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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 #: 1412216C

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Comments:

Completed by:

Kara McKiernan	Kara McKiernan / Document Control	1/5/15
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1412216C

Work Order Summary

CLIENT:	Mr. Terry Taylor Anderson Mulholland & Associates, Inc. 110 Corporate Park Drive White Plains, NY 10604	**BILL TO:**	Accounts Payable Anderson Mulholland & Associates, Inc. 110 Corporate Park Drive White Plains, NY 10604
PHONE:	(914) 251-0400	**P.O. #**	
FAX:	(914) 251-1286	**PROJECT #**	Building 5 VI BMS Humacao
DATE RECEIVED:	12/12/2014	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	12/24/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B5SS-7 (2014)	Modified TO-15 (5&20 ppbv	5.1 "Hg	14.9 psi
02A	B5SS-4 (2014)	Modified TO-15 (5&20 ppbv	6.5 "Hg	14.9 psi
03A	B5SS-6 (2014)	Modified TO-15 (5&20 ppbv	5.1 "Hg	15 psi
04A	B5SS-2 (2014)	Modified TO-15 (5&20 ppbv	2.2 "Hg	14.8 psi
05A	B5SS-3 (2014)	Modified TO-15 (5&20 ppbv	4.5 "Hg	14.8 psi
06A	B5SS-5 (2014)	Modified TO-15 (5&20 ppbv	4.7 "Hg	14.9 psi
07A	B5SS-1 (2014)	Modified TO-15 (5&20 ppbv	5.1 "Hg	14.7 psi
08A	B5SS-1D (2014)	Modified TO-15 (5&20 ppbv	4.1 "Hg	14.9 psi
09A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
09B	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
10A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
10B	CCV	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 12/24/14

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
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 - 9563
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LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
Anderson Mulholland & Associates, Inc.
Workorder# 1412216C

Eight 1 Liter Summa Canister (100% Certified) samples were received on December 12, 2014. 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

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on samples B5SS-5 (2014), B5SS-1 (2014), and B5SS-1D (2014) due to the presence of high level non-target species.

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)	Sample Extract Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
B5SS-7 (2014)	1412216C-01A	12/10/2014	12/12/2014	NA	7	12/17/2014	NA	Good
B5SS-4 (2014)	1412216C-02A	12/10/2014	12/12/2014	NA	7	12/17/2014	NA	Good
B5SS-6 (2014)	1412216C-03A	12/10/2014	12/12/2014	NA	7	12/17/2014	NA	Good
B5SS-2 (2014)	1412216C-04A	12/11/2014	12/12/2014	NA	6	12/17/2014	NA	Good
B5SS-3 (2014)	1412216C-05A	12/11/2014	12/12/2014	NA	6	12/17/2014	NA	Good
B5SS-5 (2014)	1412216C-06A	12/11/2014	12/12/2014	NA	11	12/22/2014	NA	Good
B5SS-1 (2014)	1412216C-07A	12/11/2014	12/12/2014	NA	11	12/22/2014	NA	Good
B5SS-1D (2014)	1412216C-08A	12/11/2014	12/12/2014	NA	11	12/22/2014	NA	Good
Lab Blank	1412216C-09A	NA	NA	NA	NA	12/17/2014	NA	Good
Lab Blank	1412216C-09B	NA	NA	NA	NA	12/22/2014	NA	Good
CCV	1412216C-10A	NA	NA	NA	NA	12/17/2014	NA	Good
CCV	1412216C-10B	NA	NA	NA	NA	12/22/2014	NA	Good

Sample Results and Raw Data

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

Client Sample ID: B5SS-7 (2014)

Lab ID#: 1412216C-01A

No Detections Were Found.

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Client Sample ID: B5SS-7 (2014)

Lab ID#: 1412216C-01A

EPA METHOD TO-15 GC/MS

File Name:	**j121719**	**Date of Collection:**	**12/10/14 12:02:00 P**
Dil. Factor:	**2.43**	**Date of Analysis:**	**12/17/14 07:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	120	Not Detected	160	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130

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AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121719.d
Lab Smp Id: 1412216C-01A
Inj Date : 17-DEC-2014 19:25
Operator : sn Inst ID: msdj.i
Smp Info : 50ml 1L1685
Misc Info : 5.1 Hg->14.9 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 6
Dil Factor: 2.43000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.491	5.505 (1.000)	130	209767	400.000		80.00- 120.00	100.00
5.491	5.505 (1.000)	128	182094			46.29- 106.29	86.81
5.491	5.492 (1.000)	49	317446			113.98- 173.98	151.33
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.401	6.415 (1.000)	114	1097123	400.000		80.00- 120.00	100.00
6.401	6.415 (1.000)	88	174915			0.00- 47.30	15.94
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.891	8.892 (1.000)	117	976797	400.000		80.00- 120.00	100.00
8.891	8.892 (1.000)	82	685976			35.58- 95.58	70.23
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.102)	65	488600	451.354	451.35	80.00- 120.00	100.00
6.051	6.051 (1.102)	67	230771			21.21- 81.21	47.23
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.646	7.646 (1.195)	98	1252540			70.00- 130.00	100.00(aR)
7.646	7.646 (1.195)	70	141730			0.00- 30.00	11.32

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.646	7.646 (1.195)	100	787825			0.00- 30.00	62.90
$ 138 Bromofluorobenzene					CAS #: 460-00-4		
9.885	9.885 (1.112)	174	626576	419.664	419.66	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	871048			117.74- 177.74	139.02
9.885	9.885 (1.112)	176	608672			70.47- 130.47	97.14

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Report Date: 24-Dec-2014 06:54

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121719.d
Lab Smp Id: 1412216C-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: sn
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 5.1 Hg->14.9 psi

Calibration Date: 17-DEC-2014
Calibration Time: 09:33

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	209767	-7.23
92 1,4-Difluorobenze	1129066	677440	1580692	1097123	-2.83
125 Chlorobenzene-d5	1075695	645417	1505973	976797	-9.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.49	-0.26
92 1,4-Difluorobenze	6.41	6.08	6.74	6.40	-0.22
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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: 24-Dec-2014 06:54

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-01A
Level: LOW
Operator: sn
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 5.1 Hg->14.9 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	451.35	112.84	70-130
$ 107 Toluene-d8	400.00	0.000	0.00*	70-130
$ 138 Bromofluorobenzene	400.00	419.66	104.92	70-130

Data File: /chem/msdj.i/17dec14.b/j121719.d

Date : 17-DEC-2014 19:25

Client ID:

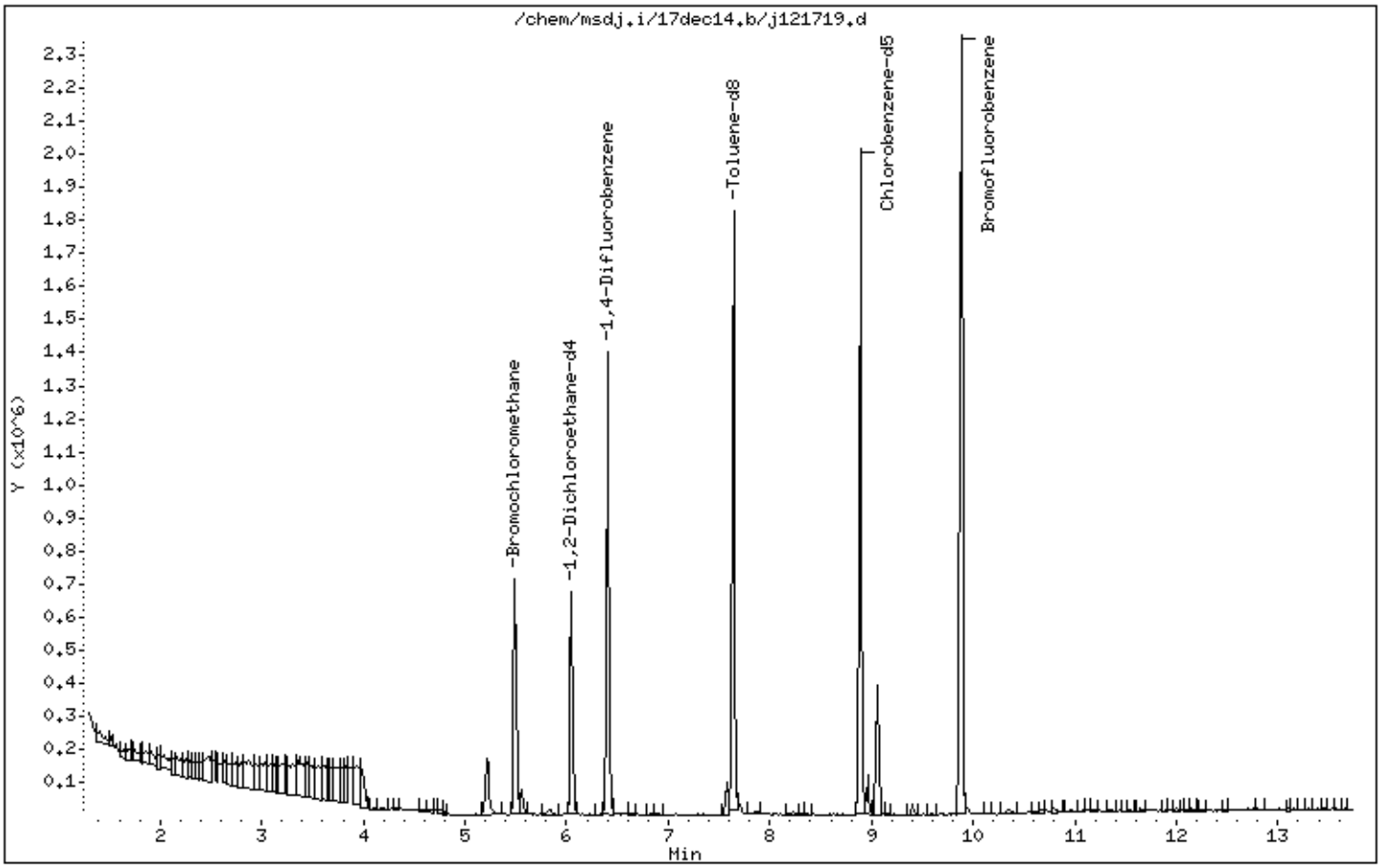
Instrument: msdj.i

Sample Info: 50ml 1L1685

Operator: sn

Column phase: RTx-624

Column diameter: 0.53



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

Client Sample ID: B5SS-4 (2014)

Lab ID#: 1412216C-02A

No Detections Were Found.

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Client Sample ID: B5SS-4 (2014)

Lab ID#: 1412216C-02A

EPA METHOD TO-15 GC/MS

File Name:	**j121720**	**Date of Collection:**	**12/10/14 2:12:00 PM**
Dil. Factor:	**2.57**	**Date of Analysis:**	**12/17/14 07:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	130	Not Detected	170	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121720.d
Lab Smp Id: 1412216C-02A
Inj Date : 17-DEC-2014 19:50
Operator : sn Inst ID: msdj.i
Smp Info : 50ml 1L1681
Misc Info : 6.5 Hg->14.9 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 7
Dil Factor: 2.57000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.506	5.505 (1.000)	130	220136	400.000		80.00- 120.00	100.00
5.506	5.505 (1.000)	128	173772			46.29- 106.29	78.94
5.506	5.492 (1.000)	49	315845			113.98- 173.98	143.48
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.415	6.415 (1.000)	114	1061892	400.000		80.00- 120.00	100.00
6.415	6.415 (1.000)	88	175307			0.00- 47.30	16.51
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.892	8.892 (1.000)	117	1006168	400.000		80.00- 120.00	100.00
8.892	8.892 (1.000)	82	682509			35.58- 95.58	67.83
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.099)	65	490277	431.570	431.57	80.00- 120.00	100.00
6.051	6.051 (1.099)	67	240428			21.21- 81.21	49.04
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.646	7.646 (1.192)	98	1235673			70.00- 130.00	100.00(aR)
7.646	7.646 (1.192)	70	139627			0.00- 30.00	11.30

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.646	7.646 (1.192)	100	759576			0.00- 30.00	61.47
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.885	9.885 (1.112)	174	634332	412.457	412.46	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	876096			117.74- 177.74	138.11
9.885	9.885 (1.112)	176	595066			70.47- 130.47	93.81

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Report Date: 24-Dec-2014 06:54

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121720.d
Lab Smp Id: 1412216C-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: sn
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 6.5 Hg->14.9 psi

Calibration Date: 17-DEC-2014
Calibration Time: 09:33

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	220136	-2.64
92 1,4-Difluorobenze	1129066	677440	1580692	1061892	-5.95
125 Chlorobenzene-d5	1075695	645417	1505973	1006168	-6.46

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
92 1,4-Difluorobenze	6.41	6.08	6.74	6.42	0.00
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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: 24-Dec-2014 06:54

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-02A
Level: LOW
Operator: sn
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 6.5 Hg->14.9 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	431.57	107.89	70-130
$ 107 Toluene-d8	400.00	0.000	0.00*	70-130
$ 138 Bromofluorobenzene	400.00	412.46	103.11	70-130

Data File: /chem/msdj.i/17dec14.b/j121720.d

Date : 17-DEC-2014 19:50

Client ID:

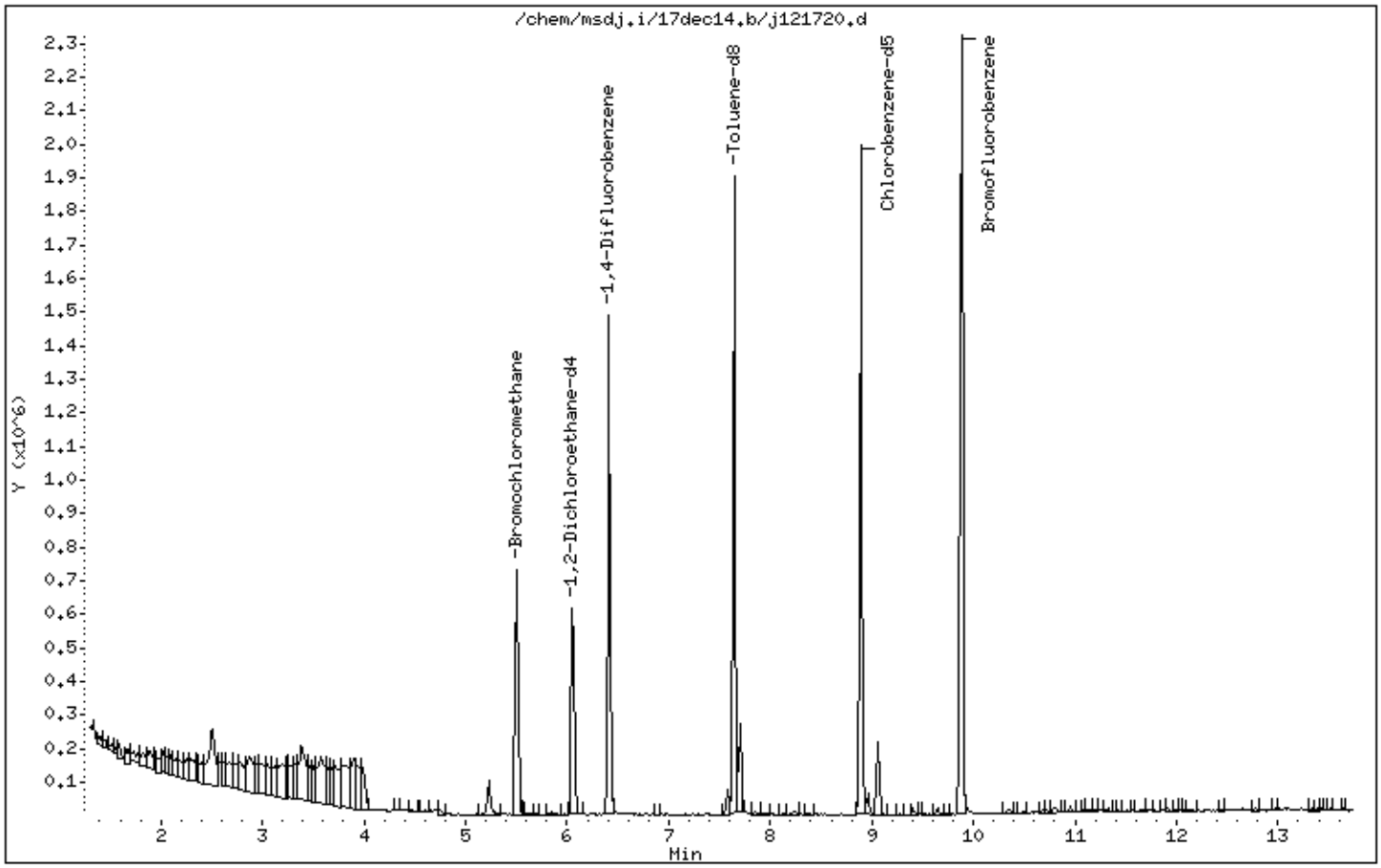
Instrument: msdj.i

Sample Info: 50ml 1L1681

Operator: sn

Column phase: RTx-624

Column diameter: 0.53



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

Client Sample ID: B5SS-6 (2014)

Lab ID#: 1412216C-03A

No Detections Were Found.

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Client Sample ID: B5SS-6 (2014)

Lab ID#: 1412216C-03A

EPA METHOD TO-15 GC/MS

File Name:	**j121721**	**Date of Collection:**	**12/10/14 3:31:00 PM**
Dil. Factor:	**2.43**	**Date of Analysis:**	**12/17/14 08:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	120	Not Detected	160	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121721.d
Lab Smp Id: 1412216C-03A
Inj Date : 17-DEC-2014 20:14
Operator : sn Inst ID: msdj.i
Smp Info : 50ml 1L1707
Misc Info : 5.1 Hg->15 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 8
Dil Factor: 2.43000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.492	5.505 (1.000)	130	212831	400.000		80.00- 120.00	100.00
5.492	5.505 (1.000)	128	168838			46.29- 106.29	79.33
5.492	5.492 (1.000)	49	325032			113.98- 173.98	152.72
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.415	6.415 (1.000)	114	1043395	400.000		80.00- 120.00	100.00
6.401	6.415 (1.000)	88	181979			0.00- 47.30	17.44
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.892	8.892 (1.000)	117	980609	400.000		80.00- 120.00	100.00
8.892	8.892 (1.000)	82	673252			35.58- 95.58	68.66
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.102)	65	473017	430.669	430.67	80.00- 120.00	100.00
6.051	6.051 (1.102)	67	236147			21.21- 81.21	49.92
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.646	7.646 (1.192)	98	1198724			70.00- 130.00	100.00(aR)
7.646	7.646 (1.192)	70	134796			0.00- 30.00	11.25

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.646	7.646 (1.192)	100	760732			0.00- 30.00	63.46
$ 138 Bromofluorobenzene					CAS #: 460-00-4		
9.885	9.885 (1.112)	174	610224	407.124	407.12	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	865790			117.74- 177.74	141.88
9.885	9.885 (1.112)	176	579974			70.47- 130.47	95.04

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Report Date: 24-Dec-2014 06:54

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121721.d
Lab Smp Id: 1412216C-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: sn
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 5.1 Hg->15 psi

Calibration Date: 17-DEC-2014
Calibration Time: 09:33

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	212831	-5.87
92 1,4-Difluorobenze	1129066	677440	1580692	1043395	-7.59
125 Chlorobenzene-d5	1075695	645417	1505973	980609	-8.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.49	-0.25
92 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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: 24-Dec-2014 06:54

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-03A
Level: LOW
Operator: sn
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 5.1 Hg->15 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	430.67	107.67	70-130
$ 107 Toluene-d8	400.00	0.000	0.00*	70-130
$ 138 Bromofluorobenzene	400.00	407.12	101.78	70-130

Data File: /chem/msdj.i/17dec14.b/j121721.d

Date : 17-DEC-2014 20:14

Client ID:

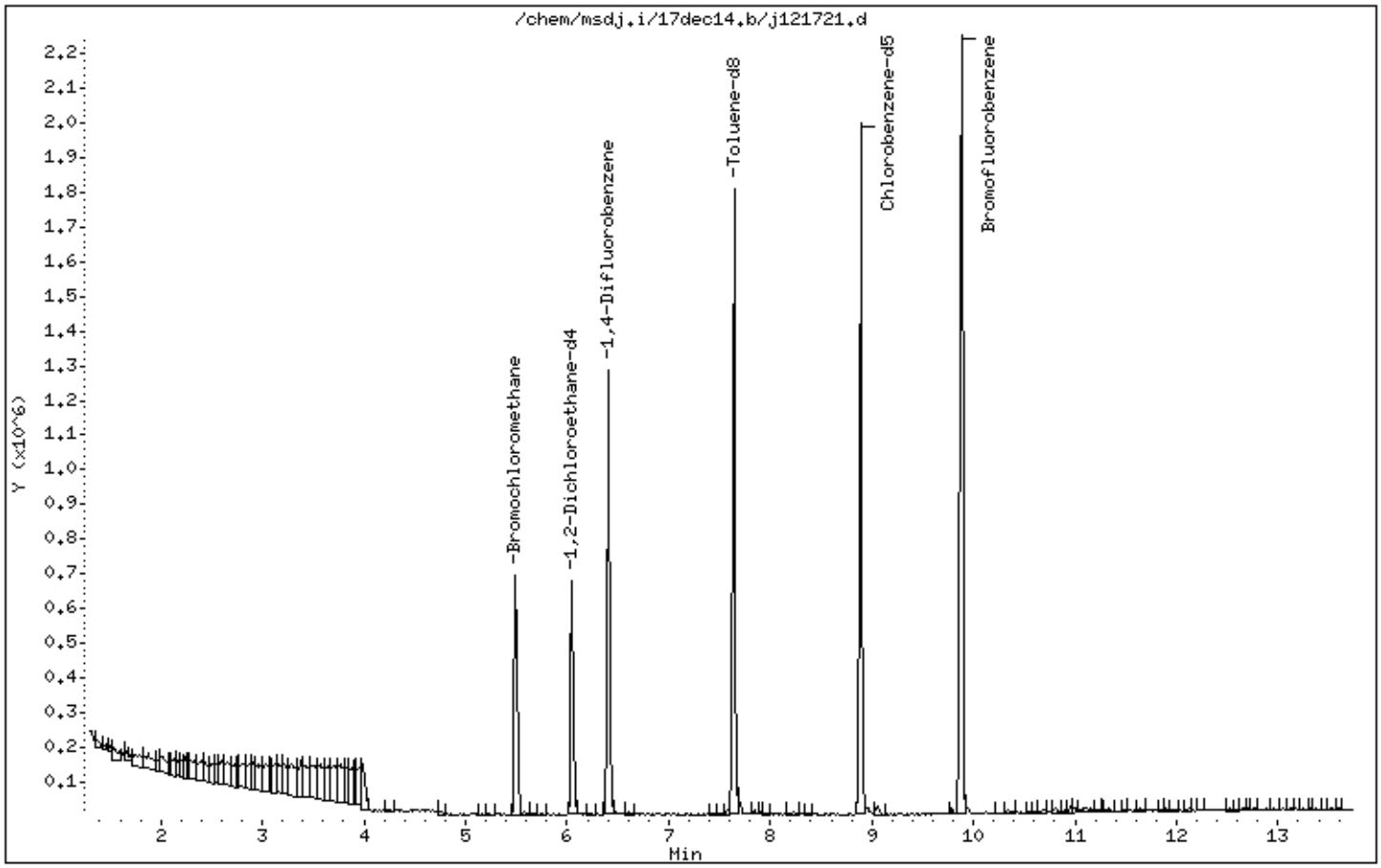
Instrument: msdj.i

Sample Info: 50ml 1L1707

Operator: sn

Column phase: RTx-624

Column diameter: 0.53



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

Client Sample ID: B5SS-2 (2014)

Lab ID#: 1412216C-04A

No Detections Were Found.

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Client Sample ID: B5SS-2 (2014)

Lab ID#: 1412216C-04A

EPA METHOD TO-15 GC/MS

File Name:	**j121722**	**Date of Collection:**	**12/11/14 10:38:00 A**
Dil. Factor:	**2.16**	**Date of Analysis:**	**12/17/14 08:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	110	Not Detected	140	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121722.d
Lab Smp Id: 1412216C-04A
Inj Date : 17-DEC-2014 20:39
Operator : sn Inst ID: msdj.i
Smp Info : 50ml 1L1680
Misc Info : 2.2 Hg->14.8 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 9
Dil Factor: 2.16000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.506	5.505 (1.000)	130	216265	400.000		80.00- 120.00	100.00
5.506	5.505 (1.000)	128	154886			46.29- 106.29	71.62
5.506	5.492 (1.000)	49	315420			113.98- 173.98	145.85
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.415	6.415 (1.000)	114	1050562	400.000		80.00- 120.00	100.00
6.415	6.415 (1.000)	88	200773			0.00- 47.30	19.11
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.892	8.892 (1.000)	117	996765	400.000		80.00- 120.00	100.00
8.892	8.892 (1.000)	82	670407			35.58- 95.58	67.26
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.099)	65	473996	424.707	424.71	80.00- 120.00	100.00
6.051	6.051 (1.099)	67	231148			21.21- 81.21	48.77
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.646	7.646 (1.192)	98	1208200			70.00- 130.00	100.00(aR)
7.646	7.646 (1.192)	70	146530			0.00- 30.00	12.13

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.646	7.646 (1.192)	100	746658			0.00- 30.00	61.80
$ 138 Bromofluorobenzene					CAS #: 460-00-4		
9.885	9.885 (1.112)	174	598161	392.607	392.61	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	879513			117.74- 177.74	147.04
9.885	9.885 (1.112)	176	572363			70.47- 130.47	95.69

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121722.d
Lab Smp Id: 1412216C-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: sn
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 2.2 Hg->14.8 psi

Calibration Date: 17-DEC-2014
Calibration Time: 09:33

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	216265	-4.36
92 1,4-Difluorobenze	1129066	677440	1580692	1050562	-6.95
125 Chlorobenzene-d5	1075695	645417	1505973	996765	-7.34

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
92 1,4-Difluorobenze	6.41	6.08	6.74	6.42	0.00
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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: 24-Dec-2014 06:54

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-04A
Level: LOW
Operator: sn
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 2.2 Hg->14.8 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	424.71	106.18	70-130
$ 107 Toluene-d8	400.00	0.000	0.00*	70-130
$ 138 Bromofluorobenzene	400.00	392.61	98.15	70-130

Data File: /chem/msdj.i/17dec14.b/j121722.d

Date : 17-DEC-2014 20:39

Client ID:

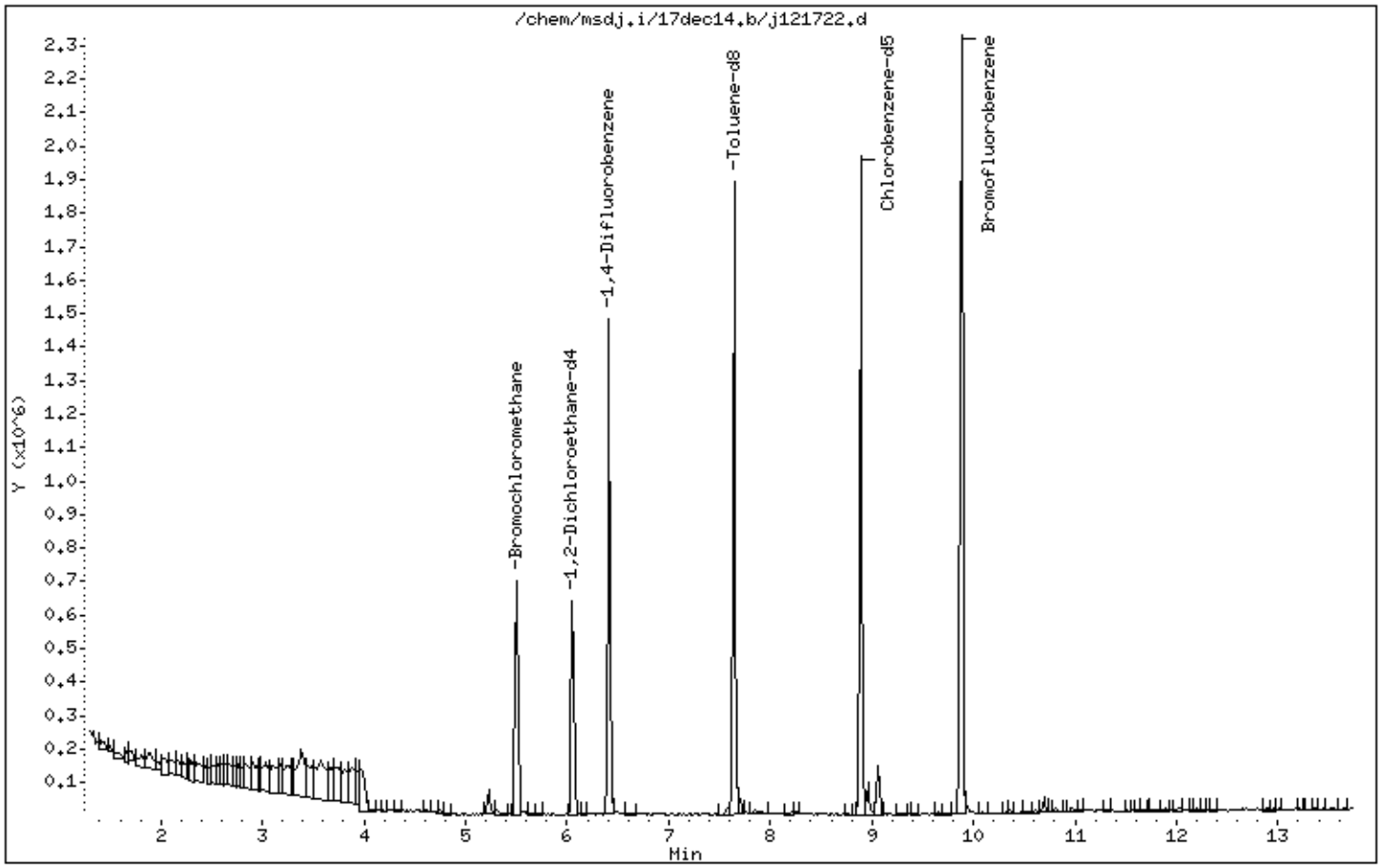
Instrument: msdj.i

Sample Info: 50ml 1L1680

Operator: sn

Column phase: RTx-624

Column diameter: 0.53



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

Client Sample ID: B5SS-3 (2014)

Lab ID#: 1412216C-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	120	250	150	320

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Client Sample ID: B5SS-3 (2014)

Lab ID#: 1412216C-05A

EPA METHOD TO-15 GC/MS

File Name:	**j121723**	**Date of Collection:**	**12/11/14 11:47:00 A**
Dil. Factor:	**2.36**	**Date of Analysis:**	**12/17/14 09:04 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	120	250	150	320

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121723.d
Lab Smp Id: 1412216C-05A
Inj Date : 17-DEC-2014 21:04
Operator : sn Inst ID: msdj.i
Smp Info : 50ml 1L1706
Misc Info : 4.5 Hg->14.8 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 10
Dil Factor: 2.36000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.505	5.505 (1.000)	130	206021	400.000		80.00- 120.00	100.00
5.505	5.505 (1.000)	128	148086			46.29- 106.29	71.88
5.491	5.492 (1.000)	49	318547			113.98- 173.98	154.62
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.415	6.415 (1.000)	114	1081213	400.000		80.00- 120.00	100.00
6.401	6.415 (1.000)	88	180203			0.00- 47.30	16.67
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.892	8.892 (1.000)	117	979558	400.000		80.00- 120.00	100.00
8.892	8.892 (1.000)	82	668736			35.58- 95.58	68.27
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.099)	65	467410	439.630	439.63	80.00- 120.00	100.00
6.051	6.051 (1.099)	67	221259			21.21- 81.21	47.34
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.646	7.646 (1.192)	98	1258719			70.00- 130.00	100.00(aR)
7.646	7.646 (1.192)	70	137413			0.00- 30.00	10.92

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.646	7.646 (1.192)	100	797300			0.00- 30.00	63.34
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.885	9.885 (1.112)	174	618425	413.037	413.04	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	881399			117.74- 177.74	142.52
9.885	9.885 (1.112)	176	585006			70.47- 130.47	94.60
14 Methanol						CAS #: 67-56-1	
1.999	1.985 (0.363)	31	5396072	104.811	247.35	80.00- 120.00	100.00
1.999	1.985 (0.363)	29	4073879			45.42- 105.42	75.50
1.999	1.985 (0.363)	32	3950287			48.15- 108.15	73.21

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121723.d
Lab Smp Id: 1412216C-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: sn
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 4.5 Hg->14.8 psi

Calibration Date: 17-DEC-2014
Calibration Time: 09:33

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	206021	-8.89
92 1,4-Difluorobenze	1129066	677440	1580692	1081213	-4.24
125 Chlorobenzene-d5	1075695	645417	1505973	979558	-8.94

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
92 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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: 24-Dec-2014 06:54

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-05A
Level: LOW
Operator: sn
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 4.5 Hg->14.8 psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	439.63	109.91	70-130
$ 107 Toluene-d8	400.00	0.000	0.00*	70-130
$ 138 Bromofluorobenzene	400.00	413.04	103.26	70-130

Data File: /chem/msdj.i/17dec14.b/j121723.d

Date : 17-DEC-2014 21:04

Client ID:

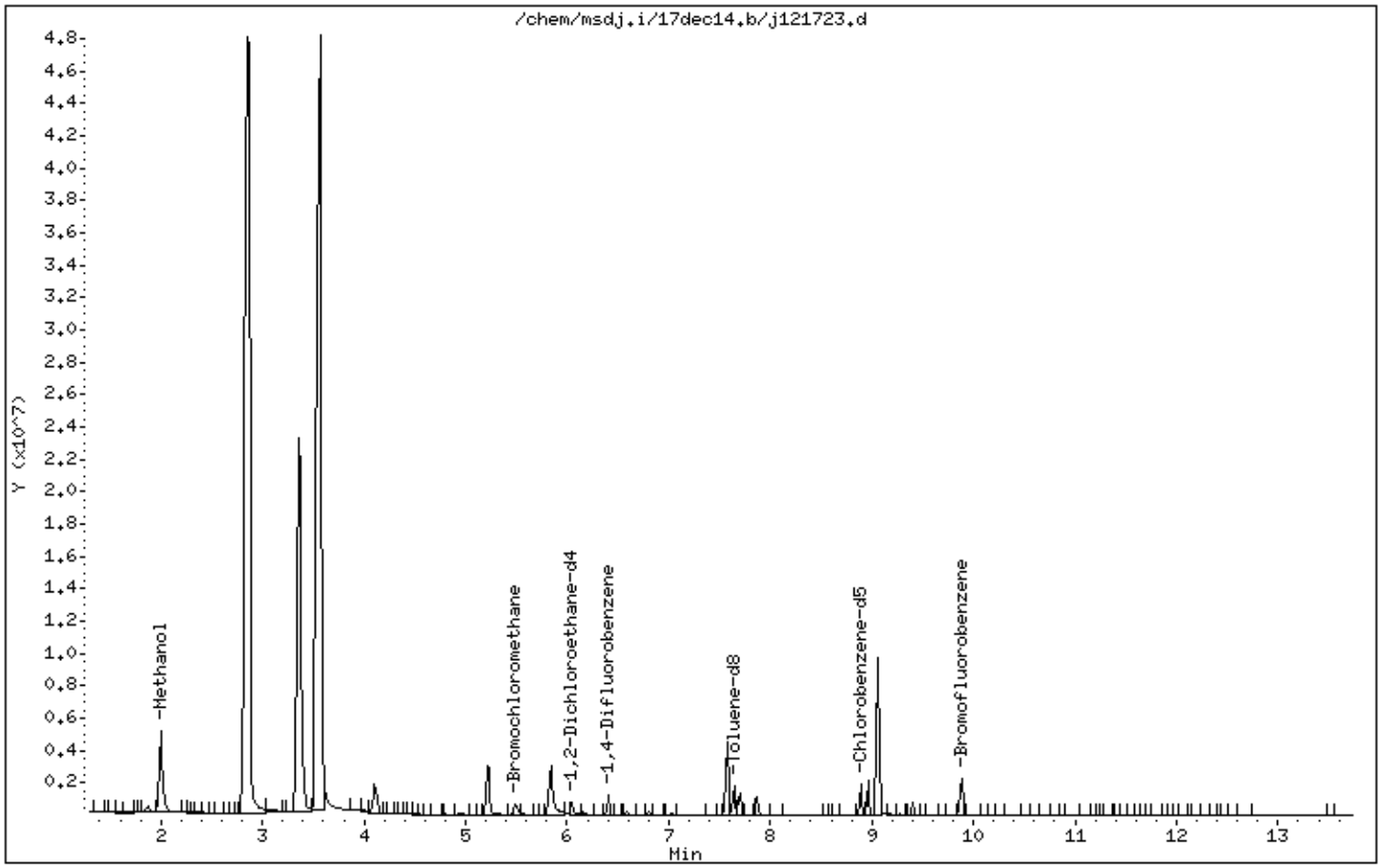
Instrument: msdj.i

Sample Info: 50ml 1L1706

Operator: sn

Column phase: RTx-624

Column diameter: 0.53



Data File: /chem/msdj.i/17dec14.b/j121723.d

Date : 17-DEC-2014 21:04

Client ID:

Instrument: msdj.i

Sample Info: 50ml 1L1706

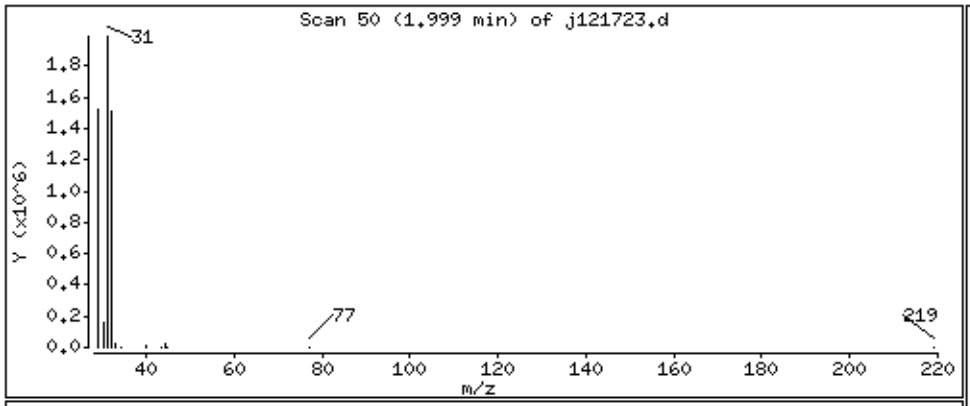
Operator: sn

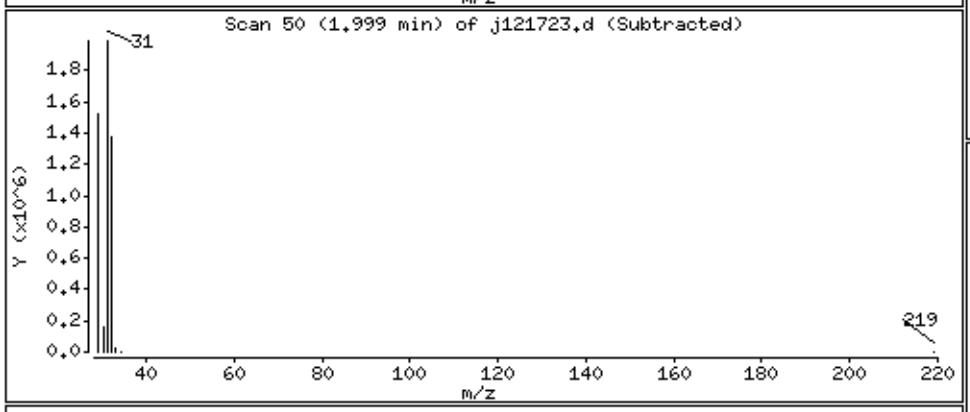
Column phase: RTx-624

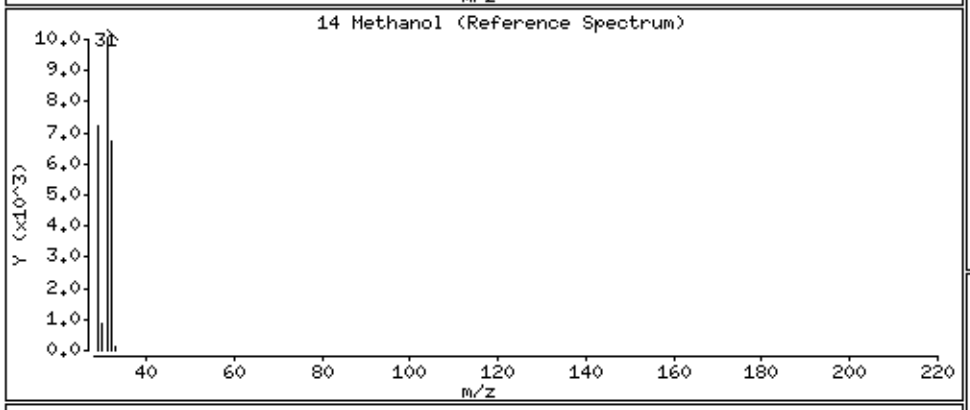
Column diameter: 0.53

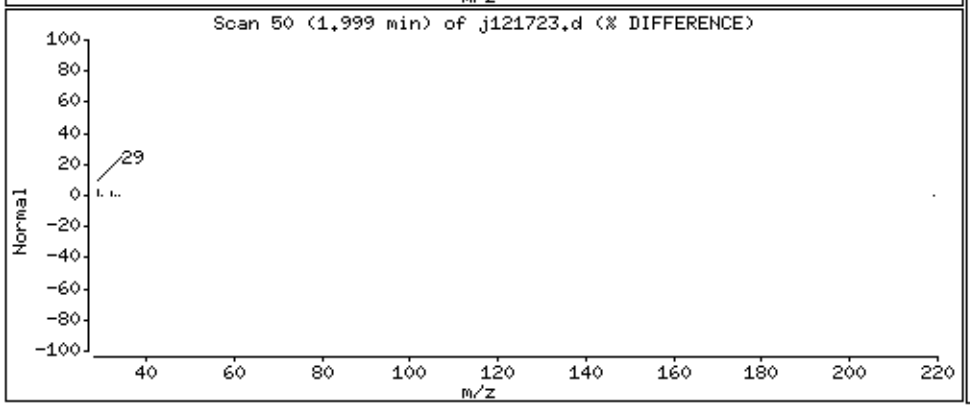
14 Methanol

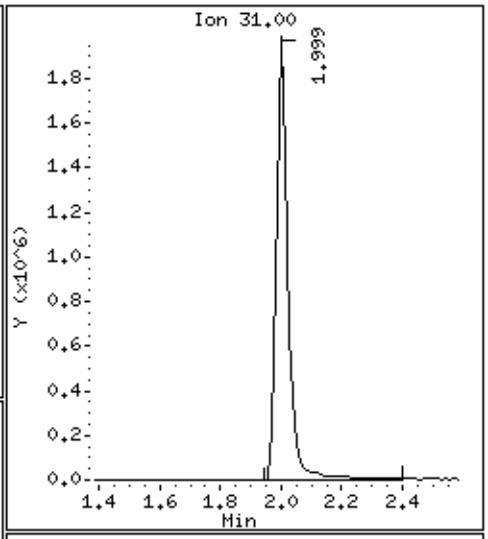
Concentration: 247.35 PPBV

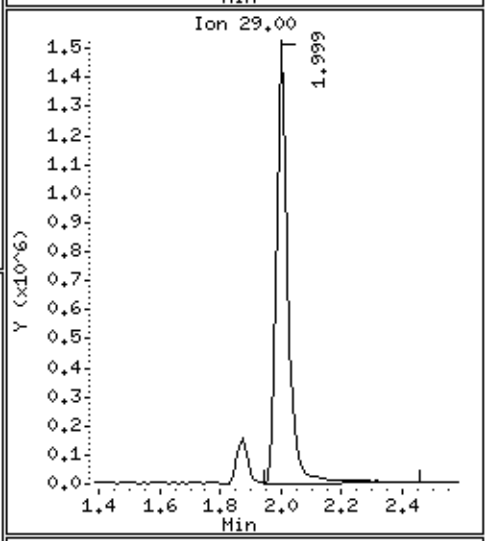


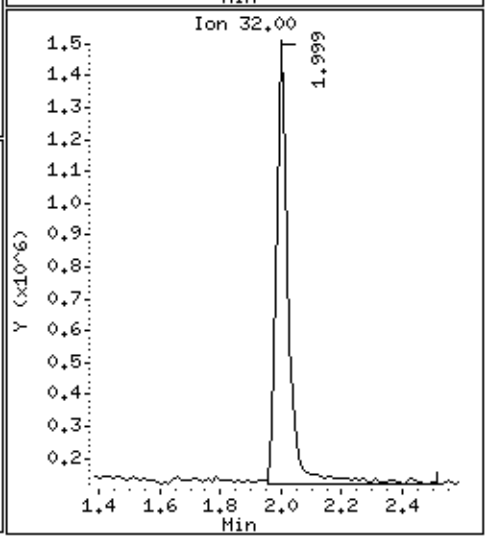












Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: B5SS-5 (2014)

Lab ID#: 1412216C-06A

No Detections Were Found.

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Client Sample ID: B5SS-5 (2014)

Lab ID#: 1412216C-06A

EPA METHOD TO-15 GC/MS

File Name:	**14122218**	**Date of Collection:**	**12/11/14 1:59:00 PM**
Dil. Factor:	**2390**	**Date of Analysis:**	**12/22/14 02:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	120000	Not Detected	160000	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/22dec14.b/14122218.d
Lab Smp Id: 1412216C-06A
Inj Date : 22-DEC-2014 14:05
Operator : md Inst ID: msd14.i
Smp Info : 5.0ml #9918 (100Xbag)
Misc Info : 4.7"Hg->14.9psi
Comment :
Method : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Meth Date : 22-Dec-2014 10:48 HR8M Quant Type: ISTD
Cal Date : 22-DEC-2014 07:39 Cal File: 14122203.d
Als bottle: 1
Dil Factor: 2390.00000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
4.749	4.749 (1.000)	130	123147	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	95083			49.62- 109.62	77.21
4.749	4.749 (1.000)	49	142072			98.21- 158.21	115.37
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.860 (1.000)	114	522949	400.000		80.00- 120.00	100.00
5.860	5.860 (1.000)	88	77959			0.00- 44.69	14.91
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	489577	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	254800			22.08- 82.08	52.05
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	170955	351.994	351.99	80.00- 120.00	100.00(a)
5.390	5.390 (1.135)	67	84280			21.48- 81.48	49.30
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.366	7.366 (1.257)	98	565169	432.566	432.57	80.00- 120.00	100.00(a)
7.366	7.366 (1.257)	70	57013			0.00- 41.36	10.09

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.366	7.366 (1.257)	100	385195			36.30- 96.30	68.16
$ 138 Bromofluorobenzene					CAS #: 460-00-4		
9.297	9.297 (1.092)	174	271568	443.392	443.39	80.00- 120.00	100.00(a)
9.283	9.283 (1.090)	95	340295			99.31- 159.31	125.31
9.297	9.297 (1.092)	176	266588			67.34- 127.34	98.17

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 24-Dec-2014 06:28

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14122218.d
Lab Smp Id: 1412216C-06A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 4.7"Hg->14.9psi

Calibration Date: 22-DEC-2014
Calibration Time: 07:39

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	89253	53552	124954	123147	37.98
92 1,4-Difluorobenze	409300	245580	573020	522949	27.77
125 Chlorobenzene-d5	380238	228143	532333	489577	28.76

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	4.75	4.42	5.08	4.75	0.00
92 1,4-Difluorobenze	5.86	5.53	6.19	5.86	0.00
125 Chlorobenzene-d5	8.51	8.18	8.84	8.51	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: 24-Dec-2014 06:28

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 22dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-06A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 4.7"Hg->14.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	351.99	88.00	70-130
$ 107 Toluene-d8	400.00	432.57	108.14	70-130
$ 138 Bromofluorobenzene	400.00	443.39	110.85	70-130

Data File: /chem/msd14.i/22dec14.b/14122218.d

Date : 22-DEC-2014 14:05

Client ID:

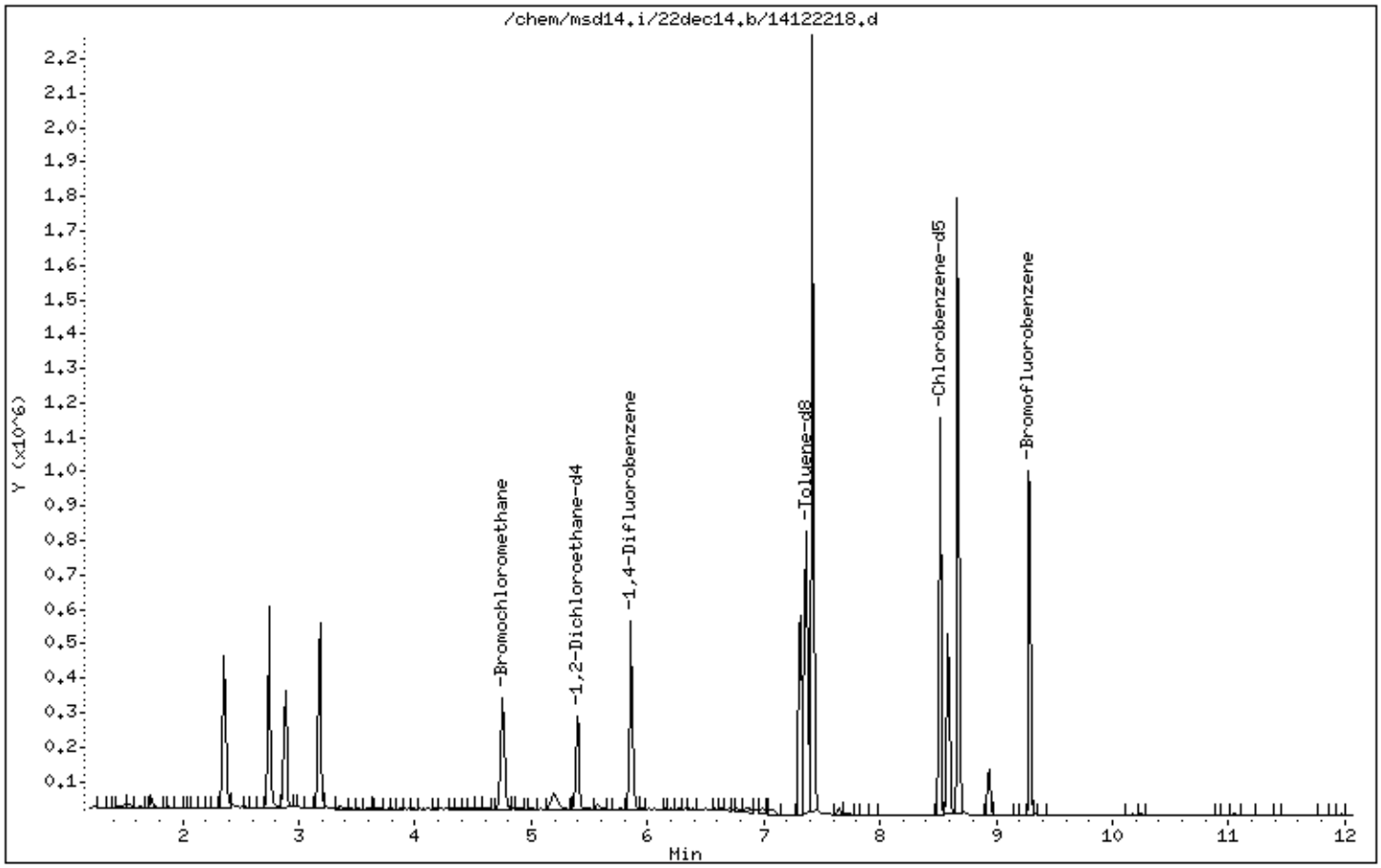
Instrument: msd14.i

Sample Info: 5.0ml #9918 (100Xbag)

Operator: md

Column phase: RTx-624

Column diameter: 0.53



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

Client Sample ID: B5SS-1 (2014)

Lab ID#: 1412216C-07A

No Detections Were Found.

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Client Sample ID: B5SS-1 (2014)

Lab ID#: 1412216C-07A

EPA METHOD TO-15 GC/MS

File Name:	**14122220**	**Date of Collection:**	**12/11/14 3:13:00 PM**
Dil. Factor:	**2410**	**Date of Analysis:**	**12/22/14 02:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	120000	Not Detected	160000	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/22dec14.b/14122220.d
Lab Smp Id: 1412216C-07A
Inj Date : 22-DEC-2014 14:48
Operator : md Inst ID: msd14.i
Smp Info : 5.0ml #1L1556 (100Xbag)
Misc Info : 5.1"Hg->14.7psi
Comment :
Method : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Meth Date : 22-Dec-2014 10:48 HR8M Quant Type: ISTD
Cal Date : 22-DEC-2014 07:39 Cal File: 14122203.d
Als bottle: 1
Dil Factor: 2410.00000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
4.749	4.749 (1.000)	130	121629	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	95032			49.62- 109.62	78.13
4.749	4.749 (1.000)	49	139908			98.21- 158.21	115.03
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.860 (1.000)	114	508970	400.000		80.00- 120.00	100.00
5.860	5.860 (1.000)	88	74283			0.00- 44.69	14.59
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	476014	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	241448			22.08- 82.08	50.72
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	167713	349.628	349.63	80.00- 120.00	100.00(a)
5.390	5.390 (1.135)	67	84277			21.48- 81.48	50.25
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.366	7.366 (1.257)	98	521149	409.829	409.83	80.00- 120.00	100.00(a)
7.366	7.366 (1.257)	70	56256			0.00- 41.36	10.79

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.366	7.366 (1.257)	100	355152			36.30- 96.30	68.15
$ 138 Bromofluorobenzene					CAS #: 460-00-4		
9.297	9.297 (1.092)	174	265218	445.362	445.36	80.00- 120.00	100.00(a)
9.283	9.283 (1.090)	95	315354			99.31- 159.31	118.90
9.297	9.297 (1.092)	176	250471			67.34- 127.34	94.44

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14122220.d
Lab Smp Id: 1412216C-07A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 5.1"Hg->14.7psi

Calibration Date: 22-DEC-2014
Calibration Time: 07:39

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	89253	53552	124954	121629	36.27
92 1,4-Difluorobenze	409300	245580	573020	508970	24.35
125 Chlorobenzene-d5	380238	228143	532333	476014	25.19

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	4.75	4.42	5.08	4.75	0.00
92 1,4-Difluorobenze	5.86	5.53	6.19	5.86	0.00
125 Chlorobenzene-d5	8.51	8.18	8.84	8.51	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: 24-Dec-2014 06:28

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 22dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-07A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 5.1"Hg->14.7psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	349.63	87.41	70-130
$ 107 Toluene-d8	400.00	409.83	102.46	70-130
$ 138 Bromofluorobenzene	400.00	445.36	111.34	70-130

Data File: /chem/msd14.i/22dec14.b/14122220.d

Date : 22-DEC-2014 14:48

Client ID:

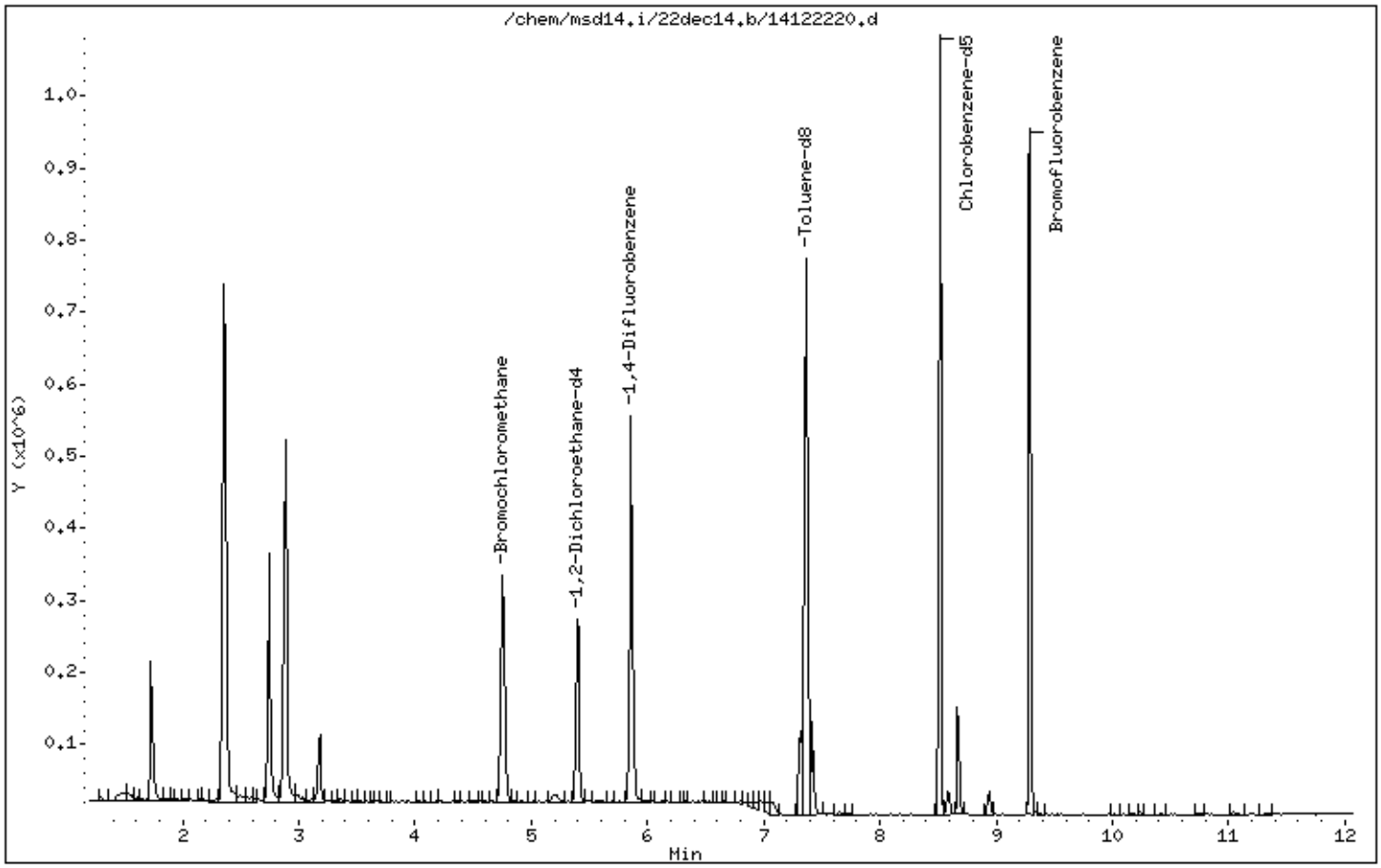
Instrument: msd14.i

Sample Info: 5.0ml #1L1556 (100Xbag)

Operator: md

Column phase: RTx-624

Column diameter: 0.53



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

Client Sample ID: B5SS-1D (2014)

Lab ID#: 1412216C-08A

No Detections Were Found.

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Client Sample ID: B5SS-1D (2014)

Lab ID#: 1412216C-08A

EPA METHOD TO-15 GC/MS

File Name:	**14122222**	**Date of Collection:**	**12/11/14 3:19:00 PM**
Dil. Factor:	**2330**	**Date of Analysis:**	**12/22/14 03:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	120000	Not Detected	150000	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/22dec14.b/14122222.d
Lab Smp Id: 1412216C-08A
Inj Date : 22-DEC-2014 15:28
Operator : md Inst ID: msd14.i
Smp Info : 5.0ml #2034(100Xbag)
Misc Info : 4.1"Hg->14.9psi
Comment :
Method : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Meth Date : 22-Dec-2014 10:48 HR8M Quant Type: ISTD
Cal Date : 22-DEC-2014 07:39 Cal File: 14122203.d
Als bottle: 1
Dil Factor: 2330.00000
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
* 71 Bromochloromethane						CAS #: 74-97-5	
4.749	4.749 (1.000)	130	124489	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	94914			49.62- 109.62	76.24
4.749	4.749 (1.000)	49	136137			98.21- 158.21	109.36
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.860 (1.000)	114	506426	400.000		80.00- 120.00	100.00
5.860	5.860 (1.000)	88	71633			0.00- 44.69	14.14
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	466743	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	243772			22.08- 82.08	52.23
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	169110	344.442	344.44	80.00- 120.00	100.00(a)
5.390	5.390 (1.135)	67	82575			21.48- 81.48	48.83
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.366	7.366 (1.257)	98	523077	413.412	413.41	80.00- 120.00	100.00(a)
7.366	7.366 (1.257)	70	52708			0.00- 41.36	10.08

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.366	7.366	(1.257)	100	344897			36.30- 96.30	65.94
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.297	9.297	(1.092)	174	262023	448.737	448.74	80.00- 120.00	100.00(a)
9.283	9.283	(1.090)	95	330559			99.31- 159.31	126.16
9.297	9.297	(1.092)	176	247542			67.34- 127.34	94.47

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14122222.d
Lab Smp Id: 1412216C-08A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 4.1"Hg->14.9psi

Calibration Date: 22-DEC-2014
Calibration Time: 07:39

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	89253	53552	124954	124489	39.48
92 1,4-Difluorobenze	409300	245580	573020	506426	23.73
125 Chlorobenzene-d5	380238	228143	532333	466743	22.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	4.75	4.42	5.08	4.75	0.00
92 1,4-Difluorobenze	5.86	5.53	6.19	5.86	0.00
125 Chlorobenzene-d5	8.51	8.18	8.84	8.51	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: 24-Dec-2014 06:28

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 22dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412216C-08A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 4.1"Hg->14.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	344.44	86.11	70-130
$ 107 Toluene-d8	400.00	413.41	103.35	70-130
$ 138 Bromofluorobenzene	400.00	448.74	112.18	70-130

Data File: /chem/msd14.i/22dec14.b/14122222.d

Date : 22-DEC-2014 15:28

Client ID:

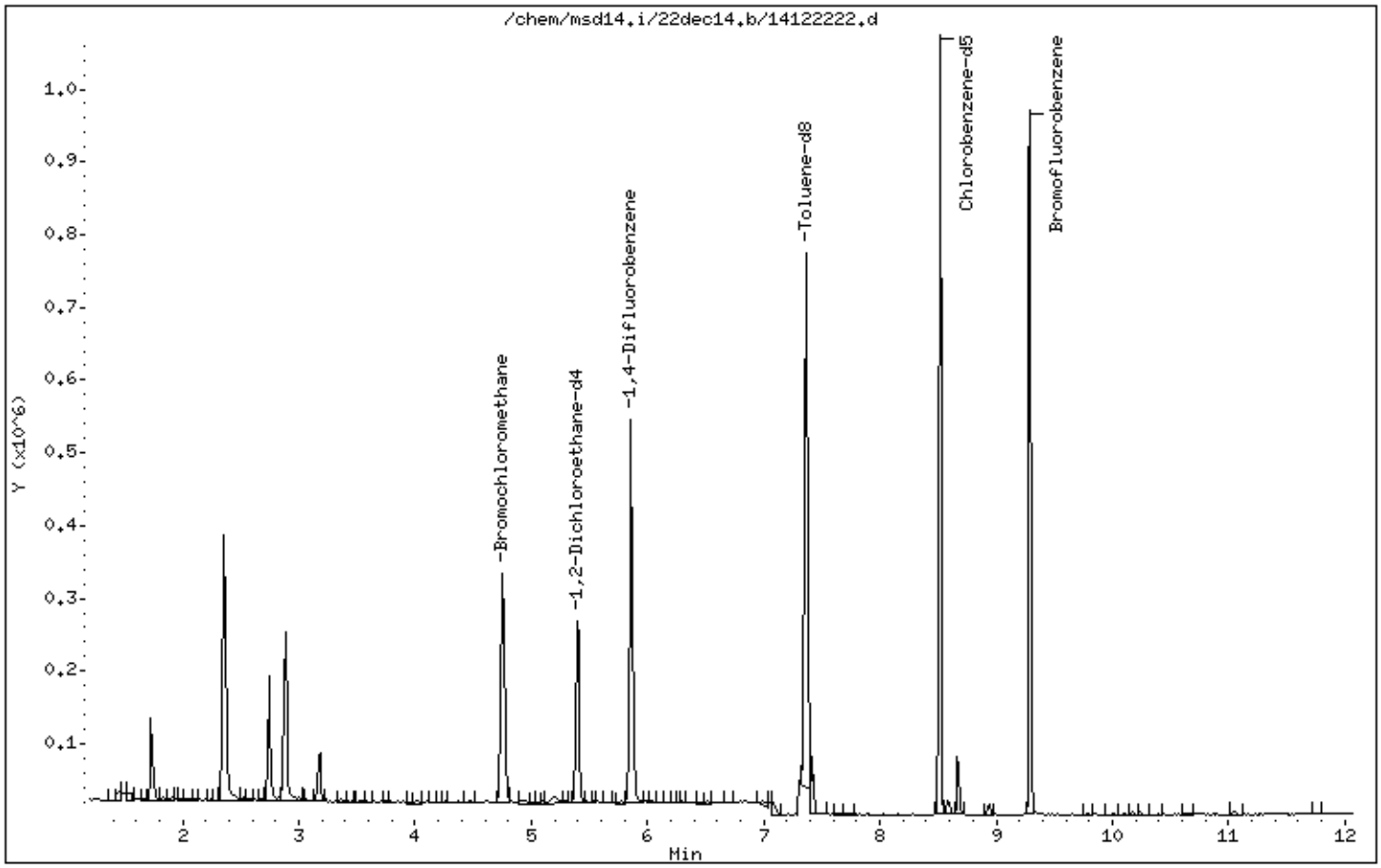
Instrument: msd14.i

Sample Info: 5.0ml #2034(100Xbag)

Operator: md

Column phase: RTx-624

Column diameter: 0.53



QC Results and Raw Data

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Client Sample ID: Lab Blank

Lab ID#: 1412216C-09A

EPA METHOD TO-15 GC/MS

File Name:	**j121704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/17/14 10:15 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	50	Not Detected	66	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121704.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 17-DEC-2014 10:15
Operator : cb Inst ID: msdj.i
Smp Info : 50ml #34496
Misc Info : Humid
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 12
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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.492	5.505 (1.000)	130	244020	400.000		80.00- 120.00	100.00
5.506	5.505 (1.000)	128	188184			46.29- 106.29	77.12
5.492	5.492 (1.000)	49	349645			113.98- 173.98	143.29
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.415	6.415 (1.000)	114	1182032	400.000		80.00- 120.00	100.00
6.415	6.415 (1.000)	88	213945			0.00- 47.30	18.10
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.892	8.892 (1.000)	117	1148452	400.000		80.00- 120.00	100.00
8.892	8.892 (1.000)	82	771151			35.58- 95.58	67.15
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.102)	65	496921	394.606	394.60	80.00- 120.00	100.00
6.051	6.051 (1.102)	67	251784			21.21- 81.21	50.67
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.646	7.646 (1.192)	98	1371122			70.00- 130.00	100.00(aR)
7.646	7.646 (1.192)	70	152505			0.00- 30.00	11.12

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.646	7.646 (1.192)	100	856418			0.00- 30.00	62.46
$ 138 Bromofluorobenzene					CAS #: 460-00-4		
9.885	9.885 (1.112)	174	709344	404.089	404.09	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	1000320			117.74- 177.74	141.02
9.885	9.885 (1.112)	176	678646			70.47- 130.47	95.67

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121704.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: Humid

Calibration Date: 17-DEC-2014
Calibration Time: 09:33
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	244020	7.92
92 1,4-Difluorobenze	1129066	677440	1580692	1182032	4.69
125 Chlorobenzene-d5	1075695	645417	1505973	1148452	6.76

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.49	-0.25
92 1,4-Difluorobenze	6.41	6.08	6.74	6.42	0.00
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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: 17-Dec-2014 13:23

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Client Smp ID: Lab Blank
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	394.60	98.65	70-130
$ 107 Toluene-d8	400.00	0.000	0.00*	70-130
$ 138 Bromofluorobenzene	400.00	404.09	101.02	70-130

Data File: /chem/msdj.i/17dec14.b/j121704.d

Date : 17-DEC-2014 10:15

Client ID: Lab Blank

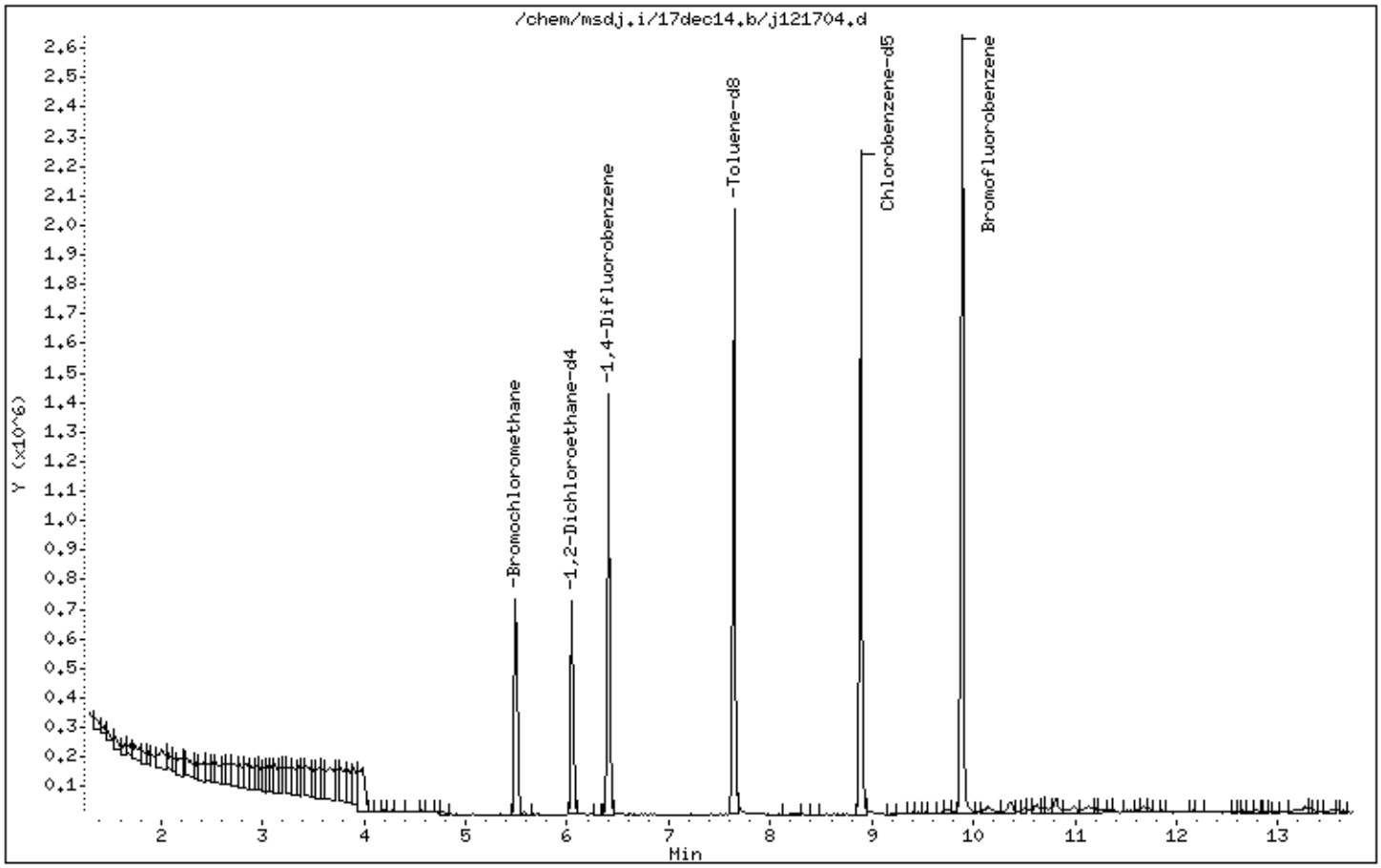
Instrument: msdj.i

Sample Info: 50ml #34496

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1412216C-09B

EPA METHOD TO-15 GC/MS

File Name:	**14122204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/14 08:33 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	50	Not Detected	66	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem1/msd14.i/22dec14.b/14122204.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 22-DEC-2014 08:33
Operator : act Inst ID: msd14.i
Smp Info : 50mL #36041
Misc Info : Humid
Comment :
Method : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Meth Date : 22-Dec-2014 09:19 HR8M Quant Type: ISTD
Cal Date : 22-DEC-2014 07:39 Cal File: 14122203.d
Als bottle: 1
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
* 71 Bromochloromethane					CAS #: 74-97-5		
4.749	4.749 (1.000)	130	69409	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	54329			49.62- 109.62	78.27
4.749	4.749 (1.000)	49	84494			98.21- 158.21	121.73
* 92 1,4-Difluorobenzene					CAS #: 540-36-3		
5.860	5.860 (1.000)	114	296602	400.000		80.00- 120.00	100.00
5.860	5.860 (1.000)	88	44884			0.00- 44.69	15.13
* 125 Chlorobenzene-d5					CAS #: 3114-55-4		
8.513	8.513 (1.000)	117	289153	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	151742			22.08- 82.08	52.48
$ 84 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.390	5.390 (1.135)	65	108635	396.856	396.86	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	53790			21.48- 81.48	49.51
$ 107 Toluene-d8					CAS #: 2037-26-5		
7.366	7.366 (1.257)	98	300954	406.124	406.12	80.00- 120.00	100.00
7.366	7.366 (1.257)	70	30872			0.00- 41.36	10.26

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.366	7.366	(1.257)	100	194752			36.30- 96.30	64.71
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.297	9.297	(1.092)	174	148441	410.354	410.35	80.00- 120.00	100.00
9.283	9.297	(1.090)	95	197532			99.31- 159.31	133.07
9.297	9.297	(1.092)	176	144089			67.34- 127.34	97.07

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14122204.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: act
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: Humid

Calibration Date: 22-DEC-2014
Calibration Time: 07:39
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	89253	53552	124954	69409	-22.23
92 1,4-Difluorobenze	409300	245580	573020	296602	-27.53
125 Chlorobenzene-d5	380238	228143	532333	289153	-23.95

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	4.75	4.42	5.08	4.75	0.00
92 1,4-Difluorobenze	5.86	5.53	6.19	5.86	0.00
125 Chlorobenzene-d5	8.51	8.18	8.84	8.51	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: 22-Dec-2014 09:25

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 22dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Client Smp ID: Lab Blank
Level: LOW
Operator: act
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	396.86	99.21	70-130
$ 107 Toluene-d8	400.00	406.12	101.53	70-130
$ 138 Bromofluorobenzene	400.00	410.35	102.59	70-130

Data File: /chem1/msd14.i/22dec14.b/14122204.d

Date : 22-DEC-2014 08:33

Client ID: Lab Blank

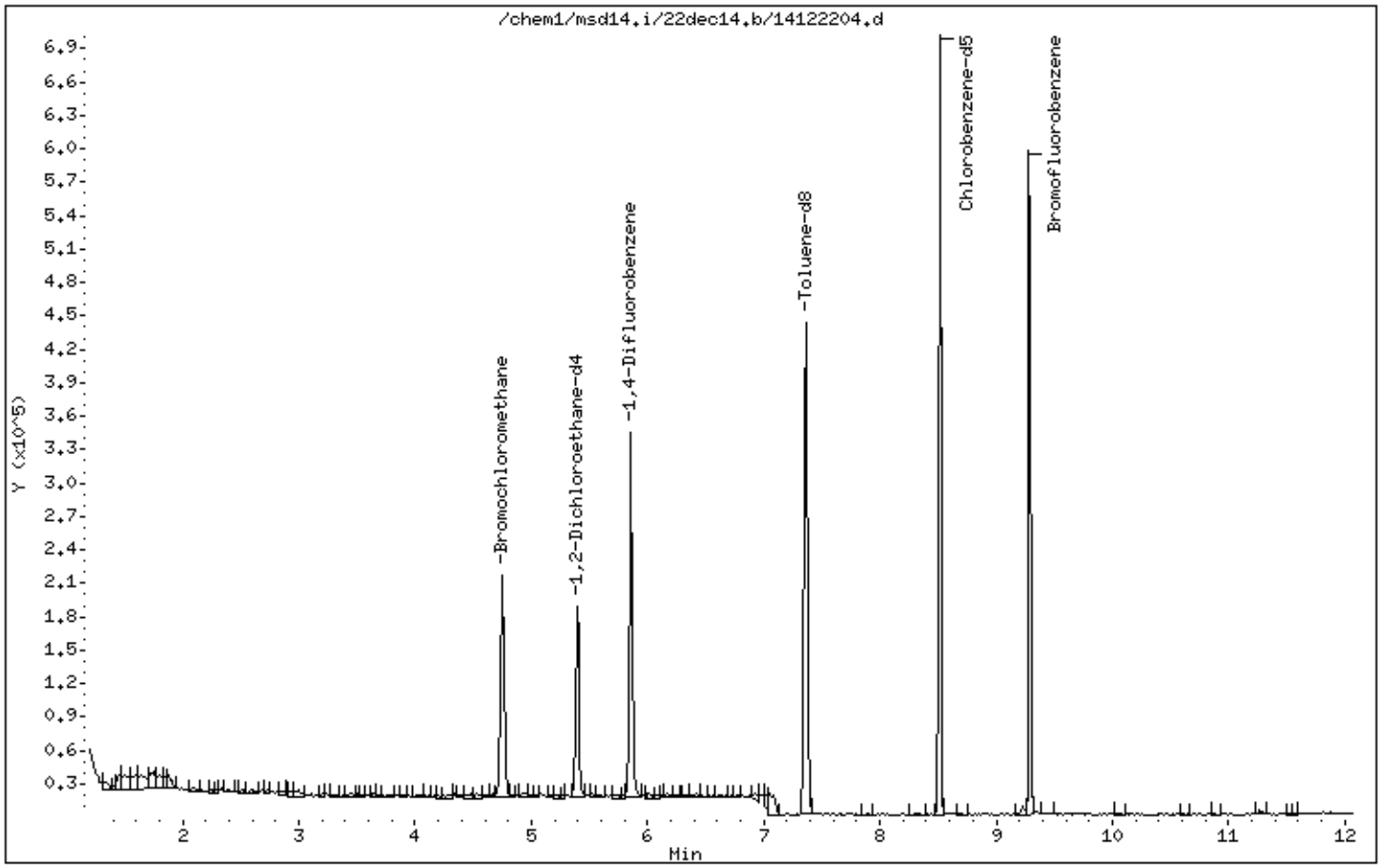
Instrument: msd14.i

Sample Info: 50mL #36041

Operator: act

Column phase: RTx-624

Column diameter: 0.53



LEVEL-IV VALIDATABLE

EPA METHOD TO-15 GC/MS

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 1412216C

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#		#		#		#	TOTAL OUT
01	B5SS-7 (2014)	113								0
02	B5SS-4 (2014)	108								0
03	B5SS-6 (2014)	108								0
04	B5SS-2 (2014)	106								0
05	B5SS-3 (2014)	110								0
06	B5SS-5 (2014)	88								0
07	B5SS-1 (2014)	87								0
08	B5SS-1D (2014)	86								0
09	Lab Blank	99								0
10	Lab Blank	99								0
11	CCV	100								0
12	CCV	100								0
13										0
14										0
15										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

* 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:	1412216C
Lab File ID:	j121703a.d	Date Analyzed:	12/17/2014
Instrument ID:	msdj.i	Time Analyzed:	09:33 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	1075695		8.89		1129066		6.41		226114		5.51	
	UPPER LIMIT	1505973		09.22		1580692		06.74		316560		05.84	
	LOWER LIMIT	645417		08.56		677440		06.08		135668		05.18	
	CLIENT SAMPLE NO												
01	B5SS-7 (2014)	976797		8.89		1097123		6.4		209767		5.49	
02	B5SS-4 (2014)	1006168		8.89		1061892		6.42		220136		5.51	
03	B5SS-6 (2014)	980609		8.89		1043395		6.41		212831		5.49	
04	B5SS-2 (2014)	996765		8.89		1050562		6.42		216265		5.51	
05	B5SS-3 (2014)	979558		8.89		1081213		6.41		206021		5.51	
06	Lab Blank	1148452		8.89		1182032		6.42		244020		5.49	
07	CCV	1075695		8.89		1129066		6.41		226114		5.51	
08													
09													
10													
11													
12													
13													
14													
15													
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

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:	AIR TOXICS, LTD	SDG No:	1412216C
Lab File ID:	14122203a.d	Date Analyzed:	12/22/2014
Instrument ID:	msd14.i	Time Analyzed:	07:39 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	380238		8.51		409300		5.86		89253		4.75	
	UPPER LIMIT	532333		08.84		573020		06.19		124954		05.08	
	LOWER LIMIT	228143		08.18		245580		05.53		53552		04.42	
	CLIENT SAMPLE NO												
01	B5SS-5 (2014)	489577		8.51		522949		5.86		123147		4.75	
02	B5SS-1 (2014)	476014		8.51		508970		5.86		121629		4.75	
03	B5SS-1D (2014)	466743		8.51		506426		5.86		124489		4.75	
04	Lab Blank	289153		8.51		296602		5.86		69409		4.75	
05	CCV	380238		8.51		409300		5.86		89253		4.75	
06													
07													
08													
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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 : 17-DEC-2014 09:33
End Cal Date : 17-DEC-2014 09:33
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msdj.i/17dec14.b/jMEOH1217.m
Cal Date : 17-Dec-2014 10:05 cbond
Curve Type : Average

Calibration File Names:
Level 2: /chem/msdj.i/17dec14.b/j121703.d

Compound	48.000 Level 2	___ RRF	% RSD
14 Methanol	100	100	0.000
M 193 1,2-Dichloroethene	+++++	+++++	+++++
$ 84 1,2-Dichloroethane-d4	2.06423	2.06423	0.000
$ 107 Toluene-d8	+++++	+++++	+++++
$ 138 Bromofluorobenzene	0.61140	0.61140	0.000

Calibration History

Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Start Cal Date: 17-DEC-2014 09:33
End Cal Date : 17-DEC-2014 09:33

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 48.00000		
17-DEC-2014 09:33	MeOHICAL	/chem/msdj.i/17dec14.b/j121703.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 2

Ccal Level: 2 , Ccal Amount: 48.000		
17-DEC-2014 09:33	MeOHICAL	/chem/msdj.i/17dec14.b/j121703.d
Ccal Level: 2 , Ccal Amount: 48.000		
17-DEC-2014 09:33	MeOHccv	/chem/msdj.i/17dec14.b/j121703a.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

CB
12/17/14

Start Cal Date : 17-DEC-2014 09:33
End Cal Date : 17-DEC-2014 09:33
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msdj.i/17dec14.b/jMEOH1217.m
Cal Date : 17-Dec-2014 10:05 cbond
Curve Type : Average

Calibration File Names:
Level 2: /chem/msdj.i/17dec14.b/j121703.d

Compound	48.000 Level 2	RRF	% RSD
14 Methanol	100	100	0.000
M 193 1,2-Dichloroethene	+++++	+++++	+++++
$ 84 1,2-Dichloroethane-d4	2.06423	2.06423	0.000
$ 107 Toluene-d8	+++++	+++++	+++++
$ 138 Bromofluorobenzene	0.61140	0.61140	0.000

JMEOH1217.M
Initial Calibration Narrative

A 1-point Methanol initial calibration was analyzed on MSD-J on 12/17/2014.

No ICV needed.

MSDJ

BFB Verification of 176/174 ratio: (265472/274794) * 100 = 96.61%			
IS/S Std.#:	2687-73	Exp. Date:	2/3/2015
BCM	226,114		
1,4-DFB	1,129,066		
CB-d5	1,075,695		

Method TO-15/TO-14			
SOP#	91	Load (mLs)	50
Vacuum:	1.16 X 10-5		

Surrogate# 2687-73		Exp. Date:	2/3/2015
Surrogate# NA		Exp. Date:	NA

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

Method(*.m): jMeOH1217.m

Use	File #	Enter/Scan Sample IDs	Canister#	Cart Pos.	Pressure	Amount	DF	Verify Load	Loaded Init	Date Analyzed	Time Analyzed	Review Init	Comments
√	J121601	BFB Tune Check	2687-73	12	36ng	1.0ml	1.00	cb	cb	12/17/2014	0818	cb	
√	J121602	System Blank	34496	12	Humid	200ml	1.00	cb	cb	12/17/2014	0857	cb	exp 1/23/15; 0 out
√	J121603	ICAL Level 2	2687-133	10	48ppbv(600ppbv)	4.0ml	1.00	cb	cb	12/17/2014	0933	cb	exp 2/21/15; 1 out; alpha chlorotoluene must be ND
√	J121604	Lab Blank	34496	12	Humid	200ml	1.00	cb	cb	12/17/2014	1015	cb	

CB 12/17/14

CB 12/17/14

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121703.d
Lab Smp Id: ICAL Client Smp ID: Level 2
Inj Date : 17-DEC-2014 09:33
Operator : cb Inst ID: msdj.i
Smp Info : 4.2ml #2687-133
Misc Info : 50ppbv
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 10:05 cbond Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 12 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MeOHICAL.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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.505	5.505 (1.000)	130	226114	400.000		80.00- 120.00	100.00
5.505	5.505 (1.000)	128	172499			46.29- 106.29	76.29
5.492	5.492 (1.000)	49	325562			113.98- 173.98	143.98
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.099)	65	466752	400.000	400.00	80.00- 120.00	100.00(H)
6.051	6.051 (1.099)	67	239022			21.21- 81.21	51.21
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.415	6.415 (1.000)	114	1129066	400.000		80.00- 120.00	100.00(H)
6.415	6.415 (1.000)	88	195291			0.00- 47.30	17.30
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.892	8.892 (1.000)	117	1075695	400.000		80.00- 120.00	100.00
8.892	8.892 (1.000)	82	705469			35.58- 95.58	65.58
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.885	9.885 (1.112)	174	657683	400.000	400.00	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	971663			117.74- 177.74	147.74

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 138 Bromofluorobenzene (continued)							
9.885	9.885 (1.112)	176	660798			70.47- 130.47	100.47
14 Methanol					CAS #: 67-56-1		
1.985	1.985 (0.361)	31	2712232	48.0000	48.000	80.00- 120.00	100.00(a)
1.985	1.985 (0.361)	29	2045574			45.42- 105.42	75.42
1.985	1.985 (0.361)	32	2119592			48.15- 108.15	78.15

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121703.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 50ppbv

Calibration Date: 17-DEC-2014
Calibration Time: 09:33
Client Smp ID: Level 2
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	226114	0.00
92 1,4-Difluorobenze	1129066	677440	1580692	1129066	0.00
125 Chlorobenzene-d5	1075695	645417	1505973	1075695	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
92 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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/msdj.i/17dec14.b/j121703.d

Date : 17-DEC-2014 09:33

Client ID: Level 2

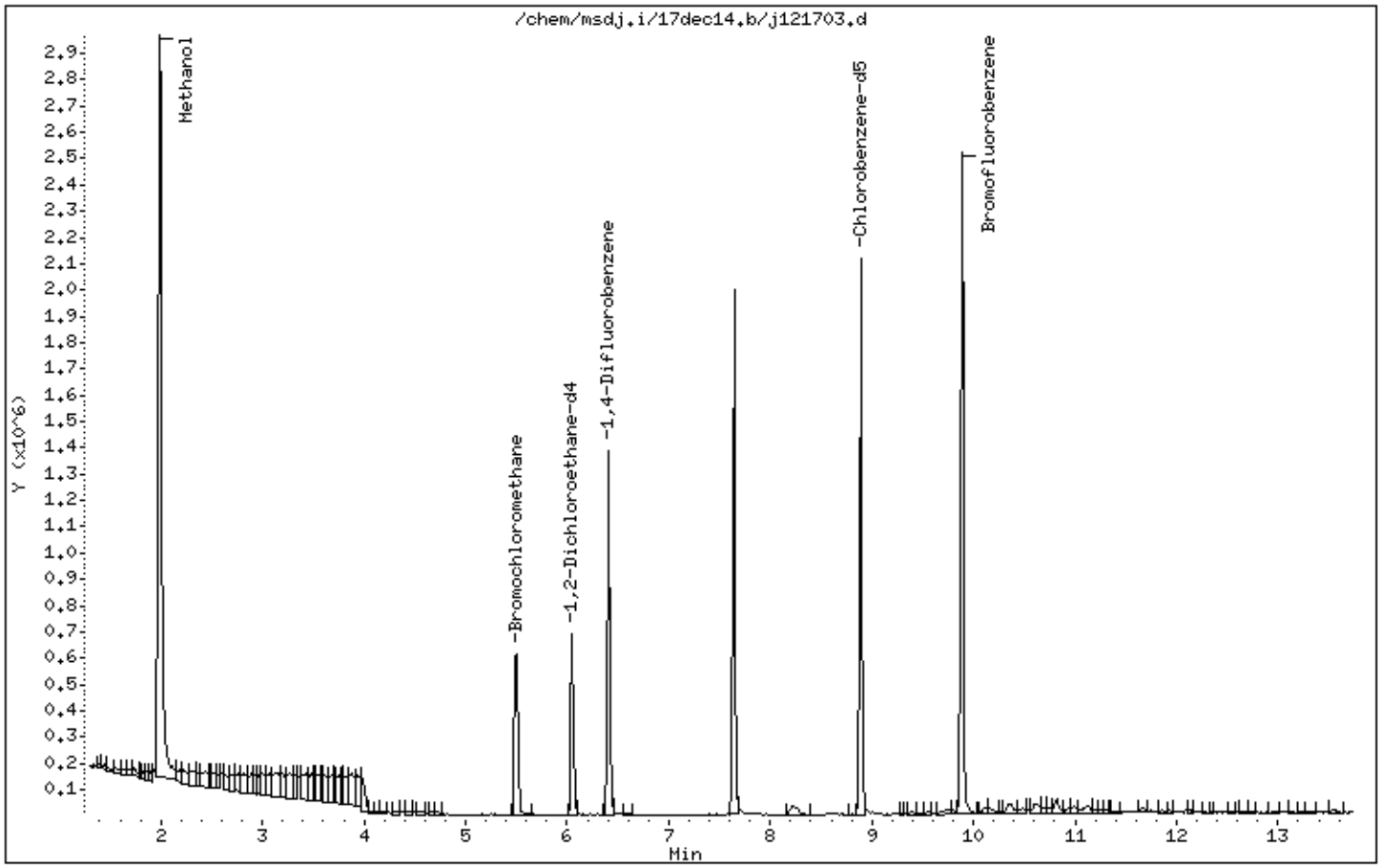
Instrument: msdj.i

Sample Info: 4.2ml #2687-133

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-DEC-2014 07:39
End Cal Date : 22-DEC-2014 07:39
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Cal Date : 22-Dec-2014 08:54 HR8M
Curve Type : Average

Calibration File Names:
Level 2: /chem1/msd14.i/22dec14.b/14122203.d

Compound	50.000 Level 2	___ RRF	% RSD
14 Methanol	43.40551	43.40551	0.000
M 193 1,2-Dichloroethene	+++++	+++++	+++++
$ 84 1,2-Dichloroethane-d4	1.57754	1.57754	0.000
$ 107 Toluene-d8	0.99937	0.99937	0.000
$ 138 Bromofluorobenzene	0.50041	0.50041	0.000

Calibration History

Method : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Start Cal Date: 22-DEC-2014 07:39
End Cal Date : 22-DEC-2014 07:39

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 50.00000		
22-DEC-2014 07:39	MeOH	/chem1/msd14.i/22dec14.b/14122203.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 2

Ccal Level: 2 , Ccal Amount: 50.000		
22-DEC-2014 07:39	MeOH	/chem1/msd14.i/22dec14.b/14122203a.d
Ccal Level: 2 , Ccal Amount: 50.000		
22-DEC-2014 07:39	MeOH	/chem1/msd14.i/22dec14.b/14122203.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-DEC-2014 07:39
End Cal Date : 22-DEC-2014 07:39
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Cal Date : 22-Dec-2014 08:54 HR8M
Curve Type : Average

Calibration File Names:
Level 2: /chem1/msd14.i/22dec14.b/14122203.d

12/22/14

12/22/14

Compound	50.000 Level 2	RRF	% RSD
14 Methanol	43.40551	43.40551	0.000
M 193 1,2-Dichloroethene	+++++	+++++	+++++
$ 84 1,2-Dichloroethane-d4	1.57754	1.57754	0.000
$ 107 Toluene-d8	0.99937	0.99937	0.000
$ 138 Bromofluorobenzene	0.50041	0.50041	0.000

Please see Calibration History page for all the calibration files.

MEOH1222A.M
Initial Calibration Narrative

A 1-point Methanol initial calibration was analyzed on MSD-14 on 12/22/14.

No ICV or MDL needed.

Eurofins Air Toxics, Inc. **MSD-14** **Logbook #2696**

BFB Verification of 176/174 m/z Ratio: (7932 / 8276) x100 = 95.84	
Tekmar Purge Flow: NA	
Vacuum: 3.90x10^-6	

IS/S Std. #: 2687-99	Exp. Date: 2/18/15
BCM	89253
1,4-DFB	409300
CB-d5	380238

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

File ID: 14122203	
Compound: tol-d8	
Initials: MS	

Calculation Check:

ppbv of compound = $\frac{\text{Area}_{\text{Sample}}}{\text{Area}_{\text{IS}}} \times \frac{\text{Conc}_{\text{IS}}}{\text{RRF}}$ = (409043) x (400.00) / (409300) (0.99937) = 400.00

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

Method Name:

	Use	File	Lab ID#	Can#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
1	✓	14122201	BFB Tune Check	2299-789	50ng	2.0ml	1.00	Act	~~0637~~ 12/22/14	0637	Act	
2	✓	02	System Blank	36041	Humid	50mL	1.00		12/22/14	0656	Act	
3	✓	03	ICAL Level 2	2687-133	50ppbv	4.2mL	1.00			0734	Act	Exp 1/20/15
4	✓	04	Lab Blank	36041	Humid	50 mL	1.00	MS		0833	MS/	
5	✗	05	14122160-06A	9918	4.7"Hg→14.9psi	25mL	4.78	MS		~~0929~~ 0908 12/22/14	MS/	is out
6		06	System Blank	36041	Humid	50mL	1.00	MS		0929	MS/	
7		07	System Blank	36041	Humid	50mL	1.00	MS				
8												
9												
10												
11												
12												
13												
14												MS 12/22/14

MS
Reviewed

12/22/14
Date

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem1/msd14.i/22dec14.b/14122203.d
Lab Smp Id: ICAL Level 2 Client Smp ID: ICAL Level 2
Inj Date : 22-DEC-2014 07:39
Operator : act Inst ID: msd14.i
Smp Info : 4.2ml #2687-133
Misc Info : 50ppbv (600ppbv)
Comment :
Method : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Meth Date : 22-Dec-2014 10:48 HR8M Quant Type: ISTD
Cal Date : 22-DEC-2014 07:39 Cal File: 14122203.d
Als bottle: 1 Calibration Sample, Level: 2
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
* 71 Bromochloromethane						CAS #: 74-97-5	
4.749	4.749 (1.000)	130	89253	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	71060			49.62- 109.62	79.62
4.749	4.749 (1.000)	49	114427			98.21- 158.21	128.21
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.860 (1.000)	114	409300	400.000		80.00- 120.00	100.00
5.860	5.860 (1.000)	88	60141			0.00- 44.69	14.69
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	380238	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	198036			22.08- 82.08	52.08
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	140800	400.000	400.00	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	72485			21.48- 81.48	51.48
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.366	7.366 (1.257)	98	409043	400.000	400.00	80.00- 120.00	100.00
7.366	7.366 (1.257)	70	46457			0.00- 41.36	11.36

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.366	7.366 (1.257)	100	271215			36.30- 96.30	66.30
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.297	9.297 (1.092)	174	190276	400.000	400.00	80.00- 120.00	100.00
9.283	9.283 (1.090)	95	246054			99.31- 159.31	129.31
9.297	9.297 (1.092)	176	185210			67.34- 127.34	97.34
14 Methanol						CAS #: 67-56-1	
1.728	1.728 (0.364)	31	484259	50.0000	50.000	80.00- 120.00	100.00
1.486	1.486 (0.313)	29	2784			0.00- 30.58	0.58
1.728	1.728 (0.364)	32	389379			50.41- 110.41	80.41

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14122203.d
Lab Smp Id: ICAL Level 2
Analysis Type: VOA
Quant Type: ISTD
Operator: act
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 50ppbv (600ppbv)

Calibration Date: 22-DEC-2014
Calibration Time: 07:39
Client Smp ID: ICAL Level 2
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	89253	53552	124954	89253	0.00
92 1,4-Difluorobenze	409300	245580	573020	409300	0.00
125 Chlorobenzene-d5	380238	228143	532333	380238	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	4.75	4.42	5.08	4.75	0.00
92 1,4-Difluorobenze	5.86	5.53	6.19	5.86	0.00
125 Chlorobenzene-d5	8.51	8.18	8.84	8.51	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: /chem1/msd14.i/22dec14.b/14122203.d

Date : 22-DEC-2014 07:39

Client ID: ICAL Level 2

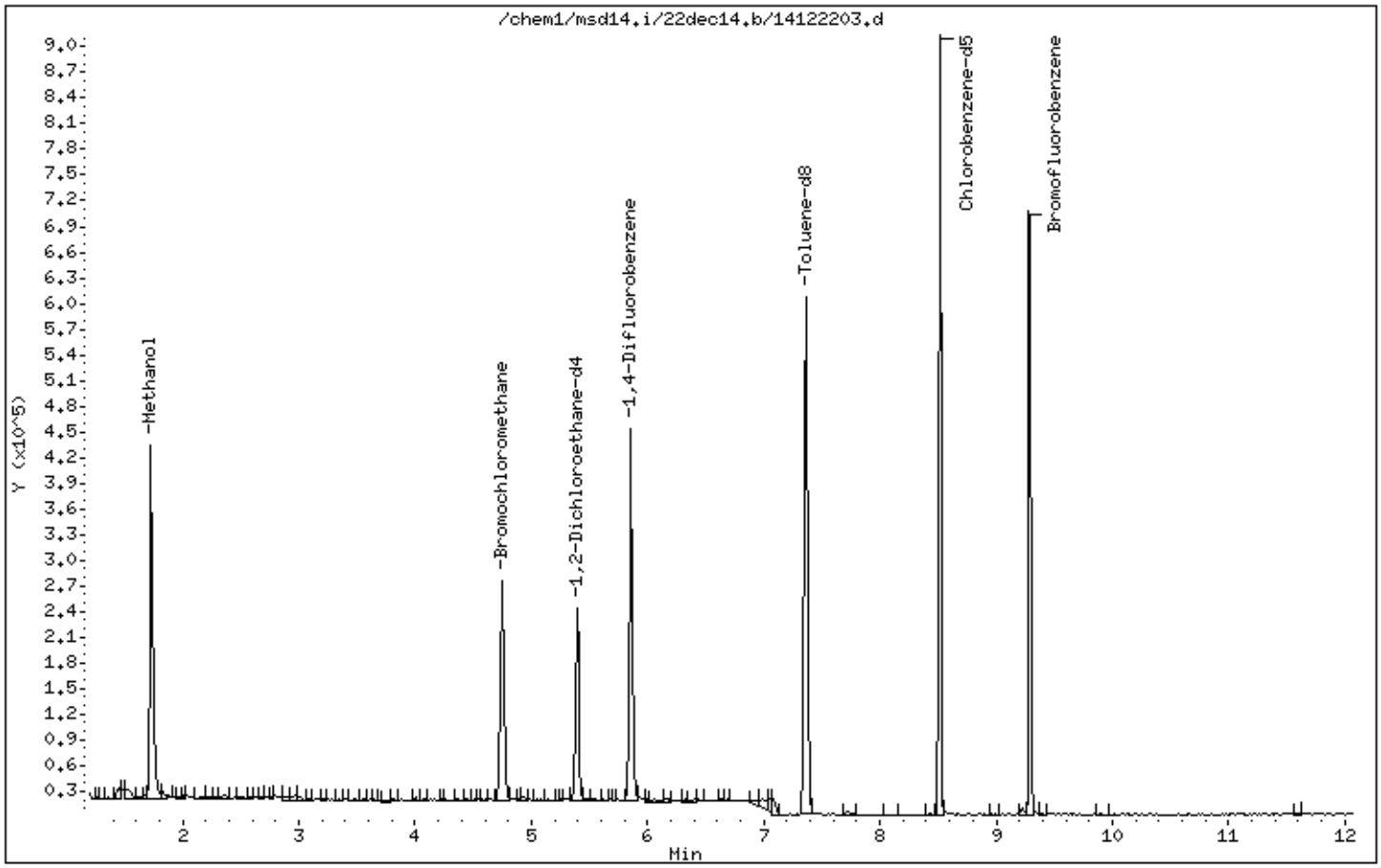
Instrument: msd14.i

Sample Info: 4.2ml #2687-133

Operator: act

Column phase: RTx-624

Column diameter: 0.53



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Client Sample ID: CCV

Lab ID#: 1412216C-10A

EPA METHOD TO-15 GC/MS

File Name:	**j121703a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/17/14 09:33 AM**	

Compound	**%Recovery**
Methanol	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msdj.i Injection Date: 17-DEC-2014 09:33
Lab File ID: j121703a.d Init. Cal. Date(s): 17-DEC-2014 17-DEC-2014
Analysis Type: AIR Init. Cal. Times: 09:33 09:33
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msdj.i/17dec14.b/jMEOH1217.m

COMPOUND	RRF / AMOUNT	RF48	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 84 1,2-Dichloroethane-d4	2.06423	2.06423	0.010	0.000e+00	30.00000	Averaged
$ 138 Bromofluorobenzene	0.61140	0.61140	0.010	0.000e+00	30.00000	Averaged
14 Methanol	100	100	0.010	0.000e+00	30.00000	Averaged

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121703a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 17-DEC-2014 09:33
Operator : cb Inst ID: msdj.i
Smp Info : 4.2ml #2687-133
Misc Info : 48ppbv
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 12 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MeOHccv.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
* 71 Bromochloromethane						CAS #: 74-97-5	
5.505	5.505 (1.000)	130	226114	400.000		80.00- 120.00	100.00
5.505	5.505 (1.000)	128	172499			46.29- 106.29	76.29
5.492	5.492 (1.000)	49	325562			113.98- 173.98	143.98
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
6.415	6.415 (1.000)	114	1129066	400.000		80.00- 120.00	100.00(H)
6.415	6.415 (1.000)	88	195291			0.00- 47.30	17.30
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.892	8.892 (1.000)	117	1075695	400.000		80.00- 120.00	100.00
8.892	8.892 (1.000)	82	705469			35.58- 95.58	65.58
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
6.051	6.051 (1.099)	65	466752	400.000	400.00	80.00- 120.00	100.00(H)
6.051	6.051 (1.099)	67	239022			21.21- 81.21	51.21
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.885	9.885 (1.112)	174	657683	400.000	400.00	80.00- 120.00	100.00
9.885	9.885 (1.112)	95	971663			117.74- 177.74	147.74

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 138 Bromofluorobenzene (continued)							
9.885	9.885 (1.112)	176	660798			70.47- 130.47	100.47
14 Methanol					CAS #: 67-56-1		
1.985	1.985 (0.361)	31	2712232	48.0000	48.000	80.00- 120.00	100.00
1.985	1.985 (0.361)	29	2045574			45.42- 105.42	75.42
1.985	1.985 (0.361)	32	2119592			48.15- 108.15	78.15

QC Flag Legend

H - Operator selected an alternate compound hit.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121703a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 48ppbv

Calibration Date: 17-DEC-2014
Calibration Time: 09:33
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
71 Bromochloromethan	226114	135668	316560	226114	0.00
92 1,4-Difluorobenze	1129066	677440	1580692	1129066	0.00
125 Chlorobenzene-d5	1075695	645417	1505973	1075695	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
71 Bromochloromethan	5.51	5.18	5.84	5.51	0.00
92 1,4-Difluorobenze	6.41	6.08	6.74	6.41	0.00
125 Chlorobenzene-d5	8.89	8.56	9.22	8.89	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/msdj.i/17dec14.b/j121703a.d

Date : 17-DEC-2014 09:33

Client ID: CCV

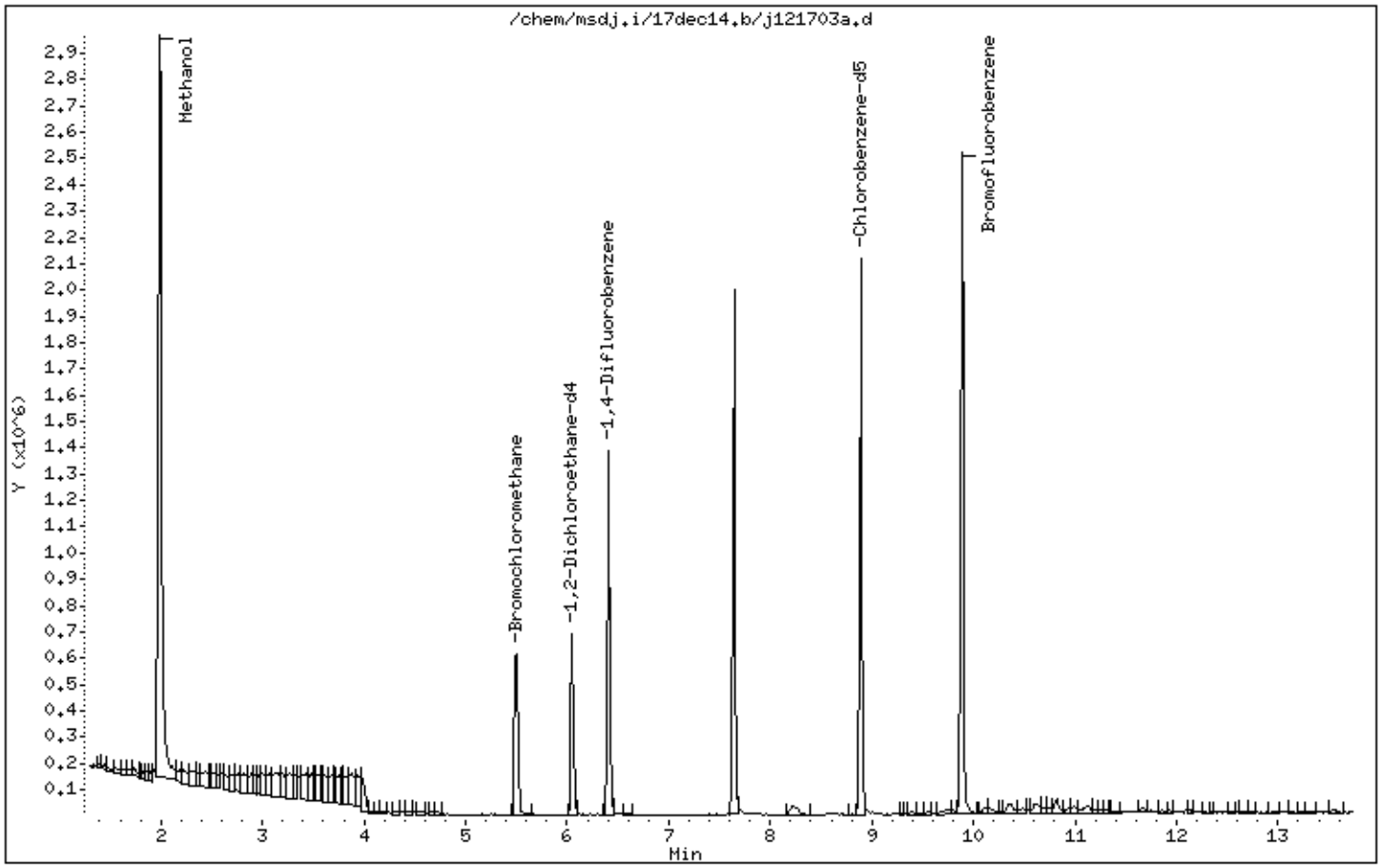
Instrument: msdj.i

Sample Info: 4.2ml #2687-133

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



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Client Sample ID: CCV

Lab ID#: 1412216C-10B

EPA METHOD TO-15 GC/MS

File Name:	**14122203a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/14 07:39 AM**	

Compound	**%Recovery**
Methanol	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	100	70-130

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 22-DEC-2014 07:39
Lab File ID: 14122203a.d Init. Cal. Date(s): 22-DEC-2014 22-DEC-2014
Analysis Type: AIR Init. Cal. Times: 07:39 07:39
Lab Sample ID: ccv Quant Type: ISTD
Method: /chem1/msd14.i/22dec14.b/MEOH1222A.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 84 1,2-Dichloroethane-d4	1.57754	1.57754	0.010	0.000e+00	30.00000	Averaged
$ 107 Toluene-d8	0.99937	0.99937	0.010	-2.222e-14	30.00000	Averaged
$ 138 Bromofluorobenzene	0.50042	0.50042	0.010	0.000e+00	30.00000	Averaged
14 Methanol	43.40548	43.40548	0.010	0.000e+00	30.00000	Averaged

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem1/msd14.i/22dec14.b/14122203a.d
Lab Smp Id: ccv Client Smp ID: ccv
Inj Date : 22-DEC-2014 07:39
Operator : act Inst ID: msd14.i
Smp Info : 4.2ml #2687-133
Misc Info : 50ppbv (600ppbv)
Comment :
Method : /chem1/msd14.i/22dec14.b/MEOH1222A.m
Meth Date : 22-Dec-2014 10:48 HR8M Quant Type: ISTD
Cal Date : 22-DEC-2014 07:39 Cal File: 14122203.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
* 71 Bromochloromethane						CAS #: 74-97-5	
4.749	4.749 (1.000)	130	89253	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	71060			49.62- 109.62	79.62
4.749	4.749 (1.000)	49	114427			98.21- 158.21	128.21
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.860 (1.000)	114	409300	400.000		80.00- 120.00	100.00
5.860	5.860 (1.000)	88	60141			0.00- 44.69	14.69
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	380238	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	198036			22.08- 82.08	52.08
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	140800	400.000	400.00	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	72485			21.48- 81.48	51.48
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.366	7.366 (1.257)	98	409043	400.000	400.00	80.00- 120.00	100.00
7.366	7.366 (1.257)	70	46457			0.00- 41.36	11.36

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.366	7.366 (1.257)	100	271215			36.30- 96.30	66.30
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.297	9.297 (1.092)	174	190276	400.000	400.00	80.00- 120.00	100.00
9.283	9.283 (1.090)	95	246054			99.31- 159.31	129.31
9.297	9.297 (1.092)	176	185210			67.34- 127.34	97.34
14 Methanol						CAS #: 67-56-1	
1.728	1.728 (0.364)	31	484259	50.0000	50.000	80.00- 120.00	100.00
1.486	1.486 (0.313)	29	2784			0.00- 30.58	0.58
1.728	1.728 (0.364)	32	389379			50.41- 110.41	80.41

Report Date: 22-Dec-2014 10:48

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14122203a.d
Lab Smp Id: ccv
Analysis Type: VOA
Quant Type: ISTD
Operator: act
Method File: /chem1/msd14.i/22dec14.b/MEOH1222A.m
Misc Info: 50ppbv (600ppbv)

Calibration Date: 22-DEC-2014
Calibration Time: 07:39
Client Smp ID: ccv
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	89253	53552	124954	89253	0.00
92 1,4-Difluorobenze	409300	245580	573020	409300	0.00
125 Chlorobenzene-d5	380238	228143	532333	380238	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	4.75	4.42	5.08	4.75	0.00
92 1,4-Difluorobenze	5.86	5.53	6.19	5.86	0.00
125 Chlorobenzene-d5	8.51	8.18	8.84	8.51	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: /chem1/msd14.i/22dec14.b/14122203a.d

Date : 22-DEC-2014 07:39

Client ID: ccv

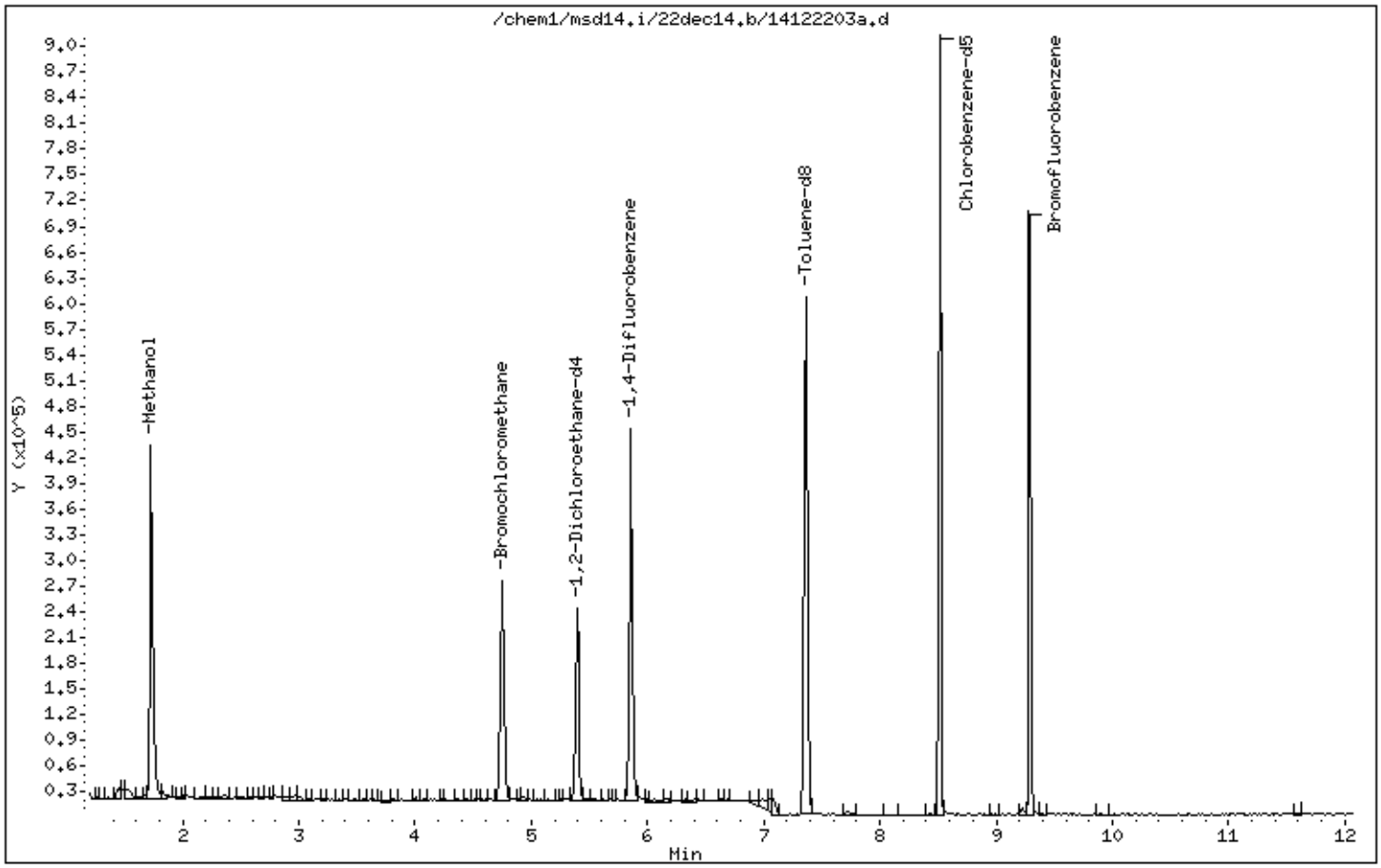
Instrument: msd14.i

Sample Info: 4.2ml #2687-133

Operator: act

Column phase: RTx-624

Column diameter: 0.53



MSDJ

BFB Verification of 176/174 ratio: (265472/274794) * 100 = 96.61%			
IS/S Std.#:	2687-73	Exp. Date:	2/3/2015
BCM	226,114		
1,4-DFB	1,129,066		
CB-d5	1,075,695		

Method TO-15/TO-14			
SOP#	91	Load (mLs)	50
Vacuum:	1.16 X 10-5		

Surrogate# 2687-73	Exp. Date:	2/3/2015
Surrogate# NA	Exp. Date:	NA

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

Method(*.m): jMeOH1217.m

Use	File #	Enter/Scan Sample IDs	Canister#	Cart Pos.	Pressure	Amount	DF	Verify Load	Loaded Init	Date Analyzed	Time Analyzed	Review Init	Comments
√	J121701	BFB Tune Check	2687-73	12	36ng	1.0ml	1.00	cb	cb	12/17/2014	0818	cb	
√	J121702	System Blank	34496	12	Humid	50ml	1.00	cb	cb	12/17/2014	0857	cb	exp 1/23/15; 0 out
√	J121703	ICAL Level 2	2687-133	10	48ppbv(600ppbv)	4.0ml	1.00	cb	cb	12/17/2014	0933	cb	exp 2/21/15; 1 out, alpha chlorotoluene must be ND
√	J121704	Lab Blank	34496	12	Humid	50ml	1.00	cb	cb	12/17/2014	1015	cb	
√	J121705	1412180-01A	12089	1	4.7 Hg->5.5 psi	50ml	1.63	cb	cb	12/17/2014	1117	cb	
√	J121706	1412151C-01A	34723	2	4.5 Hg->5 psi	50ml	1.58	cb	cb	12/17/2014	1142	cb	
√	J121707	1412151C-02A	35255	3	16 Hg->5 psi	50ml	2.87	cb	cb	12/17/2014	1207	cb	
√	J121708	1412151C-03A	34450	4	3.0 Hg->5 psi	50ml	1.49	cb	cb	12/17/2014	1232	cb	
√	J121709	1412151C-04A	1651	5	8.0 Hg->5 psi	50ml	1.83	cb	cb	12/17/2014	1257	cb	
√	J121710	1412151C-05A	34440	6	5.0 Hg->5 psi	50ml	1.61	cb	cb	12/17/2014	1321	cb	
√	J121711	14121S2C-01A	33654	7	6.9 Hg->4.9 psi	50ml	1.73	cb	cb	12/17/2014	1346	cb	
√	J121712	1412152C-02A	25261	8	7.6 Hg->5.1 psi	50ml	1.80	cb	cb	12/17/2014	1411	cb	
√	J121713	1412152C-03A	940	9	4.7 Hg->4.9 psi	50ml	1.58	cb	cb	12/17/2014	1436	cb	
√	J121714	1412152C-04A	33889	1	8 Hg->4.5 psi	50ml	1.78	sn	cb	12/17/2014	1721	sn	
√	J121715	1412152C-05A	to-3737	2	6.7 Hg->5.2 psi	50ml	1.74	sn	cb	12/17/2014	1746	sn	
√	J121716	1412152C-06A	12019	3	7.3 Hg->4.3 psi	50ml	1.71	sn	cb	12/17/2014	1811	sn	
√	J121717	1412152C-07A	5695	4	5.5 Hg->5.3 psi	50ml	1.66	sn	cb	12/17/2014	1836	sn	
√	J121718	1412152C-08A	25248	5	6.9 Hg->5 psi	50ml	1.74	sn	cb	12/17/2014	1900	sn	
√	J121719	1412216C-01A	1L1685	6	5.1 Hg->14.9 psi	50ml	2.43	sn	cb	12/17/2014	1925	sn	
√	J121720	1412216C-02A	1L1681	7	6.5 Hg->14.9 psi	50ml	2.57	sn	cb	12/17/2014	1950	sn	
√	J121721	1412216C-03A	1L1707	8	5.1 Hg->15 psi	50ml	2.43	sn	cb	12/17/2014	2014	sn	
√	J121722	1412216C-04A	1L1680	9	2.2 Hg->14.8 psi	50ml	2.16	sn	cb	12/17/2014	2039	sn	
√	J121723	1412216C-05A	1L1706	10	4.5 Hg->14.8 psi	50ml	2.36	sn	cb	12/17/2014	2104	sn	
X	J121724	1412216C-06A	1L1702	11	4.7 Hg->14.9 psi	50ml	2.39	sn	cb	12/17/2014	2129	sn	IS OUT
X	J121725	System Blank	34496	12	Humid	50ml	1.00	cb	ea	12/17/2014	2306	cb	Toluene saturated
X	J121726	System Blank	34496	12	Humid	50ml	1.00	cb	ea	12/17/2014	2331	cb	
X	J121727	System Blank	34496	12	Humid	50ml	1.00	cb	ea	12/17/2014	2356	cb	
X	J121728	System Blank	34496	12	Humid	50ml	1.00	cb	cb	12/18/2014	0852	cb	
X	J121729	System Blank	34496	12	Humid	50ml	1.00	cb	cb	12/18/2014	0949	cb	
X	J121730	System Blank	34496	12	Humid	50ml	1.00	cb	cb	12/18/2014	1014	cb	
X	J121731	Trap Bake	n/a	12	n/a	n/a	1.00	n/a	cb	12/18/2014	1055	cb	

12/19/14

Eurofins Air Toxics, Inc. **MSD-14** **Logbook #2696**

BFB Verification of 176/174 m/z Ratio: (7732 / 8276) x 100 = 95.84	
Tekmar Purge Flow: NA	
Vacuum: 3.90×10^{-6}	

IS/S Std. #: 2687-99	Exp. Date: 2/18/15
BCM	89253
1,4-DFB	409300
CB-d5	380238

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

File ID: 14122~~2~~03	
Compound: Tol-d8	
Initials:	

Calculation Check:

ppbv of compound = $\frac{\text{Area}_{\text{Sample}}}{\text{Area}_{\text{IS}}} \times \frac{\text{Conc}_{\text{IS}}}{\text{RRF}}$ = (409043) x (400.00) = 400.00
(409300) (~~0.99630~~ 0.99937)

SOP# (Circle one): 6 / 83 / 38 / 91 / 109 Method (Circle one): TO-14A/TO-15/TO-17 Reported Result: 40000

Method Name: Meoh 1222A.M

	Use	File	Lab ID#	Can#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
1	✓	14122201	BFB Tune Check	2299-789	50ng	2.0µl	1.00	Act	~~0637~~ 12/22/14	0637	Act	
2	✓	02	System Blank	36041	Humid	50mL	1.00		12/22/14	0656	Act	
3	✓	03	ICAL Level 2	2687-133	50ppbv	4.2mL	1.00			0734	Act	Exp 1/20/15
4	✓	04	Lab Blank	36041	Humid	50mL	1.00			0833		
5	X	05	14122160-06A	9918	4.7"Hg→14.9	25mL	4.78			~~0929~~ 0908		IS out
6	X	06	System Blank	36041	Humid	50mL	1.00			0929		
7	X	07	System Blank	36041	Humid	50mL	1.00			0951	—	IS out
8	X	08	System Blank	36041	Humid	50mL	1.00			1022	—	IS out
9	✓	09	System Blank	N/A	Dry	50mL	1.00			1044	—	~~IS out~~ IS in
10	X	10	14122160-04A	9918	4.7"Hg→14.9	05mL	239			1105	—	IS out
11	X	11	System Blank ~~04A~~	36041	Humid	50mL	1.00			1128	—	IS out
12	X	12	System Blank	36041	Humid	50mL	1.00			1147	—	IS out
13	X	13	System Blank	36041	Humid	50mL	1.00			1205	—	IS out
14	X	14	System Blank	36041	Humid	50mL	1.00			1223	—	IS out

Reviewed 12/22/14 Date

Eurofins Air Toxics, Inc. **MSD-14** **Logbook #2696**

	Use	File	Lab ID#	Can#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
15	✓	1412215	System Blank	N/A	Dry	50mL	1.00		12/22/14	1247	/	
16	X	14122216	14122216C-06A	9918	4.7"Hg→14.9psi	10mL	1195			1318	—	100x bag 1st IS out
17	✓	17	System blank	N/A	Dry	50mL	1.00			1341	/	IS @ 14
18	✓	18	14122216C-06A	9918	4.7"Hg→14.9psi	5.0mL	X 2390	12/22/14		1405	/	DIL Matrix 100x Bag D.L
19	✓	19	System blank	N/A	Dry	50mL	1.00			1448	/	
20	✓	20	14122216C-07A	11556	5.1"Hg→14.7psi	5.0mL	2410			1448	/	100x Bag DIL Matrix
21	✓	21	System blank	N/A	Dry	50mL	1.00			1509	/	
22	✓	22	14122216C-08A	2034	4.1"Hg→14.9psi	5.0mL	2330			1528	/	100x Bag DIL Matrix
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												12/22/14

Reviewed

12/22/14
Date

Eurofins Air Toxics Inc.

Data file : /var/chem/msdj.i/17dec14.b/j121701.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 17-DEC-2014 08:18
Operator : cb Inst ID: msdj.i
Smp Info : 1.0ml #2687-73;BFB;BFB
Misc Info : 36ng
Comment :
Method : /var/chem/msdj.i/17dec14.b/bfb30.m
Meth Date : 17-Dec-2014 08:41 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 12 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		
9.892	10.175	-0.283	95	394496			100.00- 100.00	100.00
9.892	10.175	-0.283	50	63710			8.00- 40.00	16.15
9.892	10.175	-0.283	75	196168			30.00- 66.00	49.73
9.892	10.175	-0.283	96	24663			5.00- 9.00	6.25
9.892	10.175	-0.283	173	2086			0.00- 1.99	0.76
9.892	10.175	-0.283	174	274794			50.00- 120.00	69.66
9.892	10.175	-0.283	175	21218			4.00- 9.00	7.72
9.892	10.175	-0.283	176	265472			93.00- 101.00	96.61
9.892	10.175	-0.283	177	16830			5.00- 9.00	6.34

Data File: /var/chem/msdj.i/17dec14.b/j121701.d

Date : 17-DEC-2014 08:18

Client ID: BFB

Instrument: msdj.i

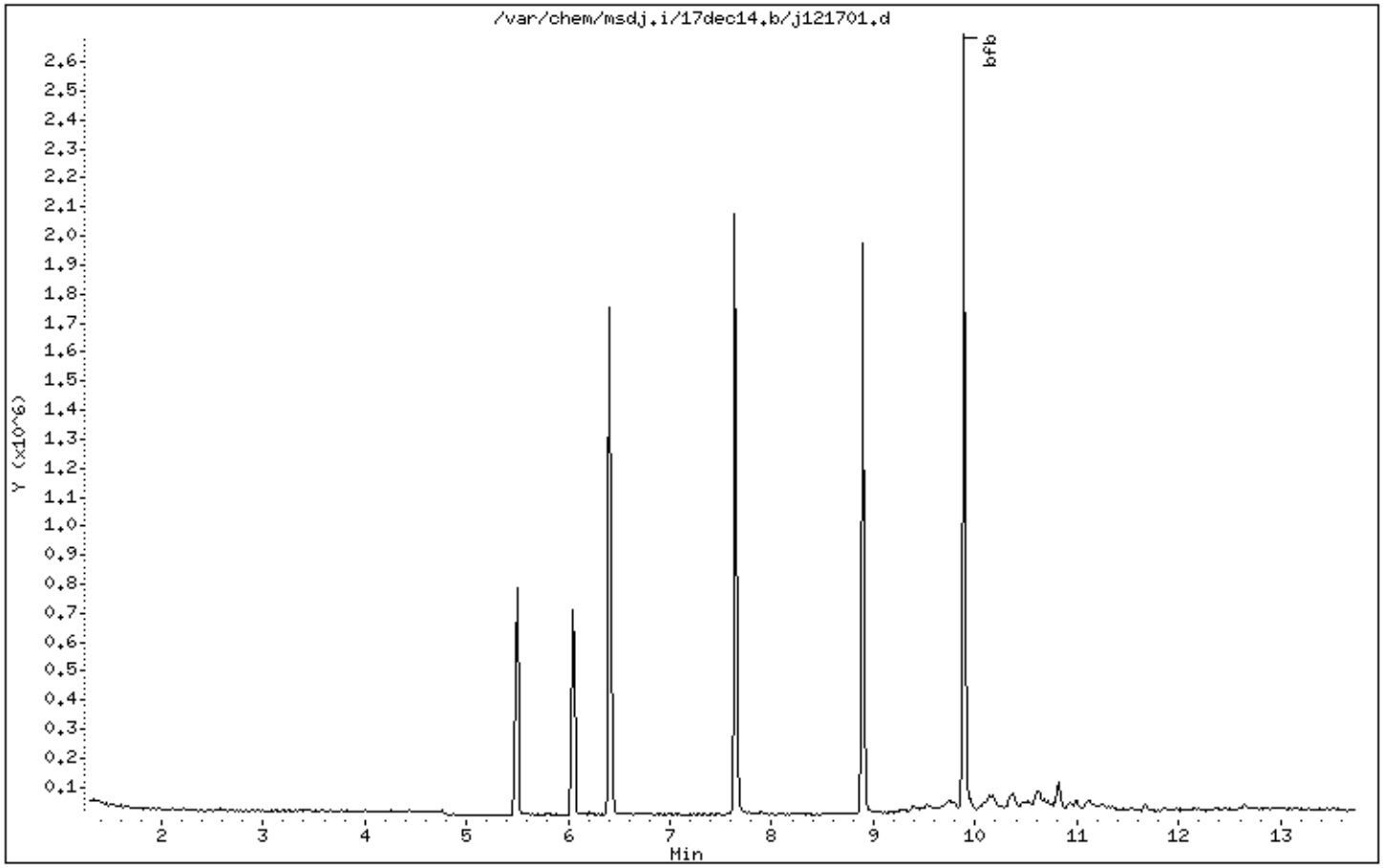
Sample Info: 1.0ml #2687-73;BFB;BFB

Volume Injected (uL): 1.0

Operator: cb

Column phase:

Column diameter: 2.00



Data File: /var/chem/msdj.i/17dec14.b/j121701.d

Date : 17-DEC-2014 08:18

Client ID: BFB

Instrument: msdj.i

Sample Info: 1.0ml #2687-73;BFB;BFB

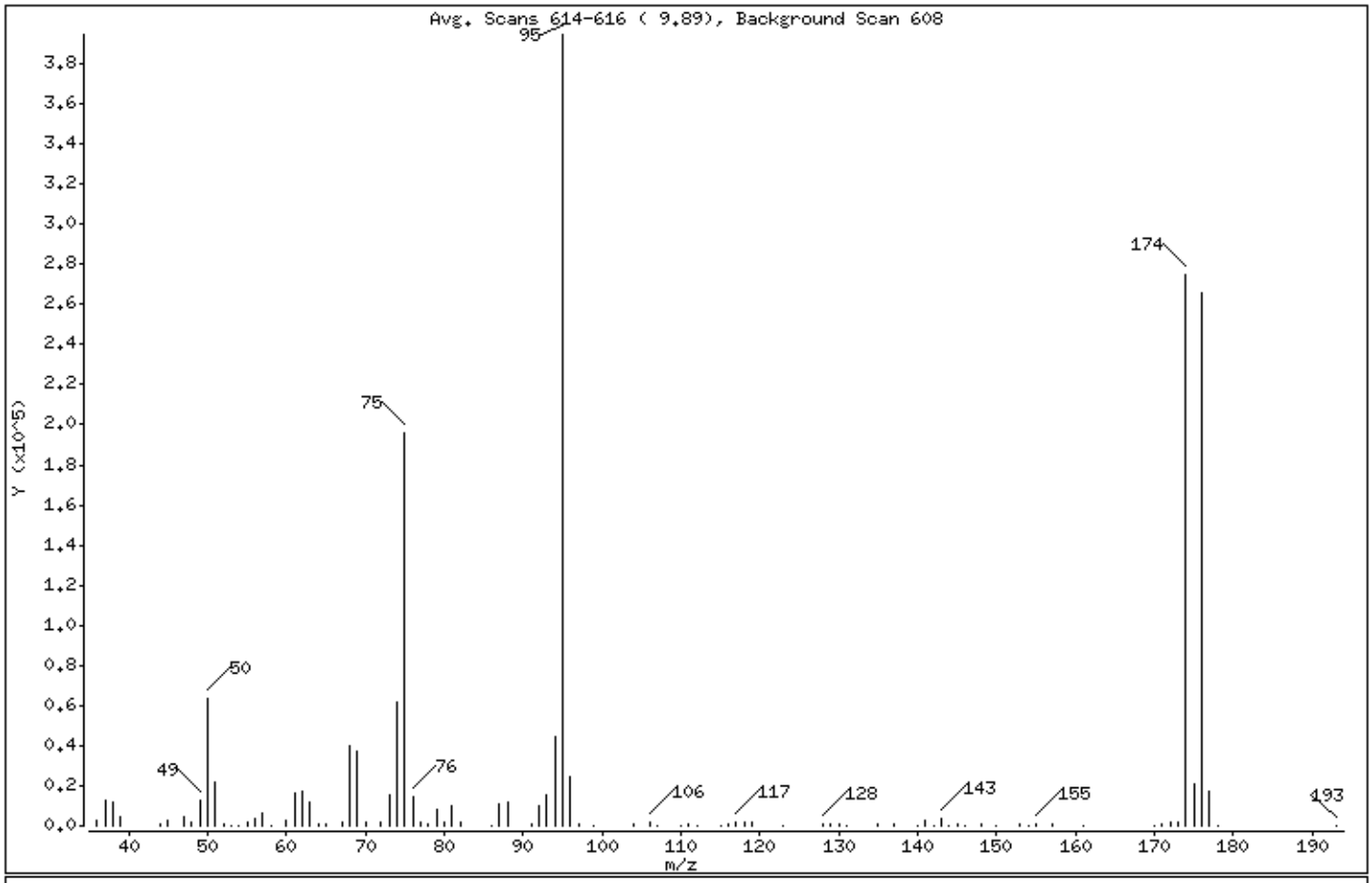
Volume Injected (uL): 1.0

Operator: cb

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	16.15
75	30.00 - 66.00% of mass 95	49.73
96	5.00 - 9.00% of mass 95	6.25
173	Less than 1.99% of mass 174	0.53 (0.76)
174	50.00 - 120.00% of mass 95	69.66
175	4.00 - 9.00% of mass 174	5.38 (7.72)
176	93.00 - 101.00% of mass 174	67.29 (96.61)
177	5.00 - 9.00% of mass 176	4.27 (6.34)

Data File: /var/chem/msdj.i/17dec14.b/j121701.d

Date : 17-DEC-2014 08:18

Client ID: BFB

Instrument: msdj.i

Sample Info: 1.0ml #2687-73;BFB;BFB

Volume Injected (uL): 1.0

Operator: cb

Column phase:

Column diameter: 2.00

Data File: j121701.d
Spectrum: Avg. Scans 614-616 (9.89), Background Scan 608
Location of Maximum: 95.00
Number of points: 92

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2363	67.00	2010	97.00	716	144.00	138
37.00	12932	68.00	39608	99.00	429	145.00	607
38.00	11657	69.00	37280	104.00	1358	146.00	260
39.00	4215	70.00	2144	106.00	1532	148.00	860
44.00	682	72.00	1869	107.00	249	150.00	176
45.00	2460	73.00	15048	110.00	107	153.00	473
47.00	4961	74.00	61624	111.00	1099	154.00	205
48.00	1728	75.00	196160	112.00	182	155.00	896
49.00	13029	76.00	14705	115.00	297	157.00	610
50.00	63704	77.00	2239	116.00	994	161.00	110
51.00	21744	78.00	1284	117.00	2254	170.00	179
52.00	874	79.00	8157	118.00	1614	171.00	490
53.00	310	80.00	2133	119.00	1906	172.00	1365
54.00	191	81.00	10015	123.00	242	173.00	2086
55.00	1519	82.00	2055	128.00	1120	174.00	274752
56.00	3266	86.00	196	129.00	535	175.00	21216
57.00	6074	87.00	10514	130.00	698	176.00	265472
58.00	147	88.00	11578	131.00	273	177.00	16824
60.00	3127	91.00	1292	135.00	569	178.00	198
61.00	16488	92.00	9874	137.00	586	193.00	84
62.00	17544	93.00	15488	140.00	361		
63.00	12155	94.00	44416	141.00	2917		
64.00	1337	95.00	394496	142.00	288		
65.00	877	96.00	24656	143.00	3517		

Eurofins Air Toxics Inc.

Data file : /var/chem/msd14.i/22dec14.b/14122201.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 22-DEC-2014 06:37
Operator : act Inst ID: msd14.i
Smp Info : 2.0ul #2299-789;BFB;BFB
Misc Info : 50ng
Comment :
Method : /var/chem/msd14.i/22dec14.b/bfb20.m
Meth Date : 22-Dec-2014 06:48 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	
2.464	2.483	-0.019	95	10710			100.00- 100.00	100.00
2.464	2.483	-0.019	50	2596			8.00- 40.00	24.24
2.464	2.483	-0.019	75	5796			30.00- 66.00	54.12
2.464	2.483	-0.019	96	778			5.00- 9.00	7.26
2.464	2.483	-0.019	173	123			0.00- 1.99	1.49
2.464	2.483	-0.019	174	8276			50.01- 120.00	77.27
2.464	2.483	-0.019	175	640			4.00- 9.00	7.73
2.464	2.483	-0.019	176	7932			93.00- 101.00	95.84
2.464	2.483	-0.019	177	459			5.00- 9.00	5.79

Data File: /chem1/msd14.i/22dec14.b/14122201.d

Date : 22-DEC-2014 06:37

Client ID: BFB

Instrument: msd14.i

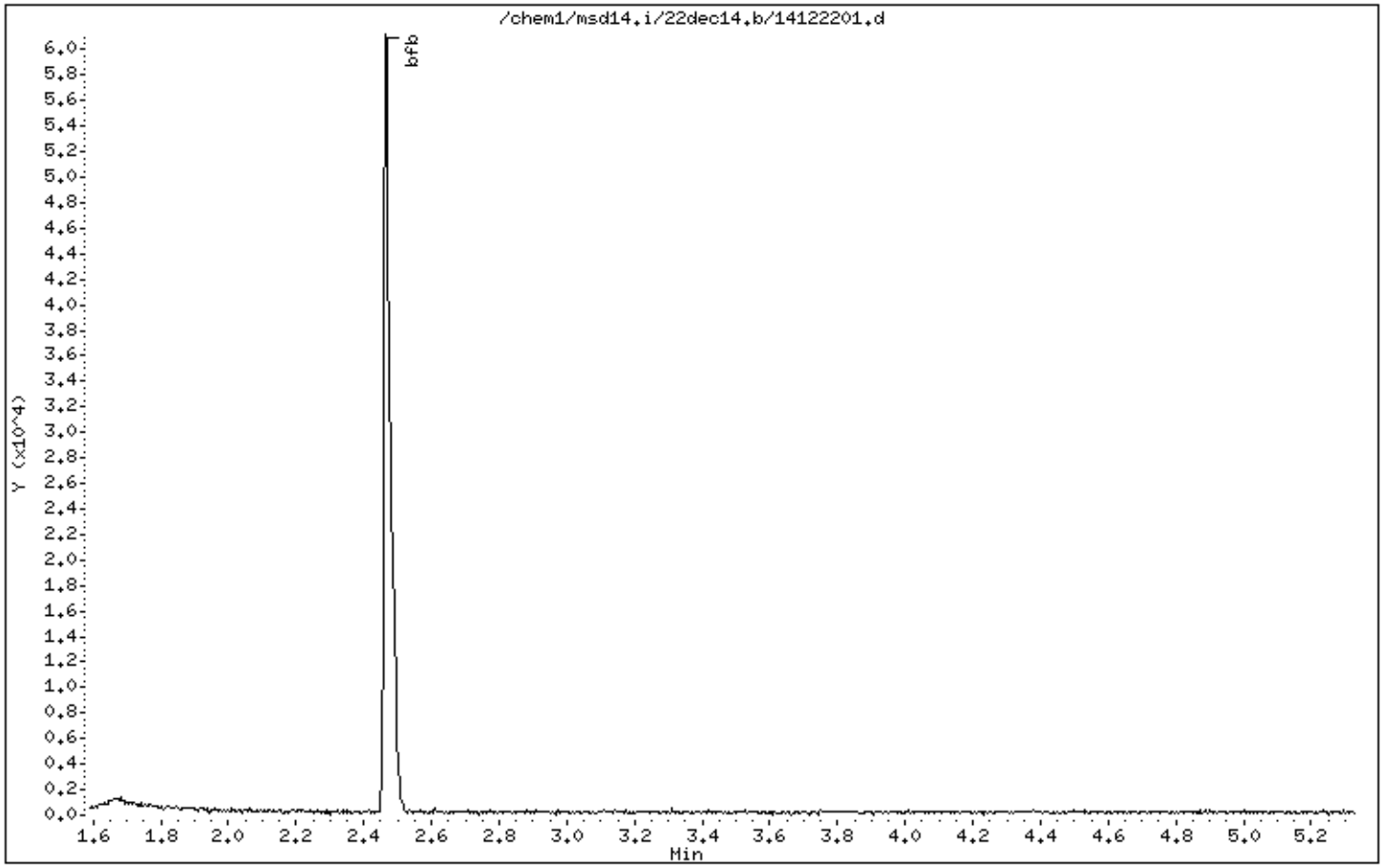
Sample Info: 2.0ul #2299-789;BFB;BFB

Volume Injected (uL): 1.0

Operator: act

Column phase:

Column diameter: 2.00



Data File: /chem1/msd14.i/22dec14.b/14122201.d

Date : 22-DEC-2014 06:37

Client ID: BFB

Instrument: msd14.i

Sample Info: 2.0ul #2299-789;BFB;BFB

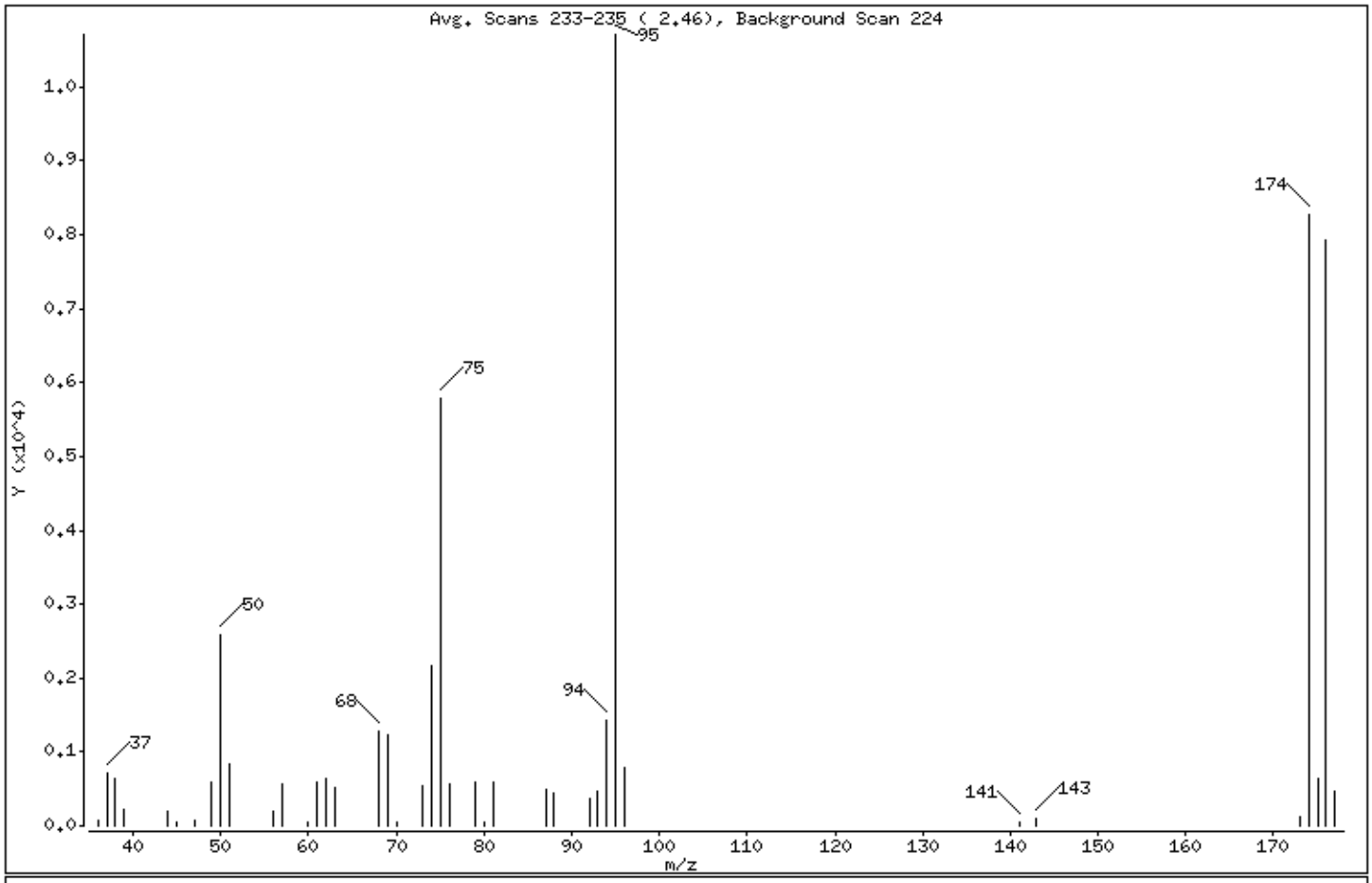
Volume Injected (uL): 1.0

Operator: act

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	24.24
75	30.00 - 66.00% of mass 95	54.12
96	5.00 - 9.00% of mass 95	7.26
173	Less than 1.99% of mass 174	1.15 (1.49)
174	50.01 - 120.00% of mass 95	77.27
175	4.00 - 9.00% of mass 174	5.98 (7.73)
176	93.00 - 101.00% of mass 174	74.06 (95.84)
177	5.00 - 9.00% of mass 176	4.29 (5.79)

Data File: /chem1/msd14.i/22dec14.b/14122201.d

Date : 22-DEC-2014 06:37

Client ID: BFB

Instrument: msd14.i

Sample Info: 2.0ul #2299-789;BFB;BFB

Volume Injected (uL): 1.0

Operator: act

Column phase:

Column diameter: 2.00

Data File: 14122201.d
Spectrum: Avg. Scans 233-235 (2.46), Background Scan 224
Location of Maximum: 95.00
Number of points: 40

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	65	57.00	556	76.00	563	141.00	59
37.00	710	60.00	53	79.00	588	143.00	95
38.00	650	61.00	603	80.00	55	173.00	123
39.00	232	62.00	637	81.00	587	174.00	8276
44.00	197	63.00	525	87.00	491	175.00	640
45.00	53	68.00	1280	88.00	442	176.00	7932
47.00	81	69.00	1223	92.00	361	177.00	459
49.00	601	70.00	55	93.00	472		
50.00	2596	73.00	553	94.00	1436		
51.00	836	74.00	2161	95.00	10710		
56.00	204	75.00	5796	96.00	778		

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

Page ____ of ____

Project Manager: Terry Taylor
Collected by: (Print and Sign)
Company: AMAI Email:
Address: 110 Corporate Pk City: White Plains State: NY Zip: 10604
Phone: 914-251-0400 Fax:

Project Info:
P.O. #:
Project #: Building 5 VI
Project Name: BMS Humacao

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	BSSS-7(2014) ✓	IL1685	12/10/14	1202	see notes	30	6.5		
02A	BSSS-4(2014) ✓	IL1681	12/10/14	1412	"	30+	5		
03A	BSSS-6(2014) ✓	IL1707	12/10/14	1531	"	30+	5		
04A	BSSS-2(2014) ✓	IL1680	12/11/14	1038	"	30+	5		
05A	BSSS-3(2014) ✓	IL1706	12/11/14	1147	"	28	5		
06A	BSSS-5(2014) ✓	IL1702	12/11/14	1359	"	30	5		
07A	BSSS-1(2014) ✓	IL1556	12/11/14	1513	"	30	5		
08A	BSSS-1D(2014) ✓	IL2034	12/11/14	1519	"	30	5		
~~09A~~	UNUSED	IL1558							

DM 12/13/14

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
12/11/14; 1531	FATL 12/12/14 0925
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes: Acetone, Benzene, Ethylbenzene, Isopropyl Alcohol, Methanol, MIBK, Toluene, Xylene via TO-15. Methane via ASTM D-1946

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex	7721 9049 5206	NA	Good	Yes No None	1412216

Form 1293 rev.11

@ Air Toxics Ltd	Title: Bag Dilution Form			Release Date: 3/08/10
	Form #: F1.21	Revision #: 1	Revision Date: 10/17/03	Page #: 1 of 1

Bag Dilution Form

Workorder #: 1412216C

Date Prepared: 12/22/14 **Expiration Date:** 12/25/14 **Initials:** MY

Sample ID	Canister #	Vol. N_2 Added (mL)	Vol. N_2 Removed (mL)	Vol. Sample Added (mL)	Final Dilution Factor
1412216C-06A	9918	500mL	5mL	5mL	100X
1412216C-07A	11556	500mL	5mL	5mL	100X
1412216C-08A	2084	500mL	5mL	5mL	100X

eurofins | Air Toxics

SAMPLE RECEIPT SUMMARY

WORKORDER 1412216C

Client

Mr. Terry Taylor
Anderson Mulholland &
Associates, Inc.
110 Corporate Park Drive
White Plains, NY 10604

Phone

(914) 251-0400

Fax

(914) 251-1286

Sales Rep: N/A

Date Promised: 12/24/14
Date Completed: 12/24/14
Date Received: 12/12/14
PO#:
Project#: Building 5 VI BMS Humacao

Total $: $ 685.00
Logged By: MS

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	B5SS-7 (2014)	Modified TO-15 (5&20 ppbv)	12/10/2014	5.1 "Hg	$75.00
02A	B5SS-4 (2014)	Modified TO-15 (5&20 ppbv)	12/10/2014	6.5 "Hg	$75.00
03A	B5SS-6 (2014)	Modified TO-15 (5&20 ppbv)	12/10/2014	5.1 "Hg	$75.00
04A	B5SS-2 (2014)	Modified TO-15 (5&20 ppbv)	12/11/2014	2.2 "Hg	$75.00
05A	B5SS-3 (2014)	Modified TO-15 (5&20 ppbv)	12/11/2014	4.5 "Hg	$75.00
06A	B5SS-5 (2014)	Modified TO-15 (5&20 ppbv)	12/11/2014	4.7 "Hg	$75.00
07A	B5SS-1 (2014)	Modified TO-15 (5&20 ppbv)	12/11/2014	5.1 "Hg	$75.00
08A	B5SS-1D (2014)	Modified TO-15 (5&20 ppbv)	12/11/2014	4.1 "Hg	$75.00
09A	Lab Blank	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
09B	Lab Blank	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
10A	CCV	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
10B	CCV	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00

Misc. Charges	eCVP (8) @ $5.00 each.	$40.00
	High Level Sample Prep (3) @ $15.00 each.	$45.00

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.
110 Corporate Park Drive
White Plains, NY 10604

Analysis Code: TO-15 (5&20)

TERMS:

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

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: 07/14/14
Workorder # 1412216C	Form F1.27	Revision #9	Revision date: 07/14/14	Page 1 of 2

S1	S2	S3	S4	D	Section 1 – Spec Out				
					Initials/Instrument/Date	S1: CR/J/12-17-14	S2: MS 12/22/14 MSD-14	S3:	S4:
✓	✓				Daily QC and ICAL met Criteria				
✓	✓				Lumen QC and ICAL evaluation report initialed and in folder				
NA	NA				Manual Integrations included and approved				
✓	✓				Chain of Custody verified for special comments (add comments below)				
NA	NA				Non standard Target sublist printed				

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

S1 ∅ out in QC
S2 ∅ out in QC

A1	A2	A3	A4	D	Section 2 – Sample Analysis				
					Initials/Date	A1: SN 12/17/14	A2: MS 12/22/14	A3:	A4:
✓	✓				Internal Standard/Surrogate Recoveries, Dilution Factors, Load Volumes, Initial/Final Pressures, and Canister #s Verified				
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	✓				Re-analysis of sample(s) have been evaluated for comparability and/or samples have been checked for trends (Inf/Eff).				
✓	✓				All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds etc)				

Analytical and special notes: A: D1A-05A OK
A2: D6A-08A DIL Matrix

D1	D2	D3	D4	T	3T	Section 3 – Target Data Reduction	Technical Review Needed? Circle one: Yes/No		T:	
						Initials/Instrument/Date MSD-J, -14	D1: HOB 12/24/14	D2:	D3:	D4:
NA						CAR # (if applicable)				
NA						Spectra Verified *(documentation of spectral defense included if applicable)*				
						TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)*				
NA						Lab Narrative is correct				
						TPH/NMOC calculations complete and included in folder				

Special notes: MEOH only 3 bag dil @ 100X (MSD-14)
NO LCS/LCSD

A	3T	Section 4- Atlas Data Entry	Lumen verified and included in folder N/A	Circle one: Yes/No
		Initials/Date: HOB 12/24/14	3rd Tier: *(needed only for DOD or per client request)*	
NA		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