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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 #: 1606298F

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Comments:

Completed by:

Vera Belitsky	Vera Belitsky / Document Control	6/30/16
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1606298F

Work Order Summary

CLIENT:	Mr. Terry Taylor Anderson Mulholland & Associates, Inc. 2700 Westchester Avenue Suite 417 Purchase, NY 10577	**BILL TO:**	Accounts Payable Anderson Mulholland & Associates, Inc. 2700 Westchester Avenue Suite 417 Purchase, NY 10577
PHONE:	(914) 251-0400	**P.O. #**	
FAX:		**PROJECT #**	Building 7 VI
DATE RECEIVED:	06/14/2016	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	06/20/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
16A	B15SS-1(061216)	Modified TO-15 (5&20 ppbv	3.5 "Hg	14.8 psi
17A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
18A	CCV	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 06/20/16

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

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LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
Anderson Mulholland & Associates, Inc.
Workorder# 1606298F

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

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

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Sample Extract Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
B15SS-1(061216)	1606298F-16A	6/12/2016	6/14/2016	NA	5	6/17/2016	NA	Good
Lab Blank	1606298F-17A	NA	NA	NA	NA	6/17/2016	NA	Good
CCV	1606298F-18A	NA	NA	NA	NA	6/17/2016	NA	Good

Sample Results and Raw Data

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

Client Sample ID: B15SS-1(061216)

Lab ID#: 1606298F-16A

No Detections Were Found.

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Client Sample ID: B15SS-1(061216)

Lab ID#: 1606298F-16A

EPA METHOD TO-15 GC/MS

File Name:	**14061719**	**Date of Collection:**	**6/12/16 8:12:00 PM**
Dil. Factor:	**2.26**	**Date of Analysis:**	**6/17/16 08:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	230	Not Detected	300	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/17jun16.b/14061719.d
Lab Smp Id: 1606298F-16A
Inj Date : 17-JUN-2016 20:16
Operator : ea Inst ID: msd14.i
Smp Info : 50ml #35677
Misc Info : 3.5"Hg ->14.8psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/17jun16.b/MEOH0617a.m
Meth Date : 20-Jun-2016 05:28 mchen Quant Type: ISTD
Cal Date : 17-JUN-2016 13:45 Cal File: 14061705.d
Als bottle: 1
Dil Factor: 2.26000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	113064	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	85308			48.38- 108.38	75.45
5.319	5.319 (1.000)	49	221683			122.49- 182.49	196.07
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.459	6.444 (1.000)	114	477472	400.000		80.00- 120.00	100.00
6.459	6.444 (1.000)	88	90903			0.00- 47.28	19.04
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	432617	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	273691			33.96- 93.96	63.26
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	208497	400.211	400.21	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	99218			22.50- 82.50	47.59
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.814 (1.210)	98	528950	404.700	404.70	80.00- 120.00	100.00
7.814	7.814 (1.210)	70	59948			0.00- 42.36	11.33

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.814	7.814	(1.210)	100	359041			36.13- 96.13	67.88
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.633	9.632	(1.082)	174	223408	418.891	418.89	80.00- 120.00	100.00
9.633	9.632	(1.082)	95	352528			113.45- 173.45	157.80
9.633	9.632	(1.082)	176	215497			68.10- 128.10	96.46

Report Date: 23-Jun-2016 10:05

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14061719.d
Lab Smp Id: 1606298F-16A
Analysis Type: VOA
Quant Type: ISTD
Operator: ea
Method File: /chem/msd14.i/17jun16.b/MEOH0617a.m
Misc Info: 3.5"Hg ->14.8psi

Calibration Date: 17-JUN-2016
Calibration Time: 13:45

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	116694	70016	163372	113064	-3.11
123 1,4-Difluorobenze	536725	322035	751415	477472	-11.04
163 Chlorobenzene-d5	463759	278255	649263	432617	-6.72

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

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

Report Date: 23-Jun-2016 10:05

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17jun16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1606298F-16A
Level: LOW
Operator: ea
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/17jun16.b/MEOH0617a.m
Misc Info: 3.5"Hg ->14.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	400.21	100.05	70-130
$ 146 Toluene-d8	400.00	404.70	101.18	70-130
$ 177 4-Bromofluorobenze	400.00	418.89	104.72	70-130

Data File: /chem/msd14.i/17jun16.b/14061719.d

Date : 17-JUN-2016 20:16

Client ID:

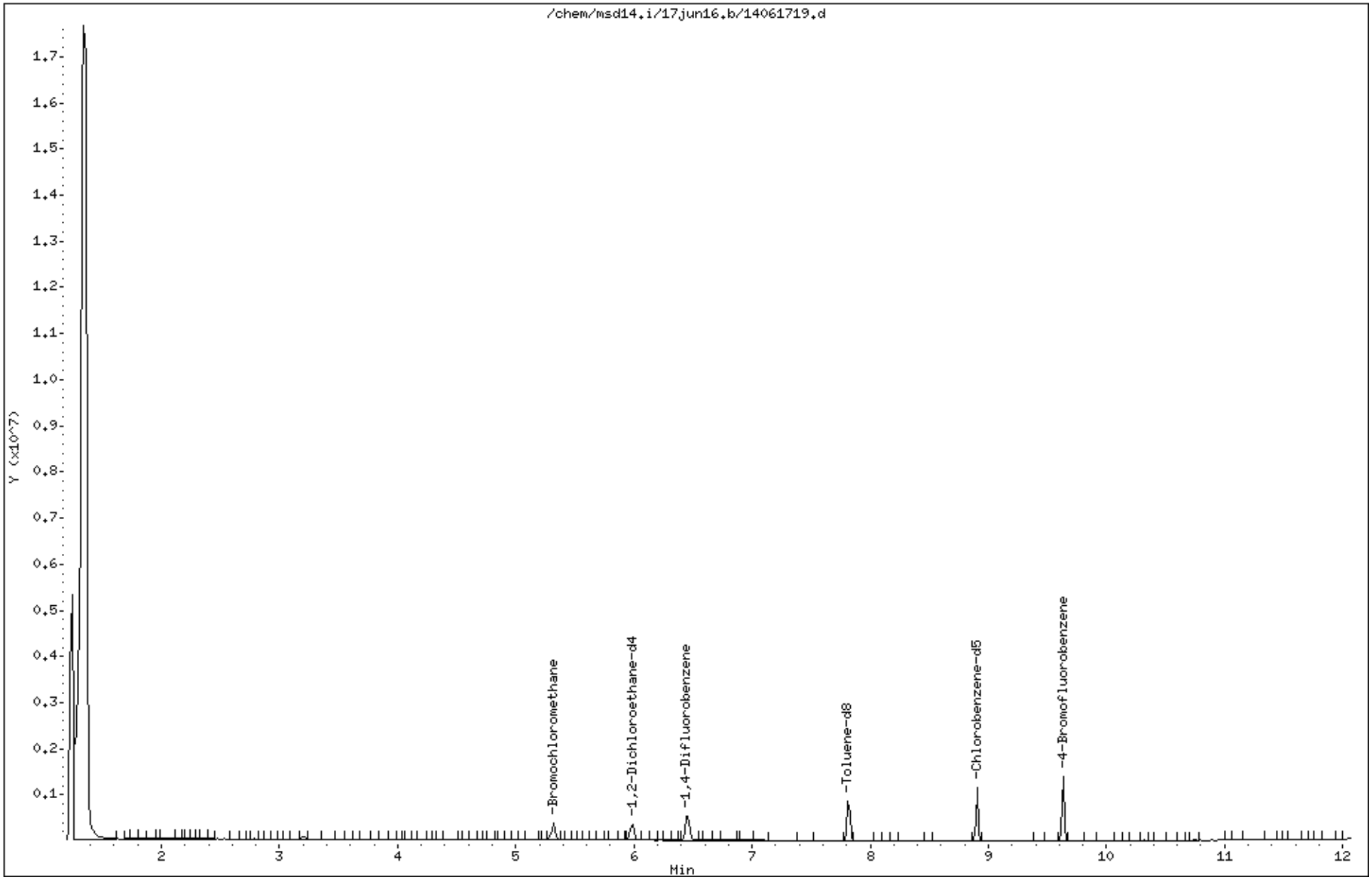
Instrument: msd14.i

Sample Info: 50ml #35677

Operator: ea

Column phase: RTX-624

Column diameter: 0.18



QC Results and Raw Data

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Client Sample ID: Lab Blank

Lab ID#: 1606298F-17A

EPA METHOD TO-15 GC/MS

File Name:	**14061706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/16 02:45 PM**	

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

Container Type: NA - Not Applicable

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

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/17jun16.b/14061706.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 17-JUN-2016 14:45
Operator : gd Inst ID: msd14.i
Smp Info : 50mL# 36041
Misc Info : Humid
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/17jun16.b/MEOH0617a.m
Meth Date : 20-Jun-2016 05:28 mchen Quant Type: ISTD
Cal Date : 17-JUN-2016 13:45 Cal File: 14061705.d
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	119828	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	90267			48.38- 108.38	75.33
5.319	5.319 (1.000)	49	233672			122.49- 182.49	195.01
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	539066	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	97560			0.00- 47.28	18.10
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	483936	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	306200			33.96- 93.96	63.27
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	224397	406.418	406.42	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	111145			22.50- 82.50	49.53
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.813	7.814 (1.212)	98	588757	398.989	398.99	80.00- 120.00	100.00
7.813	7.814 (1.212)	70	66455			0.00- 42.36	11.29

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.813	7.814	(1.212)	100	393818			36.13- 96.13	66.89
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.632	9.632	(1.082)	174	242289	406.117	406.12	80.00- 120.00	100.00
9.632	9.632	(1.082)	95	393394			113.45- 173.45	162.37
9.632	9.632	(1.082)	176	231649			68.10- 128.10	95.61

Report Date: 20-Jun-2016 05:47

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14061706.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: gd
Method File: /chem/msd14.i/17jun16.b/MEOH0617a.m
Misc Info: Humid

Calibration Date: 17-JUN-2016
Calibration Time: 13:45
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	116694	70016	163372	119828	2.69
123 1,4-Difluorobenze	536725	322035	751415	539066	0.44
163 Chlorobenzene-d5	463759	278255	649263	483936	4.35

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

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

Report Date: 20-Jun-2016 05:47

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17jun16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Client Smp ID: Lab Blank
Level: LOW
Operator: gd
Data Type: MS DATA
SampleType: BLANK
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/17jun16.b/MEOH0617a.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	406.42	101.60	70-130
$ 146 Toluene-d8	400.00	398.99	99.75	70-130
$ 177 4-Bromofluorobenze	400.00	406.12	101.53	70-130

Data File: /chem/msd14.i/17jun16.b/14061706.d

Date : 17-JUN-2016 14:45

Client ID: Lab Blank

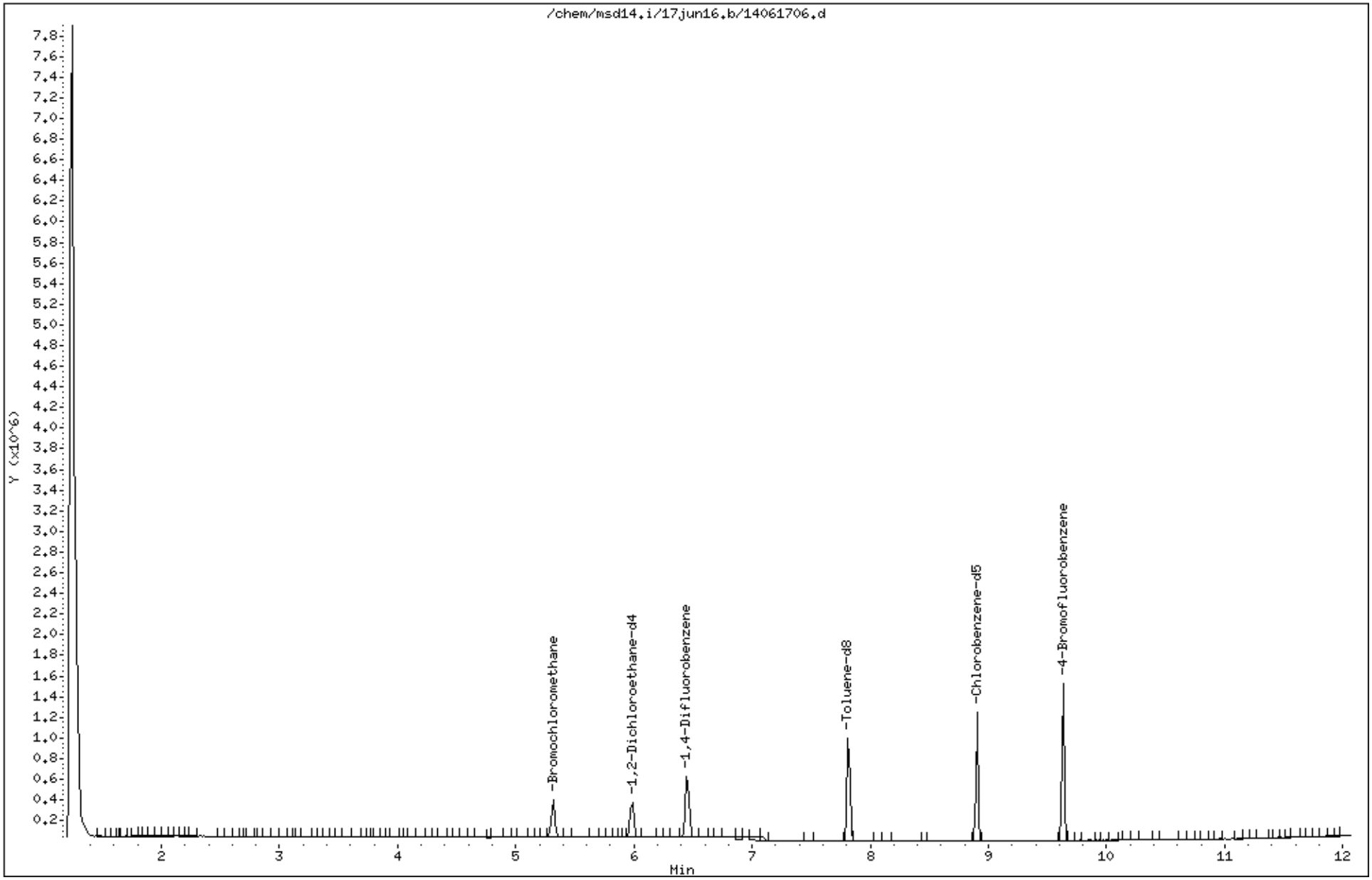
Instrument: msd14.i

Sample Info: 50mL# 36041

Operator: gd

Column phase: RTX-624

Column diameter: 0.18



LEVEL-IV VALIDATABLE

EPA METHOD TO-15 GC/MS

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 1606298F

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	B15SS-1(061216)	100		101		105				0
02	Lab Blank	102		100		102				0
03	CCV	100		100		100				0
04										0
05										0
06										0
07										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:	1606298F
Lab File ID:	14061705a.d	Date Analyzed:	06/17/2016
Instrument ID:	msd14.i	Time Analyzed:	01:45 PM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	463759		8.9		536725		6.44		116694		5.32	
	UPPER LIMIT	649263		09.23		751415		06.77		163372		05.65	
	LOWER LIMIT	278255		08.57		322035		06.11		70016		04.99	
	CLIENT SAMPLE NO												
01	B15SS-1(061216)	432617		8.9		477472		6.46		113064		5.32	
02	Lab Blank	483936		8.9		539066		6.44		119828		5.32	
03	CCV	463759		8.9		536725		6.44		116694		5.32	
04													
05													
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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 : 17-JUN-2016 13:45
End Cal Date : 17-JUN-2016 13:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/17jun16.b/MEOH0617a.m
Cal Date : 17-Jun-2016 14:44 gdelacru
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd14.i/17jun16.b/14061705.d

	100.000	___	
Compound	Level 5	RRF	% RSD
28 Methanol	0.73591	0.73591	0.000
$ 117 1,2-Dichloroethane-d4	1.84309	1.84309	0.000
$ 146 Toluene-d8	1.09495	1.09495	0.000
$ 177 4-Bromofluorobenzene	0.49312	0.49312	0.000

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 17-JUN-2016 13:45
End Cal Date : 17-JUN-2016 13:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/17jun16.b/MEOH0617a.m
Cal Date : 17-Jun-2016 14:44 gdelacru
Curve Type : Average

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

Calibration History

Method : /chem/msd14.i/17jun16.b/MEOH0617a.m
Start Cal Date: 17-JUN-2016 13:45
End Cal Date : 17-JUN-2016 13:45

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 5 , Cal Amount: 100.00000		
17-JUN-2016 13:45	MEOH	/chem/msd14.i/17jun16.b/14061705.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 5

Ccal Level: 5 , Ccal Amount: 100.00		
17-JUN-2016 13:45	MEOH	/chem/msd14.i/17jun16.b/14061705a.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 17-JUN-2016 13:45
End Cal Date : 17-JUN-2016 13:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/17jun16.b/MEOH0617a.m
Cal Date : 17-Jun-2016 14:44 gdelacru
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd14.i/17jun16.b/14061705.d

gd 6/17/16

Compound	100.000 Level 5	RRF	% RSD
28 Methanol	0.73591	0.73591	0.000
$ 117 1,2-Dichloroethane-d4	1.84309	1.84309	0.000
$ 146 Toluene-d8	1.09495	1.09495	0.000
$ 177 4-Bromofluorobenzene	0.49312	0.49312	0.000

MEOH0617a.M
Initial Calibration Narrative

A 1-point Methanol initial calibration was analyzed on MSD-14 on 6/17/16.

Due to instrument sensitivity with the secondary ion at the RL of 50 pbbv for MeOH, the RL was increased to 100 ppbv.

No ICV or MDL needed.

BFB Tune file - 14061701

Eurofins Air Toxics, Inc. **MSD-14** **Logbook #2785**

BFB Verification of 176/174 m/z Ratio:	135816 / 135834 × 100 = 99.99%
Method Name:	MEOH 0617a

IS/S Std. #:	2789 - 55	Exp. Date:	7/16/16
BCM	116694		~~123930~~
1,4-DFB	536725		550063
CB-d5	463759		~~478455~~ gd 6/17/16

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

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

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
1	✓	14061701	BFB tune check	2299-1476	50 ng	2.0 µL	1.00	gd	6/17/16	1012	gd	
2	X	02	CCV	2789-145	50 ppbv	2.5 mL				1103 ~~1150~~ gd 6/17/16		Exp. 8/17/16
3	X	03	ICAL level 4	↓	50 ppbv	↓				1150		
4	✓	04	Lab Blank	36041	Humid	50 mL				1237		
5	✓	05	ICAL level 5	2789-145	100 ppbv	5 mL				1345		Exp 8/17/16 / CCV
6	✓	06	Lab Blank	36041	Humid	50 mL				1445		
7		~~07~~	~~1606298C-01A~~	~~61283~~	~~5.3 Hg 4.8 psi~~		~~1.61~~					
8												
9												
10												
11												
12												
13												
14												
15												
16												
17								gd 6/17/16				

gd — Reviewed

6/17/16 — Date

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/17jun16.b/14061705.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 17-JUN-2016 13:45
Operator : gd Inst ID: msd14.i
Smp Info : 5.0mL # 2789-145
Misc Info : 100ppbv (1000ppbv) MeOH
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/17jun16.b/MEOH0617a.m
Meth Date : 17-Jun-2016 14:43 gdelacru Quant Type: ISTD
Cal Date : 17-JUN-2016 13:45 Cal File: 14061705.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	116694	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	93375			48.38- 108.38	80.02
5.319	5.319 (1.000)	49	231500			122.49- 182.49	198.38
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	536725	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	101327			0.00- 47.28	18.88
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	463759	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	284916			33.96- 93.96	61.44
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	215077	400.000	400.00	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	110683			22.50- 82.50	51.46
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.814 (1.212)	98	587686	400.000	400.00	80.00- 120.00	100.00
7.814	7.814 (1.212)	70	68341			0.00- 42.36	11.63

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.814	7.814 (1.212)	100	391971			36.13- 96.13	66.70
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	228690	400.000	400.00	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	362899			113.45- 173.45	158.69
9.632	9.632 (1.082)	176	223893			68.10- 128.10	97.90
28 Methanol					CAS #: 67-56-1		
2.042	2.042 (0.384)	31	21469	100.000	100.00	0.00- 0.00	100.00
2.042	2.042 (0.384)	32	41534			0.00- 0.00	193.46

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14061705.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: gd
Method File: /chem/msd14.i/17jun16.b/MEOH0617a.m
Misc Info: 100ppbv (1000ppbv) MeOH

Calibration Date: 17-JUN-2016
Calibration Time: 13:45
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	116694	70016	163372	116694	0.00
123 1,4-Difluorobenze	536725	322035	751415	536725	0.00
163 Chlorobenzene-d5	463759	278255	649263	463759	0.00

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

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

Data File: /chem/msd14.i/17jun16.b/14061705.d

Date : 17-JUN-2016 13:45

Client ID: Level 5

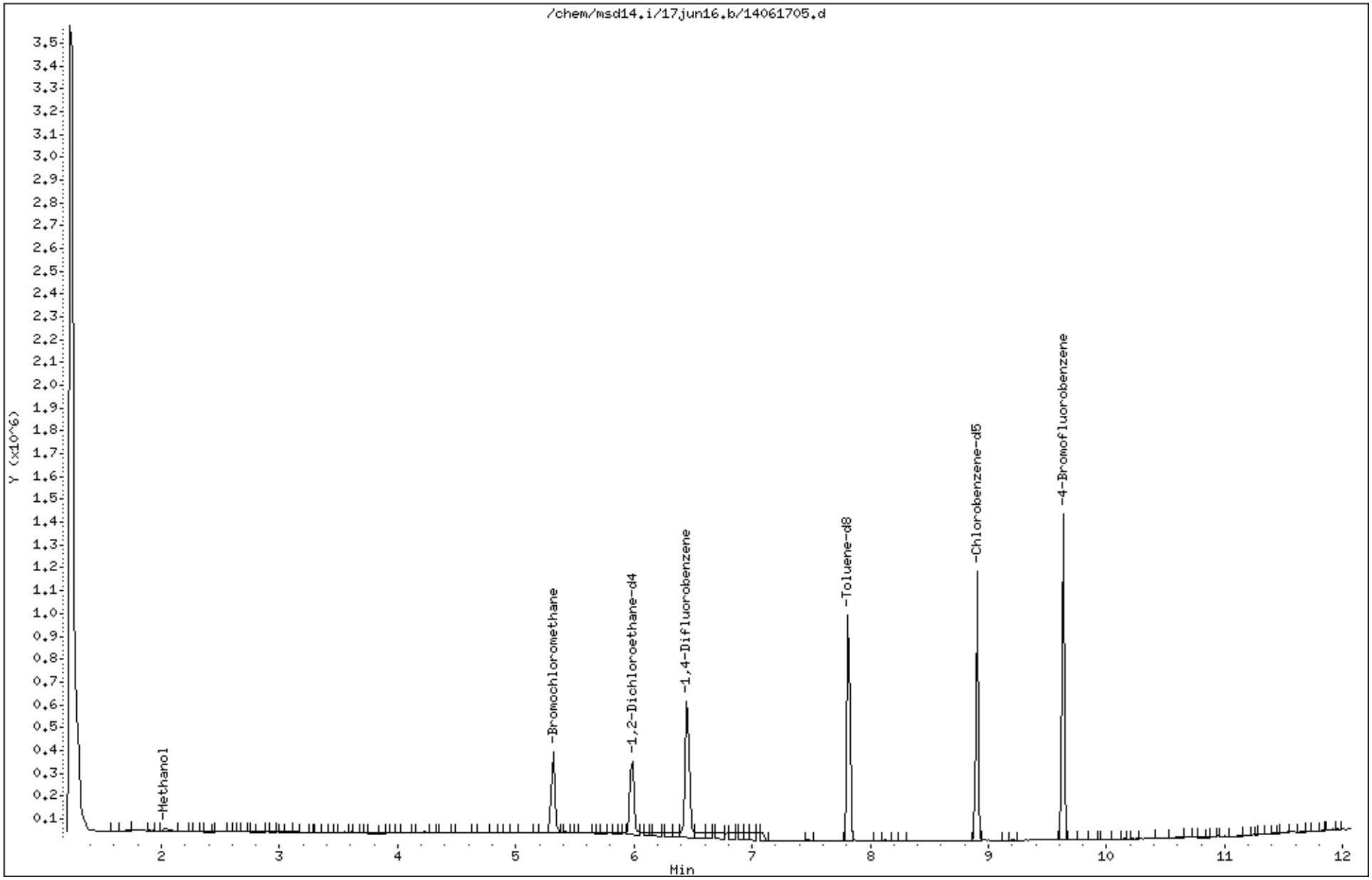
Instrument: msd14.i

Sample Info: 5.0mL # 2789-145

Operator: gd

Column phase: RTX-624

Column diameter: 0.18



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Client Sample ID: CCV

Lab ID#: 1606298F-18A

EPA METHOD TO-15 GC/MS

File Name:	**14061705a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/16 01:45 PM**	

Compound	**%Recovery**
Methanol	100

Container Type: NA - Not Applicable

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

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 17-JUN-2016 13:45
Lab File ID: 14061705a.d Init. Cal. Date(s): 17-JUN-2016 17-JUN-2016
Analysis Type: AIR Init. Cal. Times: 13:45 13:45
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd14.i/17jun16.b/MEOH0617a.m

COMPOUND	RRF / AMOUNT	RF100	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 117 1,2-Dichloroethane-d4	1.84309	1.84308	0.010	0.00027	30.00000	Averaged
$ 146 Toluene-d8	1.09495	1.09495	0.010	2.915e-06	30.00000	Averaged
$ 177 4-Bromofluorobenzene	0.49312	0.49312	0.010	0.00006	30.00000	Averaged
28 Methanol	0.73591	0.73591	0.010	-0.00092	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 0.00031
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/17jun16.b/14061705a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 17-JUN-2016 13:45
Operator : gd Inst ID: msd14.i
Smp Info : 5.0mL # 2789-145
Misc Info : 100ppbv (1000ppbv) MeOH
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/17jun16.b/MEOH0617a.m
Meth Date : 17-Jun-2016 14:44 gdelacru Quant Type: ISTD
Cal Date : 17-JUN-2016 13:45 Cal File: 14061705.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	116694	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	93375			48.38- 108.38	80.02
5.319	5.319 (1.000)	49	231500			122.49- 182.49	198.38
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	536725	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	101327			0.00- 47.28	18.88
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	463759	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	284916			33.96- 93.96	61.44
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	215077	400.000	400.00	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	110683			22.50- 82.50	51.46
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.814 (1.212)	98	587686	400.000	400.00	80.00- 120.00	100.00
7.814	7.814 (1.212)	70	68341			0.00- 42.36	11.63

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)							
7.814	7.814 (1.212)	100	391971			36.13- 96.13	66.70
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.632	9.632 (1.082)	174	228690	400.000	400.00	80.00- 120.00	100.00
9.632	9.632 (1.082)	95	362899			113.45- 173.45	158.69
9.632	9.632 (1.082)	176	223893			68.10- 128.10	97.90
28 Methanol					CAS #: 67-56-1		
2.042	2.042 (0.384)	31	21469	100.000	100.00	0.00- 0.00	100.00
2.042	2.042 (0.384)	32	44947			0.00- 0.00	209.36

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14061705a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: gd
Method File: /chem/msd14.i/17jun16.b/MEOH0617a.m
Misc Info: 100ppbv (1000ppbv) MeOH

Calibration Date: 17-JUN-2016
Calibration Time: 13:45
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	116694	70016	163372	116694	0.00
123 1,4-Difluorobenze	536725	322035	751415	536725	0.00
163 Chlorobenzene-d5	463759	278255	649263	463759	0.00

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

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

Data File: /chem/msd14.i/17jun16.b/14061705a.d

Page 1

Date : 17-JUN-2016 13:45

Client ID: CCV

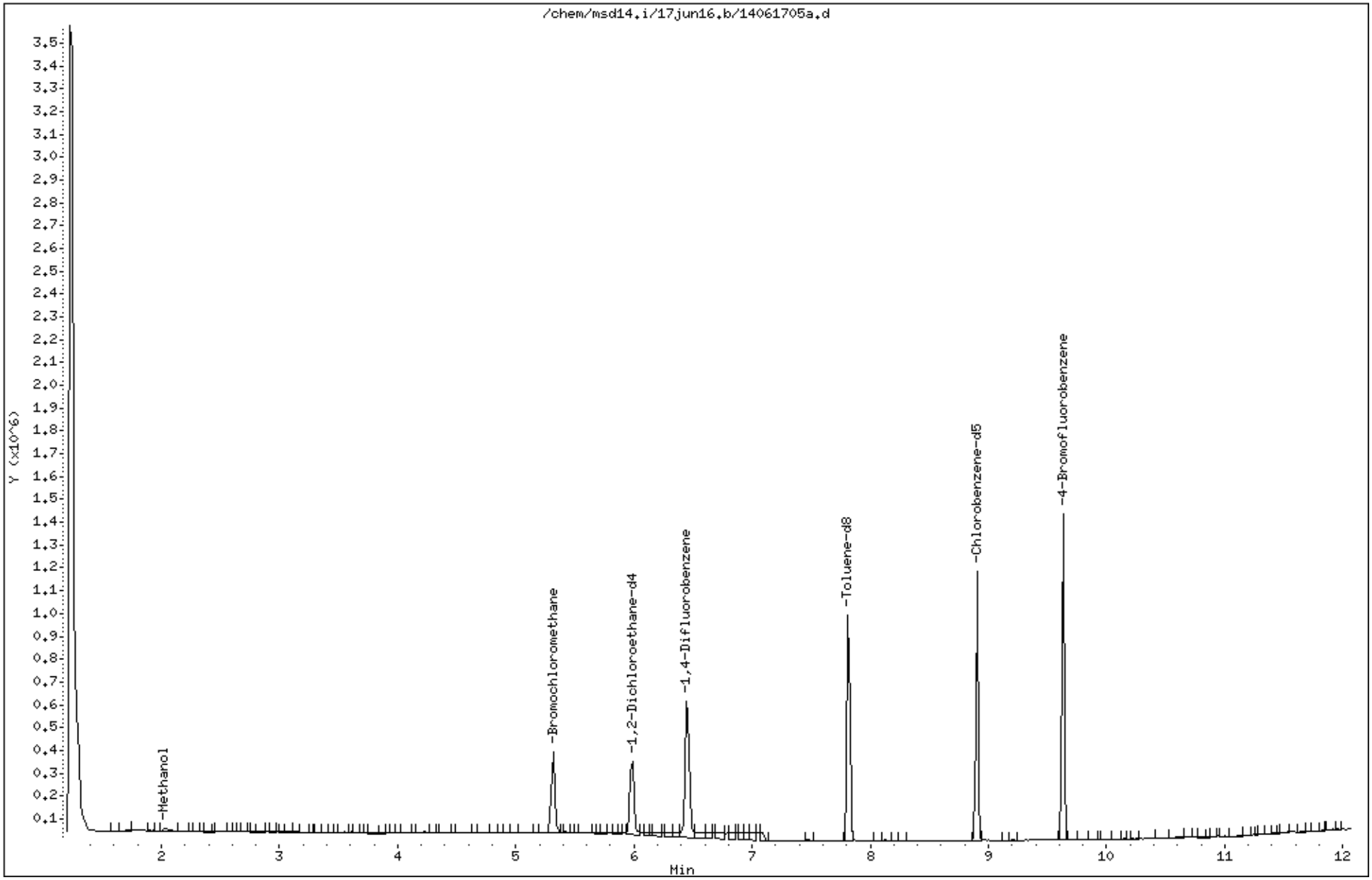
Instrument: msd14.i

Sample Info: 5.0mL # 2789-145

Operator: gd

Column phase: RTX-624

Column diameter: 0.18



Eurofins Air Toxics, Inc.

MSD-14

Logbook #2785

BFB Verification of 176/174 m/z Ratio:	135816 / 135834 × 100 = 99.99%
Method Name:	MEOH 0617a

IS/S Std. #:	2789 - 55	Exp. Date:	7/16/16
BCM	116694		~~123930~~
1,4-DFB	536725		550063
CB-d5	463759		~~418455~~ gd 6/17/16

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

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

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
1	✓	14061701	BFB tune check	2299-1476	50 ng	2.0 µL	1.00	gd	6/17/16	1012	gd	
2	X	02	CCV	2789-145	50 ppbv	2.5 mL				~~1150~~ 1103 gd 6/17/16		Exp. 8/17/16
3	X	03	ICAL level 4	↓	50 ppbv	↓				1150		
4	✓	04	Lab Blank	36041	Humid	50 mL				1237		
5	✓	05	ICAL level 5	2789-145	100 ppbv	5 mL				1345		Exp. 8/17/16
6	✓	06	Lab Blank	36041	Humid	50 mL				1445		
7	✓	07	16062987-01A	LL1283	5.3 Hg - 4.8 psi		1.61			1519		
8	✓	08	-02A	03536	5.7 Hg - 5.2 psi		1.67			1543		
9	✓	09	-03A	D4389	5.1 Hg - 4.8 psi		1.60			1603		
10	✓	10	-04A	D4354	8.4 Hg - 5.1 psi		1.87			1637	↓	
11	✓	11	-05A	N0584	4.9 Hg - 4.9 psi		1.59			1701	ED	
12	✓	12	-06A	34423	6.1 Hg - 5.1 psi		1.69	~~EA~~		1722	~~EA~~	
13	✓	13	-07A	440	3.7 Hg - 5 psi		1.53	~~EA~~		1748	ED	
14	✓	14	-08A	25249	9.8 Hg - 4.8 psi		1.88	ED		1803	~~EA~~	
15	✓	15	-09A	37677	2.9 Hg - 2.5 psi		2.32	~~EA~~		1830	ED	
16	✓	16	-10A	34581	5.7 Hg - 14.9 psi		2.49	~~EA~~		1856	~~EA~~	
17	✓	17	-11A	36539	8.9 Hg - 15 psi		2.32	ED		1918	~~EA~~	

Reviewed

6/17/16
Date

Logbook #2785

MSD-14

Eurofins Air Toxics, Inc.

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date
18	✓	1406171B	1606298C-12A	2040	2.6"Hg-14.8psi EA 6/17/16	50ml	2.20	EA	6/17/16	1939	EA	
19	✓	19	-16A	3567	5.1"Hg-14.7psi	50ml	2.41	EA		2016	EA	16A = 3.5"Hg 14.8psi = 2.26
20	✓	20	-14A	LL4606	3.7"Hg-14.8psi	50ml	2.29	EA		~~2035~~	EA	
21	✓	21	-15A	LL2744	4.9"Hg-15.1psi	50ml	2.42	EA		2053	EA	
22		~~22~~	-13A	3568	5.1"Hg-14.7psi	50ml	2.41	EA				EA 6/17/16
23	✓	20	1606298C-15A	LL4606	4.9"Hg-15.1psi		2.42	EA	6/17/16	2035	EA	
24	✓	21	-14A	LL2744	3.7"Hg-14.8psi		2.29	EA		2053	EA	
25	✓	22	-13A	3568	5.1"Hg-14.7psi		2.41	EA		2116	EA	
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36											EA 6/17/16	
37												
38												
39												

Reviewed

6/17/16
Date

Eurofins Air Toxics Inc.

Data file : /var/chem/msd14.i/17jun16.b/14061701.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 17-JUN-2016 10:12
Operator : gd Inst ID: msd14.i
Smp Info : 2.0uL# 2299-1476; BFB; BFB
Misc Info : 50ng
Comment :
Method : /var/chem/msd14.i/17jun16.b/bfb20.m
Meth Date : 17-Jun-2016 10:22 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	
2.719	2.483	0.236	95	237546			100.00- 100.00	100.00
2.719	2.483	0.236	50	62802			8.00- 40.00	26.44
2.719	2.483	0.236	75	132738			30.00- 66.00	55.88
2.719	2.483	0.236	96	14910			5.00- 9.00	6.28
2.719	2.483	0.236	173	1613			0.00- 1.99	1.19
2.719	2.483	0.236	174	135834			50.01- 120.00	57.18
2.719	2.483	0.236	175	11688			4.00- 9.00	8.60
2.719	2.483	0.236	176	135816			93.00- 101.00	99.99
2.719	2.483	0.236	177	9337			5.00- 9.00	6.87

Data File: /var/chem/msd14.i/17jun16.b/14061701.d

Date : 17-JUN-2016 10:12

Client ID: BFB

Instrument: msd14.i

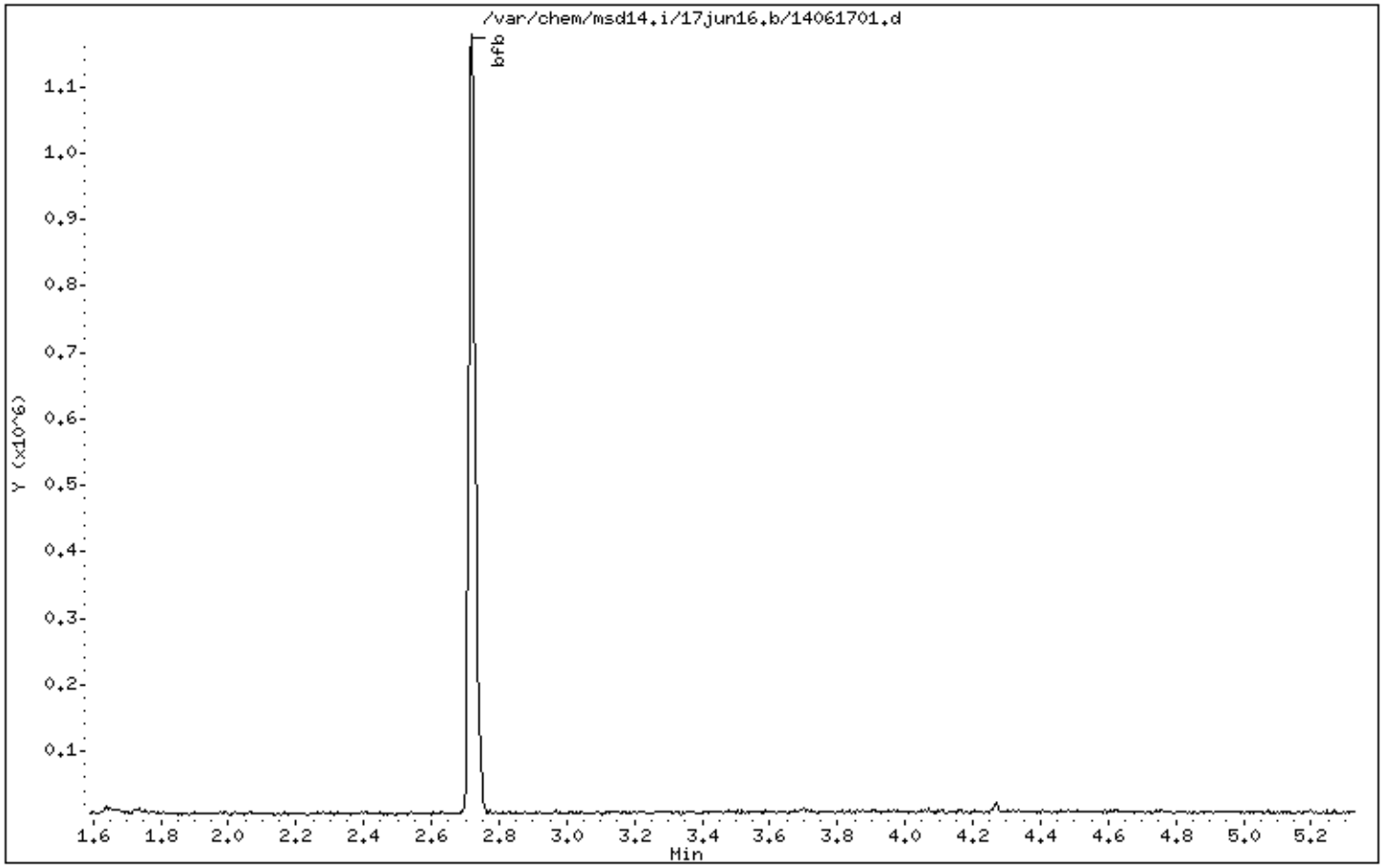
Sample Info: 2.0uL# 2299-1476; BFB; BFB

Volume Injected (uL): 1.0

Operator: gd

Column phase:

Column diameter: 2.00



Data File: /var/chem/msd14.i/17jun16.b/14061701.d

Date : 17-JUN-2016 10:12

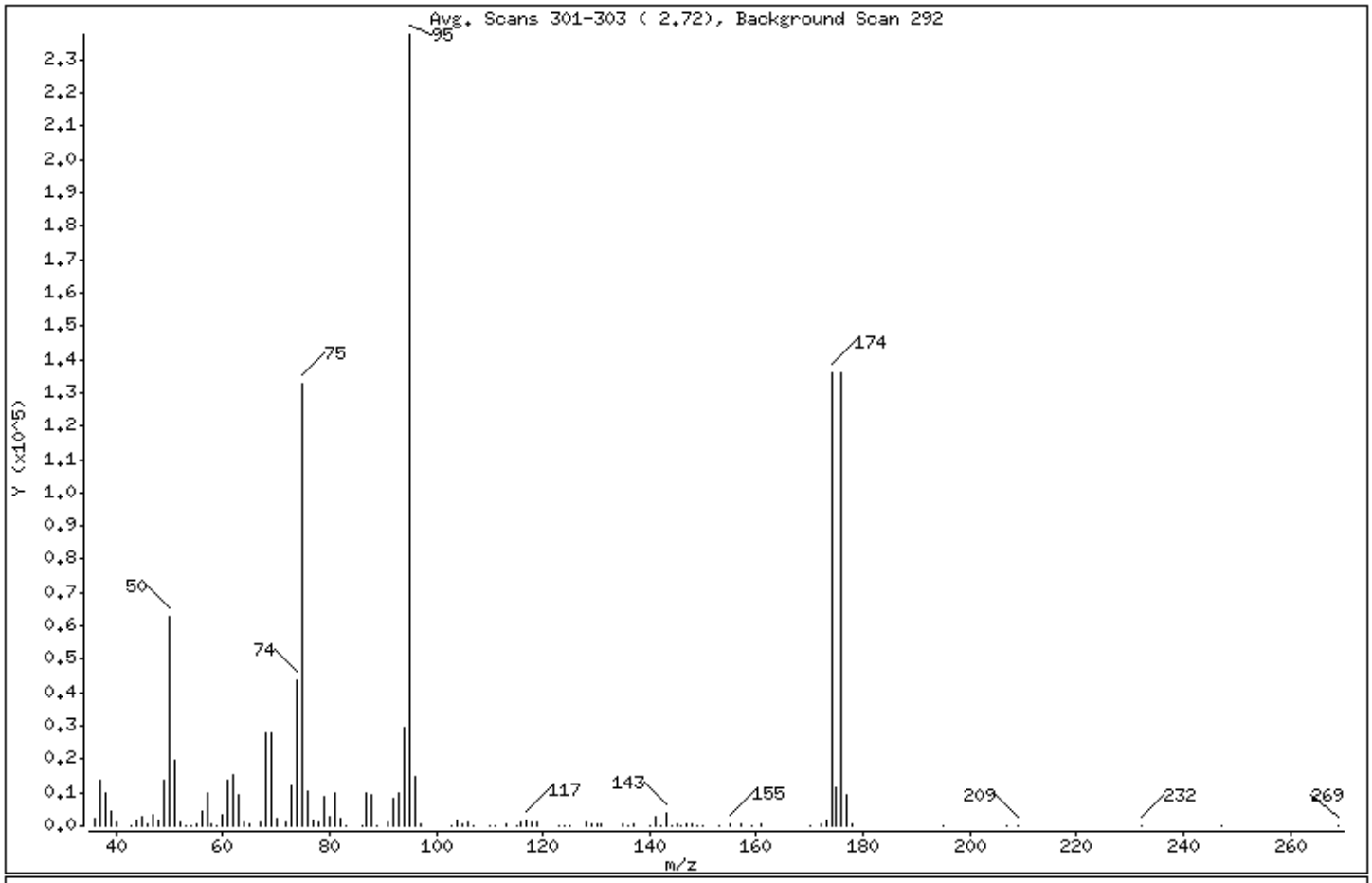
Client ID: BFB Instrument: msd14.i

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

Volume Injected (uL): 1.0 Operator: gd

Column phase: Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	26.44
75	30.00 - 66.00% of mass 95	55.88
96	5.00 - 9.00% of mass 95	6.28
173	Less than 1.99% of mass 174	0.68 (1.19)
174	50.01 - 120.00% of mass 95	57.18
175	4.00 - 9.00% of mass 174	4.92 (8.60)
176	93.00 - 101.00% of mass 174	57.17 (99.99)
177	5.00 - 9.00% of mass 176	3.93 (6.87)

Data File: /var/chem/msd14.i/17jun16.b/14061701.d

Date : 17-JUN-2016 10:12

Client ID: BFB

Instrument: msd14.i

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

Volume Injected (uL): 1.0

Operator: gd

Column phase:

Column diameter: 2.00

Data File: 14061701.d
Spectrum: Avg. Scans 301-303 (2.72), Background Scan 292
Location of Maximum: 95.00
Number of points: 108

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2021	67.00	1048	104.00	1504	146.00	138
37.00	13585	68.00	27808	105.00	378	147.00	311
38.00	10081	69.00	27968	106.00	1132	148.00	318
39.00	4387	70.00	2244	107.00	71	149.00	126
40.00	889	72.00	1167	110.00	228	150.00	66
43.00	267	73.00	12270	111.00	257	153.00	111
44.00	1373	74.00	43536	113.00	400	155.00	614
45.00	2738	75.00	132736	115.00	238	157.00	469
46.00	414	76.00	10215	116.00	854	159.00	135
47.00	3402	77.00	1371	117.00	1586	161.00	340
48.00	1701	78.00	948	118.00	1187	170.00	64
49.00	13555	79.00	8876	119.00	1182	172.00	657
50.00	62800	80.00	2683	123.00	59	173.00	1613
51.00	19424	81.00	9583	124.00	94	174.00	135808
52.00	1061	82.00	1942	125.00	268	175.00	11688
53.00	68	83.00	179	128.00	870	176.00	135808
54.00	157	86.00	227	129.00	357	177.00	9337
55.00	660	87.00	9954	130.00	409	178.00	341
56.00	4247	88.00	9072	131.00	530	195.00	52
57.00	9642	89.00	202	135.00	434	207.00	79
58.00	521	91.00	898	136.00	103	209.00	93
59.00	52	92.00	8161	137.00	404	232.00	195
60.00	3392	93.00	9710	140.00	150	247.00	54
61.00	13738	94.00	29216	141.00	2601	269.00	230
62.00	15114	95.00	237504	142.00	234		
63.00	9471	96.00	14910	143.00	3577		
64.00	987	97.00	530	144.00	174		
65.00	299	103.00	173	145.00	459		

Shipping/ Receiving Documents

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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

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

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

Project Manager Terry Taylor
Collected by: (Print and Sign)
Company AMAT Email
Address 2700 Westchester City Purchase State NY Zip 10577
Phone 914-231-0400 Fax

Project Info:
P.O. #
Project # Building 7 VI
Project Name

Turn Around Time:
☒ Normal
☐ Rush
specify

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

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
~~01A~~ AA 6/16/16	B7IA-1(061016)	6L1283	6/11/16	1850	TO-15	30	7		
02A	B7IA-1D(061016)	Ø3536	6/11/16	1850	TO-15	30	6.5		
03A	B7IA-2(061016)	0Ø389	6/11/16	1950	TO-15	30	7		
04A	B7IA-3(061016)	0Ø354	6/11/16	1947	TO-15	30	9		
05A	B7IA-4(061016)	NØ584	6/11/16	1919	TO-15	30	8		
06A	B7IA-5(061016)	34423	6/11/16	1909	TO-15	30	5		
07A	B7IA-6(061016)	44Ø	6/11/16	1937	TO-15	28	6		
08A	B7AA(061016)	25249	6/11/16	1825	TO-15	30	9		
09A	B7SS-1(061216)	37677	6/12/16	1252	TO-15	30	5		
10A	B7SS-1D(061216)	34581	6/12/16	1251	TO-15	30	5		

Relinquished by: (signature) Date/Time: 13 Jun 16 1700
Relinquished by: (signature) Date/Time
Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time: FedEx (Trk#7765 0601 1091)
Received by: (signature) Date/Time: 6-14-16 1000
Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1506298

Form 1293 rev.11

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

Page 2 of 2

Project Manager Terry Taylor
Collected by: (Print and Sign)
Company AMAI Email
Address 2700 Westchester City Purchase State NY Zip 10577
Phone 914-251-0400 Fax

Project Info:
P.O. #
Project # Building 7 VI
Project Name

Turn Around Time:
☒ Normal
☐ Rush
specify

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

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
AMA 6/14/16 11A	B7SS-2(061216)	36539	6/12/16	1347	TO-15	30	5		
12A	B7SS-3(061216)	N2040	6/12/16	1705	TO-15	21	3		
13A	B7SS-4(061216)	35658	6/12/16	1620	TO-15	30	5		
14A	B7SS-5(061216)	1L2744	6/12/16	1116	TO-15	30	5		
15A	B7SS-6(061216)	1L1606	6/12/16	1748	TO-15	29	5		
16A	B15SS-1(061216)	35677	6/12/16	2012	TO-15	30	5		

Relinquished by: (signature) Date/Time 13JUN16 1700
Received by: (signature) Date/Time FedEx (Trk# 7765 0601 1091)
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time 6-14-16 1000
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1606298

Form 1293 rev.11

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SAMPLE RECEIPT SUMMARY

WORKORDER 1606298F

Client

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

Phone

(914) 251-0400

Fax

Date Promised: 06/20/16 2:00 pm
Date Completed: 6/20/16
Date Received: 6/14/16
PO#:
Project#: Building 7 VI

Total $: $ 98.75
Logged By: AA

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
16A	B15SS-1(061216)	Modified TO-15 (5&20 ppbv)	6/12/2016	3.5 "Hg	$93.75
17A	Lab Blank	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
18A	CCV	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00

Misc. ChargeseCVP (1) @ $5.00 each. $5.00

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

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

Analysis Code: TO-15 (5&20)

REMARKS: A 25% surcharge is applied for a 4 day turnaround time.

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: 02/23/16
Workorder # 1606298F	Form F1.27	Revision #13	Revision Date: 02/23/16	Page 1 of 2

S1	S2	S3	S4	D	***Section 1* – Spec Out**				
					Initials/Instrument/Date	**S1:** 14 gl 6/17/16	**S2:**	**S3:**	**S4:**
✓				■	Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria				
NA				■	Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder				
✓				■	Manual Integrations included and approved				
✓				✓	Chain of Custody verified for special comments (add comments below)				
NA				■	Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)				

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

① OUT

A1	A2	A3	A4	D	***Section 2* – Sample Analysis**				
					Initials/Date	**A1:** gl 6/19/16	**A2:**	**A3:**	**A4:**
✓				✓	IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, and Canister #s Verified				
✓				NA	**a)** Tedlar Bag IDs verified against COC **b)** Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument				
✓				NA	Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓				■	12/24 Hr clock time & Hold Time met for all samples				
✓				NA	Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).				
				✓	All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)				

Analytical and special notes: 16B 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:** MC 6/20/16	**D2:**	**D3:**	**D4:**
NA					■	CAR # *(if applicable)*				
✓					■	Spectra Verified *(documentation of spectral defense included if applicable)*				
NA					■	TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)*				
✓						Lab Narrative is correct				
NA					■	TPH/NMOC calculations complete and included in folder				

Special notes: Raised RL from 50 ppbv to 100 ppbv – MC

A	3T	***Section 4*- Atlas Data Entry**	**Lumen verified and included in folder**	**Circle one: Yes/No**
		Initials/Date: MC 6/20/16	**3rd Tier:** *(needed only for DOD or per client request)*	
NA		Sample Discrepancy Report (SDR) complete and approved *(if applicable)*		
✓		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