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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 #: 1412151C

| | Page Nos. From | Page Nos. To |
|---|---|---|
| 1. Work Order Cover Page & Laboratory Narrative | 1 | 4 |
| a. Lumen Validation Report | -- | -- |
| 2. Sample Results and Raw Data (Organized by Sample) | 5 | 40 |
| a. ATL Sample Results Form | | |
| b. Target Compound Raw Data | | |
| -Internal Standard Area and Retention Time Summary | | |
| -Surrogate Recovery Summary (If Applicable) | | |
| -Chromatogram(s) and Ion Profiles (If Applicable) | | |
| 3. QC Results and Raw Data | | |
| a. Method Blank (Results+ Raw Data) | 41 | 47 |
| b. Surrogate Recover Summary Form (If Applicable) | 48 | 48 |
| c. Internal Standard Summary Form (If Applicable) | 49 | 49 |
| d. Duplicate Results Summary Sheet | -- | -- |
| e. Matrix Spike/Matrix Spike Duplicate (Results + Raw Data | -- | -- |
| f. Initial Calibration Data (Summary Sheet + Raw Data) | 50 | 58 |
| g. MDL Study (If Applicable) | -- | -- |
| h. Continuing Calibration Verification Data (Summary Sheet | 59 | 64 |
| i. Second Source LCS(Summary + Raw Data) | -- | -- |
| j. Extraction Logs | -- | -- |
| k. Instrument Run Logs/Software Verification | 65 | 65 |
| l. GC/MS Tune (Results + Raw Data) | 66 | 69 |
| 4. Shipping/Receiving Documents | | |
| a. Login Receipt Summary Sheet | 70 | 71 |
| b. Chain-of-Custody Records | 72 | 72 |
| c. Sample Log-In Sheet | 73 | 73 |
| d. Misc Shipping/Receiving Records (list of individual records) | | |
| Sample Receipt Discrepancy Report | 74 | 76 |
| 5. Other Records (describe or list) | | |
| a. Manual Spectral Defense | -- | -- |
| b. Manual Integrations | -- | -- |
| c. Manual Calculations | -- | -- |
| d. Canister Dilution Factors | 77 | 79 |
| e. Laboratory Corrective Action Request | -- | -- |
| f. CAS Number Reference | 80 | 80 |
| g. Variance Table | -- | -- |
| h. Canister Certification | -- | -- |
| i. Data Review Check Sheet | 81 | 82 |

Comments:

Completed by:

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

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# WORK ORDER #: 1412151C

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Terry Taylor<br>Anderson Mulholland & Associates, Inc.<br>110 Corporate Park Drive<br>White Plains, NY 10604 | **BILL TO:** | Accounts Payable<br>Anderson Mulholland & Associates, Inc.<br>110 Corporate Park Drive<br>White Plains, NY 10604 |
| **PHONE:** | (914) 251-0400 | **P.O. #** | |
| **FAX:** | (914) 251-1286 | **PROJECT #** | Building 5 VI BMS- Humacao |
| **DATE RECEIVED:** | 12/10/2014 | **CONTACT:** | Brian Whittaker |
| **DATE COMPLETED:** | 12/23/2014 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | BSIA-5 (2014) | Modified TO-15 (5&20 ppbv | 4.5 "Hg | 5 psi |
| 02A | BSIA-3D (2014) | Modified TO-15 (5&20 ppbv | 16 "Hg | 5 psi |
| 03A | BSIA-3 (2014) | Modified TO-15 (5&20 ppbv | 3.0 "Hg | 5 psi |
| 04A | BSIA-11 (2014) | Modified TO-15 (5&20 ppbv | 8.0 "Hg | 5 psi |
| 05A | BSIA-9 (2014) | Modified TO-15 (5&20 ppbv | 5.0 "Hg | 5 psi |
| 06A | Lab Blank | Modified TO-15 (5&20 ppbv | NA | NA |
| 07A | CCV | Modified TO-15 (5&20 ppbv | NA | NA |

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 12/23/14

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(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# 1412151C**

Five 6 Liter Summa Canister (100% Certified) samples were received on December 10, 2014. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

**Receiving Notes**

Sample BSIA-3D (2014) was received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Table 1

| Client Sample ID | Lab Sample ID | Date Collected | Date Received | Date Extracted | Sample Holding Time (Days) | Sample Extract Date Analyzed | Sample Extract Holding Time (Days) | Sample Condition |
|---|---|---|---|---|---|---|---|---|
| BSIA-5 (2014) | 1412151C-01A | 12/ 8/2014 | 12/10/2014 | NA | 9 | 12/17/2014 | NA | Good |
| BSIA-3D (2014) | 1412151C-02A | 12/ 9/2014 | 12/10/2014 | NA | 8 | 12/17/2014 | NA | Good |
| BSIA-3 (2014) | 1412151C-03A | 12/ 9/2014 | 12/10/2014 | NA | 8 | 12/17/2014 | NA | Good |
| BSIA-11 (2014) | 1412151C-04A | 12/ 9/2014 | 12/10/2014 | NA | 8 | 12/17/2014 | NA | Good |
| BSIA-9 (2014) | 1412151C-05A | 12/ 9/2014 | 12/10/2014 | NA | 8 | 12/17/2014 | NA | Good |
| Lab Blank | 1412151C-06A | NA | NA | NA | NA | 12/17/2014 | NA | Good |
| CCV | 1412151C-07A | NA | NA | NA | NA | 12/17/2014 | NA | Good |

# Sample Results and Raw Data

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

**Client Sample ID: BSIA-5 (2014)**

**Lab ID#: 1412151C-01A**

No Detections Were Found.

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**Client Sample ID: BSIA-5 (2014)**

**Lab ID#: 1412151C-01A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j121706** | **Date of Collection:** | **12/8/14 3:55:00 PM** |
| **Dil. Factor:** | **1.58** | **Date of Analysis:** | **12/17/14 11:42 AM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Methanol | 79 | Not Detected | 100 | Not Detected |

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

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 70-130 |

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AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121706.d
Lab Smp Id: 1412151C-01A
Inj Date : 17-DEC-2014 11:42
Operator : cb Inst ID: msdj.i
Smp Info : 50ml 34723
Misc Info : 4.5 Hg->5 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 2
Dil Factor: 1.58000
Integrator: HP RTE Compound Sublist: MeOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.492 | 5.505 (1.000) | 130 | 230656 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.492 | 5.505 (1.000) | 128 | 182624 | | | 46.29- 106.29 | 79.18 |
| 5.492 | 5.492 (1.000) | 49 | 337413 | | | 113.98- 173.98 | 146.28 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.401 | 6.415 (1.000) | 114 | 1148283 | 400.000 | | 80.00- 120.00 | 100.00 |
| 6.401 | 6.415 (1.000) | 88 | 193378 | | | 0.00- 47.30 | 16.84 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.892 | 8.892 (1.000) | 117 | 1078329 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.892 | 8.892 (1.000) | 82 | 738809 | | | 35.58- 95.58 | 68.51 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.102) | 65 | 488507 | 410.398 | 410.40 | 80.00- 120.00 | 100.00 |
| 6.051 | 6.051 (1.102) | 67 | 246295 | | | 21.21- 81.21 | 50.42 |
| $ 107 Toluene-d8 | | | | | | CAS #: 2037-26-5 | |
| 7.646 | 7.646 (1.195) | 98 | 1366970 | | | 70.00- 130.00 | 100.00(aR) |
| 7.646 | 7.646 (1.195) | 70 | 144634 | | | 0.00- 30.00 | 10.58 |

| RT | EXP RT | (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| $ 107 Toluene-d8 (continued) | | | | | | | | |
| 7.646 | 7.646 | (1.195) | 100 | 870022 | | | 0.00- 30.00 | 63.65 |
| $ 138 Bromofluorobenzene | | | | | | CAS #: 460-00-4 | | |
| 9.885 | 9.885 | (1.112) | 174 | 667858 | 405.196 | 405.20 | 80.00- 120.00 | 100.00 |
| 9.885 | 9.885 | (1.112) | 95 | 1004904 | | | 117.74- 177.74 | 150.47 |
| 9.885 | 9.885 | (1.112) | 176 | 667626 | | | 70.47- 130.47 | 99.97 |

QC Flag Legend

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

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121706.d
Lab Smp Id: 1412151C-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 4.5 Hg->5 psi

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

Level: LOW
Sample Type: AIR

| COMPOUND | STANDARD | AREA LIMIT LOWER | AREA LIMIT UPPER | SAMPLE | %DIFF |
|---|---|---|---|---|---|
| 71 Bromochloromethan | 226114 | 135668 | 316560 | 230656 | 2.01 |
| 92 1,4-Difluorobenze | 1129066 | 677440 | 1580692 | 1148283 | 1.70 |
| 125 Chlorobenzene-d5 | 1075695 | 645417 | 1505973 | 1078329 | 0.24 |

| COMPOUND | STANDARD | RT LIMIT LOWER | RT LIMIT UPPER | SAMPLE | %DIFF |
|---|---|---|---|---|---|
| 71 Bromochloromethan | 5.51 | 5.18 | 5.84 | 5.49 | -0.25 |
| 92 1,4-Difluorobenze | 6.41 | 6.08 | 6.74 | 6.40 | -0.22 |
| 125 Chlorobenzene-d5 | 8.89 | 8.56 | 9.22 | 8.89 | 0.00 |

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

Report Date: 23-Dec-2014 07:58

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412151C-01A
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 4.5 Hg->5 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 84 1,2-Dichloroethane | 400.00 | 410.40 | 102.60 | 70-130 |
| $ 107 Toluene-d8 | 400.00 | 0.000 | 0.00* | 70-130 |
| $ 138 Bromofluorobenzene | 400.00 | 405.20 | 101.30 | 70-130 |

Data File: /chem/msdj.i/17dec14.b/j121706.d



Date : 17-DEC-2014 11:42

Client ID:

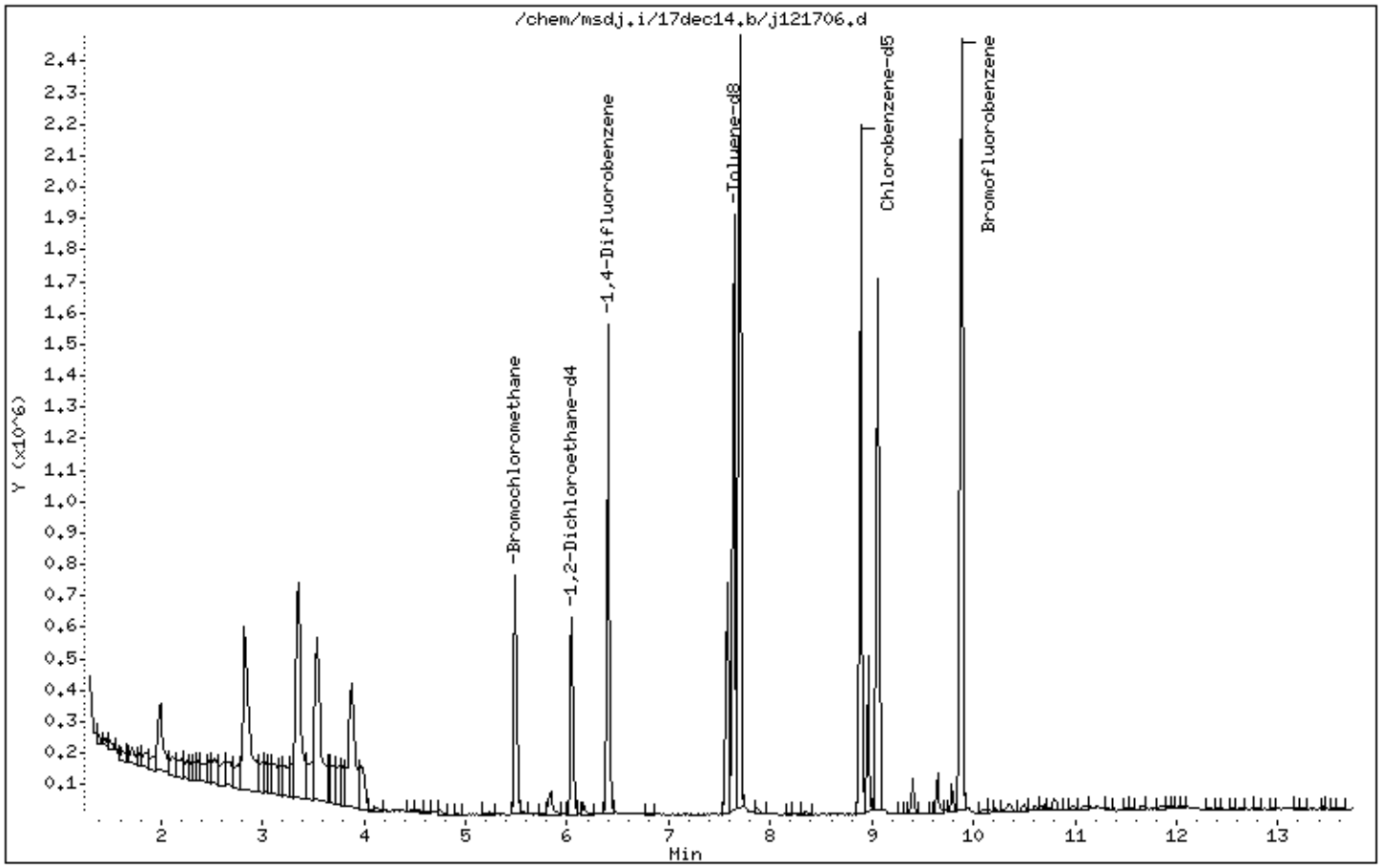
Instrument: msdj.i

Sample Info: 50ml 34723

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



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

**Client Sample ID: BSIA-3D (2014)**

**Lab ID#: 1412151C-02A**

No Detections Were Found.

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**Client Sample ID: BSIA-3D (2014)**

**Lab ID#: 1412151C-02A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j121707** | **Date of Collection:** | **12/9/14 9:30:00 AM** |
| **Dil. Factor:** | **2.87** | **Date of Analysis:** | **12/17/14 12:07 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Methanol | 140 | Not Detected | 190 | Not Detected |

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

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | 70-130 |

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121707.d
Lab Smp Id: 1412151C-02A
Inj Date : 17-DEC-2014 12:07
Operator : cb Inst ID: msdj.i
Smp Info : 50ml 35255
Misc Info : 16 Hg->5 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 3
Dil Factor: 2.87000
Integrator: HP RTE Compound Sublist: MeOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.492 | 5.505 (1.000) | 130 | 242092 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.492 | 5.505 (1.000) | 128 | 181450 | | | 46.29- 106.29 | 74.95 |
| 5.492 | 5.492 (1.000) | 49 | 336554 | | | 113.98- 173.98 | 139.02 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.415 | 6.415 (1.000) | 114 | 1170536 | 400.000 | | 80.00- 120.00 | 100.00 |
| 6.401 | 6.415 (1.000) | 88 | 200151 | | | 0.00- 47.30 | 17.10 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.892 | 8.892 (1.000) | 117 | 1108366 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.892 | 8.892 (1.000) | 82 | 746292 | | | 35.58- 95.58 | 67.33 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.102) | 65 | 490764 | 392.819 | 392.82 | 80.00- 120.00 | 100.00 |
| 6.051 | 6.051 (1.102) | 67 | 240697 | | | 21.21- 81.21 | 49.05 |
| $ 107 Toluene-d8 | | | | | | CAS #: 2037-26-5 | |
| 7.646 | 7.646 (1.192) | 98 | 1362929 | | | 70.00- 130.00 | 100.00(aR) |
| 7.646 | 7.646 (1.192) | 70 | 140289 | | | 0.00- 30.00 | 10.29 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 107 Toluene-d8 (continued) | | | | | | | |
| 7.646 | 7.646 (1.192) | 100 | 849439 | | | 0.00- 30.00 | 62.32 |
| $ 138 Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 9.885 | 9.885 (1.112) | 174 | 693512 | 409.358 | 409.36 | 80.00- 120.00 | 100.00 |
| 9.885 | 9.885 (1.112) | 95 | 973998 | | | 117.74- 177.74 | 140.44 |
| 9.885 | 9.885 (1.112) | 176 | 667286 | | | 70.47- 130.47 | 96.22 |

QC Flag Legend

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

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121707.d
Lab Smp Id: 1412151C-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 16 Hg->5 psi

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

Level: LOW
Sample Type: AIR

| COMPOUND | STANDARD | AREA LIMIT LOWER | AREA LIMIT UPPER | SAMPLE | %DIFF |
|---|---|---|---|---|---|
| 71 Bromochloromethan | 226114 | 135668 | 316560 | 242092 | 7.07 |
| 92 1,4-Difluorobenze | 1129066 | 677440 | 1580692 | 1170536 | 3.67 |
| 125 Chlorobenzene-d5 | 1075695 | 645417 | 1505973 | 1108366 | 3.04 |

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

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

Report Date: 23-Dec-2014 07:58

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412151C-02A
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 16 Hg->5 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 84 1,2-Dichloroethane | 400.00 | 392.82 | 98.20 | 70-130 |
| $ 107 Toluene-d8 | 400.00 | 0.000 | 0.00* | 70-130 |
| $ 138 Bromofluorobenzene | 400.00 | 409.36 | 102.34 | 70-130 |

Data File: /chem/msdj.i/17dec14.b/j121707.d



Date : 17-DEC-2014 12:07

Client ID:

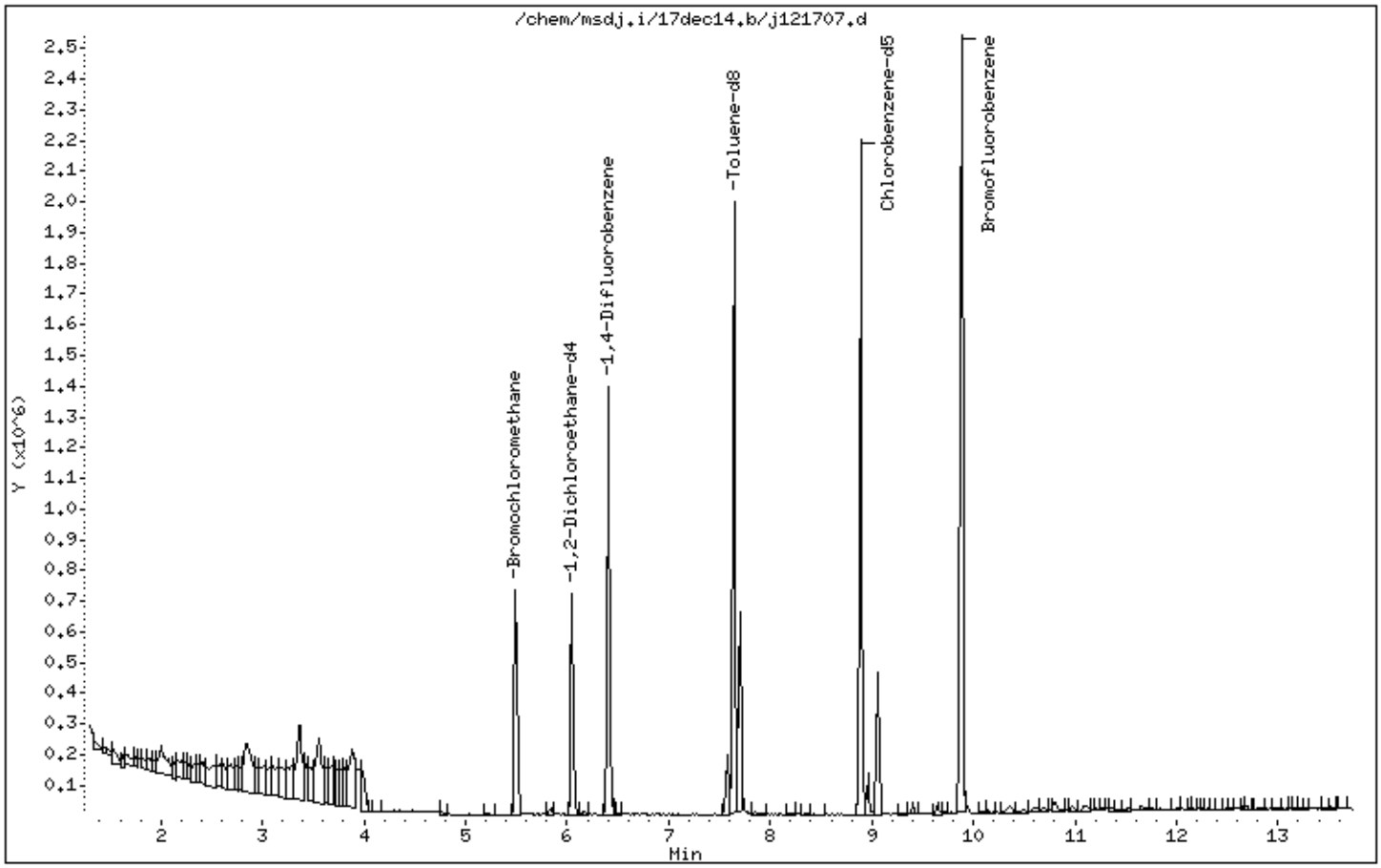
Instrument: msdj.i

Sample Info: 50ml 35255

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



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

**Client Sample ID: BSIA-3 (2014)**

**Lab ID#: 1412151C-03A**

No Detections Were Found.

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**Client Sample ID: BSIA-3 (2014)**

**Lab ID#: 1412151C-03A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j121708** | **Date of Collection:** | **12/9/14 9:20:00 AM** |
| **Dil. Factor:** | **1.49** | **Date of Analysis:** | **12/17/14 12:32 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Methanol | 74 | Not Detected | 98 | Not Detected |

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

| Surrogates | %Recovery | Method Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121708.d
Lab Smp Id: 1412151C-03A
Inj Date : 17-DEC-2014 12:32
Operator : cb Inst ID: msdj.i
Smp Info : 50ml 34450
Misc Info : 3.0 Hg->5 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 4
Dil Factor: 1.49000
Integrator: HP RTE Compound Sublist: MeOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.506 | 5.505 (1.000) | 130 | 227229 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.506 | 5.505 (1.000) | 128 | 185181 | | | 46.29- 106.29 | 81.50 |
| 5.506 | 5.492 (1.000) | 49 | 331569 | | | 113.98- 173.98 | 145.92 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.415 | 6.415 (1.000) | 114 | 1148976 | 400.000 | | 80.00- 120.00 | 100.00 |
| 6.415 | 6.415 (1.000) | 88 | 199269 | | | 0.00- 47.30 | 17.34 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.892 | 8.892 (1.000) | 117 | 1086960 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.892 | 8.892 (1.000) | 82 | 740386 | | | 35.58- 95.58 | 68.12 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.099) | 65 | 488924 | 416.945 | 416.94 | 80.00- 120.00 | 100.00 |
| 6.051 | 6.051 (1.099) | 67 | 241344 | | | 21.21- 81.21 | 49.36 |
| $ 107 Toluene-d8 | | | | | | CAS #: 2037-26-5 | |
| 7.646 | 7.646 (1.192) | 98 | 1326598 | | | 70.00- 130.00 | 100.00(aR) |
| 7.646 | 7.646 (1.192) | 70 | 153392 | | | 0.00- 30.00 | 11.56 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 107 Toluene-d8 (continued) | | | | | | | |
| 7.646 | 7.646 (1.192) | 100 | 863825 | | | 0.00- 30.00 | 65.12 |
| $ 138 Bromofluorobenzene | | | | | | CAS #: 460-00-4 | |
| 9.885 | 9.885 (1.112) | 174 | 677380 | 407.710 | 407.71 | 80.00- 120.00 | 100.00 |
| 9.885 | 9.885 (1.112) | 95 | 960681 | | | 117.74- 177.74 | 141.82 |
| 9.885 | 9.885 (1.112) | 176 | 650921 | | | 70.47- 130.47 | 96.09 |

QC Flag Legend

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

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121708.d
Lab Smp Id: 1412151C-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 3.0 Hg->5 psi

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

Level: LOW
Sample Type: AIR

| COMPOUND | STANDARD | AREA LIMIT LOWER | AREA LIMIT UPPER | SAMPLE | %DIFF |
|---|---|---|---|---|---|
| 71 Bromochloromethan | 226114 | 135668 | 316560 | 227229 | 0.49 |
| 92 1,4-Difluorobenze | 1129066 | 677440 | 1580692 | 1148976 | 1.76 |
| 125 Chlorobenzene-d5 | 1075695 | 645417 | 1505973 | 1086960 | 1.05 |

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

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

Report Date: 23-Dec-2014 07:58

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name: Client SDG: 17dec14
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1412151C-03A
Level: LOW Operator: cb
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 200.spk Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 3.0 Hg->5 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 84 1,2-Dichloroethane | 400.00 | 416.94 | 104.24 | 70-130 |
| $ 107 Toluene-d8 | 400.00 | 0.000 | 0.00* | 70-130 |
| $ 138 Bromofluorobenzene | 400.00 | 407.71 | 101.93 | 70-130 |

Data File: /chem/msdj.i/17dec14.b/j121708.d



Date : 17-DEC-2014 12:32

Client ID:

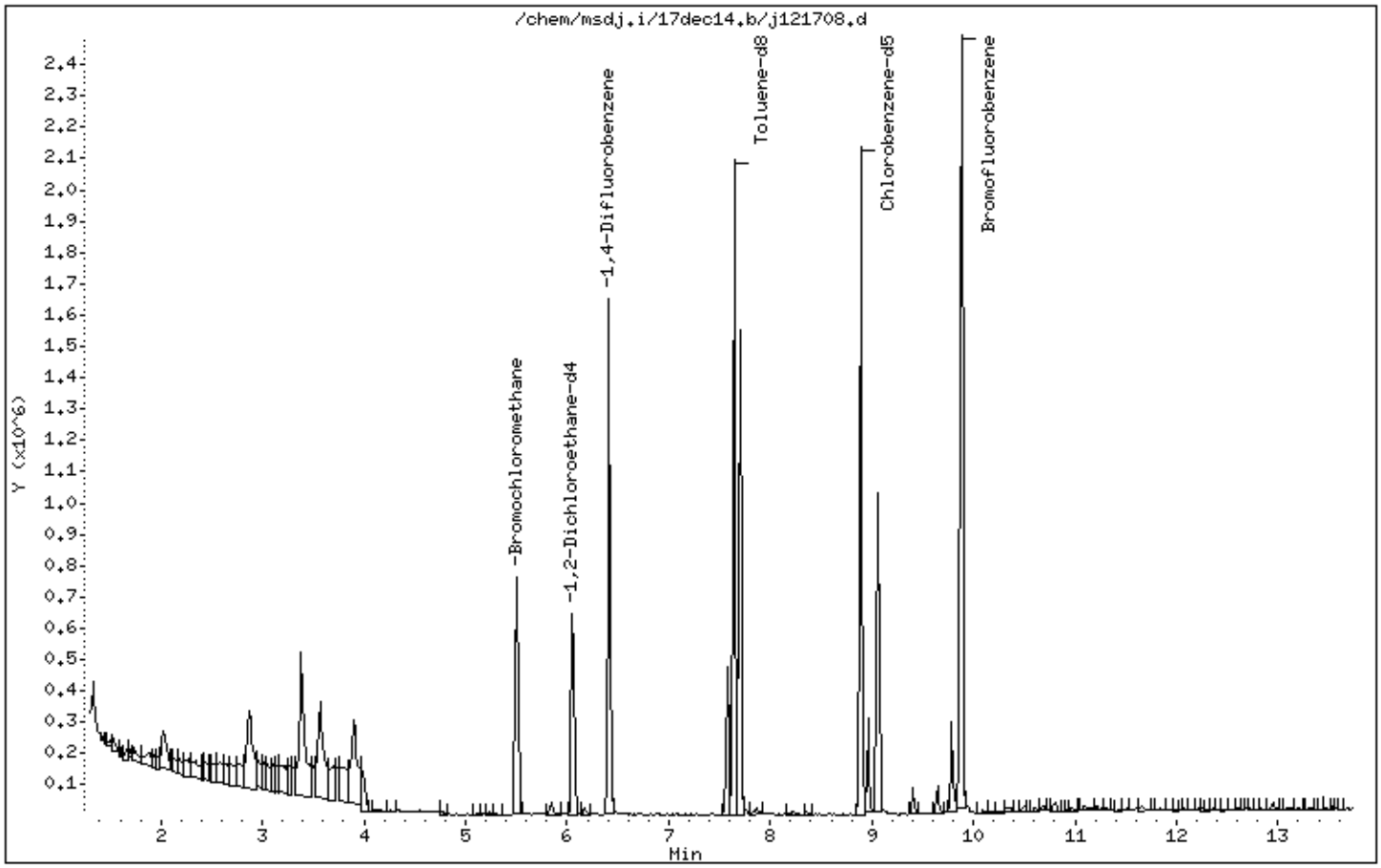
Instrument: msdj.i

Sample Info: 50ml 34450

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



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

**Client Sample ID: BSIA-11 (2014)**

**Lab ID#: 1412151C-04A**

No Detections Were Found.

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**Client Sample ID: BSIA-11 (2014)**

**Lab ID#: 1412151C-04A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j121709** | **Date of Collection:** | **12/9/14 10:46:00 AM** |
| **Dil. Factor:** | **1.83** | **Date of Analysis:** | **12/17/14 12:57 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Methanol | 92 | Not Detected | 120 | Not Detected |

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

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

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121709.d
Lab Smp Id: 1412151C-04A
Inj Date : 17-DEC-2014 12:57
Operator : cb Inst ID: msdj.i
Smp Info : 50ml 1651
Misc Info : 8.0 Hg->5 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 5
Dil Factor: 1.83000
Integrator: HP RTE Compound Sublist: MeOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.492 | 5.505 (1.000) | 130 | 229100 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.492 | 5.505 (1.000) | 128 | 169171 | | | 46.29- 106.29 | 73.84 |
| 5.492 | 5.492 (1.000) | 49 | 329067 | | | 113.98- 173.98 | 143.63 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.415 | 6.415 (1.000) | 114 | 1128741 | 400.000 | | 80.00- 120.00 | 100.00 |
| 6.401 | 6.415 (1.000) | 88 | 208966 | | | 0.00- 47.30 | 18.51 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.892 | 8.892 (1.000) | 117 | 1063952 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.892 | 8.892 (1.000) | 82 | 736091 | | | 35.58- 95.58 | 69.18 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.102) | 65 | 473963 | 400.885 | 400.88 | 80.00- 120.00 | 100.00 |
| 6.051 | 6.051 (1.102) | 67 | 241469 | | | 21.21- 81.21 | 50.95 |
| $ 107 Toluene-d8 | | | | | | CAS #: 2037-26-5 | |
| 7.646 | 7.646 (1.192) | 98 | 1309232 | | | 70.00- 130.00 | 100.00(aR) |
| 7.646 | 7.646 (1.192) | 70 | 148047 | | | 0.00- 30.00 | 11.31 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 107 Toluene-d8 (continued) | | | | | | | |
| 7.646 | 7.646 (1.192) | 100 | 823902 | | | 0.00- 30.00 | 62.93 |
| $ 138 Bromofluorobenzene | | | | | | CAS #: 460-00-4 | |
| 9.885 | 9.885 (1.112) | 174 | 665504 | 409.225 | 409.22 | 80.00- 120.00 | 100.00 |
| 9.885 | 9.885 (1.112) | 95 | 948606 | | | 117.74- 177.74 | 142.54 |
| 9.885 | 9.885 (1.112) | 176 | 635953 | | | 70.47- 130.47 | 95.56 |

QC Flag Legend

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

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121709.d
Lab Smp Id: 1412151C-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 8.0 Hg->5 psi

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

Level: LOW
Sample Type: AIR

| COMPOUND | STANDARD | AREA LIMIT LOWER | AREA LIMIT UPPER | SAMPLE | %DIFF |
|---|---|---|---|---|---|
| 71 Bromochloromethan | 226114 | 135668 | 316560 | 229100 | 1.32 |
| 92 1,4-Difluorobenze | 1129066 | 677440 | 1580692 | 1128741 | -0.03 |
| 125 Chlorobenzene-d5 | 1075695 | 645417 | 1505973 | 1063952 | -1.09 |

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

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

Report Date: 23-Dec-2014 07:58

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412151C-04A
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 8.0 Hg->5 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 84 1,2-Dichloroethane | 400.00 | 400.88 | 100.22 | 70-130 |
| $ 107 Toluene-d8 | 400.00 | 0.000 | 0.00* | 70-130 |
| $ 138 Bromofluorobenzene | 400.00 | 409.22 | 102.31 | 70-130 |

Data File: /chem/msdj.i/17dec14.b/j121709.d



Date : 17-DEC-2014 12:57

Client ID:

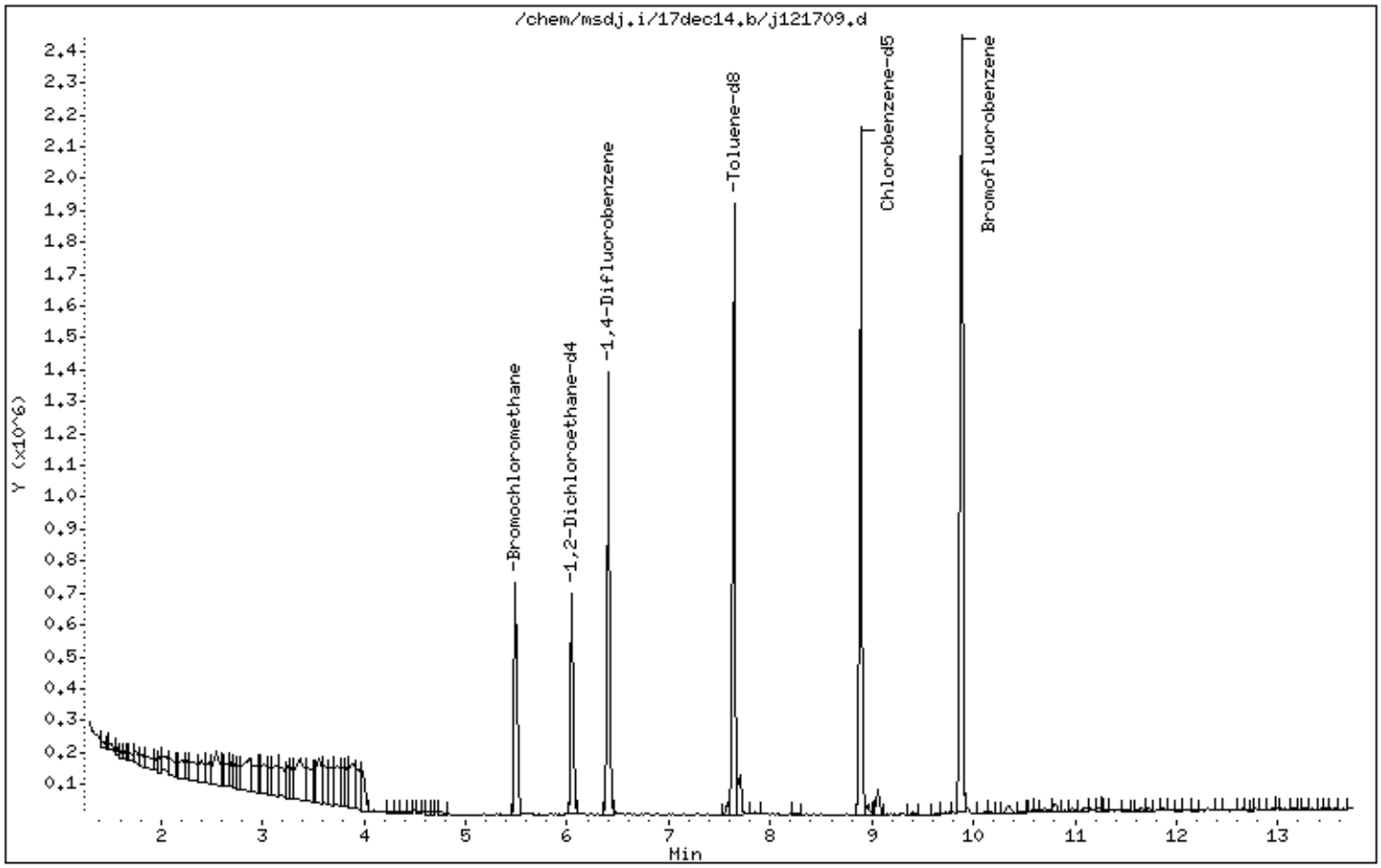
Instrument: msdj.i

Sample Info: 50ml 1651

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



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

**Client Sample ID: BSIA-9 (2014)**

**Lab ID#: 1412151C-05A**

No Detections Were Found.

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**Client Sample ID: BSIA-9 (2014)**

**Lab ID#: 1412151C-05A**

**EPA METHOD TO-15 GC/MS**

| | | | |
|---|---|---|---|
| **File Name:** | **j121710** | **Date of Collection:** | **12/9/14 10:50:00 AM** |
| **Dil. Factor:** | **1.61** | **Date of Analysis:** | **12/17/14 01:21 PM** |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|
| Methanol | 80 | Not Detected | 100 | Not Detected |

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

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

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121710.d
Lab Smp Id: 1412151C-05A
Inj Date : 17-DEC-2014 13:21
Operator : cb Inst ID: msdj.i
Smp Info : 50ml 34440
Misc Info : 5.0 Hg->5 psi
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 6
Dil Factor: 1.61000
Integrator: HP RTE Compound Sublist: MeOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.505 | 5.505 (1.000) | 130 | 219157 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.491 | 5.505 (1.000) | 128 | 181744 | | | 46.29- 106.29 | 82.93 |
| 5.491 | 5.492 (1.000) | 49 | 347103 | | | 113.98- 173.98 | 158.38 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.415 | 6.415 (1.000) | 114 | 1146065 | 400.000 | | 80.00- 120.00 | 100.00 |
| 6.415 | 6.415 (1.000) | 88 | 203190 | | | 0.00- 47.30 | 17.73 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.891 | 8.892 (1.000) | 117 | 1059850 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.891 | 8.892 (1.000) | 82 | 730786 | | | 35.58- 95.58 | 68.95 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.099) | 65 | 500306 | 442.365 | 442.36 | 80.00- 120.00 | 100.00 |
| 6.051 | 6.051 (1.099) | 67 | 238100 | | | 21.21- 81.21 | 47.59 |
| $ 107 Toluene-d8 | | | | | | CAS #: 2037-26-5 | |
| 7.646 | 7.646 (1.192) | 98 | 1297652 | | | 70.00- 130.00 | 100.00(aR) |
| 7.646 | 7.646 (1.192) | 70 | 149845 | | | 0.00- 30.00 | 11.55 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 107 Toluene-d8 (continued) | | | | | | | |
| 7.646 | 7.646 (1.192) | 100 | 797133 | | | 0.00- 30.00 | 61.43 |
| $ 138 Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 9.885 | 9.885 (1.112) | 174 | 661142 | 408.115 | 408.12 | 80.00- 120.00 | 100.00 |
| 9.885 | 9.885 (1.112) | 95 | 959535 | | | 117.74- 177.74 | 145.13 |
| 9.885 | 9.885 (1.112) | 176 | 610542 | | | 70.47- 130.47 | 92.35 |

QC Flag Legend

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

Report Date: 23-Dec-2014 07:58

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msdj.i
Lab File ID: j121710.d
Lab Smp Id: 1412151C-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 5.0 Hg->5 psi

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

Level: LOW
Sample Type: AIR

| COMPOUND | STANDARD | AREA LIMIT LOWER | AREA LIMIT UPPER | SAMPLE | %DIFF |
|---|---|---|---|---|---|
| 71 Bromochloromethan | 226114 | 135668 | 316560 | 219157 | -3.08 |
| 92 1,4-Difluorobenze | 1129066 | 677440 | 1580692 | 1146065 | 1.51 |
| 125 Chlorobenzene-d5 | 1075695 | 645417 | 1505973 | 1059850 | -1.47 |

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

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

Report Date: 23-Dec-2014 07:58

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 17dec14
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 1412151C-05A
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 200.spk
Quant Type: ISTD
Sublist File: MeOH.sub
Method File: /chem/msdj.i/17dec14.b/jMEOH1217.m
Misc Info: 5.0 Hg->5 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 84 1,2-Dichloroethane | 400.00 | 442.36 | 110.59 | 70-130 |
| $ 107 Toluene-d8 | 400.00 | 0.000 | 0.00* | 70-130 |
| $ 138 Bromofluorobenzene | 400.00 | 408.12 | 102.03 | 70-130 |

Data File: /chem/msdj.i/17dec14.b/j121710.d



Date : 17-DEC-2014 13:21

Client ID:

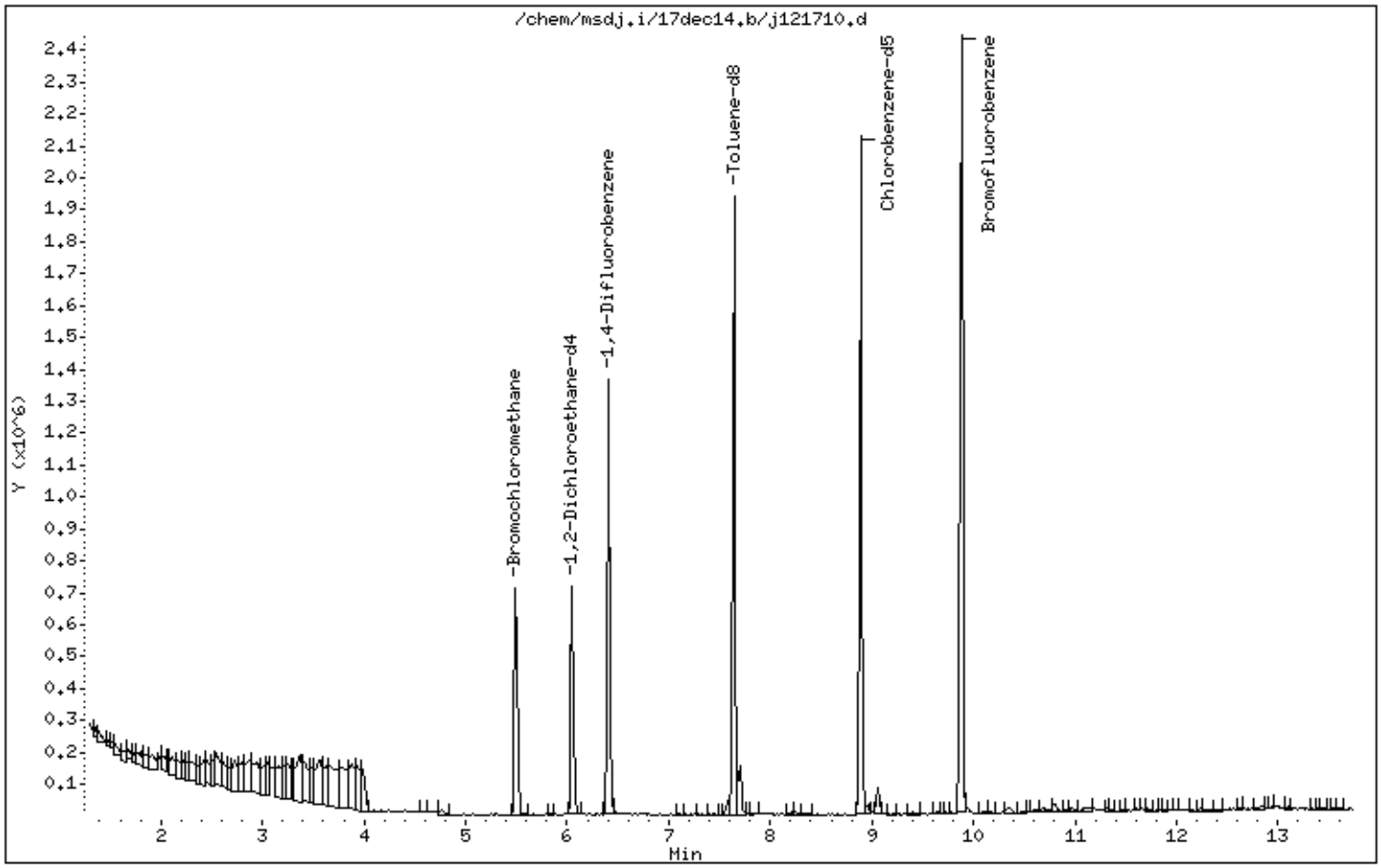
Instrument: msdj.i

Sample Info: 50ml 34440

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



# QC Results and Raw Data

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**Client Sample ID: Lab Blank**

**Lab ID#: 1412151C-06A**

**EPA METHOD TO-15 GC/MS**

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

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

**Container Type: NA - Not Applicable**

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

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121704.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 17-DEC-2014 10:15
Operator : cb Inst ID: msdj.i
Smp Info : 50ml #34496
Misc Info : Humid
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MeOH.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.492 | 5.505 (1.000) | 130 | 244020 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.506 | 5.505 (1.000) | 128 | 188184 | | | 46.29- 106.29 | 77.12 |
| 5.492 | 5.492 (1.000) | 49 | 349645 | | | 113.98- 173.98 | 143.29 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.415 | 6.415 (1.000) | 114 | 1182032 | 400.000 | | 80.00- 120.00 | 100.00 |
| 6.415 | 6.415 (1.000) | 88 | 213945 | | | 0.00- 47.30 | 18.10 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.892 | 8.892 (1.000) | 117 | 1148452 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.892 | 8.892 (1.000) | 82 | 771151 | | | 35.58- 95.58 | 67.15 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.102) | 65 | 496921 | 394.606 | 394.60 | 80.00- 120.00 | 100.00 |
| 6.051 | 6.051 (1.102) | 67 | 251784 | | | 21.21- 81.21 | 50.67 |
| $ 107 Toluene-d8 | | | | | | CAS #: 2037-26-5 | |
| 7.646 | 7.646 (1.192) | 98 | 1371122 | | | 70.00- 130.00 | 100.00(aR) |
| 7.646 | 7.646 (1.192) | 70 | 152505 | | | 0.00- 30.00 | 11.12 |

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

QC Flag Legend

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

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

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

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

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

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

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

Report Date: 17-Dec-2014 13:23

Eurofins Air Toxics Inc.

RECOVERY REPORT

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

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

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



Date : 17-DEC-2014 10:15

Client ID: Lab Blank

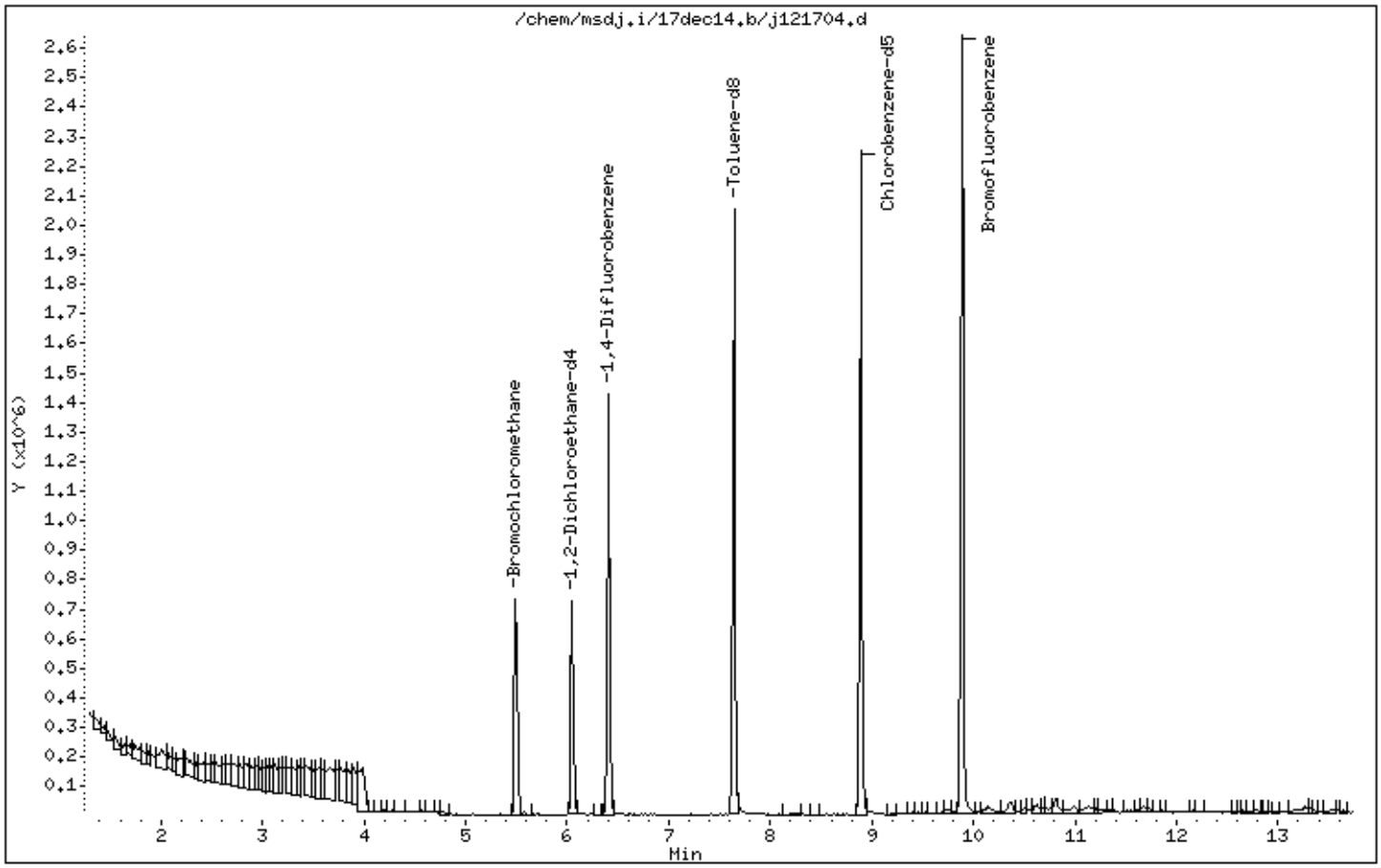
Instrument: msdj.i

Sample Info: 50ml #34496

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



# LEVEL-IV VALIDATABLE

EPA METHOD TO-15 GC/MS

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 1412151C

| | CLIENT SAMPLE NO. | SURROGATE % RECOVERY | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1,2-Dichloroethane-d4 | # | | # | | # | | # | TOTAL OUT |
| 01 | BSIA-5 (2014) | 103 | | | | | | | | 0 |
| 02 | BSIA-3D (2014) | 98 | | | | | | | | 0 |
| 03 | BSIA-3 (2014) | 104 | | | | | | | | 0 |
| 04 | BSIA-11 (2014) | 100 | | | | | | | | 0 |
| 05 | BSIA-9 (2014) | 110 | | | | | | | | 0 |
| 06 | Lab Blank | 99 | | | | | | | | 0 |
| 07 | CCV | 100 | | | | | | | | 0 |
| 08 | | | | | | | | | | 0 |
| 09 | | | | | | | | | | 0 |
| 10 | | | | | | | | | | 0 |
| 11 | | | | | | | | | | 0 |
| 12 | | | | | | | | | | 0 |
| 13 | | | | | | | | | | 0 |
| 14 | | | | | | | | | | 0 |
| 15 | | | | | | | | | | 0 |
| 16 | | | | | | | | | | 0 |
| 17 | | | | | | | | | | 0 |
| 18 | | | | | | | | | | 0 |
| 19 | | | | | | | | | | 0 |
| 20 | | | | | | | | | | 0 |
| 21 | | | | | | | | | | 0 |
| 22 | | | | | | | | | | 0 |
| 23 | | | | | | | | | | 0 |
| 24 | | | | | | | | | | 0 |

Surrogate Recovery Limits

1,2-Dichloroethane-d4 70 - 130

* 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: | 1412151C |
| Lab File ID: | j121703a.d | Date Analyzed: | 12/17/2014 |
| Instrument ID: | msdj.i | Time Analyzed: | 09:33 AM |

| | | Chlorobenzene-d5 Area | # | RT | # | 1,4-Difluorobenzene Area | # | RT | # | Bromochloromethane Area | # | RT | # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24-HOUR STD | 1075695 | | 8.89 | | 1129066 | | 6.41 | | 226114 | | 5.51 | |
| | UPPER LIMIT | 1505973 | | 09.22 | | 1580692 | | 06.74 | | 316560 | | 05.84 | |
| | LOWER LIMIT | 645417 | | 08.56 | | 677440 | | 06.08 | | 135668 | | 05.18 | |
| | CLIENT SAMPLE NO | | | | | | | | | | | | |
| 01 | BSIA-5 (2014) | 1078329 | | 8.89 | | 1148283 | | 6.4 | | 230656 | | 5.49 | |
| 02 | BSIA-3D (2014) | 1108366 | | 8.89 | | 1170536 | | 6.42 | | 242092 | | 5.49 | |
| 03 | BSIA-3 (2014) | 1086960 | | 8.89 | | 1148976 | | 6.42 | | 227229 | | 5.51 | |
| 04 | BSIA-11 (2014) | 1063952 | | 8.89 | | 1128741 | | 6.42 | | 229100 | | 5.49 | |
| 05 | BSIA-9 (2014) | 1059850 | | 8.89 | | 1146065 | | 6.41 | | 219157 | | 5.51 | |
| 06 | Lab Blank | 1148452 | | 8.89 | | 1182032 | | 6.42 | | 244020 | | 5.49 | |
| 07 | CCV | 1075695 | | 8.89 | | 1129066 | | 6.41 | | 226114 | | 5.51 | |
| 08 | | | | | | | | | | | | | |
| 09 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |

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

RT Upper Limit=+0.33 minutes of internal standard RT
RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

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

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

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

Calibration History

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

Initial Calibration

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

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 2

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

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

CB
12/17/14

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

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

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

**JMEOH1217.M**
**Initial Calibration Narrative**

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

No ICV needed.

# MSDJ

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

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

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

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

Method(*.m): jMeOH1217.m

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

CB 12/17/14

12/17/14

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121703.d
Lab Smp Id: ICAL Client Smp ID: Level 2
Inj Date : 17-DEC-2014 09:33
Operator : cb Inst ID: msdj.i
Smp Info : 4.2ml #2687-133
Misc Info : 50ppbv
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 10:05 cbond Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 12 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MeOHICAL.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | AMOUNTS ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.505 | 5.505 (1.000) | 130 | 226114 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.505 | 5.505 (1.000) | 128 | 172499 | | | 46.29- 106.29 | 76.29 |
| 5.492 | 5.492 (1.000) | 49 | 325562 | | | 113.98- 173.98 | 143.98 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.099) | 65 | 466752 | 400.000 | 400.00 | 80.00- 120.00 | 100.00(H) |
| 6.051 | 6.051 (1.099) | 67 | 239022 | | | 21.21- 81.21 | 51.21 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.415 | 6.415 (1.000) | 114 | 1129066 | 400.000 | | 80.00- 120.00 | 100.00(H) |
| 6.415 | 6.415 (1.000) | 88 | 195291 | | | 0.00- 47.30 | 17.30 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.892 | 8.892 (1.000) | 117 | 1075695 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.892 | 8.892 (1.000) | 82 | 705469 | | | 35.58- 95.58 | 65.58 |
| $ 138 Bromofluorobenzene | | | | | | CAS #: 460-00-4 | |
| 9.885 | 9.885 (1.112) | 174 | 657683 | 400.000 | 400.00 | 80.00- 120.00 | 100.00 |
| 9.885 | 9.885 (1.112) | 95 | 971663 | | | 117.74- 177.74 | 147.74 |

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

QC Flag Legend

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

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

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

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

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

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

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

Data File: /chem/msdj.i/17dec14.b/j121703.d



Date : 17-DEC-2014 09:33

Client ID: Level 2

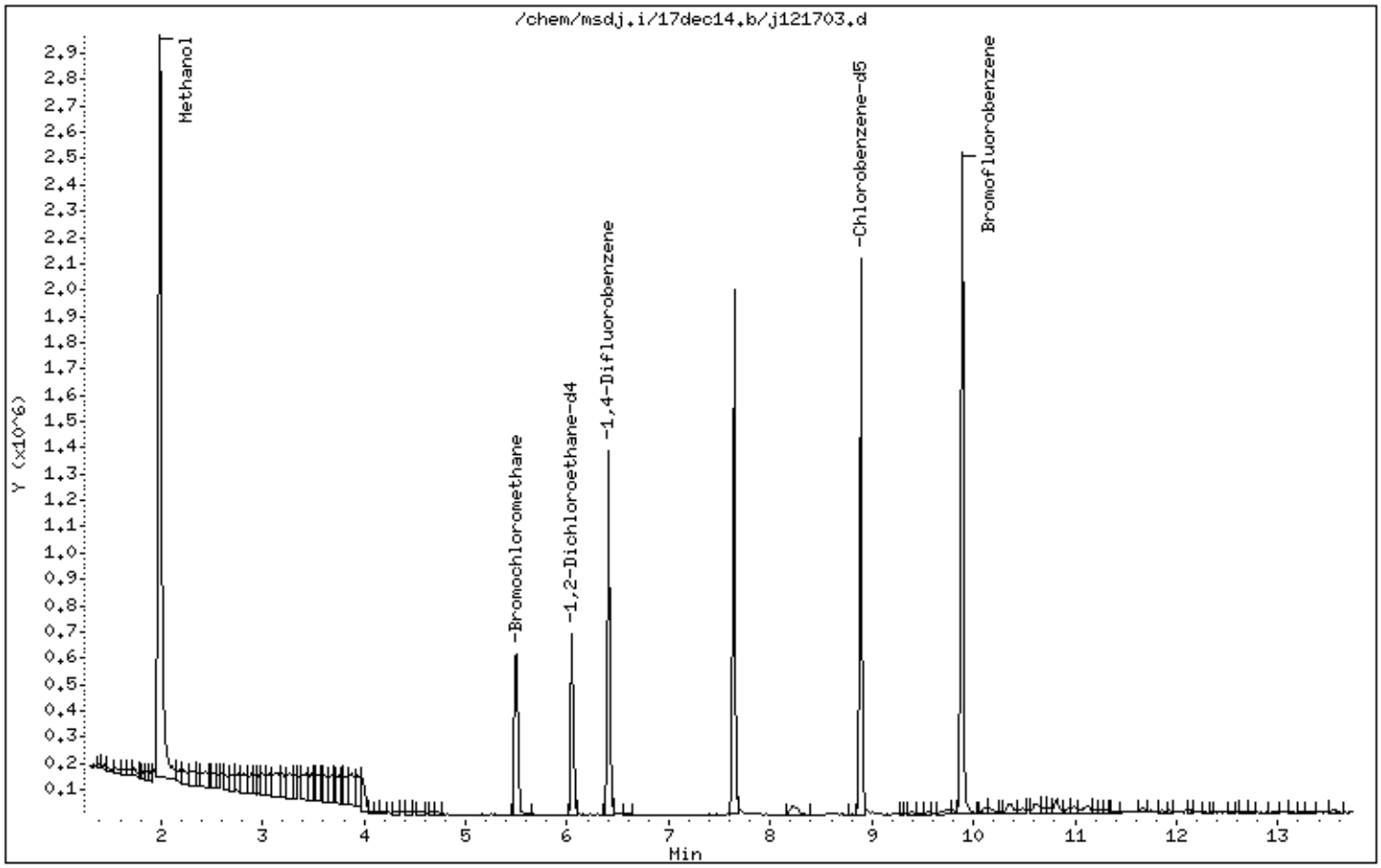
Instrument: msdj.i

Sample Info: 4.2ml #2687-133

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



eurofins | Air Toxics

**Client Sample ID: CCV**

**Lab ID#: 1412151C-07A**

**EPA METHOD TO-15 GC/MS**

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

| **Compound** | **%Recovery** |
|---|---|
| Methanol | 100 |

**Container Type: NA - Not Applicable**

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

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

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

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

Eurofins Air Toxics Inc.

AMBIENT AIR METHOD TO14A/TO15

Data file : /chem/msdj.i/17dec14.b/j121703a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 17-DEC-2014 09:33
Operator : cb Inst ID: msdj.i
Smp Info : 4.2ml #2687-133
Misc Info : 48ppbv
Comment :
Method : /chem/msdj.i/17dec14.b/jMEOH1217.m
Meth Date : 17-Dec-2014 11:44 ejakob Quant Type: ISTD
Cal Date : 17-DEC-2014 09:33 Cal File: j121703.d
Als bottle: 12 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MeOHccv.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | AMOUNTS ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 71 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.505 | 5.505 (1.000) | 130 | 226114 | 400.000 | | 80.00- 120.00 | 100.00 |
| 5.505 | 5.505 (1.000) | 128 | 172499 | | | 46.29- 106.29 | 76.29 |
| 5.492 | 5.492 (1.000) | 49 | 325562 | | | 113.98- 173.98 | 143.98 |
| * 92 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | |
| 6.415 | 6.415 (1.000) | 114 | 1129066 | 400.000 | | 80.00- 120.00 | 100.00(H) |
| 6.415 | 6.415 (1.000) | 88 | 195291 | | | 0.00- 47.30 | 17.30 |
| * 125 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 8.892 | 8.892 (1.000) | 117 | 1075695 | 400.000 | | 80.00- 120.00 | 100.00 |
| 8.892 | 8.892 (1.000) | 82 | 705469 | | | 35.58- 95.58 | 65.58 |
| $ 84 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.051 | 6.051 (1.099) | 65 | 466752 | 400.000 | 400.00 | 80.00- 120.00 | 100.00(H) |
| 6.051 | 6.051 (1.099) | 67 | 239022 | | | 21.21- 81.21 | 51.21 |
| $ 138 Bromofluorobenzene | | | | | | CAS #: 460-00-4 | |
| 9.885 | 9.885 (1.112) | 174 | 657683 | 400.000 | 400.00 | 80.00- 120.00 | 100.00 |
| 9.885 | 9.885 (1.112) | 95 | 971663 | | | 117.74- 177.74 | 147.74 |

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

QC Flag Legend

H - Operator selected an alternate compound hit.

Eurofins Air Toxics Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

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

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

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

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

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

Data File: /chem/msdj.i/17dec14.b/j121703a.d



Date : 17-DEC-2014 09:33

Client ID: CCV

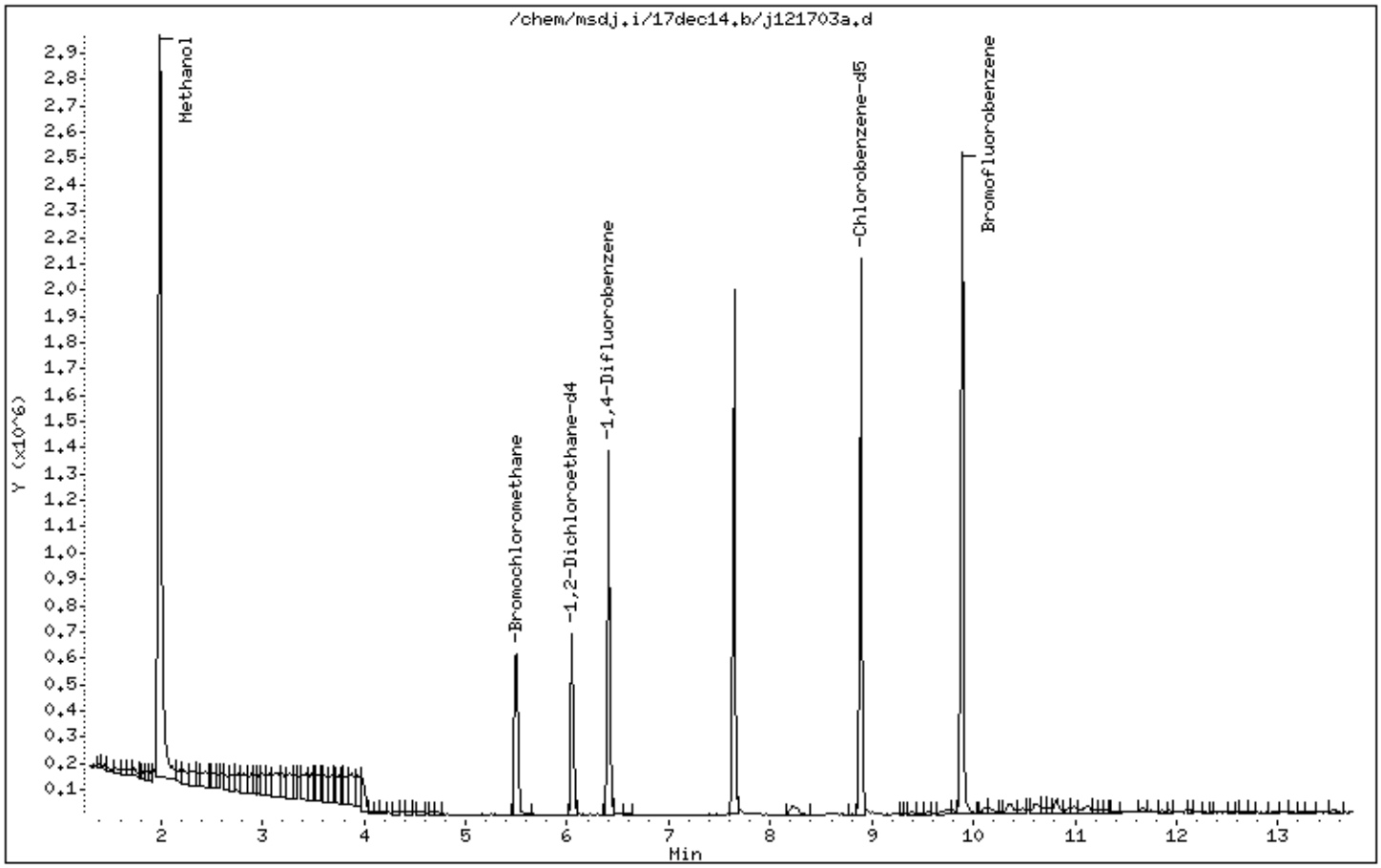
Instrument: msdj.i

Sample Info: 4.2ml #2687-133

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



# MSDJ

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

| Method TO-15/TO-14 | | | |
|---|---|---|---|
| SOP# | 91 | Load (mLs) | 50 |
| Vacuum: | 1.16 X 10-5 | | |
| Surrogate# 2687-73 | | Exp. Date: | 2/3/2015 |
| Surrogate# NA | | Exp. Date: | NA |

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

Method(*.m): jMeOH1217.m

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init | Date Analyzed | Time Analyzed | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | J121701 | BFB Tune Check | 2687-73 | 12 | 36ng | 1.0ml | 1.00 | cb | cb | 12/17/2014 | 0818 | cb | |
| √ | J121702 | System Blank | 34496 | 12 | Humid | 50ml | 1.00 | cb | cb | 12/17/2014 | 0857 | cb | exp 1/23/15; 0 out |
| √ | J121703 | ICAL Level 2 | 2687-133 | 10 | 48ppbv(600ppbv) | 4.0ml | 1.00 | cb | cb | 12/17/2014 | 0933 | cb | exp 2/21/15; 1 out; alpha chlorotoluene must be ND |
| √ | J121704 | Lab Blank | 34496 | 12 | Humid | 50ml | 1.00 | cb | cb | 12/17/2014 | 1015 | cb | |
| √ | J121705 | 1412180-01A | 12089 | 1 | 4.7 Hg->5.5 psi | 50ml | 1.63 | cb | cb | 12/17/2014 | 1117 | cb | |
| √ | J121706 | 1412151C-01A | 34723 | 2 | 4.5 Hg->5 psi | 50ml | 1.58 | cb | cb | 12/17/2014 | 1142 | cb | |
| √ | J121707 | 1412151C-02A | 35255 | 3 | 16 Hg->5 psi | 50ml | 2.87 | cb | cb | 12/17/2014 | 1207 | cb | |
| √ | J121708 | 1412151C-03A | 34450 | 4 | 3.0 Hg->5 psi | 50ml | 1.49 | cb | cb | 12/17/2014 | 1232 | cb | |
| √ | J121709 | 1412151C-04A | 1651 | 5 | 8.0 Hg->5 psi | 50ml | 1.83 | cb | cb | 12/17/2014 | 1257 | cb | |
| √ | J121710 | 1412151C-05A | 34440 | 6 | 5.0 Hg->5 psi | 50ml | 1.61 | cb | cb | 12/17/2014 | 1321 | cb | |
| | J121711 | 1412152C-01A | 33654 | 7 | 6.9 Hg->4.9 psi | 50ml | 1.73 | | | | | | |
| | J121712 | 1412152C-02A | 25261 | 8 | 7.6 Hg->5.1 psi | 50ml | 1.80 | | | | | | |
| | J121713 | 1412152C-03A | 940 | 9 | 4.7 Hg->4.9 psi | 50ml | 1.58 | | | | | | cb 12/17/14 |

cb 12/17/14

12/17/14

Eurofins Air Toxics Inc.

Data file : /var/chem/msdj.i/17dec14.b/j121701.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 17-DEC-2014 08:18
Operator : cb Inst ID: msdj.i
Smp Info : 1.0ml #2687-73;BFB;BFB
Misc Info : 36ng
Comment :
Method : /var/chem/msdj.i/17dec14.b/bfb30.m
Meth Date : 17-Dec-2014 08:41 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 12 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

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

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

Cpnd Variable Local Compound Variable

| RT | EXP RT | DLT RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | FINAL ( ug/L) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 9.892 | 10.175 | -0.283 | 95 | 394496 | | | 100.00- 100.00 | 100.00 |
| 9.892 | 10.175 | -0.283 | 50 | 63710 | | | 8.00- 40.00 | 16.15 |
| 9.892 | 10.175 | -0.283 | 75 | 196168 | | | 30.00- 66.00 | 49.73 |
| 9.892 | 10.175 | -0.283 | 96 | 24663 | | | 5.00- 9.00 | 6.25 |
| 9.892 | 10.175 | -0.283 | 173 | 2086 | | | 0.00- 1.99 | 0.76 |
| 9.892 | 10.175 | -0.283 | 174 | 274794 | | | 50.00- 120.00 | 69.66 |
| 9.892 | 10.175 | -0.283 | 175 | 21218 | | | 4.00- 9.00 | 7.72 |
| 9.892 | 10.175 | -0.283 | 176 | 265472 | | | 93.00- 101.00 | 96.61 |
| 9.892 | 10.175 | -0.283 | 177 | 16830 | | | 5.00- 9.00 | 6.34 |

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



Date : 17-DEC-2014 08:18

Client ID: BFB

Instrument: msdj.i

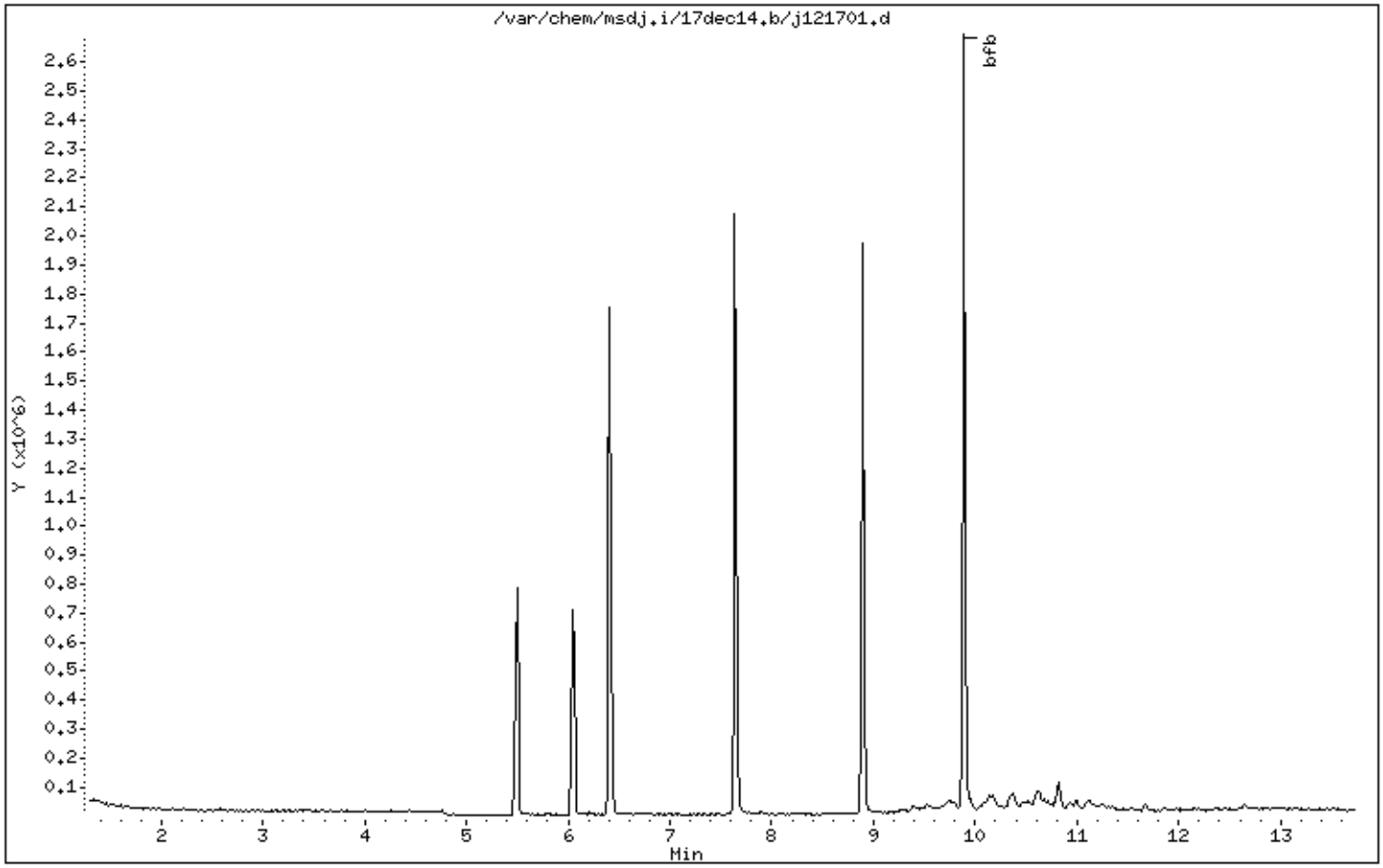
Sample Info: 1.0ml #2687-73;BFB;BFB

Volume Injected (uL): 1.0

Operator: cb

Column phase:

Column diameter: 2.00



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



Date : 17-DEC-2014 08:18

Client ID: BFB

Instrument: msdj.i

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

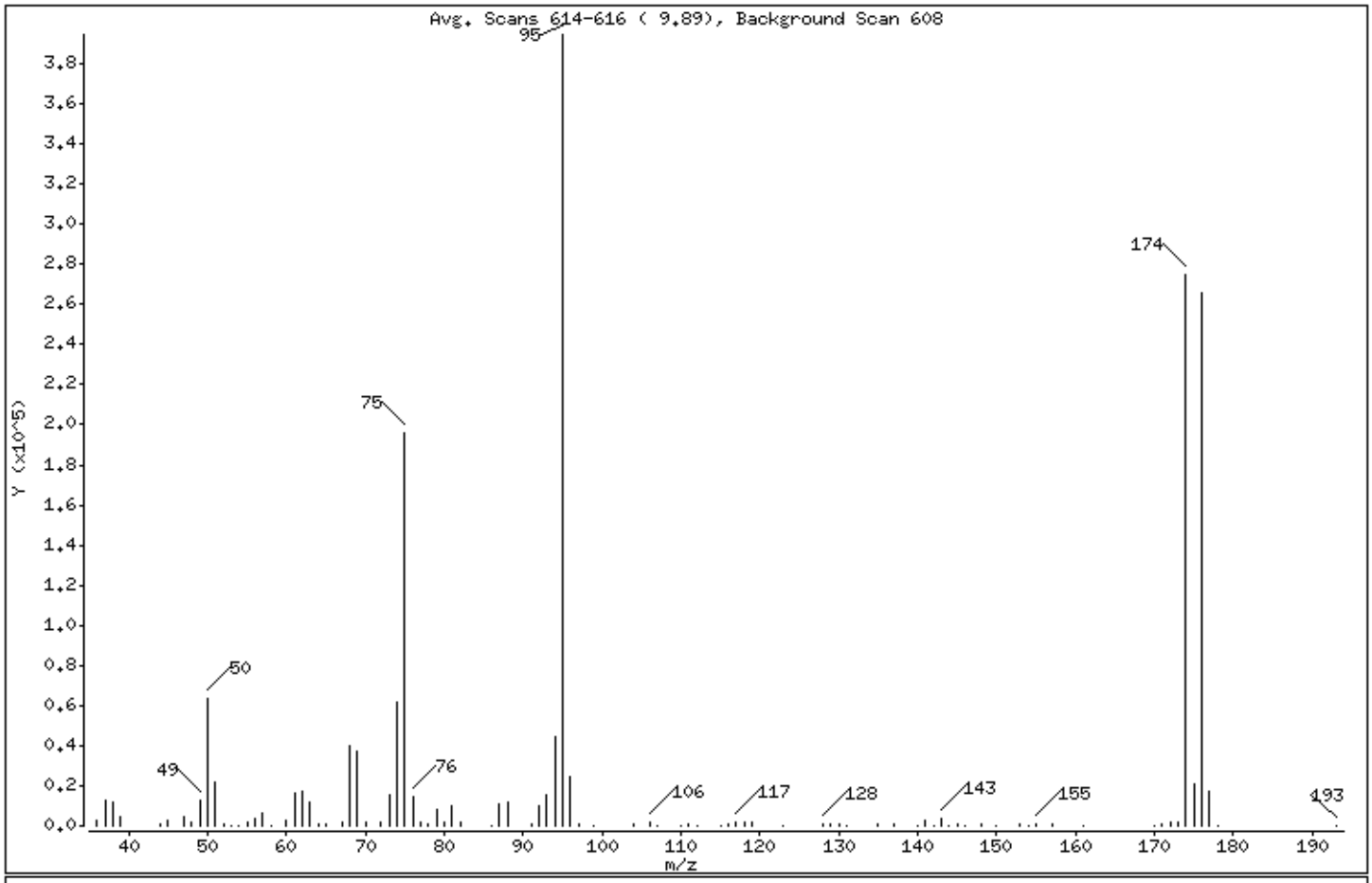
Volume Injected (uL): 1.0

Operator: cb

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 16.15 |
| 75 | 30.00 - 66.00% of mass 95 | 49.73 |
| 96 | 5.00 - 9.00% of mass 95 | 6.25 |
| 173 | Less than 1.99% of mass 174 | 0.53 ( 0.76) |
| 174 | 50.00 - 120.00% of mass 95 | 69.66 |
| 175 | 4.00 - 9.00% of mass 174 | 5.38 ( 7.72) |
| 176 | 93.00 - 101.00% of mass 174 | 67.29 ( 96.61) |
| 177 | 5.00 - 9.00% of mass 176 | 4.27 ( 6.34) |

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

Date : 17-DEC-2014 08:18

Client ID: BFB

Instrument: msdj.i

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

Volume Injected (uL): 1.0

Operator: cb

Column phase:

Column diameter: 2.00

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

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

# Shipping/ Receiving Documents

eurofins | Air Toxics

# Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

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

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

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

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

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

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

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

eurofins | Air Toxics

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

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

Page 1 of 1

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

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

**Turn Around Time:**
☒ Normal
☐ Rush
specify

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

| Lab I.D. | Field Sample I.D. (Location) | Can # | Date of Collection | Time of Collection | Analyses Requested | Canister Pressure/Vacuum Initial | Final | Receipt | Final (psi) |
|---|---|---|---|---|---|---|---|---|---|
| 01A | BSIA-5(2014) | 34723 | 12/8/14 | 1555 | see notes | 30+ | 5 | | |
| 02A | BSIA-3D(2014) | 35255 | 12/9/14 | 0930 | " | 30+ | 16 | | |
| 03A | BSIA-3(2014) | 34450 | 12/9/14 | 0920 | " | 30+ | 3.5 | | |
| 04A | BSIA-11(2014) | 1651 | 12/9/14 | 1046 | " | 30+ | 8.5 | | |
| 05A | BSIA-9(2014) | 34440 | 12/9/14 | 1050 | " | 28 | 5 | | |
| | Do Not Analyze (Back PC) | 1690 | | | | | | | |

| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
|---|---|---|---|
| | 12/9/14; 1115 | [signature] | EATL 12/10/14 1010 |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |
| Relinquished by: (signature) | Date/Time | Received by: (signature) | Date/Time |

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

| Lab Use Only | Shipper Name | Air Bill # | Temp (°C) | Condition | Custody Seals Intact? | Work Order # |
|---|---|---|---|---|---|---|
| | FedEx | 772146997180 | NA | Good | Yes No (None) | 141215 |

Form 1293 rev.11

eurofins | Air Toxics

# SAMPLE RECEIPT SUMMARY

## WORKORDER 1412151C

**Client**

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

**Phone**

(914) 251-0400

**Fax**

(914) 251-1286

**Sales Rep:** N/A

**Date Promised:** 12/23/14
**Date Completed:** 12/23/14
**Date Received:** 12/10/14
**PO#:**
**Project#:** Building 5 VI BMS- Humacao

**Total $:** $ 400.00
**Logged By:** MS

| Fraction | Sample # | Analysis | Collected | Receipt Vac./Pres. | Amount$ |
|---|---|---|---|---|---|
| 01A | BSIA-5 (2014) | Modified TO-15 (5&20 ppbv) | 12/8/2014 | 4.5 "Hg | $75.00 |
| 02A | BSIA-3D (2014) | Modified TO-15 (5&20 ppbv) | 12/9/2014 | 16 "Hg | $75.00 |
| 03A | BSIA-3 (2014) | Modified TO-15 (5&20 ppbv) | 12/9/2014 | 3.0 "Hg | $75.00 |
| 04A | BSIA-11 (2014) | Modified TO-15 (5&20 ppbv) | 12/9/2014 | 8.0 "Hg | $75.00 |
| 05A | BSIA-9 (2014) | Modified TO-15 (5&20 ppbv) | 12/9/2014 | 5.0 "Hg | $75.00 |
| 06A | Lab Blank | Modified TO-15 (5&20 ppbv) | NA | NA | $0.00 |
| 07A | CCV | Modified TO-15 (5&20 ppbv) | NA | NA | $0.00 |

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

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

**BILL TO:** Accounts Payable
Anderson Mulholland & Associates, Inc.
110 Corporate Park Drive
White Plains, NY 10604

Analysis Code: TO-15 (5&20)

**TERMS:**

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

# Sample Discrepancy Report

**Identification**

**Initiated By:** JCW **Project ID:**19256 **PM**: BSW **Date:** 12/12/2014 **Discrepancy Type:** ☐ **1.** ☒ **2.** ☐ **3.**

**Workorder(s) affected:1412151A** **Sample(s) affected:** 02A

## 1. Sample Receipt Discrepancies

**Narration Not Required:**

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

1.2. ☐ No brass cap on canister.

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

**Notify Lab for further determination:**

1.4. ☐ Tedlar bag received with minimal volume.

Initials: _____ Date: _____

**Narration Required in Lab Narrative and Sample Confirmation:**

1.5. ☐ COC was not filled out in ink.

1.6. ☐ COC improperly relinquished / received.

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

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

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

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

1.11. ☐ Other (describe below).

**Describe the Discrepancy:** _____

## 2. Sample Receipt/Screening Discrepancies requiring PM notification

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

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

2.1. ☐ COC was not received with samples.

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

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

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

2.5. ☐ Samples were received expired.

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

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

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

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

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

2.11. ☐ Environmental Supply Company valves

2.12. ☐ Sorbent samples-sampling volume was not provided

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

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

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

2.15. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. And the final vac. reported on the COC, indicating loss of vacuum.

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

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

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

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

2.20. ☐ Other (describe below)

**Initials:** **JCW** **Date:** **12/12/2014** **Notify Receiving:** ☐ **Notify PM:** ☐

**Describe the Discrepancy:** 2.16: 02A received >15"Hg, not identified as TB/FB

## *3.* Lab Discrepancies requiring Team Leader/PM notification

*Document in Analytical Notes of Lab Narrative*

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

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

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

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

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

3.5. ☐ VOST tube saturated; bag dilution necessary.

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

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

3.8. ☐ Reporting Limit was raised.

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

3.10. ☐ Other (describe below).

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

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

**Describe the Discrepancy:** _____

_____

_____

**How Does this Affect Client:** _____

_____

_____

**Project Manager Use Only**

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

**Action:**

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

PM Initials: KV Date: 12/12/2014

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

Client Notification:

PM Initials: _____ Person notified: _____ Date: _____

☐ Waiting for Client Reply

Comments: **Proceed.**

_____

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

☐ **Additional notifications attached.**

**Additional Comments:**

_____

# Other Records

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

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

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

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

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

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

# Compound List

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

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

| Eurofins Air Toxics, Inc. | Data Review Checklist | | | Release Date: 07/14/14 |
|---|---|---|---|---|
| Workorder # 1412151C | Form F1.27 | Revision #9 | Revision date: 07/14/14 | Page 1 of 2 |

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

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

Ø nt in QC

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

**Analytical and special notes:**

OIA-USA - OK

| D1 | D2 | D3 | D4 | T | 3T | Section 3 – Target Data Reduction | Technical Review Needed? Circle one: Yes/No | | T: | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Initials/Instrument/Date MSDJ 12/17 | D1: HOP 12/23/14 | D2: | D3: | D4: |
| MA | | | | | | CAR # (if applicable) | | | | |
| MA | | | | | | Spectra Verified *(documentation of spectral defense included if applicable)* | | | | |
| MA | | | | | | TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)* | | | | |
| MA | | | | | | Lab Narrative is correct | | | | |
| MA | | | | | | TPH/NMOC calculations complete and included in folder | | | | |

**Special notes:** Methanol only no LCS/LCSD all full loads

| A | 3T | Section 4- Atlas Data Entry | Lumen verified and included in folder | Circle one: Yes/No (N/A) |
|---|---|---|---|---|
| | | Initials/Date: HOP 12/23/14 | 3rd Tier: *(needed only for DOD or per client request)* | |
| | | Sample Discrepancy Report (SDR) complete and approved *(if applicable)* | | |
| MA | | 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