

3/7/2017

Mr. Curt Lueckenhoff
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1702366

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 2/22/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker
Project Manager

WORK ORDER #: 1702366

Work Order Summary

| | | | |
|------------------------|---|------------------|--|
| CLIENT: | Mr. Curt Lueckenhoff Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109 | BILL TO: | Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102 |
| PHONE: | 573-526-3363 | P.O. # | 3ESP170668 |
| FAX: | 573-526-3350 | PROJECT # | Bridgeton Landfill |
| DATE RECEIVED: | 02/22/2017 | CONTACT: | Brian Whittaker |
| DATE COMPLETED: | 03/07/2017 | | |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u> | <u>RECEIPT VAC./PRES.</u> | <u>FINAL PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A | D1 (170797) | Modified TO-15 | 5.5 "Hg | 4.8 psi |
| 02A | U1 (170798) | Modified TO-15 | 6.5 "Hg | 4.8 psi |
| 03A | Lab Blank | Modified TO-15 | NA | NA |
| 04A | CCV | Modified TO-15 | NA | NA |
| 05A | LCS | Modified TO-15 | NA | NA |
| 05AA | LCSD | Modified TO-15 | NA | NA |

CERTIFIED BY: 

 Technical Director

DATE: 03/07/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1702366**

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on February 22, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

| <i>Requirement</i> | <i>TO-15</i> | <i>ATL Modifications</i> |
|---------------------|--|--|
| Initial Calibration | </=30% RSD with 2 compounds allowed out to < 40% RSD | </=30% RSD with 4 compounds allowed out to < 40% RSD |
| Blank and standards | Zero Air | UHP Nitrogen provides a higher purity gas matrix than zero air |

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

The Relative Percent Difference (RPD) of the LCS/LCSD exceeded the acceptance limit for Bromomethane.

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

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

Client Sample ID: D1 (170797)

Lab ID#: 1702366-01A

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|--------------------------|----------------------|---------------------------|-----------------------|
| Freon 12 | 0.16 | 0.50 | 0.80 | 2.4 |
| Freon 11 | 0.16 | 0.27 | 0.91 | 1.5 |
| Ethanol | 0.81 | 3.6 | 1.5 | 6.7 |
| Acetone | 0.81 | 8.9 | 1.9 | 21 |
| 2-Butanone (Methyl Ethyl Ketone) | 0.81 | 1.8 | 2.4 | 5.4 |
| Benzene | 0.16 | 0.34 | 0.52 | 1.1 |
| Heptane | 0.16 | 0.16 J | 0.66 | 0.64 J |
| Toluene | 0.16 | 0.25 | 0.61 | 0.93 |

Client Sample ID: U1 (170798)

Lab ID#: 1702366-02A

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|--------------------------|----------------------|---------------------------|-----------------------|
| Freon 12 | 0.17 | 0.52 | 0.84 | 2.6 |
| Freon 11 | 0.17 | 0.31 | 0.96 | 1.7 |
| Ethanol | 0.85 | 3.4 | 1.6 | 6.4 |
| Acetone | 0.85 | 6.6 | 2.0 | 16 |
| Hexane | 0.17 | 0.26 | 0.60 | 0.90 |
| 2-Butanone (Methyl Ethyl Ketone) | 0.85 | 1.1 | 2.5 | 3.4 |
| Benzene | 0.17 | 0.20 | 0.54 | 0.64 |
| Heptane | 0.17 | 0.18 | 0.70 | 0.72 |
| Toluene | 0.17 | 0.26 | 0.64 | 0.99 |



Air Toxics

Client Sample ID: D1 (170797)

Lab ID#: 1702366-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|--------------|----------|---------------------|--------------------|
| File Name: | 20030218 | Date of Collection: | 2/16/17 1:20:00 PM |
| Dil. Factor: | 1.62 | Date of Analysis: | 3/2/17 09:43 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12 | 0.16 | 0.50 | 0.80 | 2.4 |
| Freon 114 | 0.16 | Not Detected | 1.1 | Not Detected |
| Chloromethane | 0.81 | Not Detected | 1.7 | Not Detected |
| Vinyl Chloride | 0.16 | Not Detected | 0.41 | Not Detected |
| 1,3-Butadiene | 0.16 | Not Detected | 0.36 | Not Detected |
| Bromomethane | 0.81 | Not Detected | 3.1 | Not Detected |
| Chloroethane | 0.81 | Not Detected | 2.1 | Not Detected |
| Freon 11 | 0.16 | 0.27 | 0.91 | 1.5 |
| Ethanol | 0.81 | 3.6 | 1.5 | 6.7 |
| Freon 113 | 0.16 | Not Detected | 1.2 | Not Detected |
| 1,1-Dichloroethene | 0.16 | Not Detected | 0.64 | Not Detected |
| Acetone | 0.81 | 8.9 | 1.9 | 21 |
| 2-Propanol | 0.81 | Not Detected | 2.0 | Not Detected |
| Carbon Disulfide | 0.81 | Not Detected | 2.5 | Not Detected |
| 3-Chloropropene | 0.81 | Not Detected | 2.5 | Not Detected |
| Methylene Chloride | 0.32 | Not Detected | 1.1 | Not Detected |
| Methyl tert-butyl ether | 0.16 | Not Detected | 0.58 | Not Detected |
| trans-1,2-Dichloroethene | 0.16 | Not Detected | 0.64 | Not Detected |
| Hexane | 0.16 | Not Detected | 0.57 | Not Detected |
| 1,1-Dichloroethane | 0.16 | Not Detected | 0.66 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 0.81 | 1.8 | 2.4 | 5.4 |
| cis-1,2-Dichloroethene | 0.16 | Not Detected | 0.64 | Not Detected |
| Tetrahydrofuran | 0.81 | Not Detected | 2.4 | Not Detected |
| Chloroform | 0.16 | Not Detected | 0.79 | Not Detected |
| 1,1,1-Trichloroethane | 0.16 | Not Detected | 0.88 | Not Detected |
| Cyclohexane | 0.16 | Not Detected | 0.56 | Not Detected |
| Carbon Tetrachloride | 0.16 | Not Detected | 1.0 | Not Detected |
| 2,2,4-Trimethylpentane | 0.81 | Not Detected | 3.8 | Not Detected |
| Benzene | 0.16 | 0.34 | 0.52 | 1.1 |
| 1,2-Dichloroethane | 0.16 | Not Detected | 0.66 | Not Detected |
| Heptane | 0.16 | 0.16 J | 0.66 | 0.64 J |
| Trichloroethene | 0.16 | Not Detected | 0.87 | Not Detected |
| 1,2-Dichloropropane | 0.16 | Not Detected | 0.75 | Not Detected |
| 1,4-Dioxane | 0.16 | Not Detected | 0.58 | Not Detected |
| Bromodichloromethane | 0.16 | Not Detected | 1.1 | Not Detected |
| cis-1,3-Dichloropropene | 0.16 | Not Detected | 0.74 | Not Detected |
| 4-Methyl-2-pentanone | 0.16 | Not Detected | 0.66 | Not Detected |
| Toluene | 0.16 | 0.25 | 0.61 | 0.93 |
| trans-1,3-Dichloropropene | 0.16 | Not Detected | 0.74 | Not Detected |
| 1,1,2-Trichloroethane | 0.16 | Not Detected | 0.88 | Not Detected |
| Tetrachloroethene | 0.16 | Not Detected | 1.1 | Not Detected |
| 2-Hexanone | 0.81 | Not Detected | 3.3 | Not Detected |



Client Sample ID: D1 (170797)

Lab ID#: 1702366-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|--------------|----------|---------------------|--------------------|
| File Name: | 20030218 | Date of Collection: | 2/16/17 1:20:00 PM |
| Dil. Factor: | 1.62 | Date of Analysis: | 3/2/17 09:43 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Dibromochloromethane | 0.16 | Not Detected | 1.4 | Not Detected |
| 1,2-Dibromoethane (EDB) | 0.16 | Not Detected | 1.2 | Not Detected |
| Chlorobenzene | 0.16 | Not Detected | 0.74 | Not Detected |
| Ethyl Benzene | 0.16 | Not Detected | 0.70 | Not Detected |
| m,p-Xylene | 0.16 | Not Detected | 0.70 | Not Detected |
| o-Xylene | 0.16 | Not Detected | 0.70 | Not Detected |
| Styrene | 0.16 | Not Detected | 0.69 | Not Detected |
| Bromoform | 0.16 | Not Detected | 1.7 | Not Detected |
| Cumene | 0.16 | Not Detected | 0.80 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 0.16 | Not Detected | 1.1 | Not Detected |
| Propylbenzene | 0.16 | Not Detected | 0.80 | Not Detected |
| 4-Ethyltoluene | 0.16 | Not Detected | 0.80 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.16 | Not Detected | 0.80 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.16 | Not Detected | 0.80 | Not Detected |
| 1,3-Dichlorobenzene | 0.16 | Not Detected | 0.97 | Not Detected |
| 1,4-Dichlorobenzene | 0.16 | Not Detected | 0.97 | Not Detected |
| alpha-Chlorotoluene | 0.16 | Not Detected | 0.84 | Not Detected |
| 1,2-Dichlorobenzene | 0.16 | Not Detected | 0.97 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.81 | Not Detected | 6.0 | Not Detected |
| Hexachlorobutadiene | 0.81 | Not Detected | 8.6 | Not Detected |

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 108 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 98 | 70-130 |



Air Toxics

Client Sample ID: U1 (170798)

Lab ID#: 1702366-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|--------------|----------|---------------------|--------------------|
| File Name: | 20030219 | Date of Collection: | 2/16/17 1:00:00 PM |
| Dil. Factor: | 1.70 | Date of Analysis: | 3/2/17 10:53 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12 | 0.17 | 0.52 | 0.84 | 2.6 |
| Freon 114 | 0.17 | Not Detected | 1.2 | Not Detected |
| Chloromethane | 0.85 | Not Detected | 1.8 | Not Detected |
| Vinyl Chloride | 0.17 | Not Detected | 0.43 | Not Detected |
| 1,3-Butadiene | 0.17 | Not Detected | 0.38 | Not Detected |
| Bromomethane | 0.85 | Not Detected | 3.3 | Not Detected |
| Chloroethane | 0.85 | Not Detected | 2.2 | Not Detected |
| Freon 11 | 0.17 | 0.31 | 0.96 | 1.7 |
| Ethanol | 0.85 | 3.4 | 1.6 | 6.4 |
| Freon 113 | 0.17 | Not Detected | 1.3 | Not Detected |
| 1,1-Dichloroethene | 0.17 | Not Detected | 0.67 | Not Detected |
| Acetone | 0.85 | 6.6 | 2.0 | 16 |
| 2-Propanol | 0.85 | Not Detected | 2.1 | Not Detected |
| Carbon Disulfide | 0.85 | Not Detected | 2.6 | Not Detected |
| 3-Chloropropene | 0.85 | Not Detected | 2.7 | Not Detected |
| Methylene Chloride | 0.34 | Not Detected | 1.2 | Not Detected |
| Methyl tert-butyl ether | 0.17 | Not Detected | 0.61 | Not Detected |
| trans-1,2-Dichloroethene | 0.17 | Not Detected | 0.67 | Not Detected |
| Hexane | 0.17 | 0.26 | 0.60 | 0.90 |
| 1,1-Dichloroethane | 0.17 | Not Detected | 0.69 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 0.85 | 1.1 | 2.5 | 3.4 |
| cis-1,2-Dichloroethene | 0.17 | Not Detected | 0.67 | Not Detected |
| Tetrahydrofuran | 0.85 | Not Detected | 2.5 | Not Detected |
| Chloroform | 0.17 | Not Detected | 0.83 | Not Detected |
| 1,1,1-Trichloroethane | 0.17 | Not Detected | 0.93 | Not Detected |
| Cyclohexane | 0.17 | Not Detected | 0.58 | Not Detected |
| Carbon Tetrachloride | 0.17 | Not Detected | 1.1 | Not Detected |
| 2,2,4-Trimethylpentane | 0.85 | Not Detected | 4.0 | Not Detected |
| Benzene | 0.17 | 0.20 | 0.54 | 0.64 |
| 1,2-Dichloroethane | 0.17 | Not Detected | 0.69 | Not Detected |
| Heptane | 0.17 | 0.18 | 0.70 | 0.72 |
| Trichloroethene | 0.17 | Not Detected | 0.91 | Not Detected |
| 1,2-Dichloropropane | 0.17 | Not Detected | 0.78 | Not Detected |
| 1,4-Dioxane | 0.17 | Not Detected | 0.61 | Not Detected |
| Bromodichloromethane | 0.17 | Not Detected | 1.1 | Not Detected |
| cis-1,3-Dichloropropene | 0.17 | Not Detected | 0.77 | Not Detected |
| 4-Methyl-2-pentanone | 0.17 | Not Detected | 0.70 | Not Detected |
| Toluene | 0.17 | 0.26 | 0.64 | 0.99 |
| trans-1,3-Dichloropropene | 0.17 | Not Detected | 0.77 | Not Detected |
| 1,1,2-Trichloroethane | 0.17 | Not Detected | 0.93 | Not Detected |
| Tetrachloroethene | 0.17 | Not Detected | 1.2 | Not Detected |
| 2-Hexanone | 0.85 | Not Detected | 3.5 | Not Detected |



Client Sample ID: U1 (170798)

Lab ID#: 1702366-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|---------------------|-----------------|----------------------------|---------------------------|
| File Name: | 20030219 | Date of Collection: | 2/16/17 1:00:00 PM |
| Dil. Factor: | 1.70 | Date of Analysis: | 3/2/17 10:53 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|--------------------------|----------------------|---------------------------|-----------------------|
| Dibromochloromethane | 0.17 | Not Detected | 1.4 | Not Detected |
| 1,2-Dibromoethane (EDB) | 0.17 | Not Detected | 1.3 | Not Detected |
| Chlorobenzene | 0.17 | Not Detected | 0.78 | Not Detected |
| Ethyl Benzene | 0.17 | Not Detected | 0.74 | Not Detected |
| m,p-Xylene | 0.17 | Not Detected | 0.74 | Not Detected |
| o-Xylene | 0.17 | Not Detected | 0.74 | Not Detected |
| Styrene | 0.17 | Not Detected | 0.72 | Not Detected |
| Bromoform | 0.17 | Not Detected | 1.8 | Not Detected |
| Cumene | 0.17 | Not Detected | 0.84 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 0.17 | Not Detected | 1.2 | Not Detected |
| Propylbenzene | 0.17 | Not Detected | 0.84 | Not Detected |
| 4-Ethyltoluene | 0.17 | Not Detected | 0.84 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.17 | Not Detected | 0.84 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.17 | Not Detected | 0.84 | Not Detected |
| 1,3-Dichlorobenzene | 0.17 | Not Detected | 1.0 | Not Detected |
| 1,4-Dichlorobenzene | 0.17 | Not Detected | 1.0 | Not Detected |
| alpha-Chlorotoluene | 0.17 | Not Detected | 0.88 | Not Detected |
| 1,2-Dichlorobenzene | 0.17 | Not Detected | 1.0 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.85 | Not Detected | 6.3 | Not Detected |
| Hexachlorobutadiene | 0.85 | Not Detected | 9.1 | Not Detected |

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

| Surrogates | %Recovery | Method Limits |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 111 | 70-130 |
| Toluene-d8 | 96 | 70-130 |
| 4-Bromofluorobenzene | 103 | 70-130 |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1702366-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|--------------|----------|---------------------|-----------------|
| File Name: | 20030207 | Date of Collection: | NA |
| Dil. Factor: | 1.00 | Date of Analysis: | 3/2/17 12:56 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12 | 0.10 | Not Detected | 0.49 | Not Detected |
| Freon 114 | 0.10 | Not Detected | 0.70 | Not Detected |
| Chloromethane | 0.50 | Not Detected | 1.0 | Not Detected |
| Vinyl Chloride | 0.10 | Not Detected | 0.26 | Not Detected |
| 1,3-Butadiene | 0.10 | Not Detected | 0.22 | Not Detected |
| Bromomethane | 0.50 | Not Detected | 1.9 | Not Detected |
| Chloroethane | 0.50 | Not Detected | 1.3 | Not Detected |
| Freon 11 | 0.10 | Not Detected | 0.56 | Not Detected |
| Ethanol | 0.50 | Not Detected | 0.94 | Not Detected |
| Freon 113 | 0.10 | Not Detected | 0.77 | Not Detected |
| 1,1-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| Acetone | 0.50 | Not Detected | 1.2 | Not Detected |
| 2-Propanol | 0.50 | Not Detected | 1.2 | Not Detected |
| Carbon Disulfide | 0.50 | Not Detected | 1.6 | Not Detected |
| 3-Chloropropene | 0.50 | Not Detected | 1.6 | Not Detected |
| Methylene Chloride | 0.20 | Not Detected | 0.69 | Not Detected |
| Methyl tert-butyl ether | 0.10 | Not Detected | 0.36 | Not Detected |
| trans-1,2-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| Hexane | 0.10 | Not Detected | 0.35 | Not Detected |
| 1,1-Dichloroethane | 0.10 | Not Detected | 0.40 | Not Detected |
| 2-Butanone (Methyl Ethyl Ketone) | 0.50 | Not Detected | 1.5 | Not Detected |
| cis-1,2-Dichloroethene | 0.10 | Not Detected | 0.40 | Not Detected |
| Tetrahydrofuran | 0.50 | Not Detected | 1.5 | Not Detected |
| Chloroform | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,1,1-Trichloroethane | 0.10 | Not Detected | 0.54 | Not Detected |
| Cyclohexane | 0.10 | Not Detected | 0.34 | Not Detected |
| Carbon Tetrachloride | 0.10 | Not Detected | 0.63 | Not Detected |
| 2,2,4-Trimethylpentane | 0.50 | Not Detected | 2.3 | Not Detected |
| Benzene | 0.10 | Not Detected | 0.32 | Not Detected |
| 1,2-Dichloroethane | 0.10 | Not Detected | 0.40 | Not Detected |
| Heptane | 0.10 | Not Detected | 0.41 | Not Detected |
| Trichloroethene | 0.10 | Not Detected | 0.54 | Not Detected |
| 1,2-Dichloropropane | 0.10 | Not Detected | 0.46 | Not Detected |
| 1,4-Dioxane | 0.10 | Not Detected | 0.36 | Not Detected |
| Bromodichloromethane | 0.10 | Not Detected | 0.67 | Not Detected |
| cis-1,3-Dichloropropene | 0.10 | Not Detected | 0.45 | Not Detected |
| 4-Methyl-2-pentanone | 0.10 | Not Detected | 0.41 | Not Detected |
| Toluene | 0.10 | Not Detected | 0.38 | Not Detected |
| trans-1,3-Dichloropropene | 0.10 | Not Detected | 0.45 | Not Detected |
| 1,1,2-Trichloroethane | 0.10 | Not Detected | 0.54 | Not Detected |
| Tetrachloroethene | 0.10 | Not Detected | 0.68 | Not Detected |
| 2-Hexanone | 0.50 | Not Detected | 2.0 | Not Detected |

Client Sample ID: Lab Blank

Lab ID#: 1702366-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|---------------------|-----------------|--|
| File Name: | 20030207 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 3/2/17 12:56 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|--------------------------|----------------------|---------------------------|-----------------------|
| Dibromochloromethane | 0.10 | Not Detected | 0.85 | Not Detected |
| 1,2-Dibromoethane (EDB) | 0.10 | Not Detected | 0.77 | Not Detected |
| Chlorobenzene | 0.10 | Not Detected | 0.46 | Not Detected |
| Ethyl Benzene | 0.10 | Not Detected | 0.43 | Not Detected |
| m,p-Xylene | 0.10 | Not Detected | 0.43 | Not Detected |
| o-Xylene | 0.10 | Not Detected | 0.43 | Not Detected |
| Styrene | 0.10 | Not Detected | 0.42 | Not Detected |
| Bromoform | 0.10 | Not Detected | 1.0 | Not Detected |
| Cumene | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,1,2,2-Tetrachloroethane | 0.10 | Not Detected | 0.69 | Not Detected |
| Propylbenzene | 0.10 | Not Detected | 0.49 | Not Detected |
| 4-Ethyltoluene | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,3,5-Trimethylbenzene | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,2,4-Trimethylbenzene | 0.10 | Not Detected | 0.49 | Not Detected |
| 1,3-Dichlorobenzene | 0.10 | Not Detected | 0.60 | Not Detected |
| 1,4-Dichlorobenzene | 0.10 | Not Detected | 0.60 | Not Detected |
| alpha-Chlorotoluene | 0.10 | Not Detected | 0.52 | Not Detected |
| 1,2-Dichlorobenzene | 0.10 | Not Detected | 0.60 | Not Detected |
| 1,2,4-Trichlorobenzene | 0.50 | Not Detected | 3.7 | Not Detected |
| Hexachlorobutadiene | 0.50 | Not Detected | 5.3 | Not Detected |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 111 | 70-130 |
| Toluene-d8 | 97 | 70-130 |
| 4-Bromofluorobenzene | 90 | 70-130 |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1702366-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|--------------|----------|-----------------------------------|
| File Name: | 20030202 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 3/2/17 07:24 AM |

| Compound | %Recovery |
|----------------------------------|-----------|
| Freon 12 | 100 |
| Freon 114 | 92 |
| Chloromethane | 92 |
| Vinyl Chloride | 101 |
| 1,3-Butadiene | 100 |
| Bromomethane | 108 |
| Chloroethane | 129 |
| Freon 11 | 106 |
| Ethanol | 114 |
| Freon 113 | 94 |
| 1,1-Dichloroethene | 102 |
| Acetone | 105 |
| 2-Propanol | 104 |
| Carbon Disulfide | 107 |
| 3-Chloropropene | 108 |
| Methylene Chloride | 100 |
| Methyl tert-butyl ether | 114 |
| trans-1,2-Dichloroethene | 105 |
| Hexane | 116 |
| 1,1-Dichloroethane | 105 |
| 2-Butanone (Methyl Ethyl Ketone) | 109 |
| cis-1,2-Dichloroethene | 104 |
| Tetrahydrofuran | 112 |
| Chloroform | 102 |
| 1,1,1-Trichloroethane | 104 |
| Cyclohexane | 113 |
| Carbon Tetrachloride | 109 |
| 2,2,4-Trimethylpentane | 114 |
| Benzene | 110 |
| 1,2-Dichloroethane | 112 |
| Heptane | 125 |
| Trichloroethene | 100 |
| 1,2-Dichloropropane | 107 |
| 1,4-Dioxane | 112 |
| Bromodichloromethane | 108 |
| cis-1,3-Dichloropropene | 112 |
| 4-Methyl-2-pentanone | 126 |
| Toluene | 111 |
| trans-1,3-Dichloropropene | 113 |
| 1,1,2-Trichloroethane | 100 |
| Tetrachloroethene | 101 |
| 2-Hexanone | 114 |

Client Sample ID: CCV

Lab ID#: 1702366-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|---------------------|-----------------|--|
| File Name: | 20030202 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 3/2/17 07:24 AM |

| Compound | %Recovery |
|---------------------------|------------------|
| Dibromochloromethane | 109 |
| 1,2-Dibromoethane (EDB) | 109 |
| Chlorobenzene | 106 |
| Ethyl Benzene | 120 |
| m,p-Xylene | 126 |
| o-Xylene | 126 |
| Styrene | 126 |
| Bromoform | 111 |
| Cumene | 130 |
| 1,1,2,2-Tetrachloroethane | 106 |
| Propylbenzene | 118 |
| 4-Ethyltoluene | 116 |
| 1,3,5-Trimethylbenzene | 121 |
| 1,2,4-Trimethylbenzene | 118 |
| 1,3-Dichlorobenzene | 104 |
| 1,4-Dichlorobenzene | 99 |
| alpha-Chlorotoluene | 105 |
| 1,2-Dichlorobenzene | 104 |
| 1,2,4-Trichlorobenzene | 100 |
| Hexachlorobutadiene | 94 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 103 | 70-130 |
| Toluene-d8 | 107 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1702366-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|--------------|----------|---------------------|-----------------|
| File Name: | 20030204 | Date of Collection: | NA |
| Dil. Factor: | 1.00 | Date of Analysis: | 3/2/17 09:12 AM |

| Compound | %Recovery | Method Limits |
|----------------------------------|-----------|---------------|
| Freon 12 | 99 | 70-130 |
| Freon 114 | 92 | 70-130 |
| Chloromethane | 96 | 70-130 |
| Vinyl Chloride | 106 | 70-130 |
| 1,3-Butadiene | 100 | 70-130 |
| Bromomethane | 135 Q | 70-130 |
| Chloroethane | 126 | 70-130 |
| Freon 11 | 108 | 70-130 |
| Ethanol | 106 | 70-130 |
| Freon 113 | 94 | 70-130 |
| 1,1-Dichloroethene | 101 | 70-130 |
| Acetone | 101 | 70-130 |
| 2-Propanol | 109 | 70-130 |
| Carbon Disulfide | 111 | 70-130 |
| 3-Chloropropene | 123 | 70-130 |
| Methylene Chloride | 100 | 70-130 |
| Methyl tert-butyl ether | 109 | 70-130 |
| trans-1,2-Dichloroethene | 114 | 70-130 |
| Hexane | 123 | 70-130 |
| 1,1-Dichloroethane | 101 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 110 | 70-130 |
| cis-1,2-Dichloroethene | 95 | 70-130 |
| Tetrahydrofuran | 115 | 70-130 |
| Chloroform | 102 | 70-130 |
| 1,1,1-Trichloroethane | 104 | 70-130 |
| Cyclohexane | 115 | 70-130 |
| Carbon Tetrachloride | 113 | 70-130 |
| 2,2,4-Trimethylpentane | 119 | 70-130 |
| Benzene | 109 | 70-130 |
| 1,2-Dichloroethane | 106 | 70-130 |
| Heptane | 130 | 70-130 |
| Trichloroethene | 102 | 70-130 |
| 1,2-Dichloropropane | 108 | 70-130 |
| 1,4-Dioxane | 112 | 70-130 |
| Bromodichloromethane | 115 | 70-130 |
| cis-1,3-Dichloropropene | 121 | 70-130 |
| 4-Methyl-2-pentanone | 129 | 70-130 |
| Toluene | 112 | 70-130 |
| trans-1,3-Dichloropropene | 121 | 70-130 |
| 1,1,2-Trichloroethane | 107 | 70-130 |
| Tetrachloroethene | 107 | 70-130 |
| 2-Hexanone | 126 | 70-130 |

Client Sample ID: LCS

Lab ID#: 1702366-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|---------------------|-----------------|--|
| File Name: | 20030204 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 3/2/17 09:12 AM |

| Compound | %Recovery | Method Limits |
|---------------------------|-----------|---------------|
| Dibromochloromethane | 117 | 70-130 |
| 1,2-Dibromoethane (EDB) | 113 | 70-130 |
| Chlorobenzene | 109 | 70-130 |
| Ethyl Benzene | 124 | 70-130 |
| m,p-Xylene | 127 | 70-130 |
| o-Xylene | 127 | 70-130 |
| Styrene | 132 Q | 70-130 |
| Bromoform | 121 | 70-130 |
| Cumene | 130 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 109 | 70-130 |
| Propylbenzene | 118 | 70-130 |
| 4-Ethyltoluene | 118 | 70-130 |
| 1,3,5-Trimethylbenzene | 124 | 70-130 |
| 1,2,4-Trimethylbenzene | 120 | 70-130 |
| 1,3-Dichlorobenzene | 102 | 70-130 |
| 1,4-Dichlorobenzene | 99 | 70-130 |
| alpha-Chlorotoluene | 127 | 70-130 |
| 1,2-Dichlorobenzene | 102 | 70-130 |
| 1,2,4-Trichlorobenzene | 99 | 70-130 |
| Hexachlorobutadiene | 87 | 70-130 |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 106 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1702366-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|--------------|----------|---------------------|-----------------|
| File Name: | 20030205 | Date of Collection: | NA |
| Dil. Factor: | 1.00 | Date of Analysis: | 3/2/17 10:10 AM |

| Compound | %Recovery | Method Limits |
|----------------------------------|-----------|---------------|
| Freon 12 | 99 | 70-130 |
| Freon 114 | 93 | 70-130 |
| Chloromethane | 96 | 70-130 |
| Vinyl Chloride | 106 | 70-130 |
| 1,3-Butadiene | 99 | 70-130 |
| Bromomethane | 104 | 70-130 |
| Chloroethane | 99 | 70-130 |
| Freon 11 | 108 | 70-130 |
| Ethanol | 105 | 70-130 |
| Freon 113 | 94 | 70-130 |
| 1,1-Dichloroethene | 103 | 70-130 |
| Acetone | 102 | 70-130 |
| 2-Propanol | 113 | 70-130 |
| Carbon Disulfide | 110 | 70-130 |
| 3-Chloropropene | 124 | 70-130 |
| Methylene Chloride | 100 | 70-130 |
| Methyl tert-butyl ether | 111 | 70-130 |
| trans-1,2-Dichloroethene | 114 | 70-130 |
| Hexane | 125 | 70-130 |
| 1,1-Dichloroethane | 102 | 70-130 |
| 2-Butanone (Methyl Ethyl Ketone) | 111 | 70-130 |
| cis-1,2-Dichloroethene | 94 | 70-130 |
| Tetrahydrofuran | 113 | 70-130 |
| Chloroform | 103 | 70-130 |
| 1,1,1-Trichloroethane | 104 | 70-130 |
| Cyclohexane | 117 | 70-130 |
| Carbon Tetrachloride | 112 | 70-130 |
| 2,2,4-Trimethylpentane | 120 | 70-130 |
| Benzene | 108 | 70-130 |
| 1,2-Dichloroethane | 108 | 70-130 |
| Heptane | 129 | 70-130 |
| Trichloroethene | 103 | 70-130 |
| 1,2-Dichloropropane | 108 | 70-130 |
| 1,4-Dioxane | 113 | 70-130 |
| Bromodichloromethane | 112 | 70-130 |
| cis-1,3-Dichloropropene | 122 | 70-130 |
| 4-Methyl-2-pentanone | 132 Q | 70-130 |
| Toluene | 113 | 70-130 |
| trans-1,3-Dichloropropene | 118 | 70-130 |
| 1,1,2-Trichloroethane | 103 | 70-130 |
| Tetrachloroethene | 104 | 70-130 |
| 2-Hexanone | 127 | 70-130 |

Client Sample ID: LCSD

Lab ID#: 1702366-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|---------------------|-----------------|--|
| File Name: | 20030205 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 3/2/17 10:10 AM |

| Compound | %Recovery | Method Limits |
|---------------------------|------------------|----------------------|
| Dibromochloromethane | 112 | 70-130 |
| 1,2-Dibromoethane (EDB) | 109 | 70-130 |
| Chlorobenzene | 107 | 70-130 |
| Ethyl Benzene | 121 | 70-130 |
| m,p-Xylene | 127 | 70-130 |
| o-Xylene | 126 | 70-130 |
| Styrene | 133 Q | 70-130 |
| Bromoform | 119 | 70-130 |
| Cumene | 129 | 70-130 |
| 1,1,2,2-Tetrachloroethane | 105 | 70-130 |
| Propylbenzene | 118 | 70-130 |
| 4-Ethyltoluene | 121 | 70-130 |
| 1,3,5-Trimethylbenzene | 124 | 70-130 |
| 1,2,4-Trimethylbenzene | 121 | 70-130 |
| 1,3-Dichlorobenzene | 101 | 70-130 |
| 1,4-Dichlorobenzene | 99 | 70-130 |
| alpha-Chlorotoluene | 127 | 70-130 |
| 1,2-Dichlorobenzene | 101 | 70-130 |
| 1,2,4-Trichlorobenzene | 93 | 70-130 |
| Hexachlorobutadiene | 84 | 70-130 |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 100 | 70-130 |
| Toluene-d8 | 108 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |