eurofins | Air Toxics

Electronic Comprehensive Validation Package (eCVP)

eurofins | Air Toxics

COMPREHENSIVE VALIDATION PACKAGE

Modified TO-14A/15 (5&20 ppbv)

INVENTORY SHEET

Work Order #: 1605350B

	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	12
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)	13	19
b. Surrogate Recover Summary Form (If Applicable)	20	20
c. Internal Standard Summary Form (If Applicable)	21	21
d. Duplicate Results Summary Sheet	--	--
e. Matrix Spike/Matrix Spike Duplicate (Results + Raw Data	--	--
f. Initial Calibration Data (Summary Sheet + Raw Data)	22	31
g. MDL Study (If Applicable)	--	--
h. Continuing Calibration Verification Data (Summary Sheet	32	37
i. Second Source LCS(Summary + Raw Data)	--	--
j. Extraction Logs	--	--
k. Instrument Run Logs/Software Verification	38	38
l. GC/MS Tune (Results + Raw Data)	39	42
4. Shipping/Receiving Documents		
a. Login Receipt Summary Sheet	43	44
b. Chain-of-Custody Records	45	45
c. Sample Log-In Sheet	46	46
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	47	49
e. Laboratory Corrective Action Request	--	--
f. CAS Number Reference	50	50
g. Variance Table	--	--
h. Canister Certification	--	--
i. Data Review Check Sheet	51	52

Comments:

Completed by:

Vera Belitsky	Vera Belitsky / Document Control	5/26/16
(Signature)	(Print Name & Title)	(Date)

CONFIDENTIALITY NOTICE: This communication and any accompanying documents are confidential and privileged. The proprietary information contained in this e-mail message, and any files transmitted with it, is intended for the use of the recipient(s) named above. If you received this transmission in error, you are advised that any disclosure, copying, distribution, or the taking of any action in reliance upon the communication is strictly prohibited. If you have received this communication in error, please contact Eurofins Air Toxics, Inc. at (916)-985-1000.

eurofins | Air Toxics

WORK ORDER #: 1605350B

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 #**	
DATE RECEIVED:	05/18/2016	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	05/23/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B7AA-1 (05162016)	Modified TO-14A/15 (5&20]	6.5 "Hg	5.2 psi
02A	Lab Blank	Modified TO-14A/15 (5&20]	NA	NA
03A	CCV	Modified TO-14A/15 (5&20]	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 05/23/16

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

eurofins | Air Toxics

LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
Anderson Mulholland & Associates, Inc.
Workorder# 1605350B

One 6 Liter Summa Canister (100% Certified) sample was received on May 18, 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
B7AA-1 (05162016)	1605350B-01A	5/17/2016	5/18/2016	NA	3	5/20/2016	NA	Good
Lab Blank	1605350B-02A	NA	NA	NA	NA	5/20/2016	NA	Good
CCV	1605350B-03A	NA	NA	NA	NA	5/20/2016	NA	Good

Sample Results and Raw Data

eurofins | Air Toxics

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

Client Sample ID: B7AA-1 (05162016)

Lab ID#: 1605350B-01A

No Detections Were Found.

eurofins | Air Toxics

Client Sample ID: B7AA-1 (05162016)

Lab ID#: 1605350B-01A

EPA METHOD TO-15 GC/MS

File Name:	**14052005**	**Date of Collection:**	**5/17/16 10:27:00 AM**
Dil. Factor:	**1.73**	**Date of Analysis:**	**5/20/16 10:55 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methanol	170	Not Detected	230	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/20may16.b/14052005.d
Lab Smp Id: 1605350B-01A
Inj Date : 20-MAY-2016 10:55
Operator : gd Inst ID: msd14.i
Smp Info : 50ml #6L1297
Misc Info : 6.5"Hg>5.2psi
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/20may16.b/MEOH0520a.m
Meth Date : 20-May-2016 11:02 gdelacru Quant Type: ISTD
Cal Date : 20-MAY-2016 08:50 Cal File: 14052002.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
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	144157	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	112169			48.38- 108.38	77.81
5.319	5.319 (1.000)	49	281499			122.49- 182.49	195.27
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.459	6.444 (1.000)	114	715237	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	136814			0.00- 47.28	19.13
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	638912	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	413407			33.96- 93.96	64.70
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	309438	415.429	415.43	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	149953			22.50- 82.50	48.46
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.814 (1.210)	98	792834	404.371	404.37	80.00- 120.00	100.00
7.814	7.814 (1.210)	70	97606			0.00- 42.36	12.31

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	532339			36.13- 96.13	67.14
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.646	9.647	(1.083)	174	333075	396.593	396.59	80.00- 120.00	100.00
9.632	9.647	(1.082)	95	561825			113.45- 173.45	168.68
9.646	9.647	(1.083)	176	318253			68.10- 128.10	95.55

Report Date: 23-May-2016 16:04

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14052005.d
Lab Smp Id: 1605350B-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: gd
Method File: /chem/msd14.i/20may16.b/MEOH0520a.m
Misc Info: 6.5"Hg>5.2psi

Calibration Date: 20-MAY-2016
Calibration Time: 08:50

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	143221	85933	200509	144157	0.65
123 1,4-Difluorobenze	693044	415826	970262	715237	3.20
163 Chlorobenzene-d5	593882	356329	831435	638912	7.58

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-May-2016 16:04

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 20may16
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1605350B-01A
Level: LOW Operator: gd
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926Spectra.spk Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/20may16.b/MEOH0520a.m
Misc Info: 6.5"Hg>5.2psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	415.43	103.86	70-130
$ 146 Toluene-d8	400.00	404.37	101.09	70-130
$ 177 4-Bromofluorobenze	400.00	396.59	99.15	70-130

Data File: /chem/msd14.i/20may16.b/14052005.d

Date : 20-MAY-2016 10:55

Client ID:

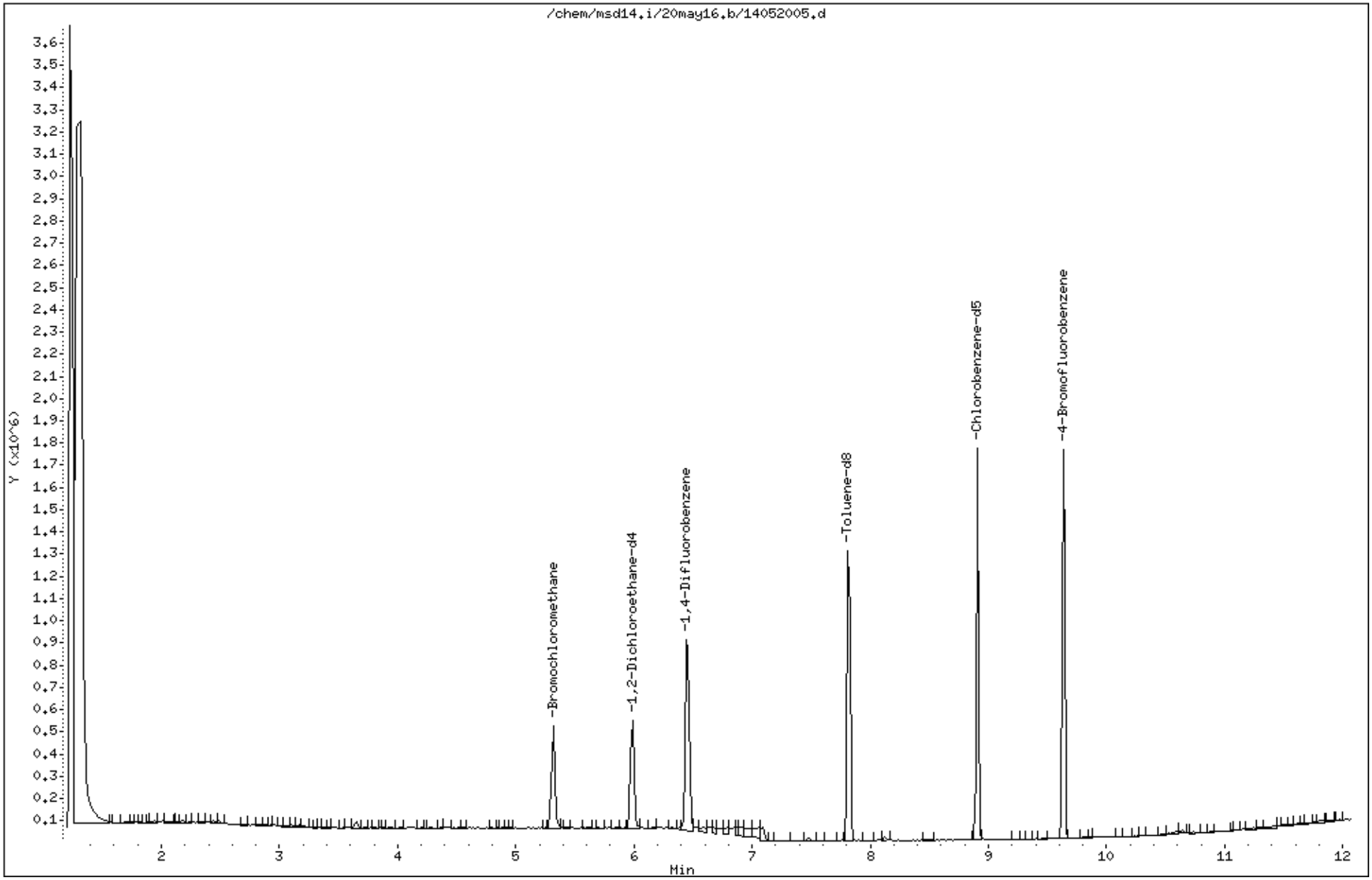
Sample Info: 50ml #6L1297

Column phase: RTX-624

Instrument: msd14.i

Operator: gd

Column diameter: 0.18



QC Results and Raw Data

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1605350B-02A

EPA METHOD TO-15 GC/MS

File Name:	**14052004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/20/16 10:12 AM**	

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	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /var/chem/msd14.i/20may16.b/14052004.d
Lab Smp Id: lab blank Client Smp ID: lab blank
Inj Date : 20-MAY-2016 10:12
Operator : gd Inst ID: msd14.i
Smp Info : 50ml #36041
Misc Info : humid
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/20may16.b/MEOH0520a.m
Meth Date : 20-May-2016 10:04 gdelacru Quant Type: ISTD
Cal Date : 20-MAY-2016 08:50 Cal File: 14052002.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
* 98 Bromochloromethane						CAS #: 74-97-5	
5.319	5.319 (1.000)	130	141519	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	108980			48.38- 108.38	77.01
5.319	5.319 (1.000)	49	273297			122.49- 182.49	193.12
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	680503	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	134360			0.00- 47.28	19.74
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	609796	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	398736			33.96- 93.96	65.39
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	291615	398.798	398.80	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	143947			22.50- 82.50	49.36
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.814 (1.212)	98	761926	408.442	408.44	80.00- 120.00	100.00
7.814	7.814 (1.212)	70	91391			0.00- 42.36	11.99

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 146 Toluene-d8 (continued)								
7.814	7.814	(1.212)	100	508809			36.13- 96.13	66.78
$ 177 4-Bromofluorobenzene						CAS #: 460-00-4		
9.647	9.647	(1.083)	174	320237	399.514	399.51	80.00- 120.00	100.00
9.633	9.633	(1.082)	95	529167			113.45- 173.45	165.24
9.647	9.647	(1.083)	176	308077			68.10- 128.10	96.20

Report Date: 20-May-2016 10:54

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14052004.d
Lab Smp Id: lab blank
Analysis Type: VOA
Quant Type: ISTD
Operator: gd
Method File: /chem/msd14.i/20may16.b/MEOH0520a.m
Misc Info: humid

Calibration Date: 20-MAY-2016
Calibration Time: 08:50
Client Smp ID: lab blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	143221	85933	200509	141519	-1.19
123 1,4-Difluorobenze	693044	415826	970262	680503	-1.81
163 Chlorobenzene-d5	593882	356329	831435	609796	2.68

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-May-2016 10:54

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 20may16
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: lab blank
Client Smp ID: lab blank
Level: LOW
Operator: gd
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926Spectra.spk
Quant Type: ISTD
Sublist File: MEOH.sub
Method File: /chem/msd14.i/20may16.b/MEOH0520a.m
Misc Info: humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 117 1,2-Dichloroethane	400.00	398.80	99.70	70-130
$ 146 Toluene-d8	400.00	408.44	102.11	70-130
$ 177 4-Bromofluorobenze	400.00	399.51	99.88	70-130

Data File: /chem/msd14.i/20may16.b/14052004.d

Date : 20-MAY-2016 10:12

Client ID: lab blank

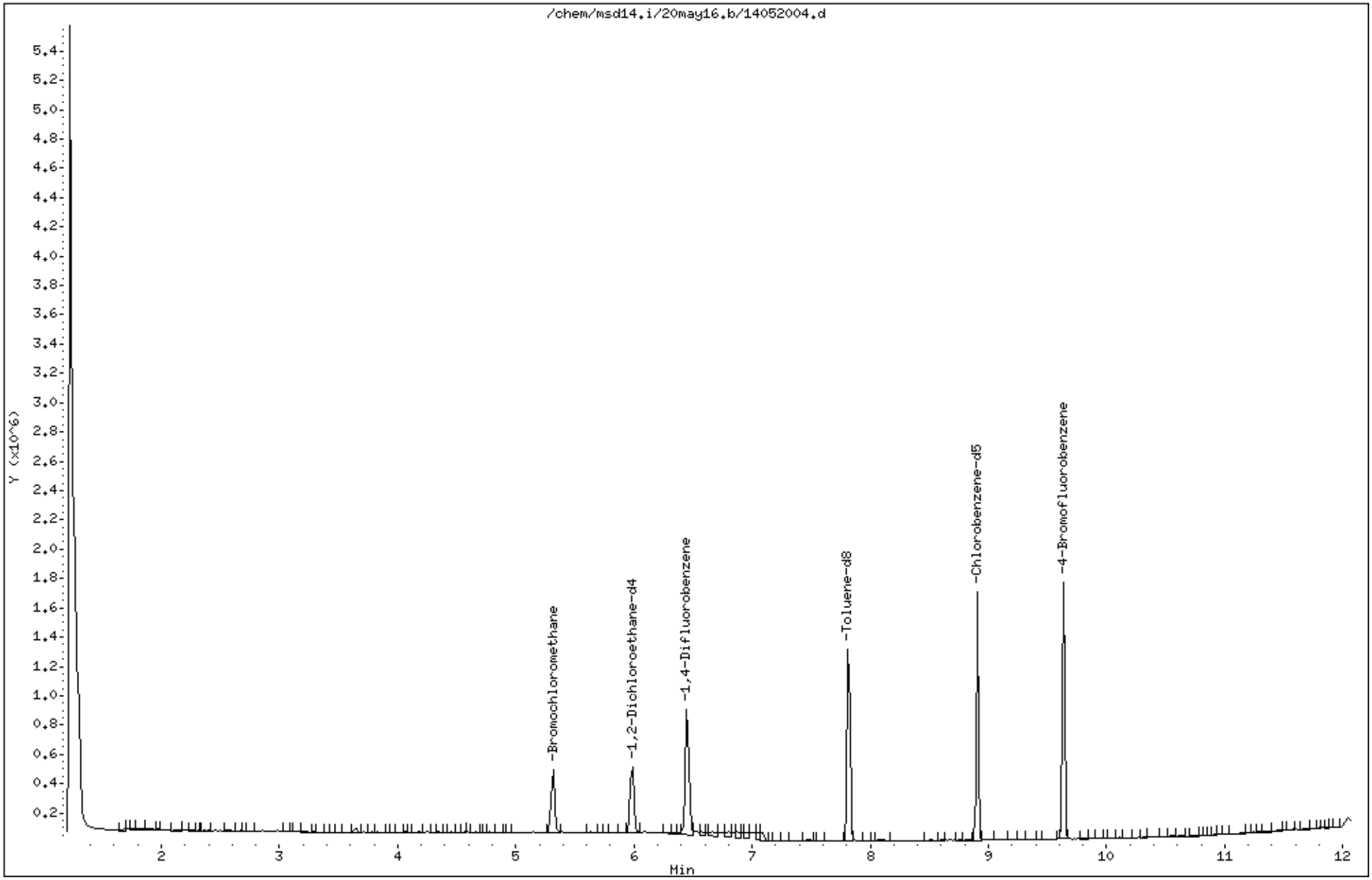
Instrument: msd14.i

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.: 1605350B

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	B7AA-1 (05162016)	104		101		99				0
02	Lab Blank	100		102		100				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: 1605350B

Lab File ID: 14052002a.d

Date Analyzed: 05/20/2016

Instrument ID: msd14.i

Time Analyzed: 08:50 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	593882		8.9		693044		6.44		143221		5.32	
	UPPER LIMIT	831435		09.23		970262		06.77		200509		05.65	
	LOWER LIMIT	356329		08.57		415826		06.11		85933		04.99	
	CLIENT SAMPLE NO												
01	B7AA-1 (05162016)	638912		8.9		715237		6.46		144157		5.32	
02	Lab Blank	609796		8.9		680503		6.44		141519		5.32	
03	CCV	593882		8.9		693044		6.44		143221		5.32	
04													
05													
06													
07													
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 : 20-MAY-2016 08:50
End Cal Date : 20-MAY-2016 08:50
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/20may16.b/MEOH0520a.m
Cal Date : 20-May-2016 11:02 gdelacru
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd14.i/20may16.b/14052002.d

	100.000	___	
Compound	Level 5	RRF	% RSD
28 Methanol	0.83619	0.83619	0.000
$ 117 1,2-Dichloroethane-d4	2.06681	2.06681	0.000
$ 146 Toluene-d8	1.09651	1.09651	0.000
$ 177 4-Bromofluorobenzene	0.52579	0.52579	0.000

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 20-MAY-2016 08:50
End Cal Date : 20-MAY-2016 08:50
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/20may16.b/MEOH0520a.m
Cal Date : 20-May-2016 11:02 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/20may16.b/MEOH0520a.m
Start Cal Date: 20-MAY-2016 08:50
End Cal Date : 20-MAY-2016 08:50

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 5 , Cal Amount: 100.00000		
20-MAY-2016 08:50	MEOH	/chem/msd14.i/20may16.b/14052002.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 5

Ccal Level: 5 , Ccal Amount: 100.00		
20-MAY-2016 08:50	MEOH	/chem/msd14.i/20may16.b/14052002a.d
Ccal Level: 5 , Ccal Amount: 100.00		
20-MAY-2016 08:50	MEOH	/chem/msd14.i/20may16.b/14052002.d

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 20-MAY-2016 08:50
End Cal Date : 20-MAY-2016 08:50
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd14.i/20may16.b/MEOH0520a.m
Cal Date : 20-May-2016 11:02 gdelacru
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd14.i/20may16.b/14052002.d

gd 5/20/16

Compound	100.000 Level 5	RRF	% RSD
28 Methanol	0.83619	0.83619	0.000
$ 117 1,2-Dichloroethane-d4	2.06681	2.06681	0.000
$ 146 Toluene-d8	1.09651	1.09651	0.000
$ 177 4-Bromofluorobenzene	0.52579	0.52579	0.000

MEOH0520a.M
Initial Calibration Narrative

A 1-point Methanol initial calibration was analyzed on MSD-14 on 5/20/16.

No ICV or MDL needed.

BFB Tune file - 14052002

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

BFB Verification of 176/174 m/z Ratio: 151290/161864 X100 = 93.47 %	
Method Name: MeOH 0520a	

IS/S Std. #: 2789-55	Exp. Date: 7/6/16
BCM	143221
1,4-DFB	693044
CB-d5	593882

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	/	14052001	BFB tune check	2299-1476	50 ng	2.0 mL	1.00	gd	5/20/16	0827	gd	
2	/	02	ICAL Level 5	2789-145	100 ppbv	5 mL				0850		Exp: 8/17/16
3	X	03	lab Blank	36041	Humid	50 mL				0947		
4	/	04								1012		
5		05	16053508-01A	6L1297	6.5 Hg - 5.2 psi		1.73					
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												

gd 5/20/16

gd
Reviewed

5/20/16
Date

Eurofins Air Toxics Inc.

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/20may16.b/14052002.d
Lab Smp Id: ICAL 5
Inj Date : 20-MAY-2016 08:50
Operator : gd Inst ID: msd14.i
Smp Info : 5.0ml #2789-145
Misc Info : 100ppbv (1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/20may16.b/MEOH0520a.m
Meth Date : 20-May-2016 10:01 gdelacru Quant Type: ISTD
Cal Date : 20-MAY-2016 08:50 Cal File: 14052002.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	143221	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	110169			48.38- 108.38	76.92
5.319	5.319 (1.000)	49	277909			122.49- 182.49	194.04
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	693044	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	134244			0.00- 47.28	19.37
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	593882	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	387642			33.96- 93.96	65.27
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	296011	400.000	400.00	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	141013			22.50- 82.50	47.64
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.814 (1.212)	98	759929	400.000	400.00	80.00- 120.00	100.00
7.814	7.814 (1.212)	70	94604			0.00- 42.36	12.45

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	512551			36.13- 96.13	67.45
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.647	9.647 (1.083)	174	312260	400.000	400.00	80.00- 120.00	100.00
9.633	9.633 (1.082)	95	515695			113.45- 173.45	165.15
9.647	9.647 (1.083)	176	302918			68.10- 128.10	97.01
28 Methanol					CAS #: 67-56-1		
2.028	2.028 (0.381)	31	29940	100.000	100.00	0.00- 0.00	100.00
2.042	2.042 (0.384)	32	49529			0.00- 0.00	165.43

Report Date: 20-May-2016 10:01

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14052002.d
Lab Smp Id: ICAL 5
Analysis Type: VOA
Quant Type: ISTD
Operator: gd
Method File: /chem/msd14.i/20may16.b/MEOH0520a.m
Misc Info: 100ppbv (1000ppbv)

Calibration Date: 20-MAY-2016
Calibration Time: 08:50

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	143221	85933	200509	143221	0.00
123 1,4-Difluorobenze	693044	415826	970262	693044	0.00
163 Chlorobenzene-d5	593882	356329	831435	593882	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/20may16.b/14052002.d

Date : 20-MAY-2016 08:50

Client ID:

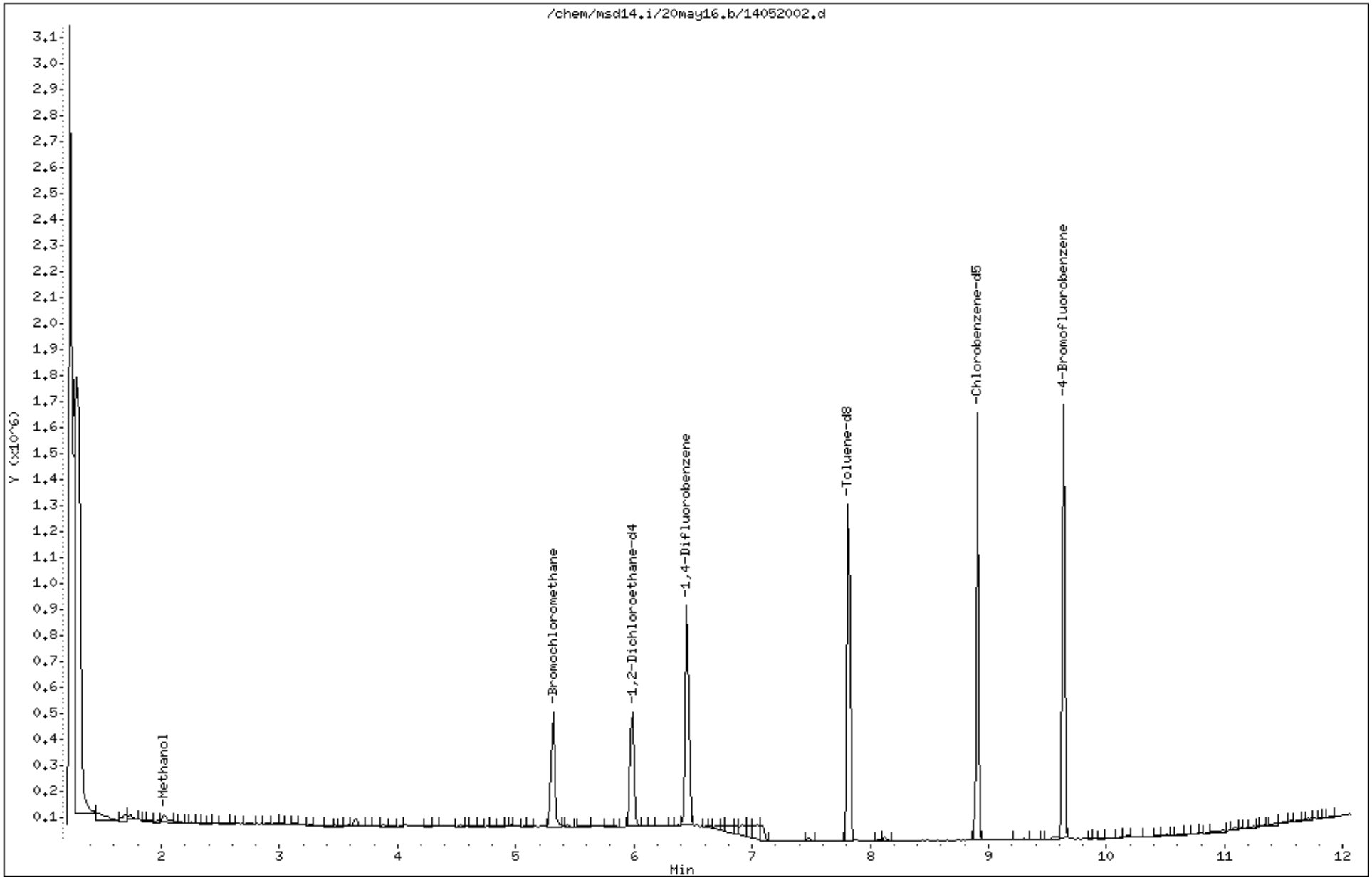
Sample Info: 5.0ml #2789-145

Column phase: RTX-624

Instrument: msd14.i

Operator: gd

Column diameter: 0.18



eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1605350B-03A

EPA METHOD TO-15 GC/MS

File Name:	**14052002a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/20/16 08:50 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: 20-MAY-2016 08:50
Lab File ID: 14052002a.d Init. Cal. Date(s): 20-MAY-2016 20-MAY-2016
Analysis Type: AIR Init. Cal. Times: 08:50 08:50
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd14.i/20may16.b/MEOH0520a.m

COMPOUND	RRF / AMOUNT	RF100	MIN RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
$ 117 1,2-Dichloroethane-d4	2.06681	2.06681	0.010	0.00020	30.00000	Averaged
$ 146 Toluene-d8	1.09651	1.09651	0.010	-2.096e-06	30.00000	Averaged
$ 177 4-Bromofluorobenzene	0.52579	0.52580	0.010	-0.00024	30.00000	Averaged
28 Methanol	0.83619	0.83620	0.010	-0.00062	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 0.00027
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/20may16.b/14052002a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 20-MAY-2016 08:50
Operator : gd Inst ID: msd14.i
Smp Info : 5.0ml #2789-145
Misc Info : 100ppbv (1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/20may16.b/MEOH0520a.m
Meth Date : 20-May-2016 10:04 gdelacru Quant Type: ISTD
Cal Date : 20-MAY-2016 08:50 Cal File: 14052002.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	143221	400.000		80.00- 120.00	100.00
5.319	5.319 (1.000)	128	110169			48.38- 108.38	76.92
5.319	5.319 (1.000)	49	277909			122.49- 182.49	194.04
* 123 1,4-Difluorobenzene						CAS #: 540-36-3	
6.444	6.444 (1.000)	114	693044	400.000		80.00- 120.00	100.00
6.444	6.444 (1.000)	88	134244			0.00- 47.28	19.37
* 163 Chlorobenzene-d5						CAS #: 3114-55-4	
8.905	8.905 (1.000)	117	593882	400.000		80.00- 120.00	100.00
8.905	8.905 (1.000)	82	387642			33.96- 93.96	65.27
$ 117 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.988	5.988 (1.126)	65	296011	400.000	400.00	80.00- 120.00	100.00
5.988	5.988 (1.126)	67	141013			22.50- 82.50	47.64
$ 146 Toluene-d8						CAS #: 2037-26-5	
7.814	7.814 (1.212)	98	759929	400.000	400.00	80.00- 120.00	100.00
7.814	7.814 (1.212)	70	94604			0.00- 42.36	12.45

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	512551			36.13- 96.13	67.45
$ 177 4-Bromofluorobenzene					CAS #: 460-00-4		
9.647	9.647 (1.083)	174	312260	400.000	400.00	80.00- 120.00	100.00
9.633	9.633 (1.082)	95	515695			113.45- 173.45	165.15
9.647	9.647 (1.083)	176	302918			68.10- 128.10	97.01
28 Methanol					CAS #: 67-56-1		
2.028	2.028 (0.381)	31	29940	100.000	100.00	0.00- 0.00	100.00
2.042	2.042 (0.384)	32	49529			0.00- 0.00	165.43

Report Date: 20-May-2016 10:04

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14052002a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: gd
Method File: /chem/msd14.i/20may16.b/MEOH0520a.m
Misc Info: 100ppbv (1000ppbv)

Calibration Date: 20-MAY-2016
Calibration Time: 08:50
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
98 Bromochloromethan	143221	85933	200509	143221	0.00
123 1,4-Difluorobenze	693044	415826	970262	693044	0.00
163 Chlorobenzene-d5	593882	356329	831435	593882	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/20may16.b/14052002a.d

Date : 20-MAY-2016 08:50

Client ID: CCV

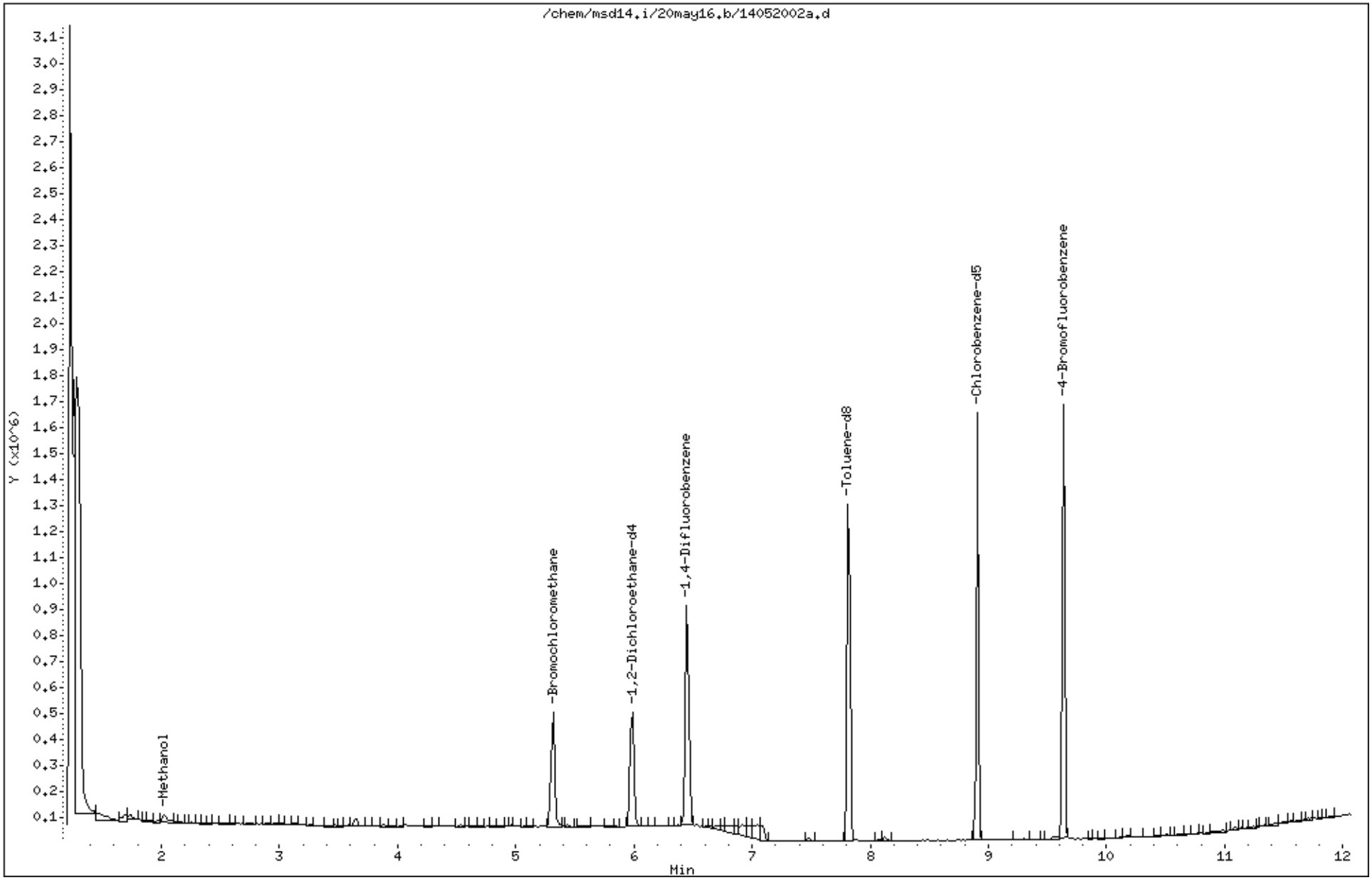
Sample Info: 5.0ml #2789-145

Column phase: RTX-624

Instrument: msd14.i

Operator: gd

Column diameter: 0.18



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

BFB Verification of 176/174 m/z Ratio:	151290/161824 X100 = 93.47 %
Method Name:	MeOH 0520a

IS/S Std. #: 2789-55	Exp. Date: 7/6/16
BCM	143221
1,4-DFB	693044
CB-d5	593882

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	✓	14052001	BFB tune check	2299-1476	50 ng	2.0 mL	1.00	gd	5/20/16	0827	gd	
2	✓	02	ICAL Level 5	2789-145	100 ppbv	5 mL				0850		Exp: 8/17/16/CCV
3	X	03	Lab Blank	36041	Humid	50 mL				0947		
4	✓	04	↓	↓	↓		↓			1012		
5	✓	05	1605350B-01A	6L1297	6.5 Hg - 5.2 psi		1.73			1055		
6	✓	06	1605308E-01A	04355	5.5 Hg - 5 psi		1.64			1118		
7	✓	07	↓ -03A	6L0431	10.6 Hg - 5 psi		2.07			1146		
8	✓	08	↓ -07A	04316	14.9 Hg - 5.1 psi		2.68			1219		
9	✓	09	1605308B-02A	04304	5.9 Hg - 4.9 psi		1.66			1241		
10	✓	10	-04A	04314	8 Hg - 4.8 psi		1.80			1342		
11	✓	11	-05A	5737	5.1 Hg - 5.1 psi		1.62			1409		
12	✓	12	↓ -06A	6L1224	4.5 Hg - 5 psi		1.58			1439	↓	
13												
14												
15												
16												
17									gd			

Reviewed gd Date 5/20/16

Eurofins Air Toxics Inc.

Data file : /var/chem/msd14.i/20may16.b/14052001.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 20-MAY-2016 08:27
Operator : gd Inst ID: msd14.i
Smp Info : 2.0uL# 2299-1476; BFB; BFB
Misc Info : 50ng
Comment :
Method : /var/chem/msd14.i/20may16.b/bfb20.m
Meth Date : 20-May-2016 08:39 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		
2.730	2.483	0.247	95	270188			100.00- 100.00	100.00
2.730	2.483	0.247	50	66626			8.00- 40.00	24.66
2.730	2.483	0.247	75	140949			30.00- 66.00	52.17
2.730	2.483	0.247	96	18707			5.00- 9.00	6.92
2.730	2.483	0.247	173	1975			0.00- 1.99	1.22
2.730	2.483	0.247	174	161864			50.01- 120.00	59.91
2.730	2.483	0.247	175	12053			4.00- 9.00	7.45
2.730	2.483	0.247	176	151290			93.00- 101.00	93.47
2.730	2.483	0.247	177	10456			5.00- 9.00	6.91

Data File: /var/chem/msd14.i/20may16.b/14052001.d

Date : 20-MAY-2016 08:27

Client ID: BFB

Instrument: msd14.i

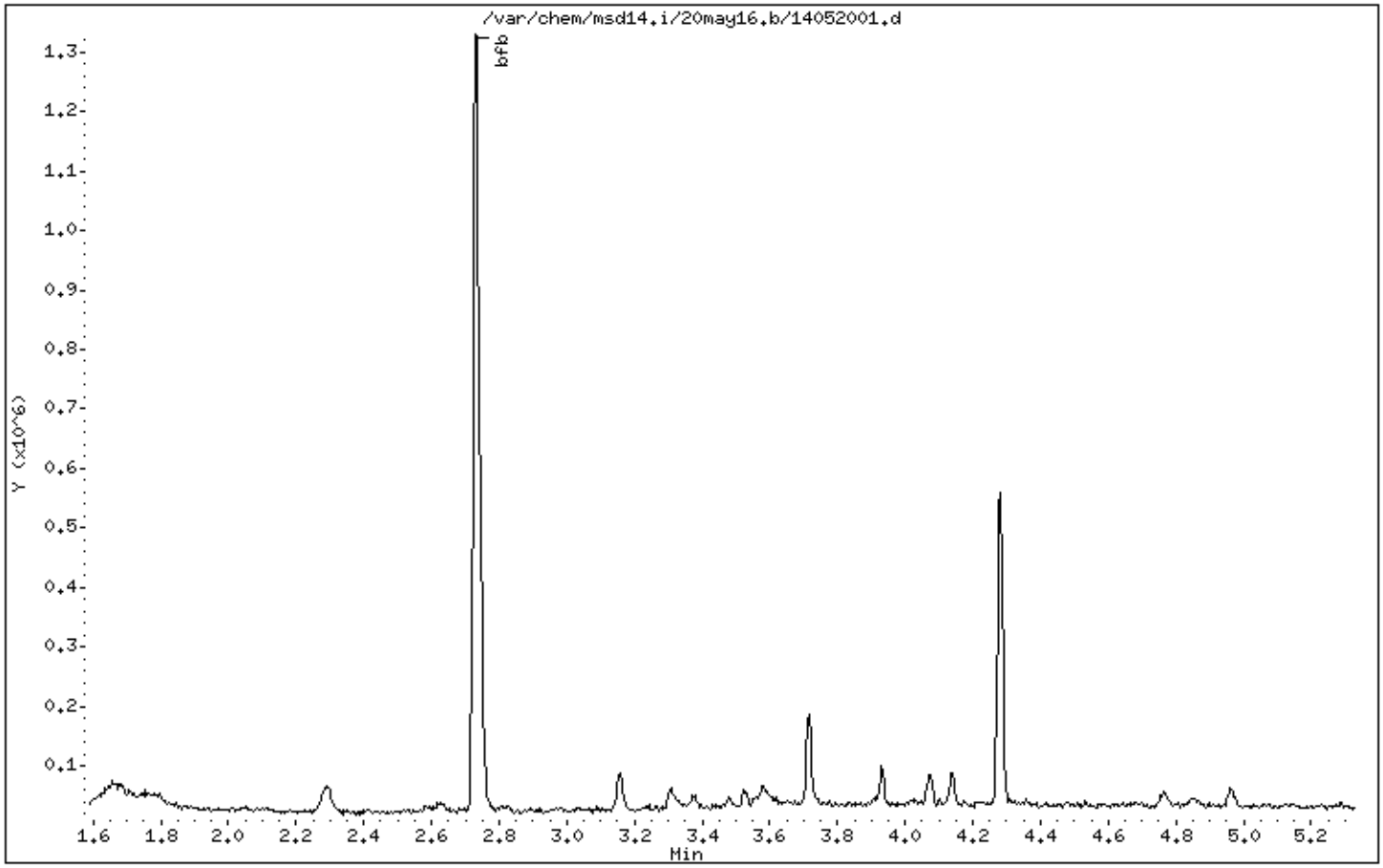
Sample Info: 2.0uL# 2299-1476; BFB; BFB

Volume Injected (uL): 1.0

Operator: gd

Column phase:

Column diameter: 2.00



Data File: /var/chem/msd14.i/20may16.b/14052001.d

Date : 20-MAY-2016 08:27

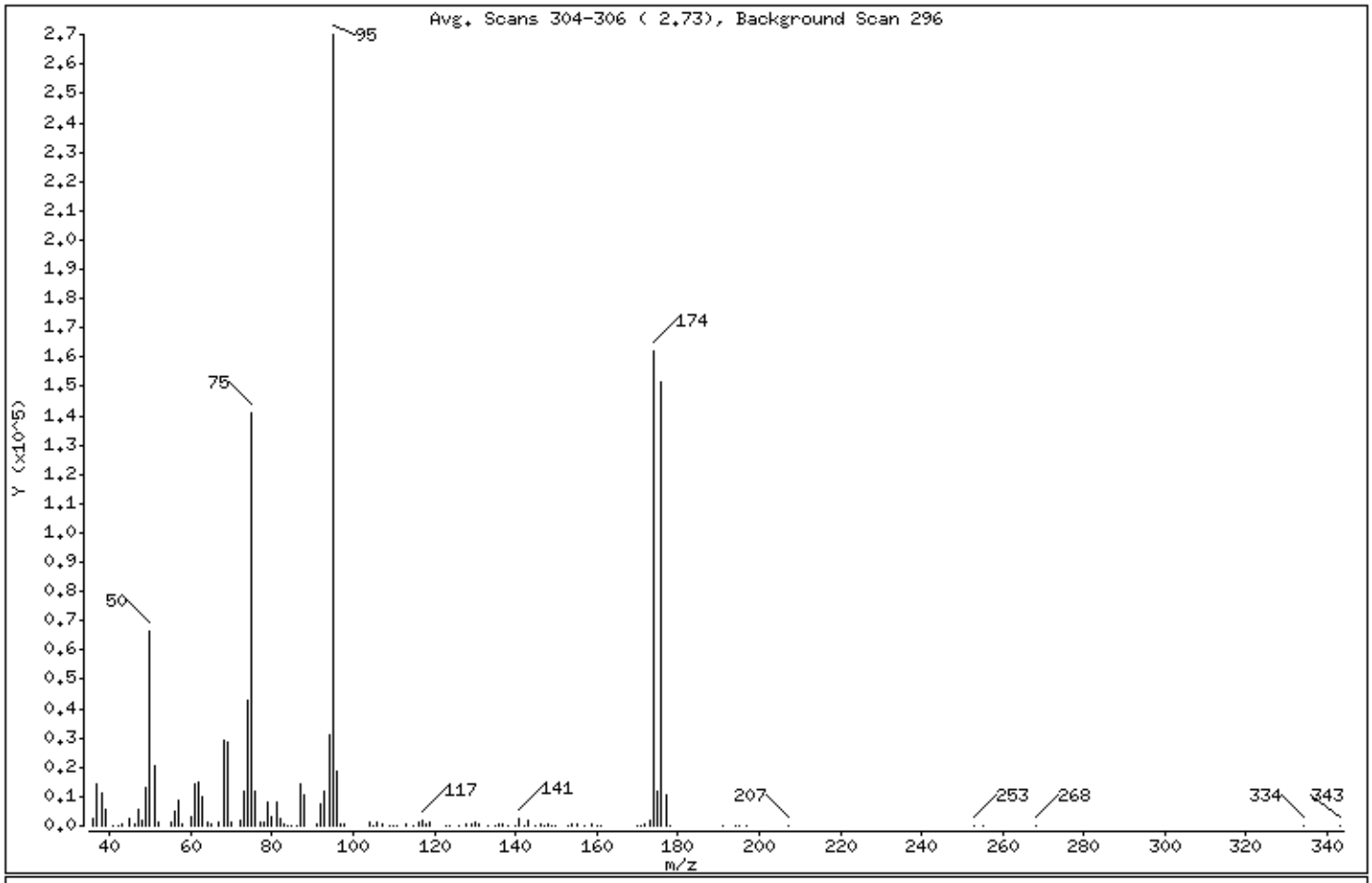
Client ID: BFB Instrument: msd14.i

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	24.66
75	30.00 - 66.00% of mass 95	52.17
96	5.00 - 9.00% of mass 95	6.92
173	Less than 1.99% of mass 174	0.73 (1.22)
174	50.01 - 120.00% of mass 95	59.91
175	4.00 - 9.00% of mass 174	4.46 (7.45)
176	93.00 - 101.00% of mass 174	55.99 (93.47)
177	5.00 - 9.00% of mass 176	3.87 (6.91)

Data File: /var/chem/msd14.i/20may16.b/14052001.d

Date : 20-MAY-2016 08:27

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: 14052001.d
Spectrum: Avg. Scans 304-306 (2.73), Background Scan 296
Location of Maximum: 95.00
Number of points: 115

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2497	72.00	2127	109.00	153	149.00	65
37.00	13976	73.00	11672	110.00	93	150.00	200
38.00	11393	74.00	43136	111.00	278	153.00	113
39.00	5801	75.00	140928	113.00	351	154.00	360
41.00	93	76.00	11931	115.00	21	155.00	531
42.00	261	77.00	1527	116.00	957	157.00	264
43.00	415	78.00	1333	117.00	1561	159.00	470
45.00	2246	79.00	8295	118.00	902	160.00	51
46.00	375	80.00	2833	119.00	1411	161.00	173
47.00	5454	81.00	7850	123.00	124	170.00	123
48.00	1842	82.00	2215	124.00	14	171.00	77
49.00	13030	83.00	491	126.00	188	172.00	628
50.00	66624	84.00	222	128.00	642	173.00	1975
51.00	20488	85.00	222	129.00	462	174.00	161856
52.00	993	86.00	218	130.00	953	175.00	12053
55.00	942	87.00	14548	131.00	370	176.00	151232
56.00	4664	88.00	10675	133.00	63	177.00	10456
57.00	8493	91.00	755	135.00	144	178.00	282
58.00	849	92.00	7456	136.00	333	191.00	130
60.00	3121	93.00	12055	137.00	356	194.00	83
61.00	14401	94.00	31128	138.00	275	195.00	67
62.00	14770	95.00	270144	140.00	168	197.00	90
63.00	10107	96.00	18704	141.00	2517	207.00	137
64.00	968	97.00	884	142.00	150	253.00	108
65.00	377	98.00	336	143.00	2116	255.00	73
67.00	1191	104.00	1052	145.00	67	268.00	203
68.00	29120	105.00	228	146.00	519	334.00	72
69.00	28360	106.00	1376	147.00	263	343.00	52
70.00	1533	107.00	469	148.00	613		

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

FedEx tracking 7831 0105 4196

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) David Lindstrand
Company Anderson Mulholland Email
Address 2700 Westchester City Purchase State NY Zip 10577
Phone 914-251-0400 Fax

Project Info:
P.O. #
Project #
Project Name

Turn Around Time:
☐ Normal
☒ Rush 24-hour 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 (in Hg vac)	Final (in Hg vac)	Receipt	Final (psi)
01a	B7AA-1 (05162016)	6L1297	5/17/16	10:27	TO-15	>30	8.0		
	B7AA-1 (05132016)	12695	5/14/16	21:05	Do Not Analyze	730	28.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
David Lindstrand	05/17/16 1500	Fed Ex	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
		[illegible] EATL	1045 5/18/16
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		N/A		Yes No None	1605350

Form 1293 rev.11

eurofins | Air Toxics

SAMPLE RECEIPT SUMMARY

WORKORDER 1605350B

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: 05/23/16 11:59 pm
Date Completed: 5/23/16
Date Received: 5/18/16
PO#:
Project#:

Total $: $ 117.50
Logged By: KK

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	B7AA-1 (05162016)	Modified TO-14A/15 (5&20 p	5/17/2016	6.5 "Hg	$112.50
02A	Lab Blank	Modified TO-14A/15 (5&20 p	NA	NA	$0.00
03A	CCV	Modified TO-14A/15 (5&20 p	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 50% surcharge is applied for a 72 hour 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 # 1605350B	Form F1.27	Revision #13	Revision Date: 02/23/16	Page 1 of 2

S1	S2	S3	S4	D	Section 1 – Spec Out 14				
					Initials/Instrument/Date	S1: gd 5/20/16	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:

Q out QC

A1	A2	A3	A4	D	Section 2 – Sample Analysis				
					Initials/Date	A1: gd 5/20/16	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				
✓					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: OIA SK

D1	D2	D3	D4	T	3T	Section 3 – Target Data Reduction	Technical Review Needed? Circle one: Yes/No		T:	
						Initials/Instrument/ Date	D1: SS 5/23/16	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 50 ppbv → 100ppbv

A	3T	Section 4- Atlas Data Entry	Lumen verified and included in folder	Circle one: Yes/No
		Initials/Date: SS 5/23/16	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