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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 #: 1502053C

	Page Nos. From	Page Nos. To
1. Work Order Cover Page & Laboratory Narrative	1	4
a. Lumen Validation Report	--	--
2. Sample Results and Raw Data (Organized by Sample)	5	40
a. ATL Sample Results Form		
b. Target Compound Raw Data		
-Internal Standard Area and Retention Time Summary		
-Surrogate Recovery Summary (If Applicable)		
-Chromatogram(s) and Ion Profiles (If Applicable)		
3. QC Results and Raw Data		
a. Method Blank (Results+ Raw Data)	41	47
b. Surrogate Recover Summary Form (If Applicable)	48	48
c. Internal Standard Summary Form (If Applicable)	49	49
d. Duplicate Results Summary Sheet	--	--
e. Matrix Spike/Matrix Spike Duplicate (Results + Raw Data	--	--
f. Initial Calibration Data (Summary Sheet + Raw Data)	50	58
g. MDL Study (If Applicable)	--	--
h. Continuing Calibration Verification Data (Summary Sheet	59	64
i. Second Source LCS(Summary + Raw Data)	--	--
j. Extraction Logs	--	--
k. Instrument Run Logs/Software Verification	65	65
l. GC/MS Tune (Results + Raw Data)	66	69
4. Shipping/Receiving Documents		
a. Login Receipt Summary Sheet	70	71
b. Chain-of-Custody Records	72	72
c. Sample Log-In Sheet	73	73
d. Misc Shipping/Receiving Records (list of individual records)		
Sample Receipt Discrepancy Report	--	--
5. Other Records (describe or list)		
a. Manual Spectral Defense	--	--
b. Manual Integrations	--	--
c. Manual Calculations	--	--
d. Canister Dilution Factors	74	76
e. Laboratory Corrective Action Request	--	--
f. CAS Number Reference	77	77
g. Variance Table	--	--
h. Canister Certification	--	--
i. Data Review Check Sheet	78	79

Comments:

Completed by:

Kara McKiernan	Kara McKiernan / Document Control	2/12/15
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1502053C

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 6 VI
DATE RECEIVED:	02/05/2015	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	02/11/2015		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B6-4IA	Modified TO-15 (5&20 ppbv	5.5 "Hg	4.8 psi
02A	B6-5IA	Modified TO-15 (5&20 ppbv	6.9 "Hg	4.9 psi
03A	B6-AA-1	Modified TO-15 (5&20 ppbv	4.5 "Hg	4.8 psi
04A	B6-3IA	Modified TO-15 (5&20 ppbv	4.5 "Hg	4.9 psi
05A	B6-3IAD	Modified TO-15 (5&20 ppbv	7.3 "Hg	4.8 psi
06A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
07A	CCV	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 02/11/15

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# 1502053C

Five 6 Liter Summa Canister (100% Certified) samples were received on February 05, 2015. 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

There were no analytical discrepancies.

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
B6-4IA	1502053C-01A	2/ 3/2015	2/ 5/2015	NA	8	2/11/2015	NA	Good
B6-5IA	1502053C-02A	2/ 3/2015	2/ 5/2015	NA	8	2/11/2015	NA	Good
B6-AA-1	1502053C-03A	2/ 3/2015	2/ 5/2015	NA	8	2/11/2015	NA	Good
B6-3IA	1502053C-04A	2/ 3/2015	2/ 5/2015	NA	8	2/11/2015	NA	Good
B6-3IAD	1502053C-05A	2/ 3/2015	2/ 5/2015	NA	8	2/11/2015	NA	Good
Lab Blank	1502053C-06A	NA	NA	NA	NA	2/11/2015	NA	Good
CCV	1502053C-07A	NA	NA	NA	NA	2/11/2015	NA	Good

Sample Results and Raw Data

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

Client Sample ID: B6-4IA

Lab ID#: 1502053C-01A

No Detections Were Found.

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Client Sample ID: B6-4IA

Lab ID#: 1502053C-01A

EPA METHOD TO-15 GC/MS

File Name:	**14021105**	**Date of Collection:**	**2/3/15 1:41:00 PM**
Dil. Factor:	**1.62**	**Date of Analysis:**	**2/11/15 09:05 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	81	Not Detected	110	Not Detected

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

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

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AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021105.d
Lab Smp Id: 1502053C-01A
Inj Date : 11-FEB-2015 09:05
Operator : md Inst ID: msd14.i
Smp Info : 50ml #3735;1502053C-01A;
Misc Info : 5.5"Hg->4.8psi
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:56 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.d
Als bottle: 1
Dil Factor: 1.62000
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	86330	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	66177			48.06- 108.06	76.66
4.749	4.749 (1.000)	49	109031			96.23- 156.23	126.30
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.846 (1.000)	114	374087	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	59055			0.00- 45.61	15.79
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	330746	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	182985			24.08- 84.08	55.32
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	129366	396.380	396.38	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	64572			19.11- 79.11	49.91
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.255)	98	370752	404.572	404.57	80.00- 120.00	100.00
7.352	7.352 (1.255)	70	42660			0.00- 41.56	11.51

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.352	7.352	(1.255)	100	242482			35.63- 95.63	65.40
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.297	9.283	(1.092)	174	183304	396.526	396.53	80.00- 120.00	100.00
9.283	9.283	(1.090)	95	244987			105.61- 165.61	133.65
9.297	9.283	(1.092)	176	180012			64.65- 124.65	98.20

Report Date: 11-Feb-2015 13:39

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021105.d
Lab Smp Id: 1502053C-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 5.5"Hg->4.8psi

Calibration Date: 11-FEB-2015
Calibration Time: 08:26

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	86330	10.40
92 1,4-Difluorobenze	340755	204453	477057	374087	9.78
125 Chlorobenzene-d5	299405	179643	419167	330746	10.47

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	5.85	5.52	6.18	5.86	0.24
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: 11-Feb-2015 13:39

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 11feb15
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1502053C-01A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 5.5"Hg->4.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	396.38	99.09	70-130
$ 107 Toluene-d8	400.00	404.57	101.14	70-130
$ 138 Bromofluorobenzene	400.00	396.53	99.13	70-130

Data File: /chem/msd14.i/11feb15.b/14021105.d

Date : 11-FEB-2015 09:05

Client ID:

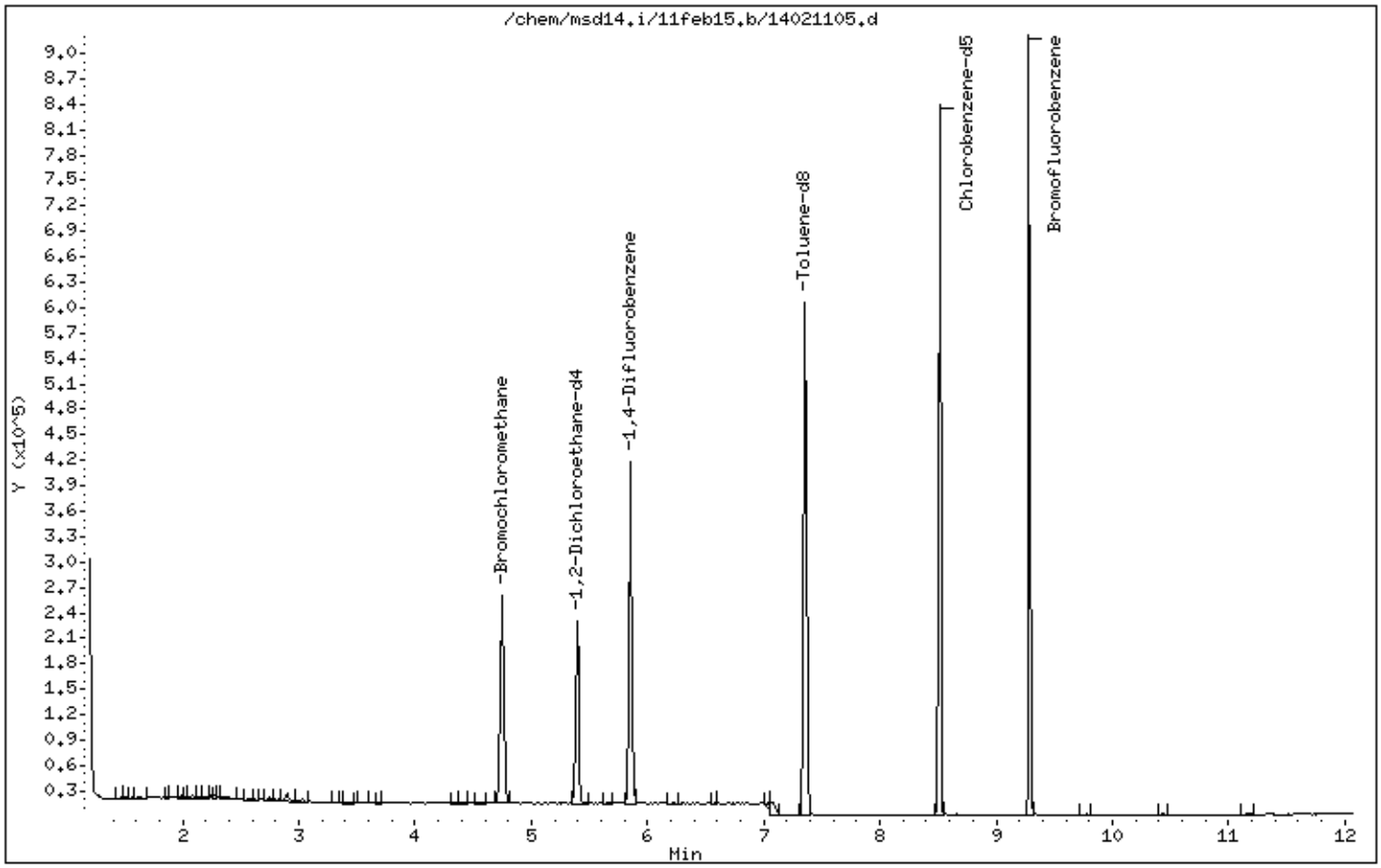
Instrument: msd14.i

Sample Info: 50ml #3735;1502053C-01A;

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: B6-5IA

Lab ID#: 1502053C-02A

No Detections Were Found.

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Client Sample ID: B6-5IA

Lab ID#: 1502053C-02A

EPA METHOD TO-15 GC/MS

File Name:	**14021106**	**Date of Collection:**	**2/3/15 3:46:00 PM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**2/11/15 09:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	86	Not Detected	110	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021106.d
Lab Smp Id: 1502053C-02A
Inj Date : 11-FEB-2015 09:22
Operator : md Inst ID: msd14.i
Smp Info : 50ml #34222;1502053C-02A;
Misc Info : 6.9"Hg->4.9psi
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:56 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.d
Als bottle: 1
Dil Factor: 1.73000
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	85979	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	65953			48.06- 108.06	76.71
4.749	4.749 (1.000)	49	107878			96.23- 156.23	125.47
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.846 (1.000)	114	374338	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	58636			0.00- 45.61	15.66
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	328860	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	181750			24.08- 84.08	55.27
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	128901	396.567	396.57	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	63814			19.11- 79.11	49.51
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.255)	98	366773	399.961	399.96	80.00- 120.00	100.00
7.352	7.352 (1.255)	70	42327			0.00- 41.56	11.54

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.352	7.352	(1.255)	100	240759			35.63- 95.63	65.64
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.297	9.283	(1.092)	174	179846	391.277	391.28	80.00- 120.00	100.00
9.283	9.283	(1.090)	95	245394			105.61- 165.61	136.45
9.297	9.283	(1.092)	176	178495			64.65- 124.65	99.25

Report Date: 11-Feb-2015 13:39

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021106.d
Lab Smp Id: 1502053C-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 6.9"Hg->4.9psi

Calibration Date: 11-FEB-2015
Calibration Time: 08:26

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	85979	9.95
92 1,4-Difluorobenze	340755	204453	477057	374338	9.86
125 Chlorobenzene-d5	299405	179643	419167	328860	9.84

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	5.85	5.52	6.18	5.86	0.24
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: 11-Feb-2015 13:39

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 11feb15
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1502053C-02A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 6.9"Hg->4.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	396.57	99.14	70-130
$ 107 Toluene-d8	400.00	399.96	99.99	70-130
$ 138 Bromofluorobenzene	400.00	391.28	97.82	70-130

Data File: /chem/msd14.i/11feb15.b/14021106.d

Date : 11-FEB-2015 09:22

Client ID:

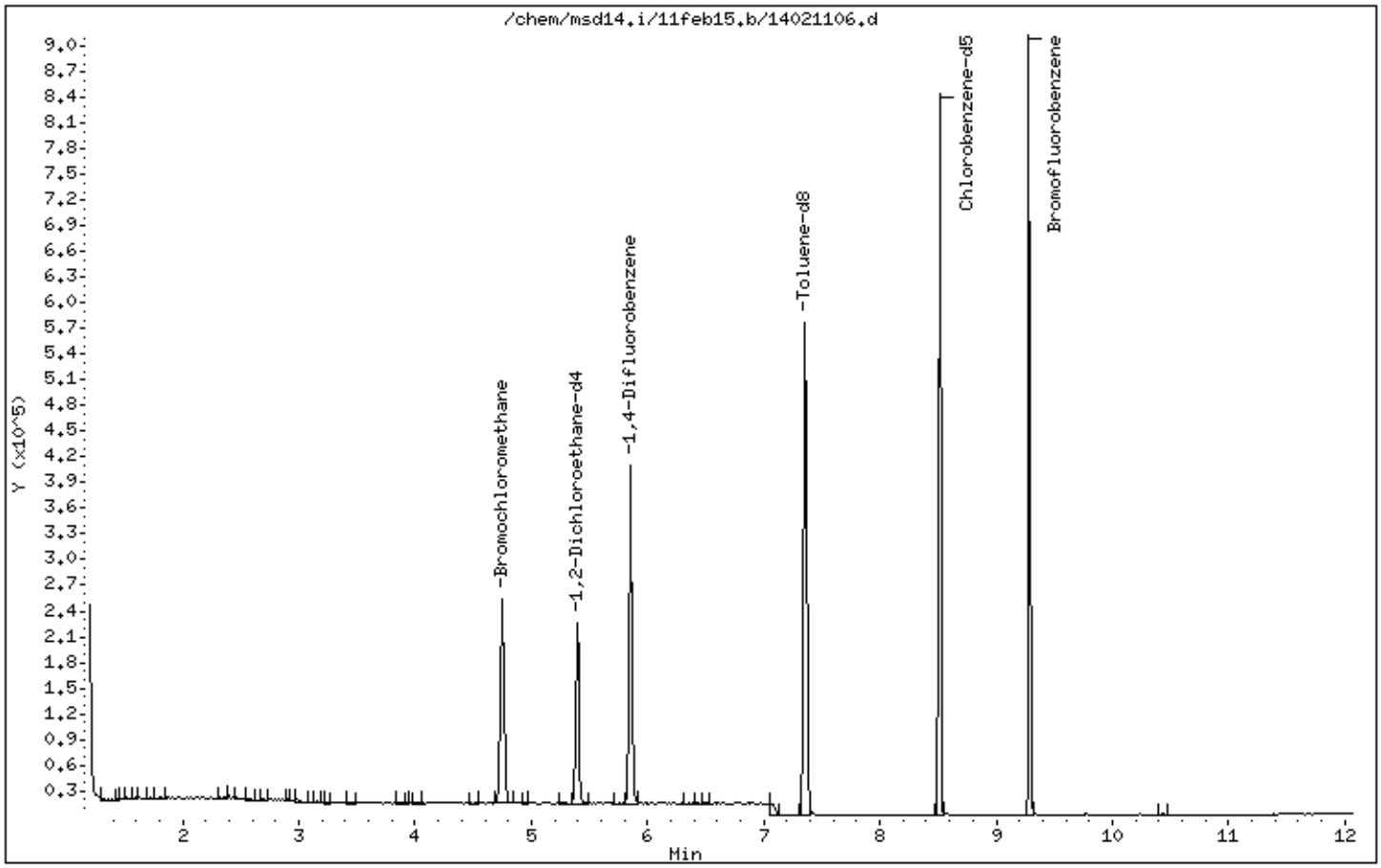
Instrument: msd14.i

Sample Info: 50ml #34222;1502053C-02A;

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: B6-AA-1

Lab ID#: 1502053C-03A

No Detections Were Found.

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Client Sample ID: B6-AA-1

Lab ID#: 1502053C-03A

EPA METHOD TO-15 GC/MS

File Name:	**14021107**	**Date of Collection:**	**2/3/15 3:35:00 PM**
Dil. Factor:	**1.56**	**Date of Analysis:**	**2/11/15 09:40 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	78	Not Detected	100	Not Detected

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

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

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021107.d
Lab Smp Id: 1502053C-03A
Inj Date : 11-FEB-2015 09:40
Operator : md Inst ID: msd14.i
Smp Info : 50ml #34361;1502053C-03A;
Misc Info : 4.5"Hg->4.8psi
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:56 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.d
Als bottle: 1
Dil Factor: 1.56000
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	86804	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	69143			48.06- 108.06	79.65
4.749	4.749 (1.000)	49	107750			96.23- 156.23	124.13
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.860	5.846 (1.000)	114	378190	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	60633			0.00- 45.61	16.03
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	336830	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	184032			24.08- 84.08	54.64
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	130547	397.814	397.81	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	65331			19.11- 79.11	50.04
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.255)	98	377312	407.263	407.26	80.00- 120.00	100.00
7.352	7.352 (1.255)	70	44743			0.00- 41.56	11.86

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.352	7.352	(1.255)	100	247978			35.63- 95.63	65.72
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.283	9.283	(1.090)	174	186046	395.188	395.19	80.00- 120.00	100.00
9.283	9.283	(1.090)	95	251648			105.61- 165.61	135.26
9.297	9.283	(1.092)	176	179390			64.65- 124.65	96.42

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021107.d
Lab Smp Id: 1502053C-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 4.5"Hg->4.8psi

Calibration Date: 11-FEB-2015
Calibration Time: 08:26

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	86804	11.00
92 1,4-Difluorobenze	340755	204453	477057	378190	10.99
125 Chlorobenzene-d5	299405	179643	419167	336830	12.50

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	5.85	5.52	6.18	5.86	0.24
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: 11-Feb-2015 13:39

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 11feb15
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1502053C-03A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 4.5"Hg->4.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	397.81	99.45	70-130
$ 107 Toluene-d8	400.00	407.26	101.82	70-130
$ 138 Bromofluorobenzene	400.00	395.19	98.80	70-130

Data File: /chem/msd14.i/11feb15.b/14021107.d

Date : 11-FEB-2015 09:40

Client ID:

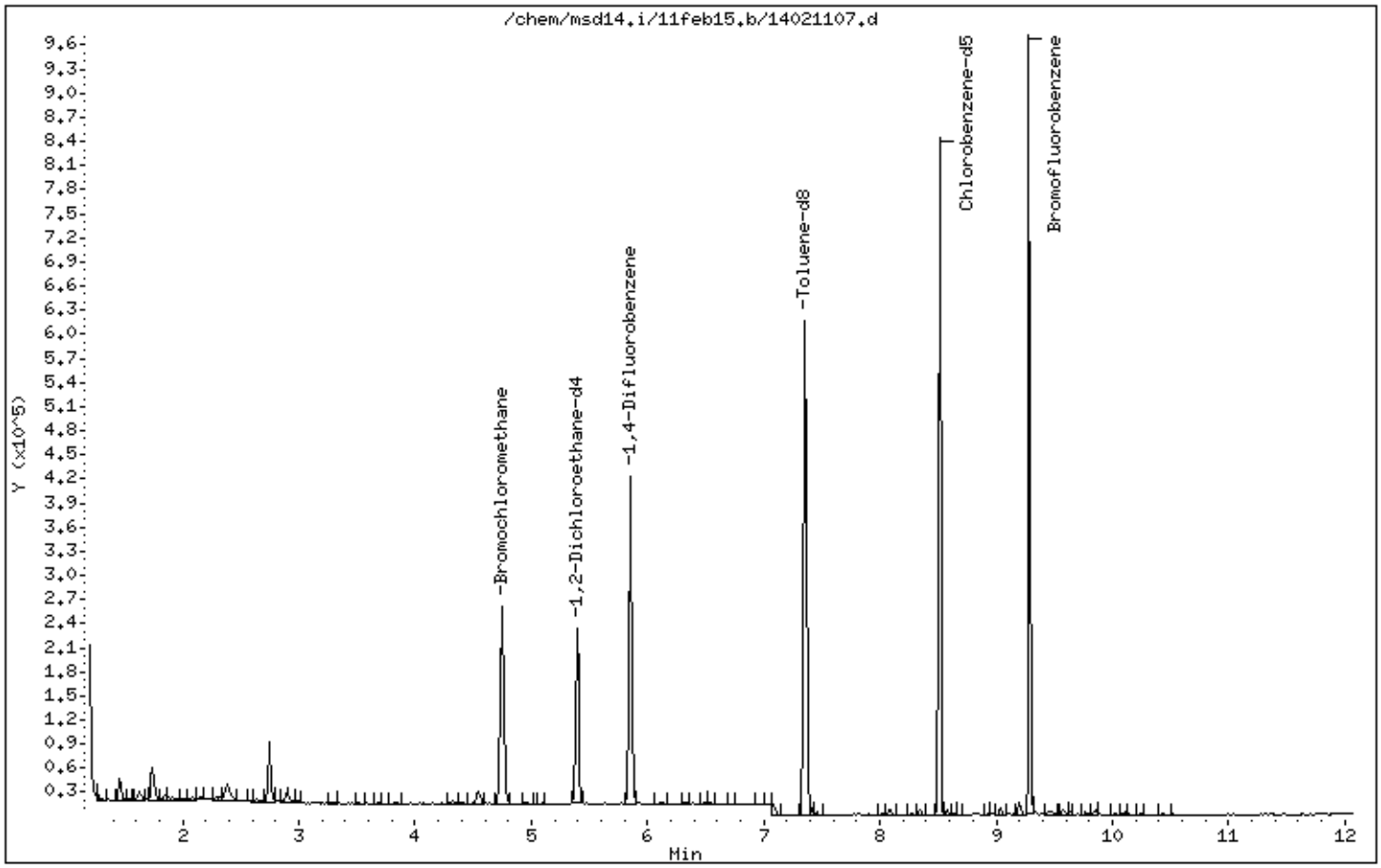
Instrument: msd14.i

Sample Info: 50ml #34361;1502053C-03A;

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: B6-3IA

Lab ID#: 1502053C-04A

No Detections Were Found.

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Client Sample ID: B6-3IA

Lab ID#: 1502053C-04A

EPA METHOD TO-15 GC/MS

File Name:	**14021108**	**Date of Collection:**	**2/3/15 4:00:00 PM**
Dil. Factor:	**1.57**	**Date of Analysis:**	**2/11/15 09:57 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	78	Not Detected	100	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021108.d
Lab Smp Id: 1502053C-04A
Inj Date : 11-FEB-2015 09:57
Operator : md Inst ID: msd14.i
Smp Info : 50ml #35174;1502053C-04A;
Misc Info : 4.5"Hg->4.9psi
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:56 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.d
Als bottle: 1
Dil Factor: 1.57000
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	
4.749	4.749 (1.000)	130	82799	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	66665			48.06- 108.06	80.51
4.749	4.749 (1.000)	49	103019			96.23- 156.23	124.42
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.846	5.846 (1.000)	114	364107	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	59913			0.00- 45.61	16.45
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	322743	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	173952			24.08- 84.08	53.90
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	128750	411.315	411.32	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	64038			19.11- 79.11	49.74
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.258)	98	357575	400.888	400.89	80.00- 120.00	100.00
7.352	7.352 (1.258)	70	40980			0.00- 41.56	11.46

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.352	7.352	(1.258)	100	238036			35.63- 95.63	66.57
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.297	9.283	(1.092)	174	178922	396.645	396.64	80.00- 120.00	100.00
9.283	9.283	(1.090)	95	238099			105.61- 165.61	133.07
9.297	9.283	(1.092)	176	172773			64.65- 124.65	96.56

Report Date: 11-Feb-2015 13:39

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021108.d
Lab Smp Id: 1502053C-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 4.5"Hg->4.9psi

Calibration Date: 11-FEB-2015
Calibration Time: 08:26

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	82799	5.88
92 1,4-Difluorobenze	340755	204453	477057	364107	6.85
125 Chlorobenzene-d5	299405	179643	419167	322743	7.79

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	5.85	5.52	6.18	5.85	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: 11-Feb-2015 13:39

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 11feb15
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1502053C-04A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 4.5"Hg->4.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	411.32	102.83	70-130
$ 107 Toluene-d8	400.00	400.89	100.22	70-130
$ 138 Bromofluorobenzene	400.00	396.64	99.16	70-130

Data File: /chem/msd14.i/11feb15.b/14021108.d

Date : 11-FEB-2015 09:57

Client ID:

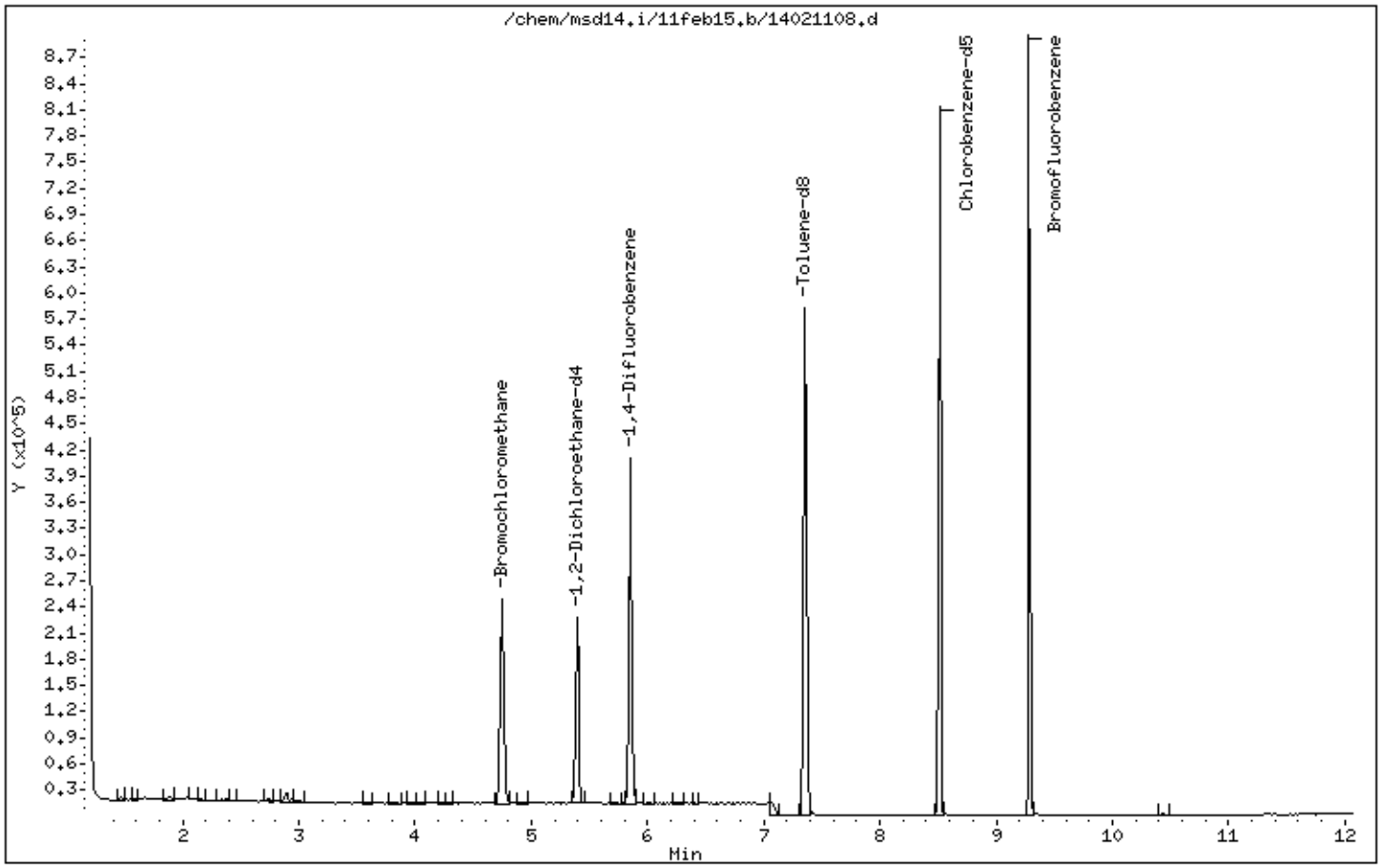
Instrument: msd14.i

Sample Info: 50ml #35174;1502053C-04A;

Operator: md

Column phase: RTx-624

Column diameter: 0.53



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

Client Sample ID: B6-3IAD

Lab ID#: 1502053C-05A

No Detections Were Found.

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Client Sample ID: B6-3IAD

Lab ID#: 1502053C-05A

EPA METHOD TO-15 GC/MS

File Name:	**14021109**	**Date of Collection:**	**2/3/15 4:00:00 PM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**2/11/15 10:15 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	88	Not Detected	120	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021109.d
Lab Smp Id: 1502053C-05A
Inj Date : 11-FEB-2015 10:15
Operator : md Inst ID: msd14.i
Smp Info : 50ml #33658;1502053C-05A;
Misc Info : 7.3"Hg->4.8psi
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:56 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.d
Als bottle: 1
Dil Factor: 1.76000
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	83192	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	64838			48.06- 108.06	77.94
4.749	4.749 (1.000)	49	105034			96.23- 156.23	126.25
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.846	5.846 (1.000)	114	359084	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	56734			0.00- 45.61	15.80
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	320369	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	175798			24.08- 84.08	54.87
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	126300	401.582	401.58	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	61306			19.11- 79.11	48.54
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.258)	98	355121	403.706	403.70	80.00- 120.00	100.00
7.352	7.352 (1.258)	70	41190			0.00- 41.56	11.60

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.352	7.352	(1.258)	100	234815			35.63- 95.63	66.12
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.296	9.283	(1.092)	174	177976	397.471	397.47	80.00- 120.00	100.00
9.283	9.283	(1.090)	95	237809			105.61- 165.61	133.62
9.296	9.283	(1.092)	176	172784			64.65- 124.65	97.08

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021109.d
Lab Smp Id: 1502053C-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 7.3"Hg->4.8psi

Calibration Date: 11-FEB-2015
Calibration Time: 08:26

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	83192	6.38
92 1,4-Difluorobenze	340755	204453	477057	359084	5.38
125 Chlorobenzene-d5	299405	179643	419167	320369	7.00

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	5.85	5.52	6.18	5.85	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: 11-Feb-2015 13:39

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 11feb15
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1502053C-05A
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 7.3"Hg->4.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	401.58	100.40	70-130
$ 107 Toluene-d8	400.00	403.70	100.93	70-130
$ 138 Bromofluorobenzene	400.00	397.47	99.37	70-130

Data File: /chem/msd14.i/11feb15.b/14021109.d

Date : 11-FEB-2015 10:15

Client ID:

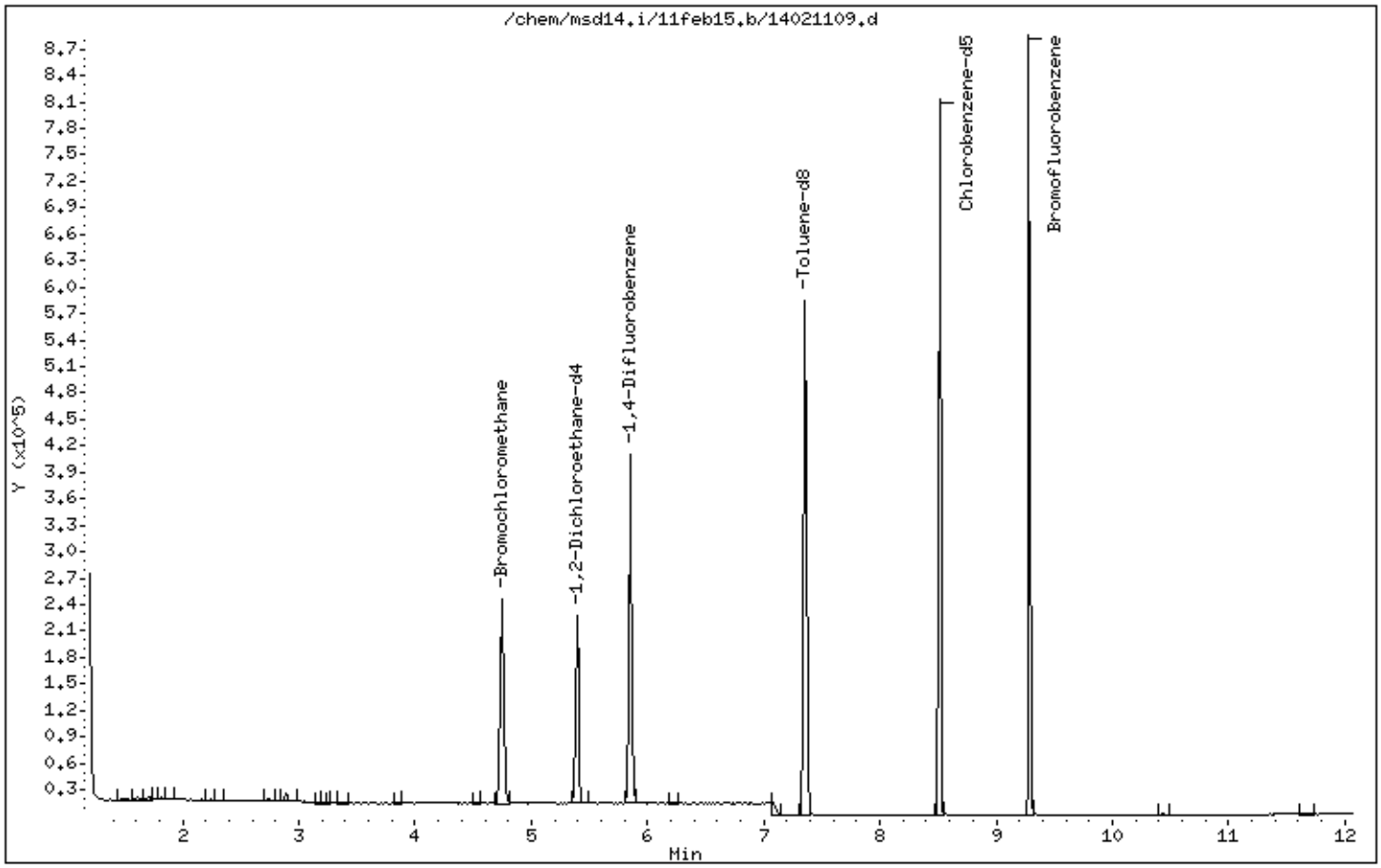
Instrument: msd14.i

Sample Info: 50ml #33658;1502053C-05A;

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#: 1502053C-06A

EPA METHOD TO-15 GC/MS

File Name:	**14021104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/15 08:48 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	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021104.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 11-FEB-2015 08:48
Operator : md Inst ID: msd14.i
Smp Info : 50ml #34343
Misc Info : Humid
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:56 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.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	84461	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	64869			48.06- 108.06	76.80
4.749	4.749 (1.000)	49	103847			96.23- 156.23	122.95
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.846	5.846 (1.000)	114	362920	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	57303			0.00- 45.61	15.79
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	323351	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	174851			24.08- 84.08	54.07
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	127789	400.212	400.21	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	64119			19.11- 79.11	50.18
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.258)	98	361264	406.348	406.35	80.00- 120.00	100.00
7.352	7.352 (1.258)	70	41042			0.00- 41.56	11.36

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)								
7.352	7.352	(1.258)	100	235879			35.63- 95.63	65.29
$ 138 Bromofluorobenzene						CAS #: 460-00-4		
9.297	9.283	(1.092)	174	178892	395.832	395.83	80.00- 120.00	100.00
9.283	9.283	(1.090)	95	243080			105.61- 165.61	135.88
9.297	9.283	(1.092)	176	174907			64.65- 124.65	97.77

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021104.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: Humid

Calibration Date: 11-FEB-2015
Calibration Time: 08:26
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	84461	8.01
92 1,4-Difluorobenze	340755	204453	477057	362920	6.50
125 Chlorobenzene-d5	299405	179643	419167	323351	8.00

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	5.85	5.52	6.18	5.85	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: 11-Feb-2015 10:35

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 11feb15
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Client Smp ID: Lab Blank
Level: LOW
Operator: md
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 84 1,2-Dichloroethane	400.00	400.21	100.05	70-130
$ 107 Toluene-d8	400.00	406.35	101.59	70-130
$ 138 Bromofluorobenzene	400.00	395.83	98.96	70-130

Data File: /chem/msd14.i/11feb15.b/14021104.d

Date : 11-FEB-2015 08:48

Client ID: Lab Blank

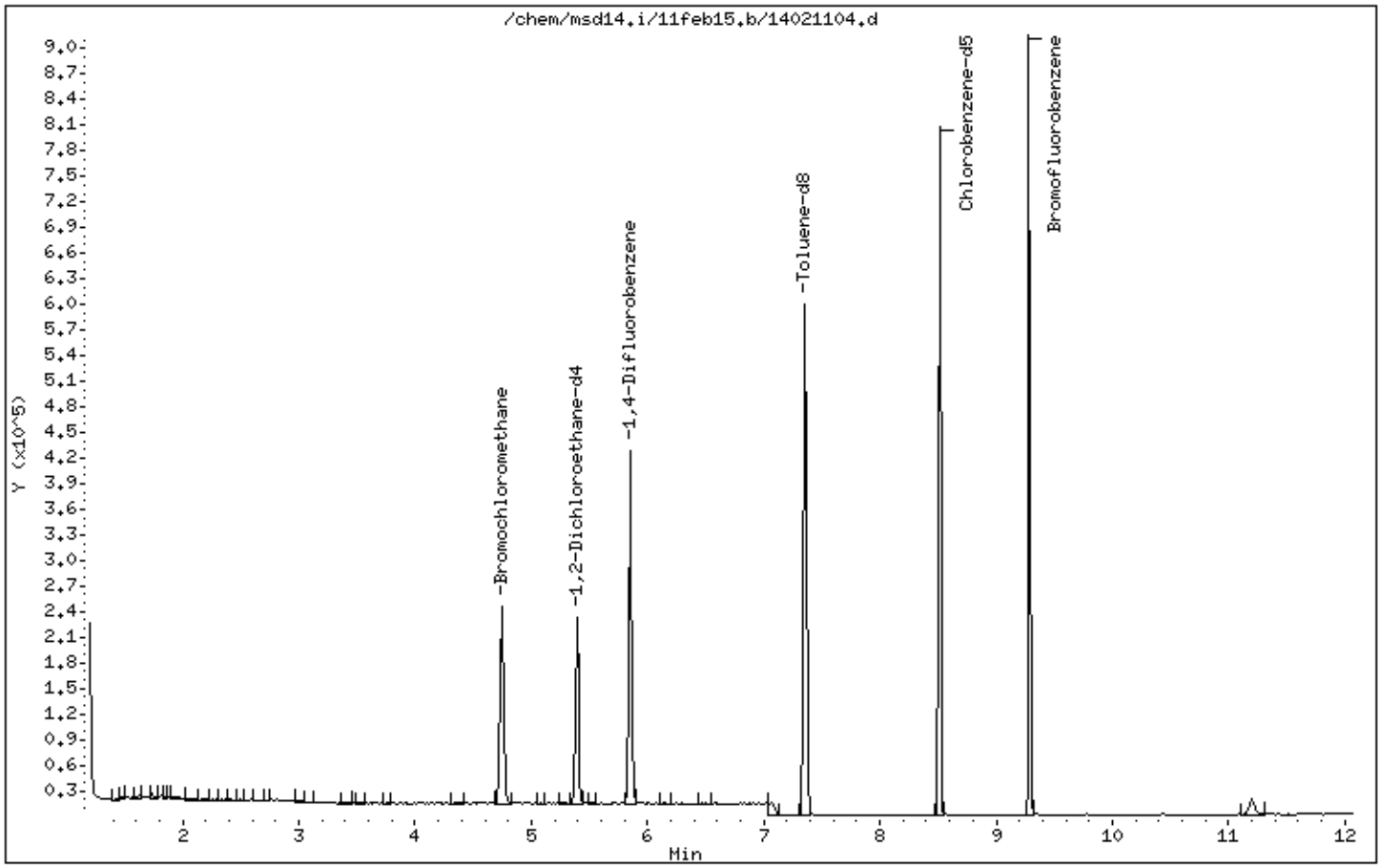
Instrument: msd14.i

Sample Info: 50ml #34343

Operator: md

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.: 1502053C

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	B6-4IA	99		101		99				0
02	B6-5IA	99		100		98				0
03	B6-AA-1	99		102		99				0
04	B6-3IA	103		100		99				0
05	B6-3IAD	100		101		99				0
06	Lab Blank	100		102		99				0
07	CCV	100		100		100				0
08										0
09										0
10										0
11										0
12										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
Toluene-d8 70 - 130
4-Bromofluorobenzene 70 - 130

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:	AIR TOXICS, LTD	SDG No:	1502053C
Lab File ID:	14021103a.d	Date Analyzed:	02/11/2015
Instrument ID:	msd14.i	Time Analyzed:	08:26 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	299405		8.51		340755		5.85		78201		4.75	
	UPPER LIMIT	419167		08.84		477057		06.18		109481		05.08	
	LOWER LIMIT	179643		08.18		204453		05.52		46921		04.42	
	CLIENT SAMPLE NO												
01	B6-4IA	330746		8.51		374087		5.86		86330		4.75	
02	B6-5IA	328860		8.51		374338		5.86		85979		4.75	
03	B6-AA-1	336830		8.51		378190		5.86		86804		4.75	
04	B6-3IA	322743		8.51		364107		5.85		82799		4.75	
05	B6-3IAD	320369		8.51		359084		5.85		83192		4.75	
06	Lab Blank	323351		8.51		362920		5.85		84461		4.75	
07	CCV	299405		8.51		340755		5.85		78201		4.75	
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

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2015 08:26
End Cal Date : 11-FEB-2015 08:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/11feb15.b/MEOH0211a.m
Cal Date : 11-Feb-2015 08:50 HR8M
Curve Type : Average

Calibration File Names:
Level 2: /chem/msd14.i/11feb15.b/14021103.d

Compound	50.000 Level 2	___ RRF	% RSD
14 Methanol	24.65912	24.65912	0.000
M 193 1,2-Dichloroethene	+++++	+++++	+++++
$ 84 1,2-Dichloroethane-d4	1.51219	1.51219	0.000
$ 107 Toluene-d8	0.97989	0.97989	0.000
$ 138 Bromofluorobenzene	0.55907	0.55907	0.000

Calibration History

Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Start Cal Date: 11-FEB-2015 08:26
End Cal Date : 11-FEB-2015 08:26

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 50.00000		
11-FEB-2015 08:26	MeOH	/chem/msd14.i/11feb15.b/14021103.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 2

Ccal Level: 2 , Ccal Amount: 50.000		
11-FEB-2015 08:26	MeOH	/chem/msd14.i/11feb15.b/14021103a.d
Ccal Level: 2 , Ccal Amount: 50.000		
11-FEB-2015 08:26	MeOH	/chem/msd14.i/11feb15.b/14021103.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 11-FEB-2015 08:26
End Cal Date : 11-FEB-2015 08:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/11feb15.b/MEOH0211a.m
Cal Date : 11-Feb-2015 08:50 HR8M
Curve Type : Average

Calibration File Names:
Level 2: /chem/msd14.i/11feb15.b/14021103.d

2/11/15

Compound	50.000 Level 2	RRF	% RSD
14 Methanol	24.65912	24.65912	0.000
M 193 1,2-Dichloroethene	+++++	+++++	+++++
$ 84 1,2-Dichloroethane-d4	1.51219	1.51219	0.000
$ 107 Toluene-d8	0.97989	0.97989	0.000
$ 138 Bromofluorobenzene	0.55907	0.55907	0.000

Please see Calibration History page(s) for all the calibration files.

MEOH0211a.M
Initial Calibration Narrative

A 1-point Methanol initial calibration was analyzed on MSD-14 on 02/11/15.

No ICV or MDL needed.

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

BFB Verification of 176/174 m/z Ratio: (53200 / 54096) x 100 = 98.34	
Tekmar Purge Flow: NA	
Vacuum: 3.86×10^{-6}	

IS/S Std. #: 2687-235	Exp. Date: 4/5/15
BCM	78201
1,4-DFB	340755
CB-d5	299405

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

File ID: 14021102	
Compound: total8	
Initials: WP	

Calculation Check:

ppbv of compound = $\frac{\text{Area}_{\text{Sample}}}{\text{Area}_{\text{IS}}} \times \frac{\text{Conc}_{\text{IS}}}{\text{RRF}}$ = (356492) x (~~358388~~ 400.00 WP 2/11/15) = 406.05

(358388) (0.97989)

SOP# (Circle one): 6 / 83 / 38 / 91 / 109 Method (Circle one): TO-14A/TO-15/TO-17 Reported Result: 406.05

Method Name: M0014021 1A.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	✓	14021101	BFB tunecheck	2899-789	50ng	2.0uL	1.00	WP	2/11/15	0754	WP/CB	E
2	✓	02	Systemblank	34343	Humid	50mL	1.00	WP		0807	WP/CB	~~Exp: 2/11/15~~
3	✓	03	Ical level #2	2710-34	50ppbv	4.2mL	1.00	WP		0826	WP/CB	Exp: 4/28/15
4	✓	04	Lab blank	34343	Humid	50mL	1.00	WP		0848	WP/CB	
5	✓	05	15020533C-01A	3735	5.5"Hg → 4.8psi	50mL	1.62	WP		0905	WP/CB	
6	✓	06	-02A	34222	6.9"Hg → 4.9psi	50mL	1.73	WP		0922	WP/CB	
7	✓	07	-03A	34361	4.5"Hg → 4.8psi	50mL	1.50	WP		0940	WP/CB	
8	✓	08	-04A	35174	WP 2/11/15 42.5"Hg → 4.9psi	50mL	1.57	WP		0957	WP/	
9		09	-05A	3358	7.3"Hg → 4.8psi	50mL	1.76	WP				
10												
11												
12												
13												
14												

Reviewed _____ Date _____

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021103.d
Lab Smp Id: ICAL Level 2 Client Smp ID: ICAL Level 2
Inj Date : 11-FEB-2015 08:26
Operator : md Inst ID: msd14.i
Smp Info : 4.2ml #2716-34
Misc Info : 50ppbv (600ppbv)
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:48 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.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	78201	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	61045			48.06- 108.06	78.06
4.749	4.749 (1.000)	49	98711			96.23- 156.23	126.23
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.846	5.846 (1.000)	114	340755	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	53193			0.00- 45.61	15.61
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	299405	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	161926			24.08- 84.08	54.08
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	118255	400.000	400.00	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	58078			19.11- 79.11	49.11
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.258)	98	333901	400.000	400.00	80.00- 120.00	100.00
7.352	7.352 (1.258)	70	38602			0.00- 41.56	11.56

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.352	7.352 (1.258)	100	219123			35.63- 95.63	65.63
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.283	9.283 (1.090)	174	167388	400.000	400.00	80.00- 120.00	100.00
9.283	9.283 (1.090)	95	226988			105.61- 165.61	135.61
9.283	9.283 (1.090)	176	158427			64.65- 124.65	94.65
14 Methanol						CAS #: 67-56-1	
1.728	1.728 (0.364)	31	241046	50.0000	50.000	80.00- 120.00	100.00
1.814	1.814 (0.382)	29	1074			0.00- 30.45	0.45
1.728	1.728 (0.364)	32	197521			51.94- 111.94	81.94

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021103.d
Lab Smp Id: ICAL Level 2
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 50ppbv (600ppbv)

Calibration Date: 11-FEB-2015
Calibration Time: 08:26
Client Smp ID: ICAL Level 2
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	78201	0.00
92 1,4-Difluorobenze	340755	204453	477057	340755	0.00
125 Chlorobenzene-d5	299405	179643	419167	299405	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	5.85	5.52	6.18	5.85	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: /chem/msd14.i/11feb15.b/14021103.d

Date : 11-FEB-2015 08:26

Client ID: ICAL Level 2

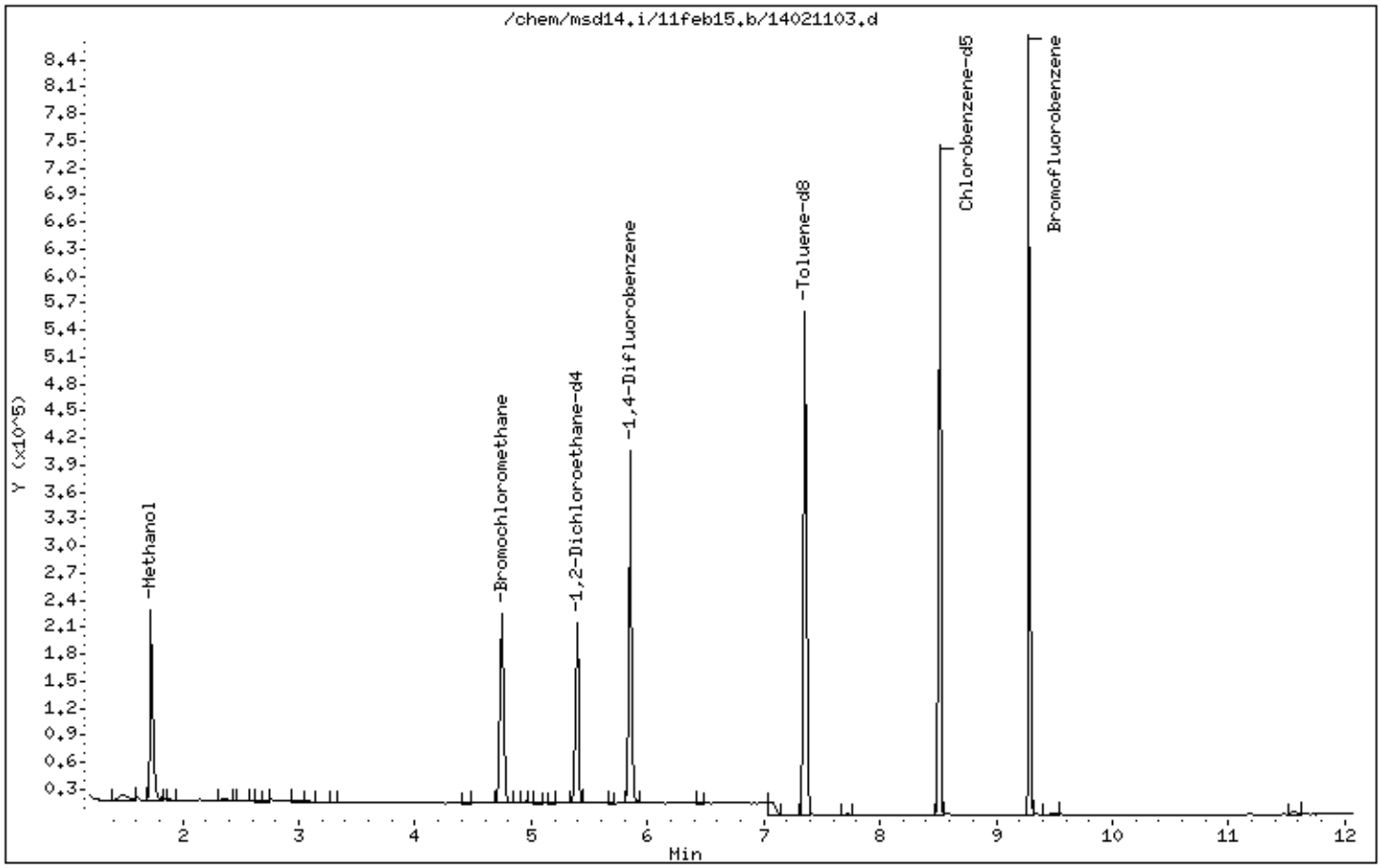
Instrument: msd14.i

Sample Info: 4.2ml #2716-34

Operator: md

Column phase: RTx-624

Column diameter: 0.53



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Client Sample ID: CCV

Lab ID#: 1502053C-07A

EPA METHOD TO-15 GC/MS

File Name:	**14021103a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/15 08:26 AM**	

Compound	**%Recovery**
Methanol	100

Container Type: NA - Not Applicable

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

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 11-FEB-2015 08:26
Lab File ID: 14021103a.d Init. Cal. Date(s): 11-FEB-2015 11-FEB-2015
Analysis Type: AIR Init. Cal. Times: 08:26 08:26
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd14.i/11feb15.b/MEOH0211a.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	%D / %DRIFT	MAX	CURVE TYPE
$ 84 1,2-Dichloroethane-d4	1.51219	1.51219	0.010	0.000e+00	30.00000		Averaged
$ 107 Toluene-d8	0.97989	0.97989	0.010	0.000e+00	30.00000		Averaged
$ 138 Bromofluorobenzene	0.55907	0.55907	0.010	0.000e+00	30.00000		Averaged
14 Methanol	24.65912	24.65912	0.010	0.000e+00	30.00000		Averaged

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msd14.i/11feb15.b/14021103a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 11-FEB-2015 08:26
Operator : md Inst ID: msd14.i
Smp Info : 4.2ml #2716-34
Misc Info : 50ppbv (600ppbv)
Comment :
Method : /chem/msd14.i/11feb15.b/MEOH0211a.m
Meth Date : 11-Feb-2015 08:48 HR8M Quant Type: ISTD
Cal Date : 11-FEB-2015 08:26 Cal File: 14021103.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	78201	400.000		80.00- 120.00	100.00
4.749	4.749 (1.000)	128	61045			48.06- 108.06	78.06
4.749	4.749 (1.000)	49	98711			96.23- 156.23	126.23
* 92 1,4-Difluorobenzene						CAS #: 540-36-3	
5.846	5.846 (1.000)	114	340755	400.000		80.00- 120.00	100.00
5.846	5.846 (1.000)	88	53193			0.00- 45.61	15.61
* 125 Chlorobenzene-d5						CAS #: 3114-55-4	
8.513	8.513 (1.000)	117	299405	400.000		80.00- 120.00	100.00
8.513	8.513 (1.000)	82	161926			24.08- 84.08	54.08
$ 84 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.390	5.390 (1.135)	65	118255	400.000	400.00	80.00- 120.00	100.00
5.390	5.390 (1.135)	67	58078			19.11- 79.11	49.11
$ 107 Toluene-d8						CAS #: 2037-26-5	
7.352	7.352 (1.258)	98	333901	400.000	400.00	80.00- 120.00	100.00
7.352	7.352 (1.258)	70	38602			0.00- 41.56	11.56

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 107 Toluene-d8 (continued)							
7.352	7.352 (1.258)	100	219123			35.63- 95.63	65.63
$ 138 Bromofluorobenzene						CAS #: 460-00-4	
9.283	9.283 (1.090)	174	167388	400.000	400.00	80.00- 120.00	100.00
9.283	9.283 (1.090)	95	226988			105.61- 165.61	135.61
9.283	9.283 (1.090)	176	158427			64.65- 124.65	94.65
14 Methanol						CAS #: 67-56-1	
1.728	1.728 (0.364)	31	241046	50.0000	50.000	80.00- 120.00	100.00
1.814	1.814 (0.382)	29	1074			0.00- 30.45	0.45
1.728	1.728 (0.364)	32	197521			51.94- 111.94	81.94

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14021103a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: md
Method File: /chem/msd14.i/11feb15.b/MEOH0211a.m
Misc Info: 50ppbv (600ppbv)

Calibration Date: 11-FEB-2015
Calibration Time: 08:26
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
71 Bromochloromethan	78201	46921	109481	78201	0.00
92 1,4-Difluorobenze	340755	204453	477057	340755	0.00
125 Chlorobenzene-d5	299405	179643	419167	299405	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	5.85	5.52	6.18	5.85	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: /chem/msd14.i/11feb15.b/14021103a.d

Date : 11-FEB-2015 08:26

Client ID: CCV

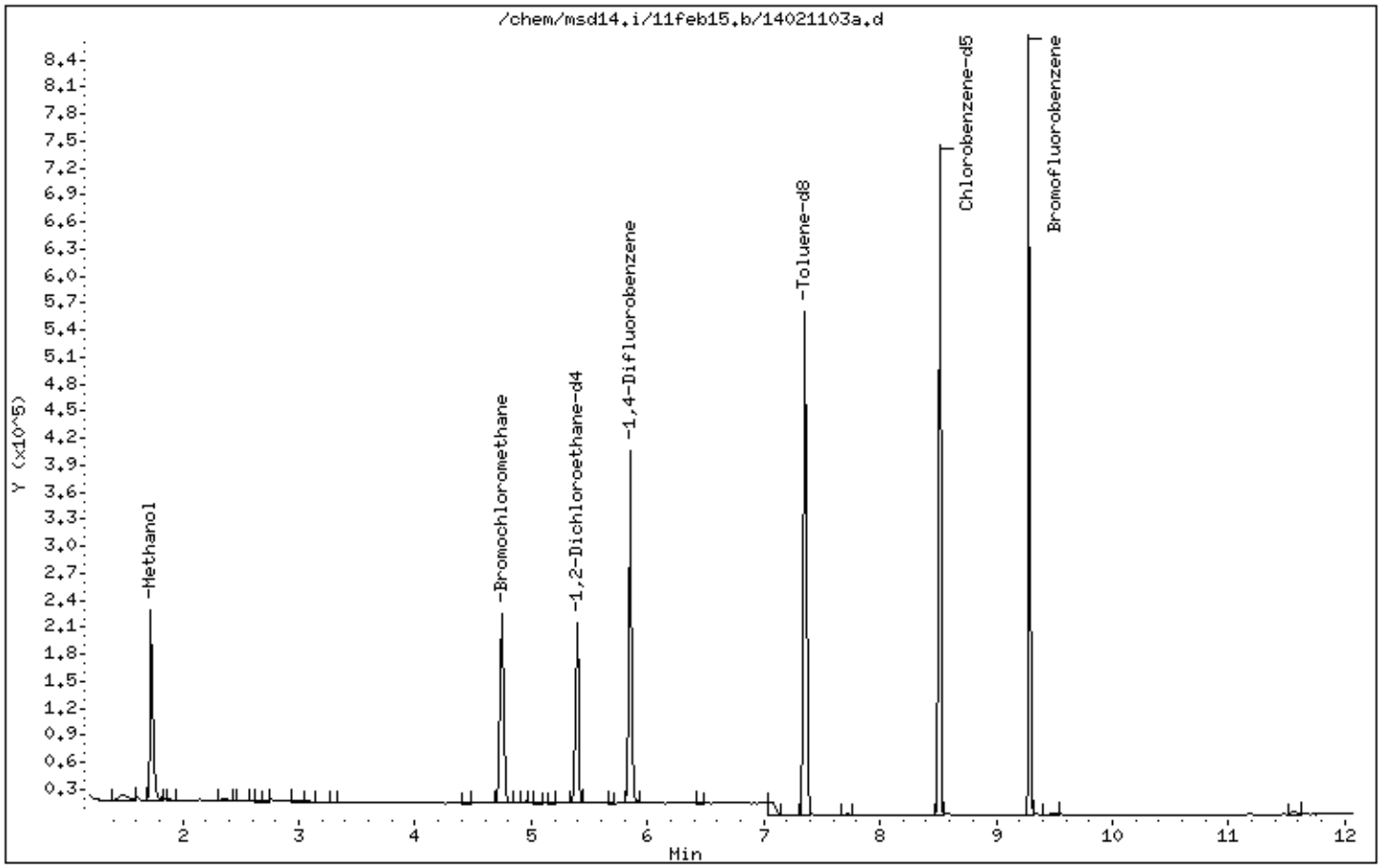
Instrument: msd14.i

Sample Info: 4.2ml #2716-34

Operator: md

Column phase: RTx-624

Column diameter: 0.53



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

BFB Verification of 176/174 m/z Ratio:	(53200 / 54096) x 100 = 98.34
Tekmar Purge Flow:	N/A
Vacuum:	3.86×10^{-6}

IS/S Std. #: 2687-235	Exp. Date: 4/5/15
BCM	78201
1,4-DFB	340755
CB-d5	299405

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

File ID:	14021102
Compound:	total8
Initials:	WP

Calculation Check:

ppbv of compound = $\frac{\text{Area}_{\text{Sample}}}{\text{Area}_{\text{IS}}} \times \frac{\text{Conc}_{\text{IS}}}{\text{RRF}}$ = $\frac{(356492)}{(358388)} \times \frac{(\cancel{358388}\ 400.00\ \text{WP}\ 2/11/15)}{(0.97989)}$ = 406.05

SOP# (Circle one): 6 / 83 / 38 / 91 / 109

Method (Circle one): TO-14A/TO-15/TO-17

Reported Result: 406.05

Method Name: M004021 1A.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	✓	14021101	BFB tunecheck	2799-789	50ng	2.0µL	1.00	WP	2/11/15	0754	WP/CB	E
2	✓	02	Systemblank	34343	Humid	50mL	1.00	WP		0807	WP/CB	~~Exp: WP 2/11/15~~
3	✓	03	Ical level #2	2710-34	50ppbv	4.2mL	1.00	WP		0826	WP/CB	Exp: 4/28/15
4	✓	04	Lab blank	34343	Humid	50mL	1.00	WP		0848	WP/CB	
5	✓	05	1502053C-01A	3735	5.5"Hg → 4.8psi	50mL	1.62	WP		0905	WP/CB	
6	✓	06	-02A	34222	6.9"Hg → 4.9psi	50mL	1.73	WP		0922	WP/CB	
7	✓	07	-03A	31361	4.5"Hg → 4.8psi	50mL	1.56	WP		0940	WP/CB	
8	✓	08	-04A	35174	~~4.5~~ WP 2/11/15 7.5"Hg → 4.9psi	50mL	1.57	WP		0957	WP/CB	
9	✓	09	-05A	33658	7.3"Hg → 4.8psi	50mL	1.76	WP		1015	WP/CB	
10	✓	10	1502113C-01A	37348	5.0"Hg → 15psi	50mL	2.42	WP		1042	WP/CB	
11	✓	11	-02A	37729	3.5"Hg → 15psi	50mL	2.29	WP		1100	WP/CB	
12	✓	12	-03A	31754	3.5"Hg → 15psi	50mL	2.29	WP		1120	WP/CB	
13	✓	13	-04A	11427	5.5"Hg → 15psi	50mL	2.47	WP		1137	WP/CB	
14	✓	14	1502061-01	37785	Screen	5mL	10.0	WP		1157	WP	

WP
Reviewed

2/11/15
Date

Eurofins Air Toxics Inc.

Data file : /var/chem/msd14.i/11feb15.b/14021101.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 11-FEB-2015 07:54
Operator : md Inst ID: msd14.i
Smp Info : 2.0ul #2299-789;BFB;BFB
Misc Info : 50ng
Comment :
Method : /var/chem/msd14.i/11feb15.b/bfb20.m
Meth Date : 11-Feb-2015 08:05 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	
2.471	2.483	-0.012	95	81690			100.00- 100.00	100.00
2.471	2.483	-0.012	50	16721			8.00- 40.00	20.47
2.471	2.483	-0.012	75	42642			30.00- 66.00	52.20
2.471	2.483	-0.012	96	5298			5.00- 9.00	6.49
2.471	2.483	-0.012	173	502			0.00- 1.99	0.93
2.471	2.483	-0.012	174	54096			50.01- 120.00	66.22
2.471	2.483	-0.012	175	4115			4.00- 9.00	7.61
2.471	2.483	-0.012	176	53200			93.00- 101.00	98.34
2.471	2.483	-0.012	177	3404			5.00- 9.00	6.40

Data File: /chem/msd14.i/11feb15.b/14021101.d

Date : 11-FEB-2015 07:54

Client ID: BFB

Instrument: msd14.i

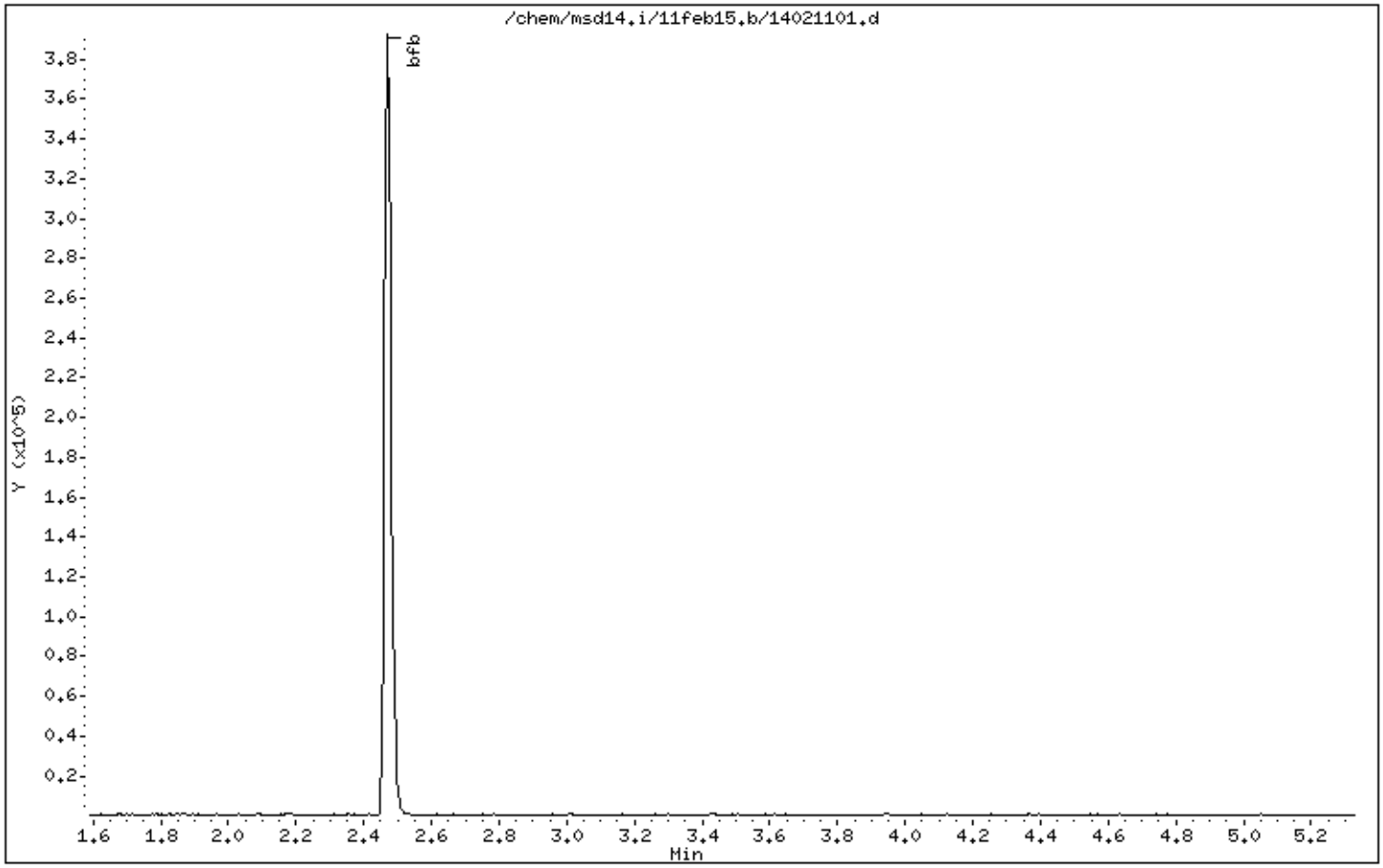
Sample Info: 2.0ul #2299-789;BFB;BFB

Volume Injected (uL): 1.0

Operator: md

Column phase:

Column diameter: 2.00



Data File: /chem/msd14.i/11feb15.b/14021101.d

Date : 11-FEB-2015 07:54

Client ID: BFB

Instrument: msd14.i

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

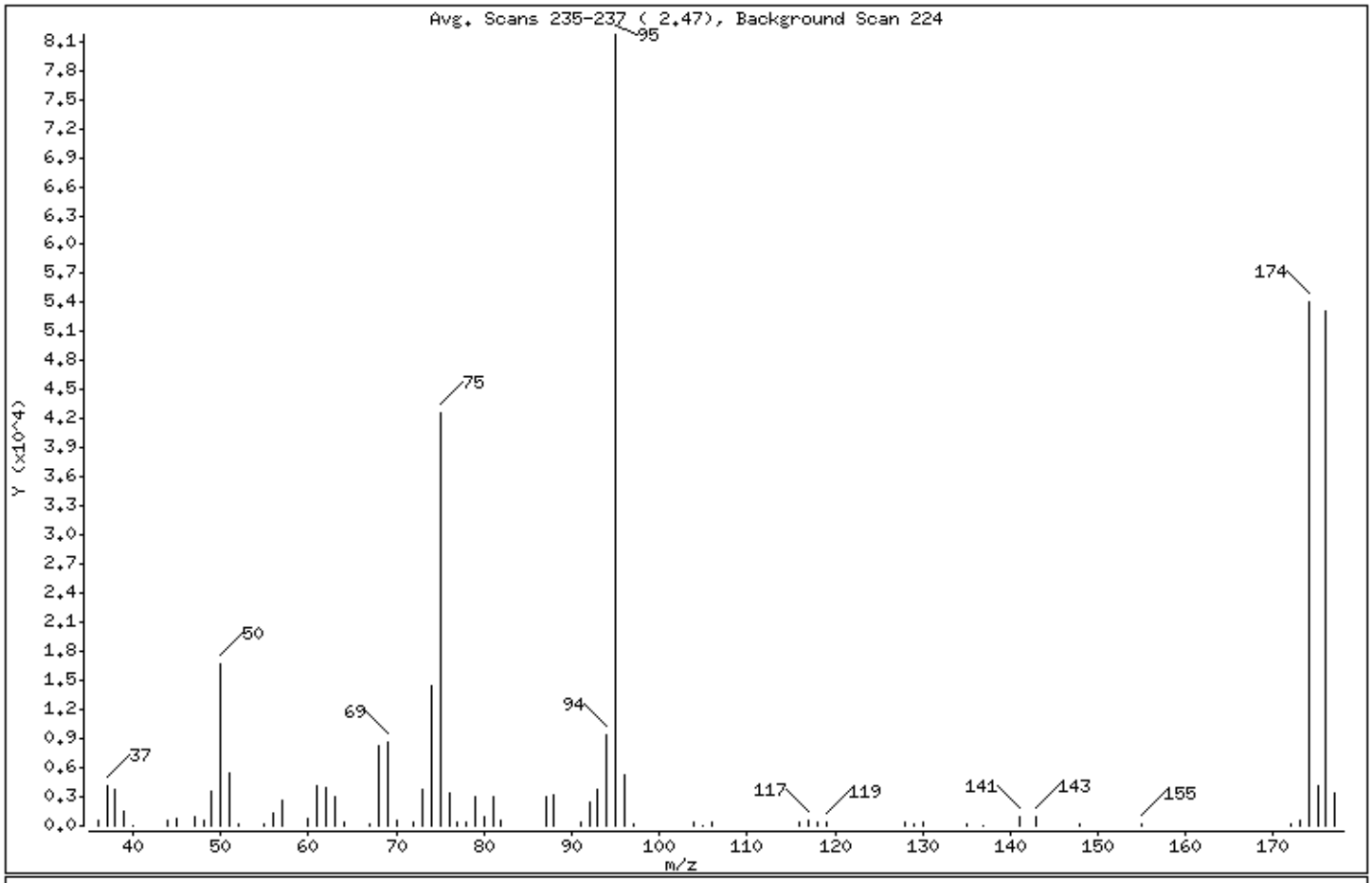
Volume Injected (uL): 1.0

Operator: md

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	20.47
75	30.00 - 66.00% of mass 95	52.20
96	5.00 - 9.00% of mass 95	6.49
173	Less than 1.99% of mass 174	0.61 (0.93)
174	50.01 - 120.00% of mass 95	66.22
175	4.00 - 9.00% of mass 174	5.04 (7.61)
176	93.00 - 101.00% of mass 174	65.12 (98.34)
177	5.00 - 9.00% of mass 176	4.17 (6.40)

Data File: /chem/msd14.i/11feb15.b/14021101.d

Date : 11-FEB-2015 07:54

Client ID: BFB

Instrument: msd14.i

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

Volume Injected (uL): 1.0

Operator: md

Column phase:

Column diameter: 2.00

Data File: 14021101.d
Spectrum: Avg. Scans 235-237 (2.47), Background Scan 224
Location of Maximum: 95.00
Number of points: 67

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	618	61.00	4187	81.00	3021	119.00	451
37.00	4067	62.00	3917	82.00	587	128.00	293
38.00	3788	63.00	3098	87.00	3025	129.00	114
39.00	1468	64.00	297	88.00	3130	130.00	296
40.00	80	67.00	128	91.00	319	135.00	123
44.00	485	68.00	8306	92.00	2360	137.00	56
45.00	728	69.00	8639	93.00	3667	141.00	908
47.00	963	70.00	651	94.00	9449	143.00	973
48.00	485	72.00	376	95.00	81688	148.00	118
49.00	3556	73.00	3766	96.00	5298	155.00	184
50.00	16720	74.00	14443	97.00	133	172.00	100
51.00	5388	75.00	42640	104.00	405	173.00	502
52.00	216	76.00	3458	105.00	58	174.00	54096
55.00	262	77.00	420	106.00	400	175.00	4115
56.00	1388	78.00	302	116.00	309	176.00	53200
57.00	2551	79.00	2965	117.00	556	177.00	3404
60.00	699	80.00	871	118.00	333		

Shipping/ Receiving Documents

eurofins | Air Toxics

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

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

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

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

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

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

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

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

eurofins | Air Toxics

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

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

Project Manager Terry Taylor
Collected by: (Print and Sign) [signature]
Company AMAI Email ttaylor@amaiconsult.com
Address 110 Corporate Plc City White Plains State NY Zip 10604
Phone 914-251-0400 Fax

Project Info:
P.O. #
Project #
Project Name Building 6 VI

Turn Around Time:
☐ Normal
☒ Rush 3days 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	B6-4IA	3735	2/3/15	1341	See Below	30"	5"		
02A	B6-5IA	34222	2/3/15	1546	↓	30"	8"		
03A	B6-AA-1	34361	2/3/15	1535	↓	30"	6"		
04A	B6-3IA	35174	2/3/15	1600	↓	30"	5"		
05A	B6-3IAD	33658	2/3/15	1600	↓	30"	8.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	2/3/15 : 1621	[signature]	2-5-15 1125
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
methane via ASTM D-1946.
Acetone, Benzene, Ethylbenzene, Isopropyl Alcohol, Methanol, MIBK, Toluene, xylene via TO-15.
Report to MDL.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx	7728 0914 4775	NA	Good	Yes No None	1502053

Form 1293 rev.1

eurofins | Air Toxics

SAMPLE RECEIPT SUMMARY

WORKORDER 1502053C

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: 02/11/15 2:00 pm
Date Completed: 2/11/15
Date Received: 2/5/15
PO#:
Project#: Building 6 VI

Total $: $ 400.00
Logged By: JCW

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	B6-4IA	Modified TO-15 (5&20 ppbv)	2/3/2015	5.5 "Hg	$75.00
02A	B6-5IA	Modified TO-15 (5&20 ppbv)	2/3/2015	6.9 "Hg	$75.00
03A	B6-AA-1	Modified TO-15 (5&20 ppbv)	2/3/2015	4.5 "Hg	$75.00
04A	B6-3IA	Modified TO-15 (5&20 ppbv)	2/3/2015	4.5 "Hg	$75.00
05A	B6-3IAD	Modified TO-15 (5&20 ppbv)	2/3/2015	7.3 "Hg	$75.00
06A	Lab Blank	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
07A	CCV	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00

Misc. ChargeseCVP (5) @ $5.00 each. $25.00

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: 12/30/14
Workorder # 1502053C	Form F1.27	Revision #10	Revision date: 12/30/14	Page 1 of 2

S1	S2	S3	S4	D	Section 1 – Spec Out				
					Initials/Instrument/Date	S1: 2/11/15 MSD-14	S2:	S3:	S4:
✓					Daily QC and ICAL met Criteria				
✓					Lumen QC and ICAL evaluation report initialed and in folder				
NA ✓					Manual integrations included and approved				
				✓	Chain of Custody verified for special comments (add comments below)				
NA					Non-standard Target sublist printed				

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

Methanol only ✓ out in QC

A1	A2	A3	A4	D	Section 2 – Sample Analysis				
					Initials/Date	A1: 2/11/15	A2:	A3:	A4:
✓				✓	Internal Standard/Surrogate Recoveries, Dilution Factors, Load Volumes, Initial/Final Pressures, and Canister #s Verified				
NA				NA	a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg of instrument				
NA				✓	Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓					12/24 Hr clock time & Hold Time met for all samples				
NA				✓	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: 01A-05A Full load

D1	D2	D3	D4	T	3T	Section 3 – Target Data Reduction	Technical Review Needed? Circle one: Yes/No		T:	
						Initials/instrument/ Date	D1: 2/11/15	D2:	D3:	D4:
NA						CAR # (if applicable)				
✓						Spectra Verified (documentation of spectral defense included if applicable)				
NA						TICs resemble reference spectra/ TICs between sample dups. are consistent (if applicable)				
✓						Lab Narrative is correct				
NA						TPH/NMOC calculations complete and included in folder				

Special notes:

A	3T	Section 4 – Atlas Data Entry	Lumen verified and included in folder	Circle one: Yes/No
		Initials/Date: VB 2/11/15	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

Eurofins Air Toxics, Inc.	Reissued - Data Review Checklist			Release Date 01/29/14
	Form F 1.27	Revision #8	Revision date 01/29/14	Page 2 of 2

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