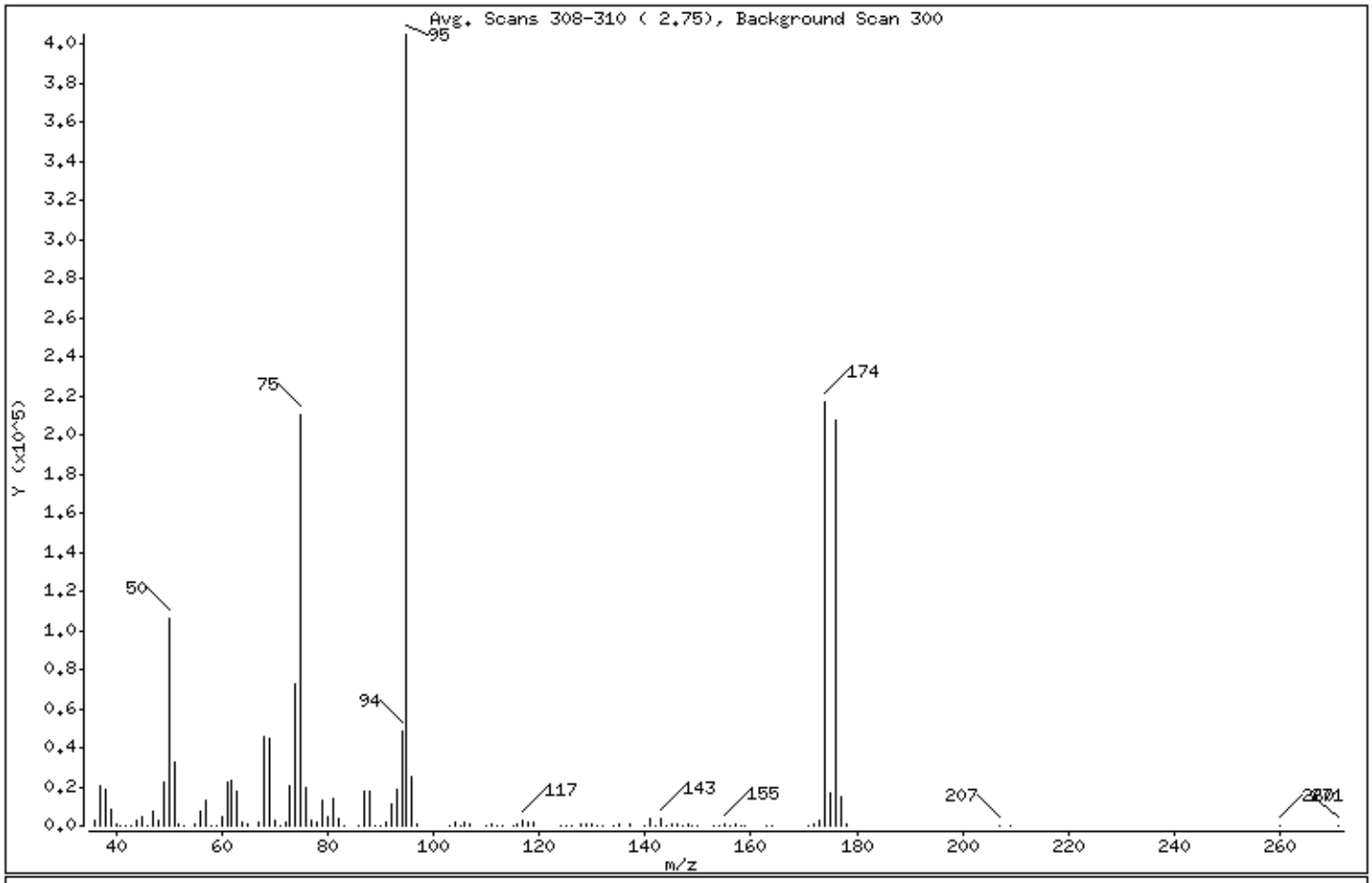
Client ID: BFB Instrument: msd14.i

Sample Info: 2.0uL# 2299-1476; BFB; BFB

Volume Injected (uL): 1.0 Operator: jcw

Column phase: Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	26.30
75	30.00 - 66.00% of mass 95	52.02
96	5.00 - 9.00% of mass 95	6.32
173	Less than 1.99% of mass 174	0.68 (1.27)
174	50.01 - 120.00% of mass 95	53.61
175	4.00 - 9.00% of mass 174	4.12 (7.68)
176	93.00 - 101.00% of mass 174	51.22 (95.54)
177	5.00 - 9.00% of mass 176	3.62 (7.08)

Data File: /var/chem/msd14.i/19jul16.b/14071911.d

Date : 19-JUL-2016 11:23

Client ID: BFB

Instrument: msd14.i

Sample Info: 2.0uL# 2299-1476; BFB; BFB

Volume Injected (uL): 1.0

Operator: jcw

Column phase:

Column diameter: 2.00

Data File: 14071911.d
Spectrum: Avg. Scans 308-310 (2.75), Background Scan 300
Location of Maximum: 95.00
Number of points: 115

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3100	67.00	1632	103.00	86	144.00	286
37.00	20168	68.00	45304	104.00	1509	145.00	632
38.00	18848	69.00	44504	105.00	400	146.00	584
39.00	8528	70.00	2854	106.00	1814	147.00	195
40.00	897	71.00	218	107.00	635	148.00	780
41.00	354	72.00	2059	110.00	51	149.00	165
42.00	167	73.00	20408	111.00	469	150.00	429
43.00	73	74.00	72904	112.00	161	153.00	91
44.00	2769	75.00	210688	113.00	418	154.00	193
45.00	4998	76.00	19104	115.00	8	155.00	1012
46.00	419	77.00	2886	116.00	1077	156.00	70
47.00	7334	78.00	1738	117.00	2610	157.00	932
48.00	3103	79.00	13466	118.00	1616	158.00	151
49.00	22336	80.00	4593	119.00	1802	159.00	352
50.00	106528	81.00	13973	124.00	79	163.00	109
51.00	32216	82.00	3620	125.00	156	164.00	65
52.00	1000	83.00	326	126.00	54	171.00	338
53.00	76	86.00	307	128.00	1132	172.00	971
55.00	1392	87.00	17904	129.00	590	173.00	2748
56.00	7512	88.00	17752	130.00	1380	174.00	217152
57.00	12750	89.00	67	131.00	460	175.00	16680
58.00	442	90.00	54	132.00	145	176.00	207488
59.00	143	91.00	1620	134.00	70	177.00	14682
60.00	4590	92.00	10927	135.00	961	178.00	529
61.00	22136	93.00	18184	137.00	611	207.00	218
62.00	23592	94.00	48336	140.00	276	209.00	50
63.00	17560	95.00	405056	141.00	3543	260.00	127
64.00	1407	96.00	25600	142.00	395	271.00	79
65.00	1197	97.00	800	143.00	3903		

Shipping/ Receiving Documents

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics, Inc. (EATL). We have received your samples and have listed any Sample Receipt Descrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Brian Whittaker at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 P.M. PST

eurofins | Air Toxics

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Terry Taylor
Collected by: (Print and Sign) R. O'Reilly, D. Lindstrand, T. Taylor
Company AMAI Email ttaylor@amaiconsult.com
Address 2800 Westchester Ave City Purchase State NY Zip 10577
Phone 914-251-0400 x309 Fax 914-251-1286

Project Info:
P.O. #
Project # Building 18 VI
Project Name

Turn Around Time: ☒ Normal ☒ Rush * (specify)

Lab Use Only Pressurized by: Date: Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	B18IA-1 ~~(070816)~~	33531	7/9/16	1902	TO-15	-30"+	-6.5"		
02A	B18IA-2 ~~(070816)~~	6L0015	7/9/16	1849	TO-15	-30"+	-7"		
03A	B18IA-3 ~~(070816)~~	0174	7/9/16	1827	TO-15	-30"+	-5.5"		
04A	B18IA-4 ~~(070816)~~	12082	7/9/16	1835	TO-15	-30"+	-5"		
05A	B18IA-5 ~~(070816)~~	31146	7/9/16	1844	TO-15	-30"+	-6.5"		
06A	B18IA-1D ~~(070816)~~	21011	7/9/16	1902	TO-15	-30"+	-6.5"		
	~~B18AA (070816)~~	~~34546~~	~~7/9/16~~	~~1912~~	~~TO-15~~	~~30"+~~	~~"~~		
7/14 ~~07~~	* B30IA-1 (070816) *	0152	7/9/16	1812	TO-15	-30"+	-6.5"		
08A	B18SS-1 ~~(070816)~~	36376	7/10/16	1800	TO-15	-28"	-5"		
09A	B18SS-2 ~~(070816)~~	3043	7/10/16	1937	TO-15	-30"	-5"		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
[signature] 07-13-16 1?0	Fed EX
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	[signature] EATL 7/14/16 10:20
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:
* Sample B30IA-1 (070816) a 24-hour TAT is requested. All other samples are a normal TAT. Report Results to MDL

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	good	Yes No (None)	1607235

Form 1293 rev.11

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Terry Taylor
Collected by: (Print and Sign) Richard O'Reilly, Dave Lindstrand, Terry Taylor
Company: AMAI Email: tTaylor@amaiconsult.com
Address: 2700 Westchester Ave City: Purchase State: NY Zip: 10577
Phone: 914-251-0400 x309 Fax: 914-251-1286

Project Info:
P.O. #
Project # Building 18 V1
Project Name

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
10A	B18SS-3 ~~(071016)~~	8031	7/12/16	1849	TO-15	-28"	-5"		
11A	B18SS-4 ~~(071016)~~	1025	7/12/16	1850	TO-15	-23"	-5"		
12A	B18SS-5 ~~(071016)~~	36525	7/12/16	1801	TO-15	-30"	-5"		
13A	B18SS-1D ~~(071016)~~ 30832	~~3051~~	7/12/16	1759	TO-15	-21"	-5"		
14A	B18AA-071216	12947	7/12/16	1408	TO-15	-30"	-5"		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	07-13-16 2700	FedEx	
		[signature] EATL	7/14/16 10:20

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		N/A	good	Yes No None	1607235

Form 1293 rev.11

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SAMPLE RECEIPT SUMMARY

WORKORDER 1607235F

Client

Mr. Terry Taylor
Anderson Mulholland &
Associates, Inc.
2700 Westchester Avenue
Suite 417
Purchase, NY 10577
Sales Rep: N/A

Phone

(914) 251-0400

Fax

Date Promised: 07/27/16
Date Completed: 7/27/16
Date Received: 7/14/16
PO#:
Project#: Building 18 VI

Total $: $ 1,040.00
Logged By: JCW

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	B18IA-1	Modified TO-15 (5&20 ppbv)	7/9/2016	5.5 "Hg	$75.00
02A	B18IA-2	Modified TO-15 (5&20 ppbv)	7/9/2016	6.7 "Hg	$75.00
03A	B18IA-3	Modified TO-15 (5&20 ppbv)	7/9/2016	5.1 "Hg	$75.00
04A	B18IA-4	Modified TO-15 (5&20 ppbv)	7/9/2016	4.7 "Hg	$75.00
05A	B18IA-5	Modified TO-15 (5&20 ppbv)	7/9/2016	5.9 "Hg	$75.00
06A	B18IA-1D	Modified TO-15 (5&20 ppbv)	7/9/2016	5.5 "Hg	$75.00
08A	B18SS-1	Modified TO-15 (5&20 ppbv)	7/11/2016	4.7 "Hg	$75.00
09A	B18SS-2	Modified TO-15 (5&20 ppbv)	7/12/2016	4.7 "Hg	$75.00
10A	B18SS-3	Modified TO-15 (5&20 ppbv)	7/11/2016	4.7 "Hg	$75.00
11A	B18SS-4	Modified TO-15 (5&20 ppbv)	7/12/2016	5.5 "Hg	$75.00
12A	B18SS-5	Modified TO-15 (5&20 ppbv)	7/12/2016	4.3 "Hg	$75.00
13A	B18SS-1D	Modified TO-15 (5&20 ppbv)	7/11/2016	4.5 "Hg	$75.00
14A	B18AA-071216	Modified TO-15 (5&20 ppbv)	7/12/2016	4.7 "Hg	$75.00
15A	Lab Blank	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
16A	CCV	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00

Misc. ChargeseCVP (13) @ $5.00 each. $65.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: BMS/19256

BILL TO: Accounts Payable
Anderson Mulholland & Associates, Inc.
2700 Westchester Avenue
Suite 417
Purchase, NY 10577

Analysis Code: TO-15 (5&20)

TERMS:

Reporting Method: TO-15 (5&20 ppbv) (Sp)-Methanol Only

Sample Discrepancy Report

Identification

Initiated By: JCW **Project ID:**19256 **PM**: BSW **Date:** 7/14/2016 **Discrepancy Type:** ☒ **1.** ☐ **2.** ☐ **3.**

Workorder(s) affected:1607235F **Sample(s) affected:** 14A

1. Sample Receipt Discrepancies

Narration Not Required:

1.1. ☐ Sample container (cartridge/tube/VOA vial) was received broken, however sample was intact.

1.2. ☐ No brass cap on canister.

1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.

Notify Lab for further determination:

1.4. ☐ Tedlar bag received with minimal volume.

Initials: _____ Date: _____

Narration Required in Lab Narrative and Sample Confirmation:

1.5. ☐ COC was not filled out in ink.

1.6. ☐ COC improperly relinquished / received.

1.7. ☒ Sample tags / can numbers do not match the COC.

1.8. ☐ Sample date ☐ error / ☐ missing on COC but noted on sample tag (check one).

1.9. ☐ Custody Seal on the outside of the container was ☐ broken / ☐ improperly placed (check one).

1.10. ☐ ID-none on the sample Tag/Blank.

1.11. ☐ Other (describe below).

Describe the Discrepancy: 1.7: Sample ID discrepancy, ID on COC used.

2. Sample Receipt/Screening Discrepancies requiring PM notification

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out PM must be notified within 24 hrs of initiation

2.1. ☐ COC was not received with samples.

2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC.

2.3. ☐ Incorrect sampling media / container for analysis requested.

2.4. ☐ Number of samples on the COC does not match the number of samples that were received.

2.5. ☐ Samples were received expired.

2.6. ☐ Sampling date (time for sulfur) is not documented for ☐ *some* / ☐ *any* samples (check one).

2.7. ☐ Sample received with amount of H_2O in the Tedlar Bag.

2.8. ☐ Sample cannot be analyzed. Container was ☐ received broken / ☐ leaking / ☐ flat / ☐ defective.

2.9. ☐ Tedlar bag / canister received emitting a strong odor; Sample ☐ can / ☐ cannot (check one) be analyzed.

2.10. ☐ Tedlar Bag for Sulfur analysis has metal fitting.

2.11. ☐ Environmental Supply Company valves.

2.12. ☐ Sorbent samples-sampling volume was not provided.

2.13. ☐ Flow controller used – canister samples received at ambient or under pressure.

2.14. ☐ Canister was at ambient pressure at time of pressurization and (check all that apply):

- ☐ Canister failed leak check on two manifolds, after fitting replaced.
- ☐ Canister valve was open.
- ☐ Brass nut was loose/not present.
- ☐ Sample can be analyzed.
- ☐ Sample cannot be analyzed.

2.15. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. and the final recorded vac. on the COC.

- ☐ Canister passed leak check in lab <2psi, no evidence sample was compromised.
- ☐ Canister failed lab leak check, canister found to be leaking. Canister sample compromised.

2.16. ☐ Canister sample received at >15"Hg (*not* identified as a Trip/Field Blank).

2.17. ☐ Canister Trip Blank received at low vacuum (<25"Hg).

2.18. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C; ☐ ice / ☐ blue ice (check one) was present. A temp. Blank ☐ was / ☐ was not present (check one).

2.19. ☐ Flow Controller RPD of = 20% was not met.

2.20. ☐ Other (describe below).

Initials: _____ **Date:** _____ **Notify Receiving:** ☐ **Notify PM:** ☐ _____

Describe the Discrepancy:

3. Lab Discrepancies requiring Team Leader/PM notification

Document in Analytical Notes of Lab Narrative

If Section III. is filled out PM must be notified within 24 hrs of initiation

3.1. ☐ Tedlar Bag found to be leaking at the time of analysis; sample ☐ can / ☐ cannot (check one) be analyzed.

3.2. ☐ Tedlar Bag found to be flat/low volume; sample cannot be analyzed.

3.3. ☐ Sulfur samples received with insufficient time to analyze prior to expiration.

3.4. ☐ Canister found to be leaking at the time of analysis.

3.5. ☐ VOST tube saturated; bag dilution necessary.

3.6. ☐ Sample loss due to instrument malfunction / broken glassware.

3.7. ☐ Low/high surrogate recoveries noted in QC/sample(s) for extractable samples.

3.8. ☐ Reporting Limit was raised.

3.9. ☐ Post weight > Pre weight in field/lab Blank for PM10/TSP samples.

3.10. ☐ Other (describe below).

Initials: _____ **Date:** _____ **Notify Receiving:** ☐ **Notify PM:** ☐ _____

Team Lead Initials: _____ **Date:** _____

Describe the Discrepancy: _____

_____

_____

How Does this Affect Client: _____

_____

_____

Project Manager Use Only

Project Manager Notification ☐ **Section 2 Complete** ☐ **Section 3 Complete**

Action:

☐ It is not necessary to notify the client. Narrate the discrepancy in Receiving Notes/Analytical Notes of Lab Narrative.

PM Initials:_____ Date: _____

☐ Client notification required. See attached client contact / email, or comments below:

Client Notification:

PM Initials:_____ Person notified: _____ Date: _____

☐ Waiting for Client Reply

Comments: _____

_____

☐ Notify Lab Name: _____ Date: _____ **Notify Receiving:** ☐ _____

☐ **Additional notifications attached.**

Additional Comments:

_____

Other Records

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} - [\text{Init. Pressure ("Hg)})*(14.7\text{psi}/30\text{"Hg})]}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} + \text{Initial Pressure (psi)}}$$

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
0.0	1.34	2.02
0.2	1.35	2.03
0.4	1.36	2.05
0.5	1.36	2.05
0.6	1.37	2.06
0.8	1.38	2.08
1.0	1.39	2.09
1.2	1.40	2.10
1.4	1.40	2.12
1.5	1.41	2.13
1.6	1.42	2.13
1.8	1.42	2.15
2.0	1.44	2.16
2.2	1.45	2.18
2.4	1.46	2.20
2.5	1.46	2.20
2.6	1.47	2.21
2.8	1.48	2.23
3.0	1.49	2.24
3.2	1.50	2.26
3.4	1.51	2.28
3.5	1.52	2.29
3.6	1.52	2.30
3.8	1.53	2.31
4.0	1.55	2.33
4.2	1.56	2.35
4.4	1.57	2.37
4.5	1.58	2.38
4.6	1.58	2.39
4.8	1.60	2.40
5.0	1.61	2.42
5.2	1.62	2.44
5.4	1.63	2.46
5.5	1.64	2.47
5.6	1.65	2.48
5.8	1.66	2.50
6.0	1.68	2.52
6.2	1.69	2.55
6.4	1.70	2.57
6.5	1.71	2.58
6.6	1.72	2.59
6.8	1.73	2.61
7.0	1.75	2.64
7.2	1.76	2.66
7.4	1.78	2.68
7.5	1.79	2.69
7.6	1.79	2.70

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
7.7	1.80	2.72
7.8	1.81	2.73
8.0	1.83	2.76
8.2	1.84	2.78
8.4	1.86	2.81
8.5	1.87	2.82
8.6	1.88	2.83
8.8	1.90	2.86
9.0	1.91	2.89
9.2	1.93	2.91
9.4	1.95	2.94
9.5	1.96	2.96
9.6	1.97	2.97
9.8	1.99	3.00
10.0	2.01	3.03
10.2	2.03	3.06
10.4	2.05	3.09
10.5	2.06	3.11
10.6	2.07	3.12
10.8	2.09	3.16
11.0	2.12	3.19
11.2	2.14	3.22
11.4	2.16	3.26
11.5	2.17	3.28
11.6	2.18	3.29
11.8	2.21	3.33
12.0	2.23	3.37
12.2	2.26	3.40
12.4	2.28	3.44
12.5	2.30	3.46
12.6	2.31	3.48
12.8	2.34	3.52
13.0	2.36	3.56
13.2	2.39	3.61
13.4	2.42	3.65
13.5	2.44	3.67
13.6	2.45	3.70
13.8	2.48	3.74
14.0	2.51	3.79
14.2	2.54	3.84
14.4	2.58	3.88
14.5	2.59	3.91
14.6	2.61	3.94
14.8	2.64	3.99
15.0	2.68	4.04
15.2	2.72	4.10
15.4	2.75	4.15

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
15.5	2.77	4.18
15.6	2.79	4.21
15.8	2.83	4.27
16.0	2.87	4.33
16.2	2.91	4.39
16.4	2.96	4.46
16.5	2.98	4.49
16.6	3.00	4.52
16.8	3.05	4.59
17.0	3.09	4.66
17.2	3.14	4.74
17.4	3.19	4.81
17.5	3.22	4.85
17.6	3.24	4.89
17.8	3.30	4.97
18.0	3.35	5.05
18.2	3.41	5.14
18.4	3.47	5.22
18.5	3.50	5.27
18.6	3.53	5.32
18.8	3.59	5.41
19.0	3.65	5.51
19.2	3.72	5.61
19.4	3.79	5.72
19.5	3.83	5.77
19.6	3.87	5.83
19.8	3.94	5.94
20.0	4.02	6.06
20.2	4.10	6.18
20.4	4.19	6.31
20.5	4.23	6.38
20.6	4.28	6.45
20.8	4.37	6.59
21.0	4.47	6.73
21.2	4.57	6.89
21.4	4.67	7.05
21.5	4.73	7.13
21.6	4.79	7.22
21.8	4.90	7.39
22.0	5.03	7.58
22.4	5.29	7.98

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
22.5	5.36	8.08
22.6	5.43	8.19
22.8	5.58	8.42
23.0	5.74	8.66
23.2	5.91	8.91
23.4	6.09	9.18
23.5	6.19	9.32
23.6	6.28	9.47
23.8	6.48	9.78
24.0	6.70	10.10
24.2	6.93	10.45
24.4	7.18	10.82
24.5	7.31	11.02
24.6	7.45	11.22
24.8	7.73	11.66
25.0	8.04	12.12
25.2	8.38	12.63
25.4	8.74	13.18
25.5	8.93	13.47
25.6	9.14	13.78
25.8	9.57	14.43
26.0	10.05	15.15
26.2	10.58	15.95
26.4	11.17	16.84
26.5	11.49	17.32
26.6	11.82	17.83
26.8	12.56	18.94
27.0	13.40	20.20
27.2	14.36	21.65
27.4	15.46	23.31
27.5	16.08	24.24
27.6	16.75	25.26
27.8	18.27	27.55
28.0	20.10	30.31
28.2	22.34	33.67
28.4	25.13	37.88
28.5	26.80	40.41
28.6	28.72	43.29
28.8	33.50	50.51
29.0	40.20	60.61

Compound List

TO-15 (5&20 ppbv) (Sp)-Methanol Only

CAS Number	Compound	Detection Limit ppbv	Type
67-56-1	Methanol	50	
17060-07-0	1,2-Dichloroethane-d4		
2037-26-5	Toluene-d8		
460-00-4	4-Bromofluorobenzene		

Eurofins Air Toxics, Inc.	Data Review Checklist			Release Date: 02/23/16
Workorder # 1607235F	Form F1.27	Revision #13	Revision Date: 02/23/16	Page 1 of 2

S1	S2	S3	S4	D	Section 1 – Spec Out				
					Initials/Instrument/Date	S1: JG 7/19/16	S2:	S3:	S4:
✓					Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria				
NA					Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder				
NA					Manual Integrations included and approved				
✓				✓	Chain of Custody verified for special comments (add comments below)				
NA					Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)				

Profile, analyses, reporting, special notes and unusual circumstances:

S: Dar cc, no LCS, Raised RL for Methane

A1	A2	A3	A4	D	Section 2 – Sample Analysis				
					Initials/Date	A1: MS 7/19/16	A2:	A3:	A4:
✓				✓	IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, and Canister #s Verified				
NA				NA	a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument				
NA				✓	Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓					12/24 Hr clock time & Hold Time met for all samples				
NA				NA	Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).				
✓				✓	All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)				

Analytical and special notes: 01A-06A, 08A-14A = full loads.

D1	D2	D3	D4	T	3T	Section 3 – Target Data Reduction	Technical Review Needed? Circle one: Yes/No		T:	
						Initials/Instrument/ Date	D1: 83 7/27/16	D2:	D3:	D4:
NA						CAR # (if applicable)				
✓						Spectra Verified *(documentation of spectral defense included if applicable)*				
NA						TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)*				
✓						Lab Narrative is correct				
NA						TPH/NMOC calculations complete and included in folder				

Special notes: Raised RL Methanol 50→100ppbv

A	3T	Section 4- Atlas Data Entry	Lumen verified and included in folder	Circle one: Yes/No
		Initials/Date: 83 7/27/16	3rd Tier: *(needed only for DOD or per client request)*	
✓		Sample Discrepancy Report (SDR) complete and approved *(if applicable)*		
NA		Manually entered results are checked		
✓		At least one result per sample is verified against Target quant sheets		
✓		Appropriate data qualifier flags are applied		
✓		Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct		

Special Notes:

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Workorder # :				**Reason for Reissue:**
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director

Additional Comments:

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Workorder # :				**Reason for Reissue:**
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director

Additional Comments:

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Not Applicable