

April 10, 2018

Alaska Department of Environmental Conservation  
610 University Avenue  
Fairbanks, Alaska 99709

Attn: Mr. Robert Burgess

**RE: MARCH 2018 INDOOR-AIR SAMPLING SUMMARY REPORT,  
MILLER SALVAGE, INC. PROPERTY, FAIRBANKS, ALASKA,  
ADEC FILE NUMBER 102.23.017**

This report summarizes results of our vapor intrusion investigation at the Friends Church building at 1485 30th Avenue in Fairbanks, Alaska, in March 2018. Our activities were conducted in accordance with our October 19, 2017 *FINAL Miller Salvage, Inc. Site Characterization Work Plan* and our January 18, 2018 *Indoor-Air Sampling Work Plan Addendum, Miller Salvage, Inc.* (Indoor-Air Work Plan). The work plans were approved by the Alaska Department of Conservation (ADEC), and contained a more complete description of the site and project objectives. We performed our services under our ADEC Term Contract 18-8036-13, NTP Number 180000360, dated October 6, 2017 as part of the larger Miller Salvage Site Characterization project.

The goal of this assessment was to determine if inhalation of indoor air poses a threat to human health and welfare inside the church, and whether further monitoring and/or corrective actions may be necessary. We met with church personnel and ADEC on January 5, 2018 to conduct a building walkthrough of the church and complete an ADEC Building Inventory and Indoor Air Sampling Questionnaire (BIQ) for sample location determination.

In March 2018, we collected indoor-air samples from seven ADEC-approved locations inside Friends Church. Below is a summary of field activities, analytical results, and recommendations regarding further site characterization.

## ANALYTICAL SAMPLES

On March 5, 2018 we removed products that could be possible sources of background contaminants from inside the church, and temporarily stored them in an unheated storage room off the northwest side of the structure. This included petroleum based products (1 gas powered snow-blower, two 5-gallon gas cans, WD-40, Rust-Oleum, 5-gallon low VOC paint cans, wood finish, etc.), and solvents (ABS medium black cement, general purpose enamel, contact cement, etc.). On March 6, 2018, we returned to deploy seven primary and one field-duplicate analytical air-samples inside the church for 24-hour sample collection.

Sample collection logs, field notes, ADEC BIQ, laboratory data report, and laboratory data review checklist (LDRC) are enclosed. Air samples were collected in accordance with our sampling and analysis plan as described in our Indoor-Air Work Plan. Sample canisters were placed in the potential receptors' breathing zones ranging between 1.7 feet to 5.05 feet above the ground surface. Sample locations are shown in Figure 1.

### **Sample Handling, Analytical Laboratory, and Methods**

Eurofins Air Toxics, Ltd. (Eurofins) provided certified summa canisters and flow controllers and for each sample. Shannon & Wilson field staff collected, handled, and stored the samples in a manner consistent with our Indoor-Air Work Plan. Field duplicate sample (*IA17-55*) was collected from indoor-air sample location *IA17-05*. Field duplicate samples are QC samples, analyzed by the same methods as the collocated project sample.

After sample collection, we secured the sample canisters and 24-hour flow controllers in laboratory-provided shipping containers. We completed a chain of custody (COC) form and placed it inside the box containing canisters for shipment. We maintained custody of the samples at all times until submitting them to Eurofins.

Samples were delivered to Eurofins with sufficient time to allow the laboratory to extract the samples within holding-time requirements of the test methods. Field staff shipped air samples to the Eurofins facility in Folsom, California, via FedEx to determine concentrations of volatile

organic compounds (VOCs) by EPA Method TO-15 Selective Ion Monitoring (SIM). The SIM method was used to achieve lower detection limits for this project.

### **ANALYTICAL RESULTS SUMMARY**

We compared indoor-air sample results to residential target levels listed in ADEC's *Vapor Intrusion Guidance for Contaminated Sites* - Appendix D: DEC Indoor Air Target Levels. Residential target levels were used in accordance with ADEC's policy to use more stringent levels when sensitive receptors such as children, are present.

Analytical results for the list of 62 VOC analytes were all below ADEC Residential Target Levels, as presented in Table 1. One or more of the indoor-air samples contained detectable concentrations of 2-butanone (MEK), acetone, benzene, carbon tetrachloride, chloroform, chloromethane, cyclohexane, dichlorodifluoromethane, ethanol, ethylbenzene, heptane, isopropyl alcohol, n-hexane, o-xylene, p & m -xylene, tetrachloroethene (PCE), toluene, and trichlorofluoromethane below ADEC Target Levels.

Several analytes were reported as non-detects but had reporting limits (RLs) greater than their ADEC Target Levels. The analytes 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-dibromoethane (EDB), 1,2-dichloroethane, 1,2-dichloropropane, 1,3-butadiene, 1,4-dioxane, 2-hexanone, bromodichloromethane, bromomethane, chloroform, and hexachlorobutadiene had RLs above the ADEC Target Levels (Table 1) in one or more of the project samples. In cases where RLs exceeded ADEC Target Levels, we cannot determine whether these analytes are present in the samples at concentrations less than the RLs but greater than the target levels.

### **Quality Assurance Review**

We reviewed analytical results provided by Eurofins for laboratory QC samples and also conducted our own QA assessment for this project. We reviewed COC records and laboratory case narratives to ensure that we followed proper custody procedures and met sample-holding times. Our QA-review procedures allow us to document accuracy and precision of the analytical

data and check that the analyses were sufficiently sensitive to detect analytes at levels below regulatory standards.

For this report, we reviewed data reported in Eurofins Work Order 1803256. The laboratory report contained case narratives, analytical results, and a copy of the COC.

Our review of the data reveals that some analytical samples experienced laboratory data-quality failures (CCV and laboratory recovery failures). In our opinion, none of the data-quality failures caused the data to be considered unusable. Analytical results that are considered affected by laboratory data-quality failures are flagged in Table 1.

Further details regarding the results of our quality assurance review of analytical data are presented in the *ADEC LDRC*. Below is a discussion of analytical detections.

### **CONCLUSIONS AND RECOMMENDATIONS**

Based on site observations and indoor-air analytical results collected from Friends Church in March 2018, we present the following conclusions and recommendations. Indoor-air quality does not exceed Target Levels for Indoor Air, found in ADECs VI Guidance.

Ethanol was detected in each project sample; concentrations exceeded the laboratory's calibration range in samples *IA17-01*, *IA17-05*, *IA17-55*, *IA17-06* and *IA17-07*. ADEC target levels have not been established for ethanol. Elevated ethanol detections are likely caused by background sources related to products remaining in the building (not removed on March 5, 2018) and from cleaning activities at the church throughout the week of sampling.

Though Eurofins analyzed VOCs using the SIM method to achieve lower detection limits, several RLs exceeded target levels. Eurofins is unable to meet indoor-air target levels for analytes, 1,2,4-trichlorobenzene, 1,2-dibromoethane, bromodichloromethane, and hexachlorobutadiene. The remaining elevated RLs are associated with sample pair *IA17-05/IA17-55* caused by a laboratory performed dilution. We cannot assess if these analytes are present in the project samples at concentrations above the ADEC Target Levels, but below the RLs.

This indoor air sampling event may not fully characterize the potential vapor intrusion risk at Friends Church due to seasonal fluctuations. We recommend another round of sampling in the fall to confirm results.

### CLOSURE

This report was prepared for the exclusive use of the ADEC and their representatives. We understand this report will be used to assess indoor-air quality at the Friends Church. This report should not be used for other purposes without Shannon & Wilson's review. We have prepared the document "Important Information about Your Geotechnical/Environmental Report" to help you and others understand the use and limitations of this report (Attachment H).

This report includes our observations of site conditions during our sampling activities on the date(s) they occurred. Our observations are specific to the locations and times noted herein, and may not be applicable to all areas of the site. No number of samples, along with analytical testing, can precisely predict the characteristics, quality, or distribution of site conditions.

Potential variations include, but are not limited to:

- The conditions between sampling points may be different.
- The passage of time or intervening causes (natural and manmade) may result in changes to site conditions.
- Contaminant concentrations may change in response to natural conditions, chemical reactions, and/or other events.
- The presence, distribution, and concentration of contaminants may vary from our sampling locations. Our tests may not represent the highest contaminant concentrations at the site.

The report should not be used without our approval if any of the following occurs:

- Conditions change due to natural forces or human activity under, at, or adjacent to the site.
- Project details change or new information becomes available such that our analyses, conclusion, and recommendations may be affected.
- If the site ownership or land use has changed.
- More than ten years has passed since the date of this summary letter report.
- Regulations, laws, or cleanup levels change.

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- If the site's regulatory status has changed.

If any of these occur, we should be retained to review the applicability of our analyses, conclusions, and recommendations.

State and/or federal agencies may require reporting of the information included in this report. Shannon & Wilson does not assume the responsibility for reporting these findings and therefore has not, and will not, disclose the results of this study unless specifically requested and authorized by the ADEC, or as required by law. Regulatory agencies may reach different conclusions than Shannon & Wilson.

Please call me at 458-3151 or Andrew Frick at 458-3149 if you have questions.

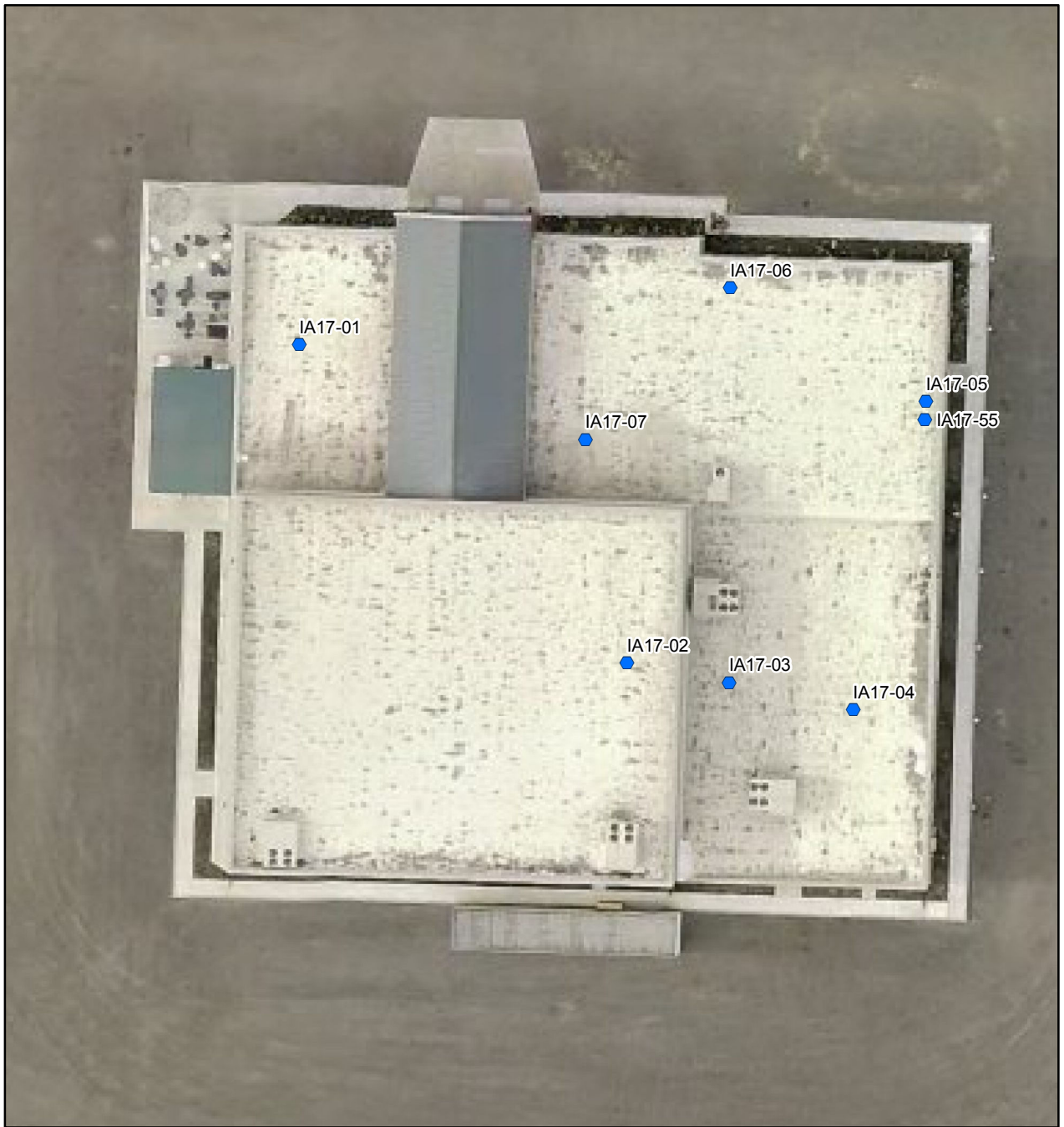
Sincerely,

**SHANNON & WILSON, INC.**

Sheila Hinckley  
Environmental Scientist

Enc: Figure 1 – Indoor-Air Sample Locations  
Table 1 – March 2018 Indoor-Air Event Summary  
ADEC Building Inventory and Indoor Air Sampling Questionnaire (BIQ)  
Sample Collection Logs and Field Notes  
Eurofins Work Order 1803256  
ADEC Laboratory Data Review Checklist (LDRC)  
*Information about your Environmental Site Assessment/Evaluation Report*

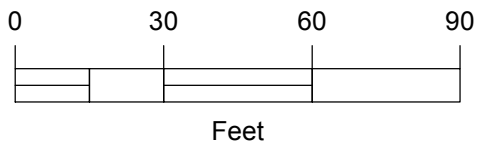
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Map adapted from aerial and satellite imagery provided through the Alaska Department of Natural Resources.  
 (Satellite Imagery: Spot 5 © CNES, SPOT 6 & 7 © Airbus DS)

**LEGEND**

● Indoor-Air Sample Locations



Miller Salvage, Inc. Property  
 Fairbanks, Alaska

**INDOOR - AIR SAMPLE LOCATIONS,  
 FRIENDS CHURCH**

April 2018

31-1-20056-010

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 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

**Figure 1**

**TABLE 1  
MARCH 2018 INDOOR-AIR EVENT SUMMARY  
FRIENDS CHURCH, MILLER SALVAGE PROPERTY, INC.**

| Analytical Method       | Analyte                     | ADEC Target Levels † | Sample ID         | IA17-01                | IA17-02                | IA17-03                | IA17-04                | IA17-05                | IA17-55                | IA17-06                | IA17-07                |
|-------------------------|-----------------------------|----------------------|-------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|                         |                             |                      | Units             | 3/7/2018<br>3:08:00 PM | 3/7/2018<br>2:37:00 PM | 3/7/2018<br>3:20:00 PM | 3/7/2018<br>3:40:00 PM | 3/7/2018<br>3:44:00 PM | 3/7/2018<br>3:34:00 PM | 3/7/2018<br>3:14:00 PM | 3/7/2018<br>3:04:00 PM |
| TO-15                   | 1,1,1-Trichloroethane       | 3,800                | µg/m <sup>3</sup> | <0.19                  | <0.18                  | <0.180                 | <0.190                 | <0.950                 | <1.80                  | <0.180                 | <0.190                 |
|                         | 1,1,2,2-Tetrachloroethane   | 0.48                 | µg/m <sup>3</sup> | <0.24                  | <0.23                  | <0.220                 | <0.230                 | <b>&lt;1.20</b>        | <b>&lt;2.30</b>        | <0.220                 | <0.240                 |
|                         | 1,1,2-Trichloroethane       | 0.21                 | µg/m <sup>3</sup> | <0.19                  | <0.18                  | <0.180                 | <0.190                 | <b>&lt;0.950</b>       | <b>&lt;1.80</b>        | <0.180                 | <0.190                 |
|                         | 1,1-Dichloroethane          | 18                   | µg/m <sup>3</sup> | <0.14                  | <0.14                  | <0.130                 | <0.140                 | <0.700                 | <1.40                  | <0.130                 | <0.140                 |
|                         | 1,1-Dichloroethene          | 79                   | µg/m <sup>3</sup> | <0.070                 | <0.067                 | <0.0650                | <0.0680                | <0.340                 | <0.670                 | <0.0650                | <0.0690                |
|                         | 1,2,4-Trichlorobenzene      | 2.1                  | µg/m <sup>3</sup> | <b>&lt;6.6 J*</b>      | <b>&lt;6.3 J*</b>      | <b>&lt;6.10 J*</b>     | <b>&lt;6.30 J*</b>     | <b>&lt;32.0 J*</b>     | <b>&lt;62.0 J*</b>     | <b>&lt;6.00 J*</b>     | <b>&lt;6.50 J*</b>     |
|                         | 1,2,4-Trimethylbenzene      | 7.3                  | µg/m <sup>3</sup> | <0.87                  | <0.83                  | <0.810                 | <0.840                 | <4.30                  | <b>&lt;8.20</b>        | <0.800                 | <0.860                 |
|                         | 1,2-Dibromoethane (EDB)     | 0.047                | µg/m <sup>3</sup> | <b>&lt;0.27</b>        | <b>&lt;0.26</b>        | <b>&lt;0.250</b>       | <b>&lt;0.260</b>       | <b>&lt;1.30</b>        | <b>&lt;2.60</b>        | <b>&lt;0.250</b>       | <b>&lt;0.270</b>       |
|                         | 1,2-Dichlorobenzene         | 210                  | µg/m <sup>3</sup> | <1.1                   | <1.0                   | <0.990                 | <1.00                  | <5.20                  | <10.0                  | <0.980                 | <1.00                  |
|                         | 1,2-Dichloroethane          | 1.1                  | µg/m <sup>3</sup> | <0.14                  | <0.14                  | <0.130                 | <0.140                 | <0.700                 | <b>&lt;1.40</b>        | <0.130                 | <0.140                 |
|                         | 1,2-Dichloropropane         | 2.8                  | µg/m <sup>3</sup> | <0.82                  | <0.78                  | <0.760                 | <0.790                 | <b>&lt;4.00</b>        | <b>&lt;7.80</b>        | <0.750                 | <0.810                 |
|                         | 1,3,5-Trimethylbenzene      | N/A                  | µg/m <sup>3</sup> | <0.87                  | <0.83                  | <0.810                 | <0.840                 | <4.30                  | <8.20                  | <0.800                 | <0.860                 |
|                         | 1,3-Dichlorobenzene         | 210                  | µg/m <sup>3</sup> | <1.1                   | <1.0                   | <0.990                 | <1.00                  | <5.20                  | <10.0                  | <0.980                 | <1.00                  |
|                         | 1,4-Dichlorobenzene         | 2.6                  | µg/m <sup>3</sup> | <0.21                  | <0.20                  | <0.200                 | <0.200                 | <1.00                  | <2.00                  | <0.200                 | <0.210                 |
|                         | 1,4-Dioxane                 | 5.6                  | µg/m <sup>3</sup> | <0.64                  | <0.61                  | <0.590                 | <0.620                 | <3.10                  | <b>&lt;6.00</b>        | <0.590                 | <0.630                 |
|                         | 2,2,4-Trimethylpentane      | N/A                  | µg/m <sup>3</sup> | <4.1                   | <3.9                   | <3.80                  | <4.00                  | <20.0                  | <39.0                  | <3.80                  | <4.10                  |
|                         | 2-Butanone (MEK)            | 5,200                | µg/m <sup>3</sup> | <2.6                   | <2.5                   | <2.40                  | <2.50                  | <13.0                  | <25.0                  | 2.50                   | <2.60                  |
|                         | 2-Hexanone                  | 31                   | µg/m <sup>3</sup> | <3.6                   | <3.5                   | <3.40                  | <3.50                  | <18.0                  | <b>&lt;34.0</b>        | <3.30                  | <3.60                  |
|                         | 4-Ethyltoluene              | N/A                  | µg/m <sup>3</sup> | <0.87                  | <0.83                  | <0.810                 | <0.840                 | <4.30                  | <8.20                  | <0.800                 | <0.860                 |
|                         | 4-Methyl-2-pentanone (MIBK) | 3,100                | µg/m <sup>3</sup> | <0.72                  | <0.69                  | <0.670                 | <0.700                 | <3.60                  | <6.90                  | <0.670                 | <0.720                 |
|                         | Acetone                     | 31,000               | µg/m <sup>3</sup> | 28                     | 18                     | 22                     | 21.0                   | 28.0                   | 33.0                   | 27.0                   | 28.0                   |
|                         | Allyl chloride              | N/A                  | µg/m <sup>3</sup> | <2.8                   | <2.6                   | <2.60                  | <2.70                  | <14.0                  | <26.0                  | <2.60                  | <2.70                  |
|                         | alpha-Chlorotoluene         | N/A                  | µg/m <sup>3</sup> | <0.92                  | <0.87                  | <0.850                 | <0.880                 | <4.50                  | <8.70                  | <0.840                 | <0.900                 |
|                         | Benzene                     | 3.6                  | µg/m <sup>3</sup> | 3.0                    | 1.6                    | 2.00                   | 1.90                   | 2.30                   | <2.70                  | 2.40                   | 2.60                   |
|                         | Bromodichloromethane        | 0.76                 | µg/m <sup>3</sup> | <b>&lt;1.2</b>         | <b>&lt;1.1</b>         | <b>&lt;1.10</b>        | <b>&lt;1.10</b>        | <b>&lt;5.80</b>        | <b>&lt;11.0</b>        | <b>&lt;1.10</b>        | <b>&lt;1.20</b>        |
|                         | Bromoform                   | 26                   | µg/m <sup>3</sup> | <1.8                   | <1.7                   | <1.70                  | <1.80                  | <9.00                  | <17.0                  | <1.70                  | <1.80                  |
|                         | Bromomethane                | 5.2                  | µg/m <sup>3</sup> | <3.4                   | <3.3                   | <3.2                   | <3.30                  | <b>&lt;17.0</b>        | <b>&lt;33.0</b>        | <3.20                  | <3.40                  |
|                         | 1,3-Butadiene               | 0.94                 | µg/m <sup>3</sup> | <0.39                  | <0.37                  | <0.36                  | <0.380                 | <b>&lt;1.90</b>        | <b>&lt;3.70</b>        | <0.360                 | <0.390                 |
|                         | Carbon disulfide            | 730                  | µg/m <sup>3</sup> | <2.8                   | <2.6                   | <2.6                   | <2.70                  | <14.0                  | <26.0                  | <2.50                  | <2.70                  |
|                         | Carbon tetrachloride        | 4.7                  | µg/m <sup>3</sup> | 0.42                   | 0.42                   | 0.410                  | 0.420                  | <1.10                  | <2.10                  | 0.410                  | 0.420                  |
|                         | Chlorobenzene               | 52                   | µg/m <sup>3</sup> | <0.81                  | <0.78                  | <0.760                 | <0.790                 | <4.00                  | <7.70                  | <0.750                 | <0.800                 |
|                         | Chloroethane                | 10,000               | µg/m <sup>3</sup> | <0.23                  | <0.22                  | <0.220                 | <0.220                 | <1.10                  | <2.20                  | <0.220                 | <0.230                 |
|                         | Chloroform                  | 1.2                  | µg/m <sup>3</sup> | 0.70                   | 0.22                   | 0.260                  | 0.270                  | <0.850                 | <b>&lt;1.60</b>        | 0.420                  | 0.590                  |
| Chloromethane           | 94                          | µg/m <sup>3</sup>    | 2.0               | <1.7                   | <1.70                  | <1.80                  | <9.00                  | <17.0                  | 1.70                   | 3.70                   |                        |
| cis-1,2-Dichloroethene  | N/A                         | µg/m <sup>3</sup>    | <0.14             | <0.13                  | <0.130                 | <0.140                 | <0.690                 | <1.30                  | <0.130                 | <0.140                 |                        |
| cis-1,3-Dichloropropene | N/A                         | µg/m <sup>3</sup>    | <0.80             | <0.77                  | <0.740                 | <0.780                 | <3.90                  | <7.60                  | <0.740                 | <0.790                 |                        |
| Cyclohexane             | 6,300                       | µg/m <sup>3</sup>    | 1.4               | <0.58                  | 0.570                  | 0.750                  | <3.00                  | <5.80                  | 0.850                  | 1.00                   |                        |
| Dibromochloromethane    | N/A                         | µg/m <sup>3</sup>    | <1.5              | <1.4                   | <1.40                  | <1.40                  | <7.40                  | <14.0                  | <1.40                  | <1.50                  |                        |
| Dichlorodifluoromethane | 100                         | µg/m <sup>3</sup>    | 2.2               | 2.3                    | 2.20                   | 2.20                   | 2.20                   | 2.20                   | 2.10                   | 2.20                   |                        |
| Ethanol                 | N/A                         | µg/m <sup>3</sup>    | 270 E             | 110                    | 110                    | 120                    | 1500 E                 | 1400 E                 | 240 E                  | 430 E                  |                        |
| Ethylbenzene            | 11                          | µg/m <sup>3</sup>    | 1.4               | 0.84                   | 1.10                   | 1.20                   | 1.20                   | <1.40                  | 1.30                   | 1.20                   |                        |
| Freon 114               | N/A                         | µg/m <sup>3</sup>    | <0.25             | <0.24                  | <0.230                 | <0.240                 | <1.20                  | <2.30                  | <0.230                 | <0.240                 |                        |
| Heptane                 | N/A                         | µg/m <sup>3</sup>    | 2.1               | 1.1                    | 1.60                   | 5.50                   | <3.60                  | <6.90                  | 2.60                   | 1.80                   |                        |
| Hexachlorobutadiene     | 1.3                         | µg/m <sup>3</sup>    | <b>&lt;9.4</b>    | <b>&lt;9.0</b>         | <b>&lt;8.70</b>        | <b>&lt;9.10</b>        | <b>&lt;46.0</b>        | <b>&lt;90.0</b>        | <b>&lt;8.70</b>        | <b>&lt;9.30</b>        |                        |



**TABLE 1**  
**MARCH 2018 INDOOR-AIR EVENT SUMMARY**  
**FRIENDS CHURCH, MILLER SALVAGE PROPERTY, INC.**

| Analytical Method | Analyte                   | ADEC Target Levels † | Sample ID         | IA17-01                | IA17-02                | IA17-03                | IA17-04                | IA17-05                | IA17-55                | IA17-06                | IA17-07                |
|-------------------|---------------------------|----------------------|-------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|                   |                           |                      | Units             | 3/7/2018<br>3:08:00 PM | 3/7/2018<br>2:37:00 PM | 3/7/2018<br>3:20:00 PM | 3/7/2018<br>3:40:00 PM | 3/7/2018<br>3:44:00 PM | 3/7/2018<br>3:34:00 PM | 3/7/2018<br>3:14:00 PM | 3/7/2018<br>3:04:00 PM |
| TO-15             | Isopropyl Alcohol         | 210                  | µg/m <sup>3</sup> | 11                     | 4.4                    | 5.8                    | 6.50                   | <11.0                  | <21.0                  | 13.0                   | 16.0                   |
|                   | Isopropylbenzene          | 420                  | µg/m <sup>3</sup> | <0.87                  | <0.83                  | <0.810                 | <0.840                 | <4.30                  | <8.20                  | <0.800                 | <0.860                 |
|                   | Methylene chloride        | 630                  | µg/m <sup>3</sup> | <1.2                   | <1.2                   | <1.10                  | <1.20                  | <6.00                  | <12.0                  | <1.10                  | <1.20                  |
|                   | Methyl-t-butyl ether      | 110                  | µg/m <sup>3</sup> | <0.64                  | <0.61                  | <0.590                 | <0.620                 | <3.10                  | <6.00                  | <0.590                 | <0.630                 |
|                   | n-Hexane                  | 730                  | µg/m <sup>3</sup> | 1.4                    | 0.62                   | 0.960                  | 3.90                   | <3.10                  | <5.90                  | 1.60                   | 1.30                   |
|                   | n-Propylbenzene           | 1,000                | µg/m <sup>3</sup> | <0.87                  | <0.83                  | <0.810                 | <0.840                 | <4.30                  | <8.20                  | <0.800                 | <0.860                 |
|                   | o-Xylene                  | 100 ‡                | µg/m <sup>3</sup> | 1.8                    | 1.1                    | 1.40                   | 1.40                   | 1.70                   | 1.80                   | 1.60                   | 1.60                   |
|                   | P & M -Xylene             |                      | µg/m <sup>3</sup> | 4.9                    | 3.0                    | 3.90                   | 3.90                   | 4.50                   | 4.90                   | 4.60                   | 4.50                   |
|                   | Styrene                   | 850                  | µg/m <sup>3</sup> | <0.75                  | <0.72                  | <0.700                 | <0.730                 | <3.70                  | <7.20                  | <0.690                 | <0.740                 |
|                   | Tetrachloroethene (PCE)   | 41                   | µg/m <sup>3</sup> | 0.71                   | 0.54                   | 0.570                  | 0.560                  | <1.20                  | <2.30                  | 0.640                  | 0.600                  |
|                   | Tetrahydrofuran           | N/A                  | µg/m <sup>3</sup> | <2.6                   | <2.5                   | <2.40                  | <2.50                  | <13.0                  | <25.0                  | <2.40                  | <2.60                  |
|                   | Toluene                   | 3,800                | µg/m <sup>3</sup> | 11                     | 6.3                    | 7.90                   | 8.00                   | 8.80                   | 9.70                   | 9.80                   | 9.40                   |
|                   | trans-1,2-Dichloroethene  | 790                  | µg/m <sup>3</sup> | <0.70                  | <0.67                  | <0.650                 | <0.680                 | <3.40                  | <6.70                  | <0.650                 | <0.690                 |
|                   | trans-1,3-Dichloropropene | N/A                  | µg/m <sup>3</sup> | <0.80                  | <0.77                  | <0.740                 | <0.780                 | <3.90                  | <7.60                  | <0.740                 | <0.790                 |
|                   | Trichloroethene (TCE)     | 2                    | µg/m <sup>3</sup> | <0.19                  | <0.18                  | <0.180                 | <0.180                 | <0.940                 | <1.80                  | <0.180                 | <0.190                 |
|                   | Trichlorofluoromethane    | N/A                  | µg/m <sup>3</sup> | 1.4                    | 1.4                    | 1.4                    | 1.40                   | <4.90                  | <9.40                  | 1.40                   | 1.40                   |
|                   | Trichlorotrifluoroethane  | 31,000               | µg/m <sup>3</sup> | <1.4                   | <1.3                   | <1.2                   | <1.30                  | <6.70                  | <13.0                  | <1.20                  | <1.30                  |
| Vinyl chloride    | 1.7                       | µg/m <sup>3</sup>    | <0.045            | <0.043                 | <0.0420                | <0.0440                | <0.220                 | <0.430                 | <0.0420                | <0.0450                |                        |

Notes: Sample IA17-55 is a field-duplicate of sample IA17-05.  
† Obtained from the ADEC *Vapor Intrusion Guidance for Contaminated Sites* - Appendix D: Target Levels for Indoor Air - Residential (November 2017).  
‡ Total xylenes  
ADEC Alaska Department of Environmental Conservation.  
µg/m<sup>3</sup> microgram per cubic meter  
N/A Not applicable; ADEC Target Level not established.  
< Analyte not detected; listed as less than the reporting limit (RL) unless otherwise flagged due to quality-control failures.  
E Result exceeds instrument calibration range. Flag applied by the laboratory.  
J\* Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson, Inc.  
<Bold> RL exceeds the ADEC target level, for the non-detected analyte.

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE**

This form should be prepared by a person familiar with indoor air assessments with assistance from a person knowledgeable about the building. Complete this form for each building where interior samples (e.g., indoor air, crawl space, or subslab soil gas samples) will be collected. Section I of this form should be used to assist in choosing an investigative strategy during workplan development. Section II should be used to assist in identification of complicating factors during a presampling building walk-through.

Preparer's Name Sheila Hinckley Date/Time Prepared January 5, 2018 1300-1500  
Preparer's Affiliation Shannon & Wilson, Inc. Phone No. 907-458-3151  
Purpose of Investigation Vapor Intrusion Investigation

**SECTION I: BUILDING INVENTORY**

**1. OCCUPANT OR BUILDING PERSONNEL:**

**Interviewed: Y / N**

Last Name Gettinger First Name Eric  
Address 1485 30<sup>th</sup> Avenue  
City Fairbank  
Phone No. 907-347-5631 907-452-2249  
Number of Occupants/people at this location \_\_\_\_\_ Age of Occupants \_\_\_\_\_

**2. OWNER or LANDLORD:** (Check if same as occupant )

**Interviewed: Y / N**

Last Name \_\_\_\_\_ First Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
Phone No. \_\_\_\_\_

**3. BUILDING CHARACTERISTICS**

**Type of Building:** (Circle appropriate response.)

Residential  
Industrial

School  
Church

Commercial/Multi-use  
Other \_\_\_\_\_

If the property is residential, what type? (Circle appropriate response.)

Ranch  
Raised Ranch  
Cape Cod  
Duplex  
Modular

2-Family  
Split Level  
Contemporary  
Apartment House  
Log Home

3-Family  
Colonial  
Mobile Home  
Townhouse/Condo  
Other \_\_\_\_\_

If multiple units, how many? \_\_\_\_\_

If the property is commercial, what type?

Business types(s) Church

Does it include residences (i.e., multi-use)? Y /  N

If yes, how many? \_\_\_\_\_

Other characteristics:

Number of floors 1

Building age 16 years

Is the building insulated?  Y / N

How airtight? Tight / Average / Not Tight

Have occupants noticed chemical odors in the building?

Y /  N

If yes, please describe: \_\_\_\_\_

\_\_\_\_\_

#### 4. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

N/A

Airflow in building near suspected source

see below

Outdoor air infiltration

Through HVAC Filter System.

Infiltration into air ducts

Through Forced Air HVAC System.

Lowest Floor

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply.)

- a. Above-grade construction: wood frame log concrete brick  
constructed on pilings with enclosed air space constructed on pilings with open air space
- b. Basement type: full crawlspace slab-on-grade other \_\_\_\_\_
- c. Basement floor: concrete dirt stone other \_\_\_\_\_
- d. Basement floor: unsealed sealed sealed with unknown
- e. Foundation walls: poured block stone other \_\_\_\_\_
- f. Foundation walls: unsealed sealed sealed with vapor barrier
- g. The basement is: wet damp dry
- h. The basement is: finished unfinished partially finished
- i. Sump present? Y N
- j. Water in sump? Y / N / not applicable

Basement or lowest level depth below grade \_\_\_\_\_ (feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).

Cracks visible in sanctuary. Nine drains in building. Two vents (to outside) in building. - see building layout.

6. HEATING, VENTING, and AIR CONDITIONING (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

- Hot air circulation Heat pump Hot water baseboard  
Space heaters Stream radiation Radiant floor  
Electric baseboard Wood stove Outdoor wood boiler Other \_\_\_\_\_

The primary type of fuel used is:

- Natural gas Fuel oil Kerosene  
Electric Propane Solar  
Wood Coal

Domestic hot water tank is fueled by: Natural Gas

Boiler/furnace is located in: Basement Outdoors Main floor Other \_\_\_\_\_

Do any of the heating appliances have cold-air intakes? Y N

Type of air conditioning or ventilation used in this building:

- Central air Window units Open windows None  
Commercial HVAC Heat-recovery system Passive air system

Are there air distribution ducts present?

Y /  N

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

Commercial HVAC system.

Duct condition good.

Joints are tight where visible.

Air supply on roof top

Is there a radon mitigation system for the building/structure? Y /  N Date of Installation \_\_\_\_\_

Is the system active or passive? Active/Passive

7. OCCUPANCY

Is basement/lowest level occupied?  Full-time  Occasionally  Seldom  Almost never

Level General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).

Basement \_\_\_\_\_

1<sup>st</sup> Floor Church - various

2<sup>nd</sup> Floor \_\_\_\_\_

3<sup>rd</sup> Floor \_\_\_\_\_

8. WATER AND SEWAGE

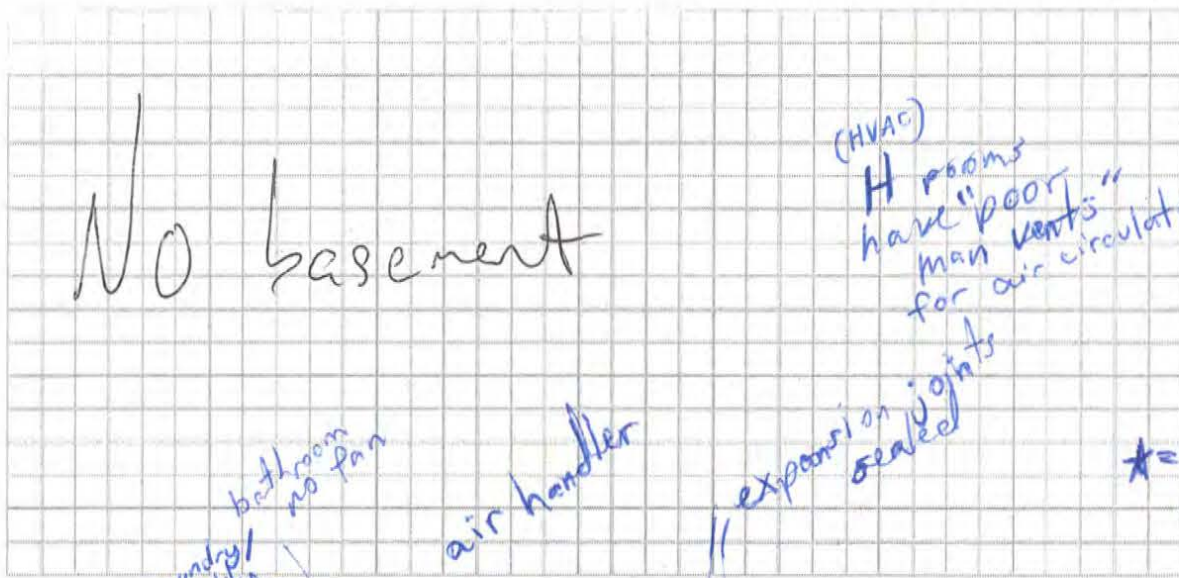
Water supply:  Public water  Drilled well  Driven well  Dug well  Other \_\_\_\_\_

Sewage disposal:  Public sewer  Septic tank  Leach field  Dry well  Other \_\_\_\_\_

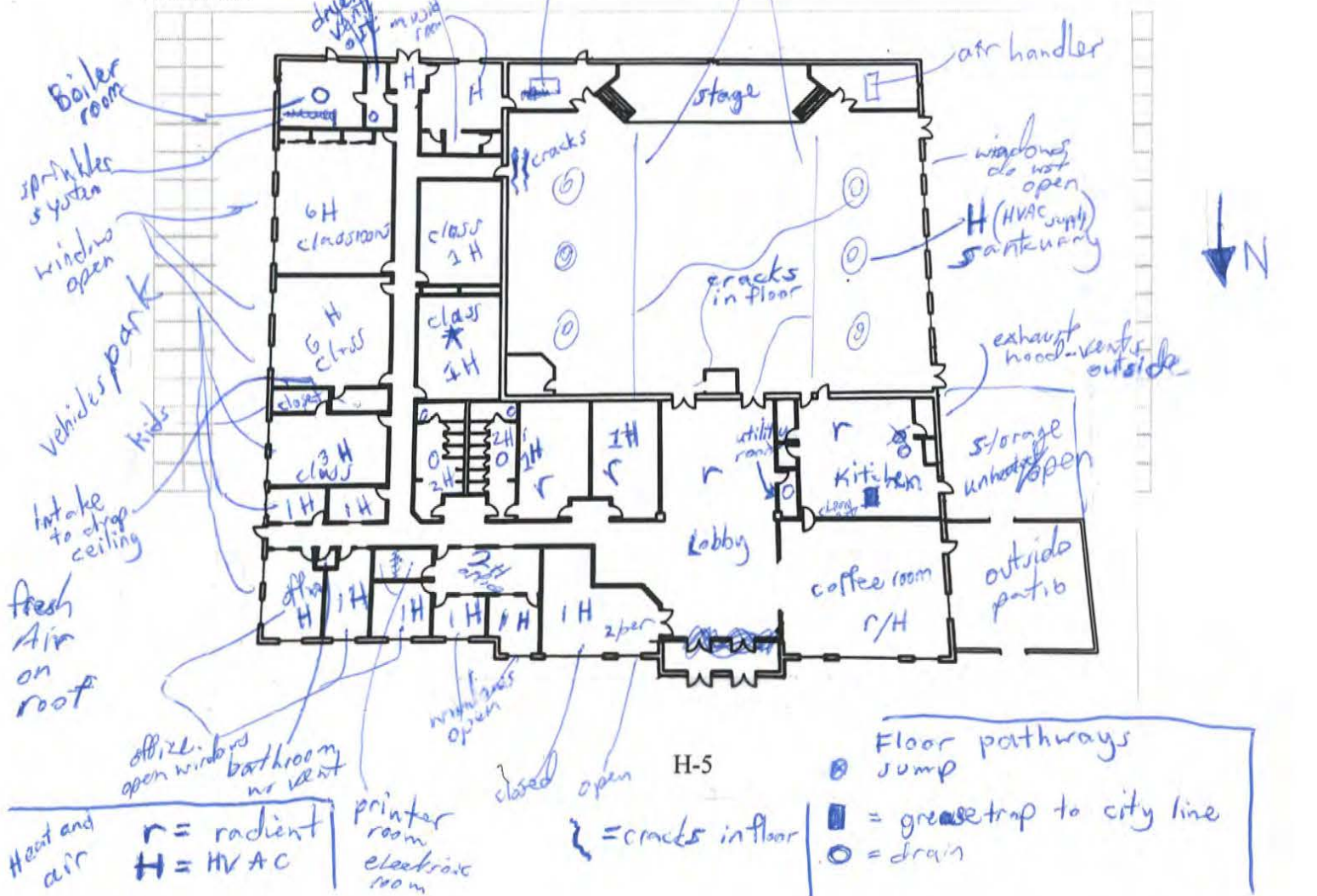
## 9. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



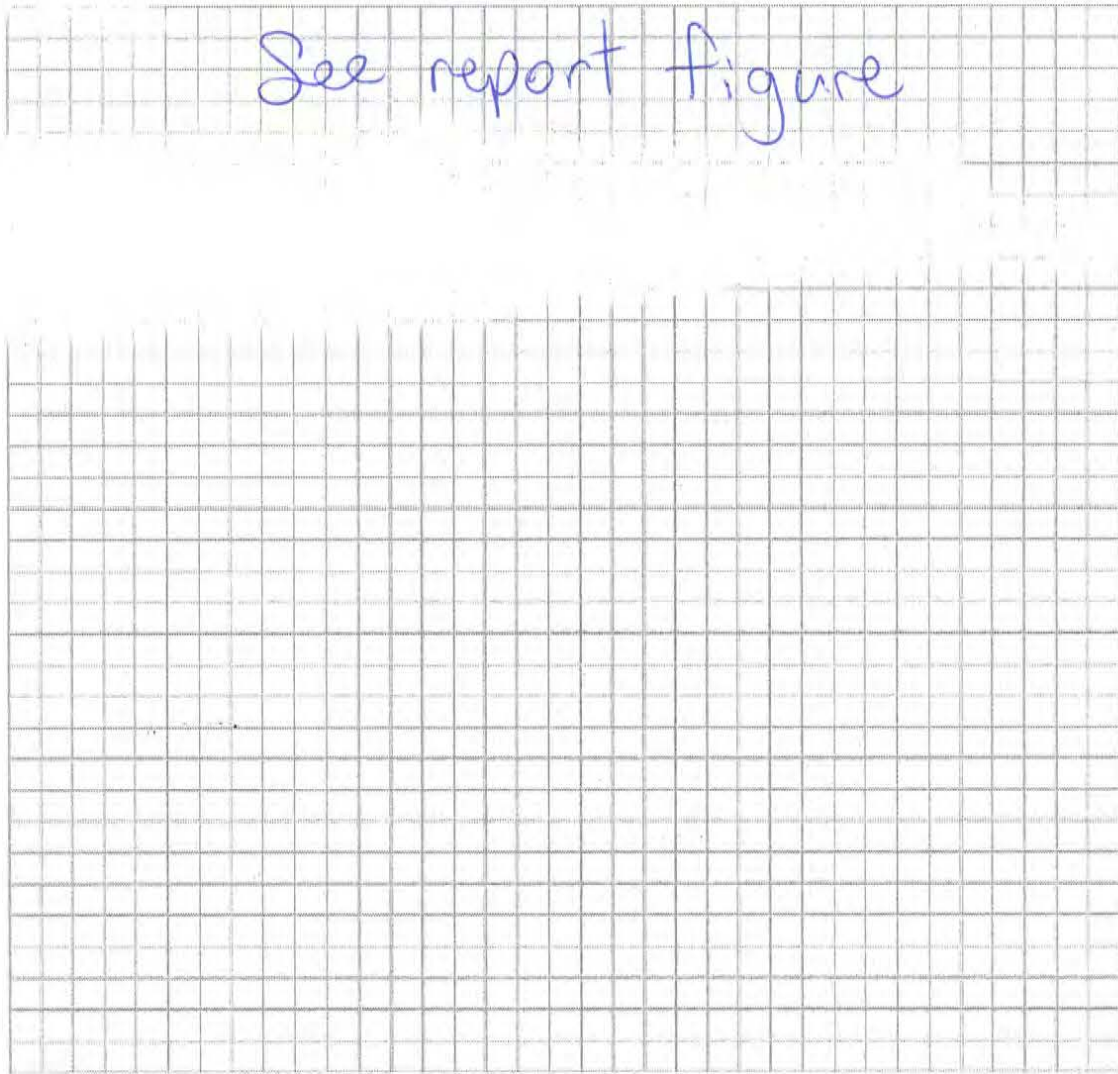
First Floor:



**10. OUTDOOR PLOT**

**Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.**

**Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.**



## SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a presampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

### a) 1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?

Y/N  N

Does the garage have a separate heating unit?

Y/N/NA  NA

Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)

Y/N/NA  NA

Please specify \_\_\_\_\_

Has the building ever had a fire?

Y/N  N When? \_\_\_\_\_

Is a kerosene or unvented gas space heater present?

Y/N  N Where? \_\_\_\_\_

Is there a workshop or hobby/craft area?

Y/N  N Where and type \_\_\_\_\_

Is there smoking in the building?

Y/N  N How frequently? \_\_\_\_\_

Has painting/staining been done in the last six months?

Y  N Where and when? Classrooms & auditorium

Is there new carpet, drapes or other textiles?

Y/N  N Where and when? \_\_\_\_\_

Is there a kitchen exhaust fan?

Y  N If yes, where is it vented? above stove → outside <sup>↑</sup> last month.

Is there a bathroom exhaust fan?

Y  N If yes, where is it vented? \_\_\_\_\_ <sup>↑</sup> NO VOC paint.

Is there a clothes dryer?

Y  N If yes, is it vented outside?  Y  N

Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling? Y/N  N

If yes, please describe Cleaning products are used in bathrooms and kitchen.

Do any of the building occupants use solvents at work? Y/N  N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? \_\_\_\_\_

If yes, are his/her/their clothes washed at work? Y/N  N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly)  No

Yes, use dry cleaning infrequently (monthly or less) Unknown

Yes, work at a dry cleaning services

Note: Several items that could <sup>I-7</sup> interfere with air sampling were removed on 3/5/18; from the Boiler and laundry rooms.

- 5 gallon gas containers (x2)
- Low VOC paint cans (several)
- Snow blower (gas powered)
- chemicals/cleaners



**2. PRODUCT INVENTORY FORM** (For use during building walk-through.)

Make and model of field instrument used: \_\_\_\_\_

List specific products found in the residence that have the potential to affect indoor air quality:

| Location | Product Description            | Site (units) | Condition <sup>1</sup> | Chemical Ingredients | Field Instrument Reading (units) | Photo <sup>2</sup> Y/N |
|----------|--------------------------------|--------------|------------------------|----------------------|----------------------------------|------------------------|
|          | see SDS list for product list. |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |
|          |                                |              |                        |                      |                                  |                        |

<sup>1</sup> Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**.  
<sup>2</sup> Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

This form was modified from:  
 ITRC (Interstate Technology and Regulatory Council). 2007. *Vapor Intrusion Pathway: A Practical Guideline*. VI-1. Washington, D.C.: Interstate Technology and Regulatory Council, Vapor Intrusion Team. Available at: [www.itrcweb.org](http://www.itrcweb.org).

INDOOR AIR SAMPLING LOG

Owner/Occupant Friends Community Church

Project number 20056-008

Location Friends Church

Project name Miller Salvage

Date 3/6/2018

Mailing Address 1485 30<sup>th</sup> Ave. Ebles, AK

Time 1420

Weather Overcast, ~30°F

Sampling personnel SMH, ALF

Sample No. IA17-01

Date (start) 3/6/18 Time (start) 1426

Date (end) 3/7/18 Time (end) 1508

Duplicate \_\_\_\_\_

Date (start) \_\_\_\_\_ Time (start) \_\_\_\_\_

Date (end) \_\_\_\_\_ Time (end) \_\_\_\_\_

Sample Location: On the coffee counter in the coffee/  
eating area. North west side of  
building

Sample height (ft.) 4.85 Above ground surface

Canister ID 6L0822

Relative humidity 88%

Canister volume (L) 6

Barometric pressure 30.05 in

Canister vacuum (in. Hg) -28.5 Initial

Laboratory Eurofins AirToxics

Canister vacuum (in. Hg) -7 Final

Analysis TO-15

Notes: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INDOOR AIR SAMPLING LOG

Owner/Occupant Friends Community Church

Location Friends Church

Mailing Address 485 30<sup>th</sup> Ave. Ebks Ak

Weather Overcast, ~30°F

Project number 20056-008

Project name Miller Salvage

Date 3/6/2018

Time 1430

Sampling personnel SMH, ALF

Sample No. IA17-02

Date (start) 3/6/18 Time (start) 1443

Date (end) 3/7/18 Time (end) 1437

Duplicate —

Date (start) — Time (start) —

Date (end) — Time (end) —

Sample Location: East wall of Sanctuary, on top of podium

Sample height (ft.) 4.55 Above ground surface

Canister ID 6L1678

Relative humidity 88%

Canister volume (L) 6

Barometric pressure 30.05 in

Canister vacuum (in. Hg) -27 Initial

Laboratory Eurofins AirToxics

Canister vacuum (in. Hg) -7 Final

Analysis TO-15

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**INDOOR AIR SAMPLING LOG**

|                 |  |                    |                       |
|-----------------|--|--------------------|-----------------------|
| Owner/Occupant  | <u>Friends Community Church</u>          | Project number     | <u>20056-008</u>      |
| Location        | <u>Friends Church</u>                    | Project name       | <u>Miller Salvage</u> |
|                 |  | Date               | <u>3/6/2018</u>       |
| Mailing Address | <u>1485 30<sup>th</sup> Ave. Fbks Ak</u> | Time               | <u>1450</u>           |
| Weather         | <u>Overcast, ~30°F</u>                   | Sampling personnel | <u>SMH, ALF</u>       |

|            |                |              |               |              |             |
|------------|----------------|--------------|---------------|--------------|-------------|
| Sample No. | <u>IA17-03</u> | Date (start) | <u>3/6/18</u> | Time (start) | <u>1452</u> |
|            |                | Date (end)   | <u>3/7/18</u> | Time (end)   | <u>1520</u> |

|           |                      |              |                      |              |                      |
|-----------|----------------------|--------------|----------------------|--------------|----------------------|
| Duplicate | <u>      —      </u> | Date (start) | <u>      —      </u> | Time (start) | <u>      —      </u> |
|           |                      | Date (end)   | <u>      —      </u> | Time (end)   | <u>      —      </u> |

Sample Location: In classroom #104 on top of  
table, west side of classroom

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|                     |               |                      |                 |
|---------------------|---------------|----------------------|-----------------|
| Sample height (ft.) | <u>4.05</u>   | Above ground surface |                 |
| Canister ID         | <u>6L1391</u> | Relative humidity    | <u>88%</u>      |
| Canister volume (L) | <u>6</u>      | Barometric pressure  | <u>30.05 in</u> |

|                          |              |         |            |                             |
|--------------------------|--------------|---------|------------|-----------------------------|
| Canister vacuum (in. Hg) | <u>-28.5</u> | Initial | Laboratory | <u>Envirofin Air Toxics</u> |
| Canister vacuum (in. Hg) | <u>-7</u>    | Final   | Analysis   | <u>TD-15</u>                |

Notes: This classroom shares a wall with  
the sanctuary.

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INDOOR AIR SAMPLING LOG

Owner/Occupant Friends Community Church

Location Friends Church

Project number 20056-008

Project name Miller Salvage

Date 3/6/18

Time 1459

Mailing Address 1485 30<sup>th</sup> Ave Fbks Ak

Weather Overcast, ~30°F

Sampling personnel SMH, ALF

Sample No. IA17-04

Date (start) 3/6/18 Time (start) 1502

Date (end) 3/7/18 Time (end) 1540

Duplicate —

Date (start) \_\_\_\_\_ Time (start) \_\_\_\_\_

Date (end) \_\_\_\_\_ Time (end) \_\_\_\_\_

Sample Location: In classroom #103 on top of table. West side of room.

Sample height (ft.) 4.10 Above ground surface

Canister ID 000003163

Relative humidity 88%

Canister volume (L) 6

Barometric pressure 30.05

Canister vacuum (in. Hg) -30 Initial

Laboratory Evolution Air Toxic

Canister vacuum (in. Hg) -8 Final

Analysis TO-15

Notes: Room shares a wall with the boiler room (where chemicals were removed on 3/5/18)

## INDOOR AIR SAMPLING LOG

Owner/Occupant Friends Community Church Project number 20056-008  
 Location Friends Church Project name Miller Salvage  
 Mailing Address 1485 30<sup>th</sup> Ave Fbks Ak Date 3/6/18  
 Weather Overcast, ~30°F Time 1505  
 Sampling personnel SMH, ALF

Sample No. IA17-05 Date (start) 3/6/18 Time (start) 1512  
 Date (end) 3/7/18 Time (end) 1544

Duplicate IA17-55 Date (start) 3/6/18 Time (start) 1502  
 Date (end) 3/7/18 Time (end) 1534

Sample Location: In office on east side of building;  
in window sill. South office of east  
side entry.

Sample height (ft.) 5.05 Above ground surface

Canister ID 6L1586/6L1845 Relative humidity 85%  
 Canister volume (L) 6 / 6 Barometric pressure 30.02 in

Canister vacuum (in. Hg) -27 / -30 Initial  
 Canister vacuum (in. Hg) -8 / -7 Final

Laboratory Eurofins Air-Toxics  
 Analysis TO-15

Notes: This office is close to an exterior  
door on the east side of the building  
where church personnel park vehicles  
throughout the week

Removed one oil reced-diffuser from the  
room on 3/5/18

INDOOR AIR SAMPLING LOG

Owner/Occupant Friends Community Church

Project number 20056-008

Location Friends Church

Project name Miller Salvage

Date 3/6/18

Mailing Address 185 30th Ave Fbkr Ak

Time 1534

Weather Overcast ~30°F

Sampling personnel SMH, ALF

Sample No. IA17-06

Date (start) 3/6/18 Time (start) 1535

Date (end) 3/7/18 Time (end) 1514

Duplicate     

Date (start)      Time (start)     

Date (end)      Time (end)     

Sample Location: In Pastors office (north east corner), on top of mini-fridge. North east corner of building.

Sample height (ft.) 4ft. 2in. Above ground surface

Canister ID 0000002436

Relative humidity 85%

Canister volume (L) 6

Barometric pressure 30.02 in

Canister vacuum (in. Hg) -30 Initial

Laboratory Eurofins AirToxics

Canister vacuum (in. Hg) -7 Final

Analysis T0-15

Notes:

INDOOR AIR SAMPLING LOG

Owner/Occupant Friends Community Church  
Location Friends Church

Project number 20056-008  
Project name Miller Salvage

Mailing Address 485 30<sup>th</sup> Ave. FBX Ak. 99701  
Weather Overcast ~30°F

Date 3/6/18  
Time 1505

Sampling personnel SMH, ALF

Sample No. IA17-07

Date (start) 3/6/18 Time (start) 1530

Date (end) 3/7/18 Time (end) 1504

Duplicate —

Date (start) \_\_\_\_\_ Time (start) \_\_\_\_\_

Date (end) \_\_\_\_\_ Time (end) \_\_\_\_\_

Sample Location: In nursery room; middle of room on floor.

Sample height (ft.) 1.7 Above ground surface

Canister ID GL0444

Relative humidity 85%

Canister volume (L) 6

Barometric pressure 30.02 in

Canister vacuum (in. Hg) -30 Initial

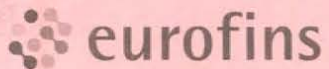
Laboratory EnviroPins AirToxics

Canister vacuum (in. Hg) -7 Final

Analysis TO-15

Notes: Room is close to the center of the building





Air Toxics

Sample Transportation Notice

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

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

Project Manager Andrew Frick

Collected by: (Print and Sign) Andrew Frick Andrew Frick

Company Shannon & Wilson, Inc. Email alt@shannwil.com

Address 2355 Hill Rd City Fairbanks State AK Zip 99709

Phone 907.479.0600 Fax

Project Info: P.O. # Project # 20056-008 Project Name Miller Salvage
Turn Around Time: [X] Normal [ ] Rush
Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

Table with columns: 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). Rows include samples IA17-01 through IA17-07.

Relinquished by: (signature) Date/Time Received by: (signature) Date/Time Notes:

Lab Use Only Shipper Name Air Bill # Temp (°C) Condition Custody Seals Intact? Work Order #



13:00 Met with Robert Burgess (HDEC PM) and Eric Gettinger (Friends Church Pastor) at Friends Church. SWI personnel present were ALF + SMH.

Conducted walk-through of building, identifying and photographing chemicals, and completing the BFO.

Floyd Conger (Friends Church Elder) was present during construction of building, and indicated a liner (type unknown, but likely geotextile) was installed beneath building. He indicated the native ground was excavated, a liner placed in the excavation, backfill was added, then a slab was poured. Liner is not directly beneath the slab.

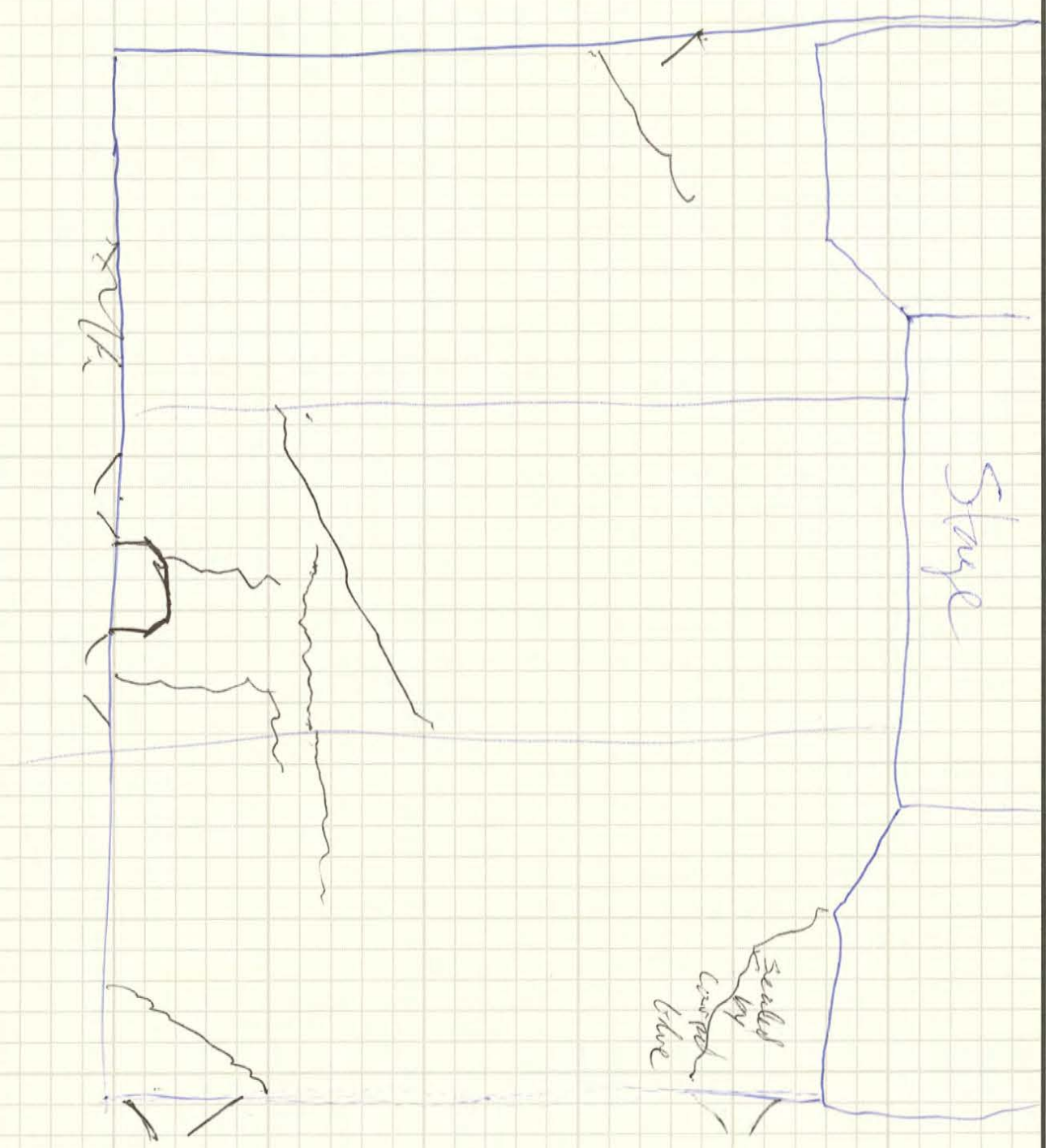
Cracks were observed in the concrete slab within the "sanctuary" and sketched on following page.



SHANNON & WILSON, INC.  
Geotechnical and Environmental Consultants

JOB NAME Miller Salvage  
SUBJECT Friends Church BLDG  
BY ALP CHK'D \_\_\_\_\_

JOB NO. 20056-008  
DATE 1-5-18  
SHEET 2 of 2



FIELD ACTIVITIES DAILY LOG

Date 3-5-18

Sheet 1 of 1

Project No. 20056-008

Project Name: Miller Salvage Property

Field activity subject: Vapor Intrusion - Friends Church

Description of daily activities and events: Product removal

1100 Arrive at Friends Church and meet with church representative Doreen. Shannon Wilson was given access to all rooms in the building to remove products that may affect indoor-air sampling.

The majority of the chemicals are stored in the boiler room and adjoined laundry room.

Focused on removing products containing chemicals of potential concern (COPCs) according to our January 2018 Work Plan.

Took photos of products and equipment removed.

Boiler room and laundry room

- gas powered snow blower
- five-gallon gas containers (2)
- chemicals and cleaners

Temporarily stored these items in an unheated storage room (north west side of church).

Doreen removed several "Low VOC" 5-gallon paint cans from the boiler room and one oil diffuser from the office where IA17-05 will be deployed.

1230 return to office (SWI)

Visitors on site: Various church personnel

Changes from plans/specifications and other special orders and important decisions:

Weather conditions: ~10°F ; overcast and light snow

Important telephone calls:

Personnel on site: Drew, Sheila

Signature:

Date: 3-5-18

FIELD ACTIVITIES DAILY LOG

Date 3-6-18

Sheet 1 of 1

Project No. 20056-008

Project Name: Miller Salvage

Field activity subject: Indoor - Air Sampling (deployment)

Description of daily activities and events:

1400 Arrive at Friends Church

1420 Sample IA17-01 (placed on counter of coffee room/eating area)

1430 Sample IA17-02 (Inside Sanctuary)

1450 Sample IA17-03 (Classroom #104)

1459 Sample IA17-04 (Classroom #103)

1505 Sample IA17-05/IA17-55 (office on east wall of building)

1520 Sample IA17-07 (Inside Nursery)

1530 Sample IA17-06 (Pastors office - north east side of building)  
• this room was occupied during sampling.

Took photos and measured height of sample intake to ground surface.

Spoke with various people in the church and answered sampling questions.

1600 return to office

scan SDS provided by church

Visitors on site: various to the church

Changes from plans/specifications and other special orders and important decisions:

Weather conditions: ~20°F; clear to partly cloudy

Important telephone calls: -

Personnel on site: Drew, Sheila

Signature:

Date: 3-6-18

FIELD ACTIVITIES DAILY LOG

Date 3-7-18

Sheet 1 of 1

Project No. 20056-008

Project Name: Miller Salvage

Field activity subject: Indoor-Air Sampling (retrieval)

Description of daily activities and events:

~1400 Arrive at Friends Church

Close sample canisters when the appropriate final vacuum was met for each sample.

|             |                          |
|-------------|--------------------------|
| <u>1437</u> | <u>IA17-02</u>           |
| <u>1504</u> | <u>IA17-07</u>           |
| <u>1508</u> | <u>IA17-01</u>           |
| <u>1514</u> | <u>IA17-06</u>           |
| <u>1520</u> | <u>IA17-03</u>           |
| <u>1540</u> | <u>IA17-04</u>           |
| <u>1544</u> | <u>IA17-05 / IA17-55</u> |

Return Chemicals/cleaners temporarily stored in the unheated storage room to the boiler room. At Doreens request we left the products in the middle of the boiler room, and the gas cans & snow blower in the storage room.

Spoke with various people in the church.

1630 returned to office, completed field sheets and COC.

Packed samples for shipment to laboratory.

Visitors on site: various to the church

Changes from plans/specifications and other special orders and important decisions:

Weather conditions: ~20°F ; overcast

Important telephone calls: —

Personnel on site: Drew, Sheila

Signature:



Date: 3-7-18

3/25/2018

Ms. Sheila Hinckley  
Shannon & Wilson, Inc.  
2355 Hill Road

Fairbanks AK 99709

Project Name: Miller Salvage  
Project #: 20056-008  
Workorder #: 1803256

Dear Ms. Sheila Hinckley

The following report includes the data for the above referenced project for sample(s) received on 3/14/2018 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: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**WORK ORDER #: 1803256**

Work Order Summary

**CLIENT:** Ms. Sheila Hinckley  
Shannon & Wilson, Inc.  
2355 Hill Road  
Fairbanks, AK 99709

**BILL TO:** Ms. Sheila Hinckley  
Shannon & Wilson, Inc.  
2355 Hill Road  
Fairbanks, AK 99709

**PHONE:** 907-479-0600

**P.O. #**

**FAX:** 907-479-5691

**PROJECT #** 20056-008 Miller Salvage

**DATE RECEIVED:** 03/14/2018

**CONTACT:** Kelly Buettner

**DATE COMPLETED:** 03/25/2018

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | IA17-01     | Modified TO-15 | 6.9 "Hg                       | 5.3 psi                   |
| 01B               | IA17-01     | Modified TO-15 | 6.9 "Hg                       | 5.3 psi                   |
| 02A               | IA17-02     | Modified TO-15 | 5.9 "Hg                       | 5.2 psi                   |
| 02B               | IA17-02     | Modified TO-15 | 5.9 "Hg                       | 5.2 psi                   |
| 03A               | IA17-03     | Modified TO-15 | 5.9 "Hg                       | 4.7 psi                   |
| 03B               | IA17-03     | Modified TO-15 | 5.9 "Hg                       | 4.7 psi                   |
| 04A               | IA17-04     | Modified TO-15 | 6.7 "Hg                       | 4.8 psi                   |
| 04B               | IA17-04     | Modified TO-15 | 6.7 "Hg                       | 4.8 psi                   |
| 05A               | IA17-05     | Modified TO-15 | 6.7 "Hg                       | 5.2 psi                   |
| 05B               | IA17-05     | Modified TO-15 | 6.7 "Hg                       | 5.2 psi                   |
| 06A               | IA17-55     | Modified TO-15 | 6.3 "Hg                       | 4.8 psi                   |
| 06B               | IA17-55     | Modified TO-15 | 6.3 "Hg                       | 4.8 psi                   |
| 07A               | IA17-06     | Modified TO-15 | 5.7 "Hg                       | 4.7 psi                   |
| 07B               | IA17-06     | Modified TO-15 | 5.7 "Hg                       | 4.7 psi                   |
| 08A               | IA17-07     | Modified TO-15 | 7.1 "Hg                       | 4.9 psi                   |
| 08B               | IA17-07     | Modified TO-15 | 7.1 "Hg                       | 4.9 psi                   |
| 09A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 09B               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 10A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 10B               | CCV         | Modified TO-15 | NA                            | NA                        |
| 11A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 11AA              | LCS         | Modified TO-15 | NA                            | NA                        |
| 11B               | LCS         | Modified TO-15 | NA                            | NA                        |

Continued on next page



**WORK ORDER #: 1803256**

Work Order Summary

|                        |  |                  |  |
|------------------------|--|------------------|--|
| <b>CLIENT:</b>         | Ms. Sheila Hinckley<br>Shannon & Wilson, Inc.<br>2355 Hill Road<br>Fairbanks, AK 99709 | <b>BILL TO:</b>  | Ms. Sheila Hinckley<br>Shannon & Wilson, Inc.<br>2355 Hill Road<br>Fairbanks, AK 99709 |
| <b>PHONE:</b>          | 907-479-0600   | <b>P.O. #</b>    |  |
| <b>FAX:</b>            | 907-479-5691   | <b>PROJECT #</b> | 20056-008 Miller Salvage   |
| <b>DATE RECEIVED:</b>  | 03/14/2018   | <b>CONTACT:</b>  | Kelly Buettner   |
| <b>DATE COMPLETED:</b> | 03/25/2018   |                  |  |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 11BB              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:   
 Technical Director

DATE: 03/25/18

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

**LABORATORY NARRATIVE**  
**Modified TO-15 Full Scan/SIM**  
**Shannon & Wilson, Inc.**  
**Workorder# 1803256**

Eight 6 Liter Summa Canister (SIM Certified) samples were received on March 14, 2018. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters 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.

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>   |
|-------------------------------|---|--|
| ICAL %RSD acceptance criteria | <=30% RSD with 2 compounds allowed out to < 40% RSD | For Full Scan:<br>30% RSD with 4 compounds allowed out to < 40% RSD<br><br>For SIM:<br>Project specific; default criteria is <=30% RSD with 10% of compounds allowed out to < 40% RSD  |
| Daily Calibration             | +/- 30% Difference                                  | For Full Scan:<br><= 30% Difference with four allowed out up to <=40%.; flag and narrate outliers<br><br>For SIM:<br>Project specific; default criteria is <= 30% Difference with 10% of compounds allowed out up to <=40%.; flag and narrate outliers |
| Blank and standards           | Zero air  | Nitrogen   |
| Method Detection Limit        | Follow 40CFR Pt.136 App. B                          | The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases  |

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

---

Ethanol exceeded the instrument's calibration range for samples IA17-01, IA17-05, IA17-55, IA17-06 and IA17-07 and were flagged accordingly.

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.

Dilution was performed on samples IA17-05 and IA17-55 due to the presence of high level target species.

### **Definition of Data Qualifying Flags**

Nine 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.

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

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

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 SIM/FULL SCAN

Client Sample ID: IA17-01

Lab ID#: 1803256-01A

| Compound    | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|-------------|-------------------|---------------|--------------------|----------------|
| Freon 11    | 0.18              | 0.26          | 0.99               | 1.4            |
| Ethanol     | 0.88              | 140 E         | 1.7                | 270 E          |
| Acetone     | 0.88              | 12            | 2.1                | 28             |
| 2-Propanol  | 0.88              | 4.7           | 2.2                | 11             |
| Hexane      | 0.18              | 0.39          | 0.62               | 1.4            |
| Cyclohexane | 0.18              | 0.40          | 0.61               | 1.4            |
| Heptane     | 0.18              | 0.52          | 0.72               | 2.1            |

Client Sample ID: IA17-01

Lab ID#: 1803256-01B

| Compound             | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------|-------------------|---------------|--------------------|----------------|
| Freon 12             | 0.035             | 0.45          | 0.18               | 2.2            |
| Chloromethane        | 0.88              | 0.97          | 1.8                | 2.0            |
| Chloroform           | 0.035             | 0.14          | 0.17               | 0.70           |
| Carbon Tetrachloride | 0.035             | 0.067         | 0.22               | 0.42           |
| Benzene              | 0.088             | 0.94          | 0.28               | 3.0            |
| Toluene              | 0.035             | 2.9           | 0.13               | 11             |
| Tetrachloroethene    | 0.035             | 0.10          | 0.24               | 0.71           |
| Ethyl Benzene        | 0.035             | 0.32          | 0.15               | 1.4            |
| m,p-Xylene           | 0.071             | 1.1           | 0.31               | 4.9            |
| o-Xylene             | 0.035             | 0.41          | 0.15               | 1.8            |

Client Sample ID: IA17-02

Lab ID#: 1803256-02A

| Compound   | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------|-------------------|---------------|--------------------|----------------|
| Freon 11   | 0.17              | 0.25          | 0.95               | 1.4            |
| Ethanol    | 0.84              | 58            | 1.6                | 110            |
| Acetone    | 0.84              | 7.7           | 2.0                | 18             |
| 2-Propanol | 0.84              | 1.8           | 2.1                | 4.4            |
| Hexane     | 0.17              | 0.18          | 0.60               | 0.62           |
| Heptane    | 0.17              | 0.26          | 0.69               | 1.1            |

## Summary of Detected Compounds

### MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

**Client Sample ID: IA17-02**

**Lab ID#: 1803256-02A**

**Client Sample ID: IA17-02**

**Lab ID#: 1803256-02B**

| Compound             | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------|-------------------|---------------|--------------------|----------------|
| Freon 12             | 0.034             | 0.46          | 0.17               | 2.3            |
| Chloroform           | 0.034             | 0.046         | 0.16               | 0.22           |
| Carbon Tetrachloride | 0.034             | 0.067         | 0.21               | 0.42           |
| Benzene              | 0.084             | 0.50          | 0.27               | 1.6            |
| Toluene              | 0.034             | 1.7           | 0.13               | 6.3            |
| Tetrachloroethene    | 0.034             | 0.080         | 0.23               | 0.54           |
| Ethyl Benzene        | 0.034             | 0.19          | 0.15               | 0.84           |
| m,p-Xylene           | 0.068             | 0.70          | 0.29               | 3.0            |
| o-Xylene             | 0.034             | 0.26          | 0.15               | 1.1            |

**Client Sample ID: IA17-03**

**Lab ID#: 1803256-03A**

| Compound    | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|-------------|-------------------|---------------|--------------------|----------------|
| Freon 11    | 0.16              | 0.24          | 0.92               | 1.4            |
| Ethanol     | 0.82              | 61            | 1.5                | 110            |
| Acetone     | 0.82              | 9.3           | 1.9                | 22             |
| 2-Propanol  | 0.82              | 2.4           | 2.0                | 5.8            |
| Hexane      | 0.16              | 0.27          | 0.58               | 0.96           |
| Cyclohexane | 0.16              | 0.17          | 0.56               | 0.57           |
| Heptane     | 0.16              | 0.39          | 0.67               | 1.6            |

**Client Sample ID: IA17-03**

**Lab ID#: 1803256-03B**

| Compound             | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------|-------------------|---------------|--------------------|----------------|
| Freon 12             | 0.033             | 0.44          | 0.16               | 2.2            |
| Chloroform           | 0.033             | 0.053         | 0.16               | 0.26           |
| Carbon Tetrachloride | 0.033             | 0.065         | 0.21               | 0.41           |

## Summary of Detected Compounds

### MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

**Client Sample ID: IA17-03**

**Lab ID#: 1803256-03B**

|                   |       |       |      |      |
|-------------------|-------|-------|------|------|
| Benzene           | 0.082 | 0.61  | 0.26 | 2.0  |
| Toluene           | 0.033 | 2.1   | 0.12 | 7.9  |
| Tetrachloroethene | 0.033 | 0.083 | 0.22 | 0.57 |
| Ethyl Benzene     | 0.033 | 0.25  | 0.14 | 1.1  |
| <u>m,p-Xylene</u> | 0.066 | 0.90  | 0.28 | 3.9  |
| o-Xylene          | 0.033 | 0.33  | 0.14 | 1.4  |

**Client Sample ID: IA17-04**

**Lab ID#: 1803256-04A**

| Compound      | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------|-------------------|---------------|--------------------|----------------|
| Freon 11      | 0.17              | 0.25          | 0.96               | 1.4            |
| Ethanol       | 0.86              | 65            | 1.6                | 120            |
| Acetone       | 0.86              | 8.7           | 2.0                | 21             |
| 2-Propanol    | 0.86              | 2.6           | 2.1                | 6.5            |
| <u>Hexane</u> | 0.17              | 1.1           | 0.60               | 3.9            |
| Cyclohexane   | 0.17              | 0.22          | 0.59               | 0.75           |
| Heptane       | 0.17              | 1.3           | 0.70               | 5.5            |

**Client Sample ID: IA17-04**

**Lab ID#: 1803256-04B**

| Compound             | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------|-------------------|---------------|--------------------|----------------|
| Freon 12             | 0.034             | 0.44          | 0.17               | 2.2            |
| Chloroform           | 0.034             | 0.056         | 0.17               | 0.27           |
| Carbon Tetrachloride | 0.034             | 0.066         | 0.22               | 0.42           |
| Benzene              | 0.086             | 0.60          | 0.27               | 1.9            |
| <u>Toluene</u>       | 0.034             | 2.1           | 0.13               | 8.0            |
| Tetrachloroethene    | 0.034             | 0.083         | 0.23               | 0.56           |
| Ethyl Benzene        | 0.034             | 0.27          | 0.15               | 1.2            |
| m,p-Xylene           | 0.068             | 0.89          | 0.30               | 3.9            |
| o-Xylene             | 0.034             | 0.32          | 0.15               | 1.4            |

## Summary of Detected Compounds

### MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA17-05

Lab ID#: 1803256-05A

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------|-------------------|---------------|--------------------|----------------|
| Ethanol  | 4.4               | 810 E         | 8.2                | 1500 E         |
| Acetone  | 4.4               | 12            | 10                 | 28             |

Client Sample ID: IA17-05

Lab ID#: 1803256-05B

| Compound      | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------|-------------------|---------------|--------------------|----------------|
| Freon 12      | 0.17              | 0.44          | 0.86               | 2.2            |
| Benzene       | 0.44              | 0.72          | 1.4                | 2.3            |
| Toluene       | 0.17              | 2.4           | 0.66               | 8.8            |
| Ethyl Benzene | 0.17              | 0.28          | 0.76               | 1.2            |
| m,p-Xylene    | 0.35              | 1.0           | 1.5                | 4.5            |
| o-Xylene      | 0.17              | 0.39          | 0.76               | 1.7            |

Client Sample ID: IA17-55

Lab ID#: 1803256-06A

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------|-------------------|---------------|--------------------|----------------|
| Ethanol  | 8.4               | 750 E         | 16                 | 1400 E         |
| Acetone  | 8.4               | 14            | 20                 | 33             |

Client Sample ID: IA17-55

Lab ID#: 1803256-06B

| Compound   | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------|-------------------|---------------|--------------------|----------------|
| Freon 12   | 0.34              | 0.45          | 1.7                | 2.2            |
| Toluene    | 0.34              | 2.6           | 1.3                | 9.7            |
| m,p-Xylene | 0.67              | 1.1           | 2.9                | 4.9            |
| o-Xylene   | 0.34              | 0.43          | 1.4                | 1.8            |

Client Sample ID: IA17-06

Lab ID#: 1803256-07A

## Summary of Detected Compounds

### MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA17-06

Lab ID#: 1803256-07A

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 11                         | 0.16              | 0.25          | 0.92               | 1.4            |
| Ethanol                          | 0.82              | 130 E         | 1.5                | 240 E          |
| Acetone                          | 0.82              | 11            | 1.9                | 27             |
| 2-Propanol                       | 0.82              | 5.4           | 2.0                | 13             |
| Hexane                           | 0.16              | 0.46          | 0.57               | 1.6            |
| 2-Butanone (Methyl Ethyl Ketone) | 0.82              | 0.86          | 2.4                | 2.5            |
| Cyclohexane                      | 0.16              | 0.25          | 0.56               | 0.85           |
| Heptane                          | 0.16              | 0.63          | 0.67               | 2.6            |

Client Sample ID: IA17-06

Lab ID#: 1803256-07B

| Compound             | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------|-------------------|---------------|--------------------|----------------|
| Freon 12             | 0.033             | 0.43          | 0.16               | 2.1            |
| Chloromethane        | 0.82              | 0.83          | 1.7                | 1.7            |
| Chloroform           | 0.033             | 0.086         | 0.16               | 0.42           |
| Carbon Tetrachloride | 0.033             | 0.064         | 0.20               | 0.41           |
| Benzene              | 0.082             | 0.75          | 0.26               | 2.4            |
| Toluene              | 0.033             | 2.6           | 0.12               | 9.8            |
| Tetrachloroethene    | 0.033             | 0.094         | 0.22               | 0.64           |
| Ethyl Benzene        | 0.033             | 0.30          | 0.14               | 1.3            |
| m,p-Xylene           | 0.065             | 1.0           | 0.28               | 4.6            |
| o-Xylene             | 0.033             | 0.38          | 0.14               | 1.6            |

Client Sample ID: IA17-07

Lab ID#: 1803256-08A

| Compound   | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------|-------------------|---------------|--------------------|----------------|
| Freon 11   | 0.18              | 0.26          | 0.98               | 1.4            |
| Ethanol    | 0.88              | 230 E         | 1.6                | 430 E          |
| Acetone    | 0.88              | 12            | 2.1                | 28             |
| 2-Propanol | 0.88              | 6.6           | 2.2                | 16             |
| Hexane     | 0.18              | 0.36          | 0.62               | 1.3            |



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

**Client Sample ID: IA17-07**

**Lab ID#: 1803256-08A**

|             |      |      |      |     |
|-------------|------|------|------|-----|
| Cyclohexane | 0.18 | 0.30 | 0.60 | 1.0 |
| Heptane     | 0.18 | 0.44 | 0.72 | 1.8 |

**Client Sample ID: IA17-07**

**Lab ID#: 1803256-08B**

| <b>Compound</b>      | <b>Rpt. Limit (ppbv)</b> | <b>Amount (ppbv)</b> | <b>Rpt. Limit (ug/m3)</b> | <b>Amount (ug/m3)</b> |
|----------------------|--------------------------|----------------------|---------------------------|-----------------------|
| Freon 12             | 0.035                    | 0.44                 | 0.17                      | 2.2                   |
| Chloromethane        | 0.88                     | 1.8                  | 1.8                       | 3.7                   |
| Chloroform           | 0.035                    | 0.12                 | 0.17                      | 0.59                  |
| Carbon Tetrachloride | 0.035                    | 0.068                | 0.22                      | 0.42                  |
| Benzene              | 0.088                    | 0.81                 | 0.28                      | 2.6                   |
| Toluene              | 0.035                    | 2.5                  | 0.13                      | 9.4                   |
| Tetrachloroethene    | 0.035                    | 0.089                | 0.24                      | 0.60                  |
| Ethyl Benzene        | 0.035                    | 0.28                 | 0.15                      | 1.2                   |
| m,p-Xylene           | 0.070                    | 1.0                  | 0.30                      | 4.5                   |
| o-Xylene             | 0.035                    | 0.38                 | 0.15                      | 1.6                   |



Air Toxics

Client Sample ID: IA17-01

Lab ID#: 1803256-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031511 | Date of Collection: | 3/7/18 3:08:00 PM |
| Dil. Factor: | 1.77     | Date of Analysis:   | 3/15/18 02:38 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.18              | Not Detected    | 0.39               | Not Detected    |
| Bromomethane                     | 0.88              | Not Detected    | 3.4                | Not Detected    |
| Freon 11                         | 0.18              | 0.26            | 0.99               | 1.4             |
| Ethanol                          | 0.88              | 140 E           | 1.7                | 270 E           |
| Freon 113                        | 0.18              | Not Detected    | 1.4                | Not Detected    |
| Acetone                          | 0.88              | 12              | 2.1                | 28              |
| 2-Propanol                       | 0.88              | 4.7             | 2.2                | 11              |
| Carbon Disulfide                 | 0.88              | Not Detected    | 2.8                | Not Detected    |
| 3-Chloropropene                  | 0.88              | Not Detected    | 2.8                | Not Detected    |
| Methylene Chloride               | 0.35              | Not Detected    | 1.2                | Not Detected    |
| Hexane                           | 0.18              | 0.39            | 0.62               | 1.4             |
| 2-Butanone (Methyl Ethyl Ketone) | 0.88              | Not Detected    | 2.6                | Not Detected    |
| Tetrahydrofuran                  | 0.88              | Not Detected    | 2.6                | Not Detected    |
| Cyclohexane                      | 0.18              | 0.40            | 0.61               | 1.4             |
| 2,2,4-Trimethylpentane           | 0.88              | Not Detected    | 4.1                | Not Detected    |
| Heptane                          | 0.18              | 0.52            | 0.72               | 2.1             |
| 1,2-Dichloropropane              | 0.18              | Not Detected    | 0.82               | Not Detected    |
| 1,4-Dioxane                      | 0.18              | Not Detected    | 0.64               | Not Detected    |
| Bromodichloromethane             | 0.18              | Not Detected    | 1.2                | Not Detected    |
| cis-1,3-Dichloropropene          | 0.18              | Not Detected    | 0.80               | Not Detected    |
| 4-Methyl-2-pentanone             | 0.18              | Not Detected    | 0.72               | Not Detected    |
| trans-1,3-Dichloropropene        | 0.18              | Not Detected    | 0.80               | Not Detected    |
| 2-Hexanone                       | 0.88              | Not Detected    | 3.6                | Not Detected    |
| Dibromochloromethane             | 0.18              | Not Detected    | 1.5                | Not Detected    |
| Chlorobenzene                    | 0.18              | Not Detected    | 0.81               | Not Detected    |
| Styrene                          | 0.18              | Not Detected    | 0.75               | Not Detected    |
| Bromoform                        | 0.18              | Not Detected    | 1.8                | Not Detected    |
| Cumene                           | 0.18              | Not Detected    | 0.87               | Not Detected    |
| Propylbenzene                    | 0.18              | Not Detected    | 0.87               | Not Detected    |
| 4-Ethyltoluene                   | 0.18              | Not Detected    | 0.87               | Not Detected    |
| 1,3,5-Trimethylbenzene           | 0.18              | Not Detected    | 0.87               | Not Detected    |
| 1,2,4-Trimethylbenzene           | 0.18              | Not Detected    | 0.87               | Not Detected    |
| 1,3-Dichlorobenzene              | 0.18              | Not Detected    | 1.1                | Not Detected    |
| alpha-Chlorotoluene              | 0.18              | Not Detected    | 0.92               | Not Detected    |
| 1,2-Dichlorobenzene              | 0.18              | Not Detected    | 1.1                | Not Detected    |
| 1,2,4-Trichlorobenzene           | 0.88              | Not Detected UJ | 6.6                | Not Detected UJ |
| Hexachlorobutadiene              | 0.88              | Not Detected    | 9.4                | Not Detected    |

E = Exceeds instrument calibration range.

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Client Sample ID: IA17-01

Lab ID#: 1803256-01A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                 |  |
|---------------------|-----------------|--|
| <b>File Name:</b>   | <b>21031511</b> | <b>Date of Collection:</b> 3/7/18 3:08:00 PM |
| <b>Dil. Factor:</b> | <b>1.77</b>     | <b>Date of Analysis:</b> 3/15/18 02:38 PM    |

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 115              | 70-130               |
| Toluene-d8            | 98               | 70-130               |
| 4-Bromofluorobenzene  | 88               | 70-130               |



Air Toxics

Client Sample ID: IA17-01

Lab ID#: 1803256-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |             |                     |                   |
|--------------|-------------|---------------------|-------------------|
| File Name:   | 21031511sim | Date of Collection: | 3/7/18 3:08:00 PM |
| Dil. Factor: | 1.77        | Date of Analysis:   | 3/15/18 02:38 PM  |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.035             | 0.45          | 0.18               | 2.2            |
| Freon 114                 | 0.035             | Not Detected  | 0.25               | Not Detected   |
| Chloromethane             | 0.88              | 0.97          | 1.8                | 2.0            |
| Vinyl Chloride            | 0.018             | Not Detected  | 0.045              | Not Detected   |
| Chloroethane              | 0.088             | Not Detected  | 0.23               | Not Detected   |
| 1,1-Dichloroethene        | 0.018             | Not Detected  | 0.070              | Not Detected   |
| trans-1,2-Dichloroethene  | 0.18              | Not Detected  | 0.70               | Not Detected   |
| Methyl tert-butyl ether   | 0.18              | Not Detected  | 0.64               | Not Detected   |
| 1,1-Dichloroethane        | 0.035             | Not Detected  | 0.14               | Not Detected   |
| cis-1,2-Dichloroethene    | 0.035             | Not Detected  | 0.14               | Not Detected   |
| Chloroform                | 0.035             | 0.14          | 0.17               | 0.70           |
| 1,1,1-Trichloroethane     | 0.035             | Not Detected  | 0.19               | Not Detected   |
| Carbon Tetrachloride      | 0.035             | 0.067         | 0.22               | 0.42           |
| Benzene                   | 0.088             | 0.94          | 0.28               | 3.0            |
| 1,2-Dichloroethane        | 0.035             | Not Detected  | 0.14               | Not Detected   |
| Trichloroethene           | 0.035             | Not Detected  | 0.19               | Not Detected   |
| Toluene                   | 0.035             | 2.9           | 0.13               | 11             |
| 1,1,2-Trichloroethane     | 0.035             | Not Detected  | 0.19               | Not Detected   |
| Tetrachloroethene         | 0.035             | 0.10          | 0.24               | 0.71           |
| 1,2-Dibromoethane (EDB)   | 0.035             | Not Detected  | 0.27               | Not Detected   |
| Ethyl Benzene             | 0.035             | 0.32          | 0.15               | 1.4            |
| m,p-Xylene                | 0.071             | 1.1           | 0.31               | 4.9            |
| o-Xylene                  | 0.035             | 0.41          | 0.15               | 1.8            |
| 1,1,2,2-Tetrachloroethane | 0.035             | Not Detected  | 0.24               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.035             | Not Detected  | 0.21               | Not Detected   |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 87        | 70-130        |

Client Sample ID: IA17-02

Lab ID#: 1803256-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031512 | Date of Collection: | 3/7/18 2:37:00 PM |
| Dil. Factor: | 1.69     | Date of Analysis:   | 3/15/18 03:11 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.17              | Not Detected    | 0.37               | Not Detected    |
| Bromomethane                     | 0.84              | Not Detected    | 3.3                | Not Detected    |
| Freon 11                         | 0.17              | 0.25            | 0.95               | 1.4             |
| Ethanol                          | 0.84              | 58              | 1.6                | 110             |
| Freon 113                        | 0.17              | Not Detected    | 1.3                | Not Detected    |
| Acetone                          | 0.84              | 7.7             | 2.0                | 18              |
| 2-Propanol                       | 0.84              | 1.8             | 2.1                | 4.4             |
| Carbon Disulfide                 | 0.84              | Not Detected    | 2.6                | Not Detected    |
| 3-Chloropropene                  | 0.84              | Not Detected    | 2.6                | Not Detected    |
| Methylene Chloride               | 0.34              | Not Detected    | 1.2                | Not Detected    |
| Hexane                           | 0.17              | 0.18            | 0.60               | 0.62            |
| 2-Butanone (Methyl Ethyl Ketone) | 0.84              | Not Detected    | 2.5                | Not Detected    |
| Tetrahydrofuran                  | 0.84              | Not Detected    | 2.5                | Not Detected    |
| Cyclohexane                      | 0.17              | Not Detected    | 0.58               | Not Detected    |
| 2,2,4-Trimethylpentane           | 0.84              | Not Detected    | 3.9                | Not Detected    |
| Heptane                          | 0.17              | 0.26            | 0.69               | 1.1             |
| 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    | 0.69               | Not Detected    |
| trans-1,3-Dichloropropene        | 0.17              | Not Detected    | 0.77               | Not Detected    |
| 2-Hexanone                       | 0.84              | Not Detected    | 3.5                | Not Detected    |
| Dibromochloromethane             | 0.17              | Not Detected    | 1.4                | Not Detected    |
| Chlorobenzene                    | 0.17              | Not Detected    | 0.78               | Not Detected    |
| Styrene                          | 0.17              | Not Detected    | 0.72               | Not Detected    |
| Bromoform                        | 0.17              | Not Detected    | 1.7                | Not Detected    |
| Cumene                           | 0.17              | Not Detected    | 0.83               | Not Detected    |
| Propylbenzene                    | 0.17              | Not Detected    | 0.83               | Not Detected    |
| 4-Ethyltoluene                   | 0.17              | Not Detected    | 0.83               | Not Detected    |
| 1,3,5-Trimethylbenzene           | 0.17              | Not Detected    | 0.83               | Not Detected    |
| 1,2,4-Trimethylbenzene           | 0.17              | Not Detected    | 0.83               | Not Detected    |
| 1,3-Dichlorobenzene              | 0.17              | Not Detected    | 1.0                | Not Detected    |
| alpha-Chlorotoluene              | 0.17              | Not Detected    | 0.87               | Not Detected    |
| 1,2-Dichlorobenzene              | 0.17              | Not Detected    | 1.0                | Not Detected    |
| 1,2,4-Trichlorobenzene           | 0.84              | Not Detected UJ | 6.3                | Not Detected UJ |
| Hexachlorobutadiene              | 0.84              | Not Detected    | 9.0                | Not Detected    |

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates | %Recovery | Method Limits |
|------------|-----------|---------------|
|------------|-----------|---------------|



Air Toxics

Client Sample ID: IA17-02

Lab ID#: 1803256-02A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031512 | Date of Collection: | 3/7/18 2:37:00 PM |
| Dil. Factor: | 1.69     | Date of Analysis:   | 3/15/18 03:11 PM  |

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 120       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 88        | 70-130        |



Air Toxics

Client Sample ID: IA17-02

Lab ID#: 1803256-02B

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                    |  |
|---------------------|--------------------|--|
| <b>File Name:</b>   | <b>21031512sim</b> | <b>Date of Collection:</b> 3/7/18 2:37:00 PM |
| <b>Dil. Factor:</b> | <b>1.69</b>        | <b>Date of Analysis:</b> 3/15/18 03:11 PM    |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.034             | 0.46          | 0.17               | 2.3            |
| Freon 114                 | 0.034             | Not Detected  | 0.24               | Not Detected   |
| Chloromethane             | 0.84              | Not Detected  | 1.7                | Not Detected   |
| Vinyl Chloride            | 0.017             | Not Detected  | 0.043              | Not Detected   |
| Chloroethane              | 0.084             | Not Detected  | 0.22               | Not Detected   |
| 1,1-Dichloroethene        | 0.017             | Not Detected  | 0.067              | Not Detected   |
| trans-1,2-Dichloroethene  | 0.17              | Not Detected  | 0.67               | Not Detected   |
| Methyl tert-butyl ether   | 0.17              | Not Detected  | 0.61               | Not Detected   |
| 1,1-Dichloroethane        | 0.034             | Not Detected  | 0.14               | Not Detected   |
| cis-1,2-Dichloroethene    | 0.034             | Not Detected  | 0.13               | Not Detected   |
| Chloroform                | 0.034             | 0.046         | 0.16               | 0.22           |
| 1,1,1-Trichloroethane     | 0.034             | Not Detected  | 0.18               | Not Detected   |
| Carbon Tetrachloride      | 0.034             | 0.067         | 0.21               | 0.42           |
| Benzene                   | 0.084             | 0.50          | 0.27               | 1.6            |
| 1,2-Dichloroethane        | 0.034             | Not Detected  | 0.14               | Not Detected   |
| Trichloroethene           | 0.034             | Not Detected  | 0.18               | Not Detected   |
| Toluene                   | 0.034             | 1.7           | 0.13               | 6.3            |
| 1,1,2-Trichloroethane     | 0.034             | Not Detected  | 0.18               | Not Detected   |
| Tetrachloroethene         | 0.034             | 0.080         | 0.23               | 0.54           |
| 1,2-Dibromoethane (EDB)   | 0.034             | Not Detected  | 0.26               | Not Detected   |
| Ethyl Benzene             | 0.034             | 0.19          | 0.15               | 0.84           |
| m,p-Xylene                | 0.068             | 0.70          | 0.29               | 3.0            |
| o-Xylene                  | 0.034             | 0.26          | 0.15               | 1.1            |
| 1,1,2,2-Tetrachloroethane | 0.034             | Not Detected  | 0.23               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.034             | Not Detected  | 0.20               | Not Detected   |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 87        | 70-130        |



Air Toxics

Client Sample ID: IA17-03

Lab ID#: 1803256-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031513 | Date of Collection: | 3/7/18 3:20:00 PM |
| Dil. Factor: | 1.64     | Date of Analysis:   | 3/15/18 04:04 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.16              | Not Detected    | 0.36               | Not Detected    |
| Bromomethane                     | 0.82              | Not Detected    | 3.2                | Not Detected    |
| Freon 11                         | 0.16              | 0.24            | 0.92               | 1.4             |
| Ethanol                          | 0.82              | 61              | 1.5                | 110             |
| Freon 113                        | 0.16              | Not Detected    | 1.2                | Not Detected    |
| Acetone                          | 0.82              | 9.3             | 1.9                | 22              |
| 2-Propanol                       | 0.82              | 2.4             | 2.0                | 5.8             |
| Carbon Disulfide                 | 0.82              | Not Detected    | 2.6                | Not Detected    |
| 3-Chloropropene                  | 0.82              | Not Detected    | 2.6                | Not Detected    |
| Methylene Chloride               | 0.33              | Not Detected    | 1.1                | Not Detected    |
| Hexane                           | 0.16              | 0.27            | 0.58               | 0.96            |
| 2-Butanone (Methyl Ethyl Ketone) | 0.82              | Not Detected    | 2.4                | Not Detected    |
| Tetrahydrofuran                  | 0.82              | Not Detected    | 2.4                | Not Detected    |
| Cyclohexane                      | 0.16              | 0.17            | 0.56               | 0.57            |
| 2,2,4-Trimethylpentane           | 0.82              | Not Detected    | 3.8                | Not Detected    |
| Heptane                          | 0.16              | 0.39            | 0.67               | 1.6             |
| 1,2-Dichloropropane              | 0.16              | Not Detected    | 0.76               | Not Detected    |
| 1,4-Dioxane                      | 0.16              | Not Detected    | 0.59               | 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    | 0.67               | Not Detected    |
| trans-1,3-Dichloropropene        | 0.16              | Not Detected    | 0.74               | Not Detected    |
| 2-Hexanone                       | 0.82              | Not Detected    | 3.4                | Not Detected    |
| Dibromochloromethane             | 0.16              | Not Detected    | 1.4                | Not Detected    |
| Chlorobenzene                    | 0.16              | Not Detected    | 0.76               | Not Detected    |
| Styrene                          | 0.16              | Not Detected    | 0.70               | Not Detected    |
| Bromoform                        | 0.16              | Not Detected    | 1.7                | Not Detected    |
| Cumene                           | 0.16              | Not Detected    | 0.81               | Not Detected    |
| Propylbenzene                    | 0.16              | Not Detected    | 0.81               | Not Detected    |
| 4-Ethyltoluene                   | 0.16              | Not Detected    | 0.81               | Not Detected    |
| 1,3,5-Trimethylbenzene           | 0.16              | Not Detected    | 0.81               | Not Detected    |
| 1,2,4-Trimethylbenzene           | 0.16              | Not Detected    | 0.81               | Not Detected    |
| 1,3-Dichlorobenzene              | 0.16              | Not Detected    | 0.99               | Not Detected    |
| alpha-Chlorotoluene              | 0.16              | Not Detected    | 0.85               | Not Detected    |
| 1,2-Dichlorobenzene              | 0.16              | Not Detected    | 0.99               | Not Detected    |
| 1,2,4-Trichlorobenzene           | 0.82              | Not Detected UJ | 6.1                | Not Detected UJ |
| Hexachlorobutadiene              | 0.82              | Not Detected    | 8.7                | Not Detected    |

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates | %Recovery | Method Limits |
|------------|-----------|---------------|
|------------|-----------|---------------|



Client Sample ID: IA17-03

Lab ID#: 1803256-03A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                 |  |
|---------------------|-----------------|--|
| <b>File Name:</b>   | <b>21031513</b> | <b>Date of Collection:</b> 3/7/18 3:20:00 PM |
| <b>Dil. Factor:</b> | <b>1.64</b>     | <b>Date of Analysis:</b> 3/15/18 04:04 PM    |

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 116              | 70-130               |
| Toluene-d8            | 100              | 70-130               |
| 4-Bromofluorobenzene  | 92               | 70-130               |



Air Toxics

Client Sample ID: IA17-03

Lab ID#: 1803256-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |             |                     |                   |
|--------------|-------------|---------------------|-------------------|
| File Name:   | 21031513sim | Date of Collection: | 3/7/18 3:20:00 PM |
| Dil. Factor: | 1.64        | Date of Analysis:   | 3/15/18 04:04 PM  |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.033             | 0.44          | 0.16               | 2.2            |
| Freon 114                 | 0.033             | Not Detected  | 0.23               | Not Detected   |
| Chloromethane             | 0.82              | Not Detected  | 1.7                | Not Detected   |
| Vinyl Chloride            | 0.016             | Not Detected  | 0.042              | Not Detected   |
| Chloroethane              | 0.082             | Not Detected  | 0.22               | Not Detected   |
| 1,1-Dichloroethene        | 0.016             | Not Detected  | 0.065              | Not Detected   |
| trans-1,2-Dichloroethene  | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Methyl tert-butyl ether   | 0.16              | Not Detected  | 0.59               | Not Detected   |
| 1,1-Dichloroethane        | 0.033             | Not Detected  | 0.13               | Not Detected   |
| cis-1,2-Dichloroethene    | 0.033             | Not Detected  | 0.13               | Not Detected   |
| Chloroform                | 0.033             | 0.053         | 0.16               | 0.26           |
| 1,1,1-Trichloroethane     | 0.033             | Not Detected  | 0.18               | Not Detected   |
| Carbon Tetrachloride      | 0.033             | 0.065         | 0.21               | 0.41           |
| Benzene                   | 0.082             | 0.61          | 0.26               | 2.0            |
| 1,2-Dichloroethane        | 0.033             | Not Detected  | 0.13               | Not Detected   |
| Trichloroethene           | 0.033             | Not Detected  | 0.18               | Not Detected   |
| Toluene                   | 0.033             | 2.1           | 0.12               | 7.9            |
| 1,1,2-Trichloroethane     | 0.033             | Not Detected  | 0.18               | Not Detected   |
| Tetrachloroethene         | 0.033             | 0.083         | 0.22               | 0.57           |
| 1,2-Dibromoethane (EDB)   | 0.033             | Not Detected  | 0.25               | Not Detected   |
| Ethyl Benzene             | 0.033             | 0.25          | 0.14               | 1.1            |
| m,p-Xylene                | 0.066             | 0.90          | 0.28               | 3.9            |
| o-Xylene                  | 0.033             | 0.33          | 0.14               | 1.4            |
| 1,1,2,2-Tetrachloroethane | 0.033             | Not Detected  | 0.22               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.033             | Not Detected  | 0.20               | Not Detected   |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 110       | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 89        | 70-130        |



Air Toxics

Client Sample ID: IA17-04

Lab ID#: 1803256-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031514 | Date of Collection: | 3/7/18 3:40:00 PM |
| Dil. Factor: | 1.71     | Date of Analysis:   | 3/15/18 04:37 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.17              | Not Detected    | 0.38               | Not Detected    |
| Bromomethane                     | 0.86              | Not Detected    | 3.3                | Not Detected    |
| Freon 11                         | 0.17              | 0.25            | 0.96               | 1.4             |
| Ethanol                          | 0.86              | 65              | 1.6                | 120             |
| Freon 113                        | 0.17              | Not Detected    | 1.3                | Not Detected    |
| Acetone                          | 0.86              | 8.7             | 2.0                | 21              |
| 2-Propanol                       | 0.86              | 2.6             | 2.1                | 6.5             |
| Carbon Disulfide                 | 0.86              | Not Detected    | 2.7                | Not Detected    |
| 3-Chloropropene                  | 0.86              | Not Detected    | 2.7                | Not Detected    |
| Methylene Chloride               | 0.34              | Not Detected    | 1.2                | Not Detected    |
| Hexane                           | 0.17              | 1.1             | 0.60               | 3.9             |
| 2-Butanone (Methyl Ethyl Ketone) | 0.86              | Not Detected    | 2.5                | Not Detected    |
| Tetrahydrofuran                  | 0.86              | Not Detected    | 2.5                | Not Detected    |
| Cyclohexane                      | 0.17              | 0.22            | 0.59               | 0.75            |
| 2,2,4-Trimethylpentane           | 0.86              | Not Detected    | 4.0                | Not Detected    |
| Heptane                          | 0.17              | 1.3             | 0.70               | 5.5             |
| 1,2-Dichloropropane              | 0.17              | Not Detected    | 0.79               | Not Detected    |
| 1,4-Dioxane                      | 0.17              | Not Detected    | 0.62               | Not Detected    |
| Bromodichloromethane             | 0.17              | Not Detected    | 1.1                | Not Detected    |
| cis-1,3-Dichloropropene          | 0.17              | Not Detected    | 0.78               | Not Detected    |
| 4-Methyl-2-pentanone             | 0.17              | Not Detected    | 0.70               | Not Detected    |
| trans-1,3-Dichloropropene        | 0.17              | Not Detected    | 0.78               | Not Detected    |
| 2-Hexanone                       | 0.86              | Not Detected    | 3.5                | Not Detected    |
| Dibromochloromethane             | 0.17              | Not Detected    | 1.4                | Not Detected    |
| Chlorobenzene                    | 0.17              | Not Detected    | 0.79               | Not Detected    |
| Styrene                          | 0.17              | Not Detected    | 0.73               | Not Detected    |
| Bromoform                        | 0.17              | Not Detected    | 1.8                | Not Detected    |
| Cumene                           | 0.17              | Not Detected    | 0.84               | 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    |
| 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           | 0.86              | Not Detected UJ | 6.3                | Not Detected UJ |
| Hexachlorobutadiene              | 0.86              | Not Detected    | 9.1                | Not Detected    |

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates | %Recovery | Method Limits |
|------------|-----------|---------------|
|------------|-----------|---------------|

Client Sample ID: IA17-04

Lab ID#: 1803256-04A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                 |  |
|---------------------|-----------------|--|
| <b>File Name:</b>   | <b>21031514</b> | <b>Date of Collection:</b> 3/7/18 3:40:00 PM |
| <b>Dil. Factor:</b> | <b>1.71</b>     | <b>Date of Analysis:</b> 3/15/18 04:37 PM    |

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 117              | 70-130               |
| Toluene-d8            | 100              | 70-130               |
| 4-Bromofluorobenzene  | 92               | 70-130               |

Client Sample ID: IA17-04

Lab ID#: 1803256-04B

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                    |  |
|---------------------|--------------------|--|
| <b>File Name:</b>   | <b>21031514sim</b> | <b>Date of Collection:</b> 3/7/18 3:40:00 PM |
| <b>Dil. Factor:</b> | <b>1.71</b>        | <b>Date of Analysis:</b> 3/15/18 04:37 PM    |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.034             | 0.44          | 0.17               | 2.2            |
| Freon 114                 | 0.034             | Not Detected  | 0.24               | Not Detected   |
| Chloromethane             | 0.86              | Not Detected  | 1.8                | Not Detected   |
| Vinyl Chloride            | 0.017             | Not Detected  | 0.044              | Not Detected   |
| Chloroethane              | 0.086             | Not Detected  | 0.22               | Not Detected   |
| 1,1-Dichloroethene        | 0.017             | Not Detected  | 0.068              | Not Detected   |
| trans-1,2-Dichloroethene  | 0.17              | Not Detected  | 0.68               | Not Detected   |
| Methyl tert-butyl ether   | 0.17              | Not Detected  | 0.62               | Not Detected   |
| 1,1-Dichloroethane        | 0.034             | Not Detected  | 0.14               | Not Detected   |
| cis-1,2-Dichloroethene    | 0.034             | Not Detected  | 0.14               | Not Detected   |
| Chloroform                | 0.034             | 0.056         | 0.17               | 0.27           |
| 1,1,1-Trichloroethane     | 0.034             | Not Detected  | 0.19               | Not Detected   |
| Carbon Tetrachloride      | 0.034             | 0.066         | 0.22               | 0.42           |
| Benzene                   | 0.086             | 0.60          | 0.27               | 1.9            |
| 1,2-Dichloroethane        | 0.034             | Not Detected  | 0.14               | Not Detected   |
| Trichloroethene           | 0.034             | Not Detected  | 0.18               | Not Detected   |
| Toluene                   | 0.034             | 2.1           | 0.13               | 8.0            |
| 1,1,2-Trichloroethane     | 0.034             | Not Detected  | 0.19               | Not Detected   |
| Tetrachloroethene         | 0.034             | 0.083         | 0.23               | 0.56           |
| 1,2-Dibromoethane (EDB)   | 0.034             | Not Detected  | 0.26               | Not Detected   |
| Ethyl Benzene             | 0.034             | 0.27          | 0.15               | 1.2            |
| m,p-Xylene                | 0.068             | 0.89          | 0.30               | 3.9            |
| o-Xylene                  | 0.034             | 0.32          | 0.15               | 1.4            |
| 1,1,2,2-Tetrachloroethane | 0.034             | Not Detected  | 0.23               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.034             | Not Detected  | 0.20               | Not Detected   |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 88        | 70-130        |

Client Sample ID: IA17-05

Lab ID#: 1803256-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031517 | Date of Collection: | 3/7/18 3:44:00 PM |
| Dil. Factor: | 8.70     | Date of Analysis:   | 3/15/18 06:14 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.87              | Not Detected    | 1.9                | Not Detected    |
| Bromomethane                     | 4.4               | Not Detected    | 17                 | Not Detected    |
| Freon 11                         | 0.87              | Not Detected    | 4.9                | Not Detected    |
| Ethanol                          | 4.4               | 810 E           | 8.2                | 1500 E          |
| Freon 113                        | 0.87              | Not Detected    | 6.7                | Not Detected    |
| Acetone                          | 4.4               | 12              | 10                 | 28              |
| 2-Propanol                       | 4.4               | Not Detected    | 11                 | Not Detected    |
| Carbon Disulfide                 | 4.4               | Not Detected    | 14                 | Not Detected    |
| 3-Chloropropene                  | 4.4               | Not Detected    | 14                 | Not Detected    |
| Methylene Chloride               | 1.7               | Not Detected    | 6.0                | Not Detected    |
| Hexane                           | 0.87              | Not Detected    | 3.1                | Not Detected    |
| 2-Butanone (Methyl Ethyl Ketone) | 4.4               | Not Detected    | 13                 | Not Detected    |
| Tetrahydrofuran                  | 4.4               | Not Detected    | 13                 | Not Detected    |
| Cyclohexane                      | 0.87              | Not Detected    | 3.0                | Not Detected    |
| 2,2,4-Trimethylpentane           | 4.4               | Not Detected    | 20                 | Not Detected    |
| Heptane                          | 0.87              | Not Detected    | 3.6                | Not Detected    |
| 1,2-Dichloropropane              | 0.87              | Not Detected    | 4.0                | Not Detected    |
| 1,4-Dioxane                      | 0.87              | Not Detected    | 3.1                | Not Detected    |
| Bromodichloromethane             | 0.87              | Not Detected    | 5.8                | Not Detected    |
| cis-1,3-Dichloropropene          | 0.87              | Not Detected    | 3.9                | Not Detected    |
| 4-Methyl-2-pentanone             | 0.87              | Not Detected    | 3.6                | Not Detected    |
| trans-1,3-Dichloropropene        | 0.87              | Not Detected    | 3.9                | Not Detected    |
| 2-Hexanone                       | 4.4               | Not Detected    | 18                 | Not Detected    |
| Dibromochloromethane             | 0.87              | Not Detected    | 7.4                | Not Detected    |
| Chlorobenzene                    | 0.87              | Not Detected    | 4.0                | Not Detected    |
| Styrene                          | 0.87              | Not Detected    | 3.7                | Not Detected    |
| Bromoform                        | 0.87              | Not Detected    | 9.0                | Not Detected    |
| Cumene                           | 0.87              | Not Detected    | 4.3                | Not Detected    |
| Propylbenzene                    | 0.87              | Not Detected    | 4.3                | Not Detected    |
| 4-Ethyltoluene                   | 0.87              | Not Detected    | 4.3                | Not Detected    |
| 1,3,5-Trimethylbenzene           | 0.87              | Not Detected    | 4.3                | Not Detected    |
| 1,2,4-Trimethylbenzene           | 0.87              | Not Detected    | 4.3                | Not Detected    |
| 1,3-Dichlorobenzene              | 0.87              | Not Detected    | 5.2                | Not Detected    |
| alpha-Chlorotoluene              | 0.87              | Not Detected    | 4.5                | Not Detected    |
| 1,2-Dichlorobenzene              | 0.87              | Not Detected    | 5.2                | Not Detected    |
| 1,2,4-Trichlorobenzene           | 4.4               | Not Detected UJ | 32                 | Not Detected UJ |
| Hexachlorobutadiene              | 4.4               | Not Detected    | 46                 | Not Detected    |

E = Exceeds instrument calibration range.

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Client Sample ID: IA17-05

Lab ID#: 1803256-05A

## MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031517 | Date of Collection: | 3/7/18 3:44:00 PM |
| Dil. Factor: | 8.70     | Date of Analysis:   | 3/15/18 06:14 PM  |

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 114       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 101       | 70-130        |



Air Toxics

Client Sample ID: IA17-05

Lab ID#: 1803256-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |             |                     |                   |
|--------------|-------------|---------------------|-------------------|
| File Name:   | 21031517sim | Date of Collection: | 3/7/18 3:44:00 PM |
| Dil. Factor: | 8.70        | Date of Analysis:   | 3/15/18 06:14 PM  |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.17              | 0.44          | 0.86               | 2.2            |
| Freon 114                 | 0.17              | Not Detected  | 1.2                | Not Detected   |
| Chloromethane             | 4.4               | Not Detected  | 9.0                | Not Detected   |
| Vinyl Chloride            | 0.087             | Not Detected  | 0.22               | Not Detected   |
| Chloroethane              | 0.44              | Not Detected  | 1.1                | Not Detected   |
| 1,1-Dichloroethene        | 0.087             | Not Detected  | 0.34               | Not Detected   |
| trans-1,2-Dichloroethene  | 0.87              | Not Detected  | 3.4                | Not Detected   |
| Methyl tert-butyl ether   | 0.87              | Not Detected  | 3.1                | Not Detected   |
| 1,1-Dichloroethane        | 0.17              | Not Detected  | 0.70               | Not Detected   |
| cis-1,2-Dichloroethene    | 0.17              | Not Detected  | 0.69               | Not Detected   |
| Chloroform                | 0.17              | Not Detected  | 0.85               | Not Detected   |
| 1,1,1-Trichloroethane     | 0.17              | Not Detected  | 0.95               | Not Detected   |
| Carbon Tetrachloride      | 0.17              | Not Detected  | 1.1                | Not Detected   |
| Benzene                   | 0.44              | 0.72          | 1.4                | 2.3            |
| 1,2-Dichloroethane        | 0.17              | Not Detected  | 0.70               | Not Detected   |
| Trichloroethene           | 0.17              | Not Detected  | 0.94               | Not Detected   |
| Toluene                   | 0.17              | 2.4           | 0.66               | 8.8            |
| 1,1,2-Trichloroethane     | 0.17              | Not Detected  | 0.95               | Not Detected   |
| Tetrachloroethene         | 0.17              | Not Detected  | 1.2                | Not Detected   |
| 1,2-Dibromoethane (EDB)   | 0.17              | Not Detected  | 1.3                | Not Detected   |
| Ethyl Benzene             | 0.17              | 0.28          | 0.76               | 1.2            |
| m,p-Xylene                | 0.35              | 1.0           | 1.5                | 4.5            |
| o-Xylene                  | 0.17              | 0.39          | 0.76               | 1.7            |
| 1,1,2,2-Tetrachloroethane | 0.17              | Not Detected  | 1.2                | Not Detected   |
| 1,4-Dichlorobenzene       | 0.17              | Not Detected  | 1.0                | Not Detected   |

Container Type: 6 Liter Summa Canister (SIM Certified)

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 110       | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |





Air Toxics

Client Sample ID: IA17-55

Lab ID#: 1803256-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031518 | Date of Collection: | 3/7/18 3:34:00 PM |
| Dil. Factor: | 16.8     | Date of Analysis:   | 3/15/18 06:55 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 1.7               | Not Detected    | 3.7                | Not Detected    |
| Bromomethane                     | 8.4               | Not Detected    | 33                 | Not Detected    |
| Freon 11                         | 1.7               | Not Detected    | 9.4                | Not Detected    |
| Ethanol                          | 8.4               | 750 E           | 16                 | 1400 E          |
| Freon 113                        | 1.7               | Not Detected    | 13                 | Not Detected    |
| Acetone                          | 8.4               | 14              | 20                 | 33              |
| 2-Propanol                       | 8.4               | Not Detected    | 21                 | Not Detected    |
| Carbon Disulfide                 | 8.4               | Not Detected    | 26                 | Not Detected    |
| 3-Chloropropene                  | 8.4               | Not Detected    | 26                 | Not Detected    |
| Methylene Chloride               | 3.4               | Not Detected    | 12                 | Not Detected    |
| Hexane                           | 1.7               | Not Detected    | 5.9                | Not Detected    |
| 2-Butanone (Methyl Ethyl Ketone) | 8.4               | Not Detected    | 25                 | Not Detected    |
| Tetrahydrofuran                  | 8.4               | Not Detected    | 25                 | Not Detected    |
| Cyclohexane                      | 1.7               | Not Detected    | 5.8                | Not Detected    |
| 2,2,4-Trimethylpentane           | 8.4               | Not Detected    | 39                 | Not Detected    |
| Heptane                          | 1.7               | Not Detected    | 6.9                | Not Detected    |
| 1,2-Dichloropropane              | 1.7               | Not Detected    | 7.8                | Not Detected    |
| 1,4-Dioxane                      | 1.7               | Not Detected    | 6.0                | Not Detected    |
| Bromodichloromethane             | 1.7               | Not Detected    | 11                 | Not Detected    |
| cis-1,3-Dichloropropene          | 1.7               | Not Detected    | 7.6                | Not Detected    |
| 4-Methyl-2-pentanone             | 1.7               | Not Detected    | 6.9                | Not Detected    |
| trans-1,3-Dichloropropene        | 1.7               | Not Detected    | 7.6                | Not Detected    |
| 2-Hexanone                       | 8.4               | Not Detected    | 34                 | Not Detected    |
| Dibromochloromethane             | 1.7               | Not Detected    | 14                 | Not Detected    |
| Chlorobenzene                    | 1.7               | Not Detected    | 7.7                | Not Detected    |
| Styrene                          | 1.7               | Not Detected    | 7.2                | Not Detected    |
| Bromoform                        | 1.7               | Not Detected    | 17                 | Not Detected    |
| Cumene                           | 1.7               | Not Detected    | 8.2                | Not Detected    |
| Propylbenzene                    | 1.7               | Not Detected    | 8.2                | Not Detected    |
| 4-Ethyltoluene                   | 1.7               | Not Detected    | 8.2                | Not Detected    |
| 1,3,5-Trimethylbenzene           | 1.7               | Not Detected    | 8.2                | Not Detected    |
| 1,2,4-Trimethylbenzene           | 1.7               | Not Detected    | 8.2                | Not Detected    |
| 1,3-Dichlorobenzene              | 1.7               | Not Detected    | 10                 | Not Detected    |
| alpha-Chlorotoluene              | 1.7               | Not Detected    | 8.7                | Not Detected    |
| 1,2-Dichlorobenzene              | 1.7               | Not Detected    | 10                 | Not Detected    |
| 1,2,4-Trichlorobenzene           | 8.4               | Not Detected UJ | 62                 | Not Detected UJ |
| Hexachlorobutadiene              | 8.4               | Not Detected    | 90                 | Not Detected    |

E = Exceeds instrument calibration range.

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Client Sample ID: IA17-55

Lab ID#: 1803256-06A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                 |  |
|---------------------|-----------------|--|
| <b>File Name:</b>   | <b>21031518</b> | <b>Date of Collection:</b> 3/7/18 3:34:00 PM |
| <b>Dil. Factor:</b> | <b>16.8</b>     | <b>Date of Analysis:</b> 3/15/18 06:55 PM    |

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 113              | 70-130               |
| Toluene-d8            | 99               | 70-130               |
| 4-Bromofluorobenzene  | 108              | 70-130               |

Client Sample ID: IA17-55

Lab ID#: 1803256-06B

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                    |  |
|---------------------|--------------------|--|
| <b>File Name:</b>   | <b>21031518sim</b> | <b>Date of Collection:</b> 3/7/18 3:34:00 PM |
| <b>Dil. Factor:</b> | <b>16.8</b>        | <b>Date of Analysis:</b> 3/15/18 06:55 PM    |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.34              | 0.45          | 1.7                | 2.2            |
| Freon 114                 | 0.34              | Not Detected  | 2.3                | Not Detected   |
| Chloromethane             | 8.4               | Not Detected  | 17                 | Not Detected   |
| Vinyl Chloride            | 0.17              | Not Detected  | 0.43               | Not Detected   |
| Chloroethane              | 0.84              | Not Detected  | 2.2                | Not Detected   |
| 1,1-Dichloroethene        | 0.17              | Not Detected  | 0.67               | Not Detected   |
| trans-1,2-Dichloroethene  | 1.7               | Not Detected  | 6.7                | Not Detected   |
| Methyl tert-butyl ether   | 1.7               | Not Detected  | 6.0                | Not Detected   |
| 1,1-Dichloroethane        | 0.34              | Not Detected  | 1.4                | Not Detected   |
| cis-1,2-Dichloroethene    | 0.34              | Not Detected  | 1.3                | Not Detected   |
| Chloroform                | 0.34              | Not Detected  | 1.6                | Not Detected   |
| 1,1,1-Trichloroethane     | 0.34              | Not Detected  | 1.8                | Not Detected   |
| Carbon Tetrachloride      | 0.34              | Not Detected  | 2.1                | Not Detected   |
| Benzene                   | 0.84              | Not Detected  | 2.7                | Not Detected   |
| 1,2-Dichloroethane        | 0.34              | Not Detected  | 1.4                | Not Detected   |
| Trichloroethene           | 0.34              | Not Detected  | 1.8                | Not Detected   |
| Toluene                   | 0.34              | 2.6           | 1.3                | 9.7            |
| 1,1,2-Trichloroethane     | 0.34              | Not Detected  | 1.8                | Not Detected   |
| Tetrachloroethene         | 0.34              | Not Detected  | 2.3                | Not Detected   |
| 1,2-Dibromoethane (EDB)   | 0.34              | Not Detected  | 2.6                | Not Detected   |
| Ethyl Benzene             | 0.34              | Not Detected  | 1.4                | Not Detected   |
| m,p-Xylene                | 0.67              | 1.1           | 2.9                | 4.9            |
| o-Xylene                  | 0.34              | 0.43          | 1.4                | 1.8            |
| 1,1,2,2-Tetrachloroethane | 0.34              | Not Detected  | 2.3                | Not Detected   |
| 1,4-Dichlorobenzene       | 0.34              | Not Detected  | 2.0                | Not Detected   |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 110       | 70-130        |
| Toluene-d8            | 100       | 70-130        |
| 4-Bromofluorobenzene  | 105       | 70-130        |

Client Sample ID: IA17-06

Lab ID#: 1803256-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031515 | Date of Collection: | 3/7/18 3:14:00 PM |
| Dil. Factor: | 1.63     | Date of Analysis:   | 3/15/18 05:09 PM  |

| Compound                         | Rot. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.16              | Not Detected    | 0.36               | Not Detected    |
| Bromomethane                     | 0.82              | Not Detected    | 3.2                | Not Detected    |
| Freon 11                         | 0.16              | 0.25            | 0.92               | 1.4             |
| Ethanol                          | 0.82              | 130 E           | 1.5                | 240 E           |
| Freon 113                        | 0.16              | Not Detected    | 1.2                | Not Detected    |
| Acetone                          | 0.82              | 11              | 1.9                | 27              |
| 2-Propanol                       | 0.82              | 5.4             | 2.0                | 13              |
| Carbon Disulfide                 | 0.82              | Not Detected    | 2.5                | Not Detected    |
| 3-Chloropropene                  | 0.82              | Not Detected    | 2.6                | Not Detected    |
| Methylene Chloride               | 0.33              | Not Detected    | 1.1                | Not Detected    |
| Hexane                           | 0.16              | 0.46            | 0.57               | 1.6             |
| 2-Butanone (Methyl Ethyl Ketone) | 0.82              | 0.86            | 2.4                | 2.5             |
| Tetrahydrofuran                  | 0.82              | Not Detected    | 2.4                | Not Detected    |
| Cyclohexane                      | 0.16              | 0.25            | 0.56               | 0.85            |
| 2,2,4-Trimethylpentane           | 0.82              | Not Detected    | 3.8                | Not Detected    |
| Heptane                          | 0.16              | 0.63            | 0.67               | 2.6             |
| 1,2-Dichloropropane              | 0.16              | Not Detected    | 0.75               | Not Detected    |
| 1,4-Dioxane                      | 0.16              | Not Detected    | 0.59               | 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    | 0.67               | Not Detected    |
| trans-1,3-Dichloropropene        | 0.16              | Not Detected    | 0.74               | Not Detected    |
| 2-Hexanone                       | 0.82              | Not Detected    | 3.3                | Not Detected    |
| Dibromochloromethane             | 0.16              | Not Detected    | 1.4                | Not Detected    |
| Chlorobenzene                    | 0.16              | Not Detected    | 0.75               | 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    |
| 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    | 0.98               | Not Detected    |
| alpha-Chlorotoluene              | 0.16              | Not Detected    | 0.84               | Not Detected    |
| 1,2-Dichlorobenzene              | 0.16              | Not Detected    | 0.98               | Not Detected    |
| 1,2,4-Trichlorobenzene           | 0.82              | Not Detected UJ | 6.0                | Not Detected UJ |
| Hexachlorobutadiene              | 0.82              | Not Detected    | 8.7                | Not Detected    |

E = Exceeds instrument calibration range.

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)



Air Toxics

Client Sample ID: IA17-06

Lab ID#: 1803256-07A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031515 | Date of Collection: | 3/7/18 3:14:00 PM |
| Dil. Factor: | 1.63     | Date of Analysis:   | 3/15/18 05:09 PM  |

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 114       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 89        | 70-130        |

Client Sample ID: IA17-06

Lab ID#: 1803256-07B

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                    |  |
|---------------------|--------------------|--|
| <b>File Name:</b>   | <b>21031515sim</b> | <b>Date of Collection:</b> 3/7/18 3:14:00 PM |
| <b>Dil. Factor:</b> | <b>1.63</b>        | <b>Date of Analysis:</b> 3/15/18 05:09 PM    |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.033             | 0.43          | 0.16               | 2.1            |
| Freon 114                 | 0.033             | Not Detected  | 0.23               | Not Detected   |
| Chloromethane             | 0.82              | 0.83          | 1.7                | 1.7            |
| Vinyl Chloride            | 0.016             | Not Detected  | 0.042              | Not Detected   |
| Chloroethane              | 0.082             | Not Detected  | 0.22               | Not Detected   |
| 1,1-Dichloroethene        | 0.016             | Not Detected  | 0.065              | Not Detected   |
| trans-1,2-Dichloroethene  | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Methyl tert-butyl ether   | 0.16              | Not Detected  | 0.59               | Not Detected   |
| 1,1-Dichloroethane        | 0.033             | Not Detected  | 0.13               | Not Detected   |
| cis-1,2-Dichloroethene    | 0.033             | Not Detected  | 0.13               | Not Detected   |
| Chloroform                | 0.033             | 0.086         | 0.16               | 0.42           |
| 1,1,1-Trichloroethane     | 0.033             | Not Detected  | 0.18               | Not Detected   |
| Carbon Tetrachloride      | 0.033             | 0.064         | 0.20               | 0.41           |
| Benzene                   | 0.082             | 0.75          | 0.26               | 2.4            |
| 1,2-Dichloroethane        | 0.033             | Not Detected  | 0.13               | Not Detected   |
| Trichloroethene           | 0.033             | Not Detected  | 0.18               | Not Detected   |
| Toluene                   | 0.033             | 2.6           | 0.12               | 9.8            |
| 1,1,2-Trichloroethane     | 0.033             | Not Detected  | 0.18               | Not Detected   |
| Tetrachloroethene         | 0.033             | 0.094         | 0.22               | 0.64           |
| 1,2-Dibromoethane (EDB)   | 0.033             | Not Detected  | 0.25               | Not Detected   |
| Ethyl Benzene             | 0.033             | 0.30          | 0.14               | 1.3            |
| m,p-Xylene                | 0.065             | 1.0           | 0.28               | 4.6            |
| o-Xylene                  | 0.033             | 0.38          | 0.14               | 1.6            |
| 1,1,2,2-Tetrachloroethane | 0.033             | Not Detected  | 0.22               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.033             | Not Detected  | 0.20               | Not Detected   |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 111       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 88        | 70-130        |

Client Sample ID: IA17-07

Lab ID#: 1803256-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031516 | Date of Collection: | 3/7/18 3:04:00 PM |
| Dil. Factor: | 1.75     | Date of Analysis:   | 3/15/18 05:41 PM  |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.18              | Not Detected    | 0.39               | Not Detected    |
| Bromomethane                     | 0.88              | Not Detected    | 3.4                | Not Detected    |
| Freon 11                         | 0.18              | 0.26            | 0.98               | 1.4             |
| Ethanol                          | 0.88              | 230 E           | 1.6                | 430 E           |
| Freon 113                        | 0.18              | Not Detected    | 1.3                | Not Detected    |
| Acetone                          | 0.88              | 12              | 2.1                | 28              |
| 2-Propanol                       | 0.88              | 6.6             | 2.2                | 16              |
| Carbon Disulfide                 | 0.88              | Not Detected    | 2.7                | Not Detected    |
| 3-Chloropropene                  | 0.88              | Not Detected    | 2.7                | Not Detected    |
| Methylene Chloride               | 0.35              | Not Detected    | 1.2                | Not Detected    |
| Hexane                           | 0.18              | 0.36            | 0.62               | 1.3             |
| 2-Butanone (Methyl Ethyl Ketone) | 0.88              | Not Detected    | 2.6                | Not Detected    |
| Tetrahydrofuran                  | 0.88              | Not Detected    | 2.6                | Not Detected    |
| Cyclohexane                      | 0.18              | 0.30            | 0.60               | 1.0             |
| 2,2,4-Trimethylpentane           | 0.88              | Not Detected    | 4.1                | Not Detected    |
| Heptane                          | 0.18              | 0.44            | 0.72               | 1.8             |
| 1,2-Dichloropropane              | 0.18              | Not Detected    | 0.81               | Not Detected    |
| 1,4-Dioxane                      | 0.18              | Not Detected    | 0.63               | Not Detected    |
| Bromodichloromethane             | 0.18              | Not Detected    | 1.2                | Not Detected    |
| cis-1,3-Dichloropropene          | 0.18              | Not Detected    | 0.79               | Not Detected    |
| 4-Methyl-2-pentanone             | 0.18              | Not Detected    | 0.72               | Not Detected    |
| trans-1,3-Dichloropropene        | 0.18              | Not Detected    | 0.79               | Not Detected    |
| 2-Hexanone                       | 0.88              | Not Detected    | 3.6                | Not Detected    |
| Dibromochloromethane             | 0.18              | Not Detected    | 1.5                | Not Detected    |
| Chlorobenzene                    | 0.18              | Not Detected    | 0.80               | Not Detected    |
| Styrene                          | 0.18              | Not Detected    | 0.74               | Not Detected    |
| Bromoform                        | 0.18              | Not Detected    | 1.8                | Not Detected    |
| Cumene                           | 0.18              | Not Detected    | 0.86               | Not Detected    |
| Propylbenzene                    | 0.18              | Not Detected    | 0.86               | Not Detected    |
| 4-Ethyltoluene                   | 0.18              | Not Detected    | 0.86               | Not Detected    |
| 1,3,5-Trimethylbenzene           | 0.18              | Not Detected    | 0.86               | Not Detected    |
| 1,2,4-Trimethylbenzene           | 0.18              | Not Detected    | 0.86               | Not Detected    |
| 1,3-Dichlorobenzene              | 0.18              | Not Detected    | 1.0                | Not Detected    |
| alpha-Chlorotoluene              | 0.18              | Not Detected    | 0.90               | Not Detected    |
| 1,2-Dichlorobenzene              | 0.18              | Not Detected    | 1.0                | Not Detected    |
| 1,2,4-Trichlorobenzene           | 0.88              | Not Detected UJ | 6.5                | Not Detected UJ |
| Hexachlorobutadiene              | 0.88              | Not Detected    | 9.3                | Not Detected    |

E = Exceeds instrument calibration range.

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)



Air Toxics

Client Sample ID: IA17-07

Lab ID#: 1803256-08A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 21031516 | Date of Collection: | 3/7/18 3:04:00 PM |
| Dil. Factor: | 1.75     | Date of Analysis:   | 3/15/18 05:41 PM  |

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 118       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 89        | 70-130        |



Client Sample ID: IA17-07

Lab ID#: 1803256-08B

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                    |  |
|---------------------|--------------------|--|
| <b>File Name:</b>   | <b>21031516sim</b> | <b>Date of Collection:</b> 3/7/18 3:04:00 PM |
| <b>Dil. Factor:</b> | <b>1.75</b>        | <b>Date of Analysis:</b> 3/15/18 05:41 PM    |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.035             | 0.44          | 0.17               | 2.2            |
| Freon 114                 | 0.035             | Not Detected  | 0.24               | Not Detected   |
| Chloromethane             | 0.88              | 1.8           | 1.8                | 3.7            |
| Vinyl Chloride            | 0.018             | Not Detected  | 0.045              | Not Detected   |
| Chloroethane              | 0.088             | Not Detected  | 0.23               | Not Detected   |
| 1,1-Dichloroethene        | 0.018             | Not Detected  | 0.069              | Not Detected   |
| trans-1,2-Dichloroethene  | 0.18              | Not Detected  | 0.69               | Not Detected   |
| Methyl tert-butyl ether   | 0.18              | Not Detected  | 0.63               | Not Detected   |
| 1,1-Dichloroethane        | 0.035             | Not Detected  | 0.14               | Not Detected   |
| cis-1,2-Dichloroethene    | 0.035             | Not Detected  | 0.14               | Not Detected   |
| Chloroform                | 0.035             | 0.12          | 0.17               | 0.59           |
| 1,1,1-Trichloroethane     | 0.035             | Not Detected  | 0.19               | Not Detected   |
| Carbon Tetrachloride      | 0.035             | 0.068         | 0.22               | 0.42           |
| Benzene                   | 0.088             | 0.81          | 0.28               | 2.6            |
| 1,2-Dichloroethane        | 0.035             | Not Detected  | 0.14               | Not Detected   |
| Trichloroethene           | 0.035             | Not Detected  | 0.19               | Not Detected   |
| Toluene                   | 0.035             | 2.5           | 0.13               | 9.4            |
| 1,1,2-Trichloroethane     | 0.035             | Not Detected  | 0.19               | Not Detected   |
| Tetrachloroethene         | 0.035             | 0.089         | 0.24               | 0.60           |
| 1,2-Dibromoethane (EDB)   | 0.035             | Not Detected  | 0.27               | Not Detected   |
| Ethyl Benzene             | 0.035             | 0.28          | 0.15               | 1.2            |
| m,p-Xylene                | 0.070             | 1.0           | 0.30               | 4.5            |
| o-Xylene                  | 0.035             | 0.38          | 0.15               | 1.6            |
| 1,1,2,2-Tetrachloroethane | 0.035             | Not Detected  | 0.24               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.035             | Not Detected  | 0.21               | Not Detected   |

**Container Type: 6 Liter Summa Canister (SIM Certified)**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 112       | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 85        | 70-130        |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1803256-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 21031506 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 3/15/18 11:00 AM |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv)   | Rpt. Limit (ug/m3) | Amount (ug/m3)  |
|----------------------------------|-------------------|-----------------|--------------------|-----------------|
| 1,3-Butadiene                    | 0.10              | Not Detected    | 0.22               | Not Detected    |
| Bromomethane                     | 0.50              | Not Detected    | 1.9                | 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    |
| 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    |
| Hexane                           | 0.10              | Not Detected    | 0.35               | Not Detected    |
| 2-Butanone (Methyl Ethyl Ketone) | 0.50              | Not Detected    | 1.5                | Not Detected    |
| Tetrahydrofuran                  | 0.50              | Not Detected    | 1.5                | Not Detected    |
| Cyclohexane                      | 0.10              | Not Detected    | 0.34               | Not Detected    |
| 2,2,4-Trimethylpentane           | 0.50              | Not Detected    | 2.3                | Not Detected    |
| Heptane                          | 0.10              | Not Detected    | 0.41               | 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    |
| trans-1,3-Dichloropropene        | 0.10              | Not Detected    | 0.45               | Not Detected    |
| 2-Hexanone                       | 0.50              | Not Detected    | 2.0                | Not Detected    |
| Dibromochloromethane             | 0.10              | Not Detected    | 0.85               | Not Detected    |
| Chlorobenzene                    | 0.10              | Not Detected    | 0.46               | 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    |
| 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    |
| 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 UJ | 3.7                | Not Detected UJ |
| Hexachlorobutadiene              | 0.50              | Not Detected    | 5.3                | Not Detected    |

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|------------|-----------|---------------|
|------------|-----------|---------------|



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1803256-09A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 21031506 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 3/15/18 11:00 AM |

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 113       | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 112       | 70-130        |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1803256-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |             |                                    |
|--------------|-------------|------------------------------------|
| File Name:   | 21031506sim | Date of Collection: NA             |
| Dil. Factor: | 1.00        | Date of Analysis: 3/15/18 11:00 AM |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                  | 0.020             | Not Detected  | 0.099              | Not Detected   |
| Freon 114                 | 0.020             | Not Detected  | 0.14               | Not Detected   |
| Chloromethane             | 0.50              | Not Detected  | 1.0                | Not Detected   |
| Vinyl Chloride            | 0.010             | Not Detected  | 0.026              | Not Detected   |
| Chloroethane              | 0.050             | Not Detected  | 0.13               | Not Detected   |
| 1,1-Dichloroethene        | 0.010             | Not Detected  | 0.040              | Not Detected   |
| trans-1,2-Dichloroethene  | 0.10              | Not Detected  | 0.40               | Not Detected   |
| Methyl tert-butyl ether   | 0.10              | Not Detected  | 0.36               | Not Detected   |
| 1,1-Dichloroethane        | 0.020             | Not Detected  | 0.081              | Not Detected   |
| cis-1,2-Dichloroethene    | 0.020             | Not Detected  | 0.079              | Not Detected   |
| Chloroform                | 0.020             | Not Detected  | 0.098              | Not Detected   |
| 1,1,1-Trichloroethane     | 0.020             | Not Detected  | 0.11               | Not Detected   |
| Carbon Tetrachloride      | 0.020             | Not Detected  | 0.12               | Not Detected   |
| Benzene                   | 0.050             | Not Detected  | 0.16               | Not Detected   |
| 1,2-Dichloroethane        | 0.020             | Not Detected  | 0.081              | Not Detected   |
| Trichloroethene           | 0.020             | Not Detected  | 0.11               | Not Detected   |
| Toluene                   | 0.020             | Not Detected  | 0.075              | Not Detected   |
| 1,1,2-Trichloroethane     | 0.020             | Not Detected  | 0.11               | Not Detected   |
| Tetrachloroethene         | 0.020             | Not Detected  | 0.14               | Not Detected   |
| 1,2-Dibromoethane (EDB)   | 0.020             | Not Detected  | 0.15               | Not Detected   |
| Ethyl Benzene             | 0.020             | Not Detected  | 0.087              | Not Detected   |
| m,p-Xylene                | 0.040             | Not Detected  | 0.17               | Not Detected   |
| o-Xylene                  | 0.020             | Not Detected  | 0.087              | Not Detected   |
| 1,1,2,2-Tetrachloroethane | 0.020             | Not Detected  | 0.14               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.020             | Not Detected  | 0.12               | Not Detected   |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 109       | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 108       | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1803256-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 21031503 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 3/15/18 09:14 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| 1,3-Butadiene                    | 95        |
| Bromomethane                     | 104       |
| Freon 11                         | 98        |
| Ethanol                          | 104       |
| Freon 113                        | 98        |
| Acetone                          | 100       |
| 2-Propanol                       | 95        |
| Carbon Disulfide                 | 98        |
| 3-Chloropropene                  | 100       |
| Methylene Chloride               | 97        |
| Hexane                           | 102       |
| 2-Butanone (Methyl Ethyl Ketone) | 104       |
| Tetrahydrofuran                  | 102       |
| Cyclohexane                      | 104       |
| 2,2,4-Trimethylpentane           | 114       |
| Heptane                          | 110       |
| 1,2-Dichloropropane              | 102       |
| 1,4-Dioxane                      | 107       |
| Bromodichloromethane             | 105       |
| cis-1,3-Dichloropropene          | 102       |
| 4-Methyl-2-pentanone             | 114       |
| trans-1,3-Dichloropropene        | 103       |
| 2-Hexanone                       | 112       |
| Dibromochloromethane             | 109       |
| Chlorobenzene                    | 101       |
| Styrene                          | 117       |
| Bromoform                        | 111       |
| Cumene                           | 104       |
| Propylbenzene                    | 102       |
| 4-Ethyltoluene                   | 112       |
| 1,3,5-Trimethylbenzene           | 114       |
| 1,2,4-Trimethylbenzene           | 111       |
| 1,3-Dichlorobenzene              | 98        |
| alpha-Chlorotoluene              | 100       |
| 1,2-Dichlorobenzene              | 97        |
| 1,2,4-Trichlorobenzene           | 65 Q      |
| Hexachlorobutadiene              | 70        |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|------------|-----------|---------------|
|------------|-----------|---------------|



Air Toxics

Client Sample ID: CCV

Lab ID#: 1803256-10A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 21031503 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 3/15/18 09:14 AM |

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 98        | 70-130        |
| Toluene-d8            | 102       | 70-130        |
| 4-Bromofluorobenzene  | 97        | 70-130        |

Client Sample ID: CCV

Lab ID#: 1803256-10B

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                    |   |
|---------------------|--------------------|---|
| <b>File Name:</b>   | <b>21031503sim</b> | <b>Date of Collection: NA</b>             |
| <b>Dil. Factor:</b> | <b>1.00</b>        | <b>Date of Analysis: 3/15/18 09:14 AM</b> |

| Compound                  | %Recovery |
|---------------------------|-----------|
| Freon 12                  | 98        |
| Freon 114                 | 93        |
| Chloromethane             | 90        |
| Vinyl Chloride            | 91        |
| Chloroethane              | 99        |
| 1,1-Dichloroethene        | 93        |
| trans-1,2-Dichloroethene  | 87        |
| Methyl tert-butyl ether   | 105       |
| 1,1-Dichloroethane        | 96        |
| cis-1,2-Dichloroethene    | 100       |
| Chloroform                | 92        |
| 1,1,1-Trichloroethane     | 95        |
| Carbon Tetrachloride      | 106       |
| Benzene                   | 89        |
| 1,2-Dichloroethane        | 95        |
| Trichloroethene           | 96        |
| Toluene                   | 97        |
| 1,1,2-Trichloroethane     | 104       |
| Tetrachloroethene         | 92        |
| 1,2-Dibromoethane (EDB)   | 108       |
| Ethyl Benzene             | 111       |
| m,p-Xylene                | 104       |
| o-Xylene                  | 109       |
| 1,1,2,2-Tetrachloroethane | 105       |
| 1,4-Dichlorobenzene       | 83        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 92        | 70-130        |
| Toluene-d8            | 102       | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1803256-11A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                 |   |
|---------------------|-----------------|---|
| <b>File Name:</b>   | <b>21031504</b> | <b>Date of Collection: NA</b>             |
| <b>Dil. Factor:</b> | <b>1.00</b>     | <b>Date of Analysis: 3/15/18 09:55 AM</b> |

| Compound                         | %Recovery | Method Limits |
|----------------------------------|-----------|---------------|
| 1,3-Butadiene                    | 89        | 70-130        |
| Bromomethane                     | 100       | 70-130        |
| Freon 11                         | 89        | 70-130        |
| Ethanol                          | 91        | 70-130        |
| Freon 113                        | 85        | 70-130        |
| Acetone                          | 90        | 70-130        |
| 2-Propanol                       | 94        | 70-130        |
| Carbon Disulfide                 | 80        | 70-130        |
| 3-Chloropropene                  | 89        | 70-130        |
| Methylene Chloride               | 89        | 70-130        |
| Hexane                           | 92        | 70-130        |
| 2-Butanone (Methyl Ethyl Ketone) | 93        | 70-130        |
| Tetrahydrofuran                  | 93        | 70-130        |
| Cyclohexane                      | 93        | 70-130        |
| 2,2,4-Trimethylpentane           | 103       | 70-130        |
| Heptane                          | 98        | 70-130        |
| 1,2-Dichloropropane              | 93        | 70-130        |
| 1,4-Dioxane                      | 91        | 70-130        |
| Bromodichloromethane             | 99        | 70-130        |
| cis-1,3-Dichloropropene          | 92        | 70-130        |
| 4-Methyl-2-pentanone             | 102       | 70-130        |
| trans-1,3-Dichloropropene        | 93        | 70-130        |
| 2-Hexanone                       | 97        | 70-130        |
| Dibromochloromethane             | 101       | 70-130        |
| Chlorobenzene                    | 93        | 70-130        |
| Styrene                          | 102       | 70-130        |
| Bromoform                        | 109       | 70-130        |
| Cumene                           | 94        | 70-130        |
| Propylbenzene                    | 93        | 70-130        |
| 4-Ethyltoluene                   | 101       | 70-130        |
| 1,3,5-Trimethylbenzene           | 105       | 70-130        |
| 1,2,4-Trimethylbenzene           | 104       | 70-130        |
| 1,3-Dichlorobenzene              | 92        | 70-130        |
| alpha-Chlorotoluene              | 101       | 70-130        |
| 1,2-Dichlorobenzene              | 92        | 70-130        |
| 1,2,4-Trichlorobenzene           | 67 Q      | 70-130        |
| Hexachlorobutadiene              | 75        | 70-130        |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|------------|-----------|---------------|
|------------|-----------|---------------|





Air Toxics

Client Sample ID: LCS

Lab ID#: 1803256-11A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 21031504 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 3/15/18 09:55 AM |

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 101       | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 94        | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1803256-11AA

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                 |   |
|---------------------|-----------------|---|
| <b>File Name:</b>   | <b>21031505</b> | <b>Date of Collection: NA</b>             |
| <b>Dil. Factor:</b> | <b>1.00</b>     | <b>Date of Analysis: 3/15/18 10:28 AM</b> |

| Compound                         | %Recovery | Method Limits |
|----------------------------------|-----------|---------------|
| 1,3-Butadiene                    | 89        | 70-130        |
| Bromomethane                     | 98        | 70-130        |
| Freon 11                         | 90        | 70-130        |
| Ethanol                          | 91        | 70-130        |
| Freon 113                        | 84        | 70-130        |
| Acetone                          | 89        | 70-130        |
| 2-Propanol                       | 94        | 70-130        |
| Carbon Disulfide                 | 79        | 70-130        |
| 3-Chloropropene                  | 89        | 70-130        |
| Methylene Chloride               | 88        | 70-130        |
| Hexane                           | 91        | 70-130        |
| 2-Butanone (Methyl Ethyl Ketone) | 93        | 70-130        |
| Tetrahydrofuran                  | 92        | 70-130        |
| Cyclohexane                      | 93        | 70-130        |
| 2,2,4-Trimethylpentane           | 101       | 70-130        |
| Heptane                          | 97        | 70-130        |
| 1,2-Dichloropropane              | 92        | 70-130        |
| 1,4-Dioxane                      | 91        | 70-130        |
| Bromodichloromethane             | 101       | 70-130        |
| cis-1,3-Dichloropropene          | 92        | 70-130        |
| 4-Methyl-2-pentanone             | 102       | 70-130        |
| trans-1,3-Dichloropropene        | 96        | 70-130        |
| 2-Hexanone                       | 100       | 70-130        |
| Dibromochloromethane             | 103       | 70-130        |
| Chlorobenzene                    | 95        | 70-130        |
| Styrene                          | 106       | 70-130        |
| Bromoform                        | 112       | 70-130        |
| Cumene                           | 98        | 70-130        |
| Propylbenzene                    | 99        | 70-130        |
| 4-Ethyltoluene                   | 107       | 70-130        |
| 1,3,5-Trimethylbenzene           | 110       | 70-130        |
| 1,2,4-Trimethylbenzene           | 108       | 70-130        |
| 1,3-Dichlorobenzene              | 92        | 70-130        |
| alpha-Chlorotoluene              | 104       | 70-130        |
| 1,2-Dichlorobenzene              | 92        | 70-130        |
| 1,2,4-Trichlorobenzene           | 66 Q      | 70-130        |
| Hexachlorobutadiene              | 74        | 70-130        |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|------------|-----------|---------------|
|------------|-----------|---------------|



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1803256-11AA

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|              |          |                                    |
|--------------|----------|------------------------------------|
| File Name:   | 21031505 | Date of Collection: NA             |
| Dil. Factor: | 1.00     | Date of Analysis: 3/15/18 10:28 AM |

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



Air Toxics

Client Sample ID: LCS

Lab ID#: 1803256-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

|              |             |                                    |
|--------------|-------------|------------------------------------|
| File Name:   | 21031504sim | Date of Collection: NA             |
| Dil. Factor: | 1.00        | Date of Analysis: 3/15/18 09:55 AM |

| Compound                  | %Recovery | Method Limits |
|---------------------------|-----------|---------------|
| Freon 12                  | 88        | 70-130        |
| Freon 114                 | 87        | 70-130        |
| Chloromethane             | 78        | 70-130        |
| Vinyl Chloride            | 86        | 70-130        |
| Chloroethane              | 94        | 70-130        |
| 1,1-Dichloroethene        | 84        | 70-130        |
| trans-1,2-Dichloroethene  | 73        | 70-130        |
| Methyl tert-butyl ether   | 91        | 70-130        |
| 1,1-Dichloroethane        | 86        | 70-130        |
| cis-1,2-Dichloroethene    | 94        | 70-130        |
| Chloroform                | 82        | 70-130        |
| 1,1,1-Trichloroethane     | 85        | 70-130        |
| Carbon Tetrachloride      | 92        | 60-140        |
| Benzene                   | 80        | 70-130        |
| 1,2-Dichloroethane        | 84        | 70-130        |
| Trichloroethene           | 85        | 70-130        |
| Toluene                   | 88        | 70-130        |
| 1,1,2-Trichloroethane     | 96        | 70-130        |
| Tetrachloroethene         | 85        | 70-130        |
| 1,2-Dibromoethane (EDB)   | 99        | 70-130        |
| Ethyl Benzene             | 101       | 70-130        |
| m,p-Xylene                | 93        | 70-130        |
| o-Xylene                  | 98        | 70-130        |
| 1,1,2,2-Tetrachloroethane | 102       | 70-130        |
| 1,4-Dichlorobenzene       | 76        | 70-130        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 95        | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 93        | 70-130        |

Client Sample ID: LCSD

Lab ID#: 1803256-11BB

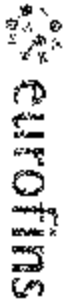
**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

|                     |                    |   |
|---------------------|--------------------|---|
| <b>File Name:</b>   | <b>21031505sim</b> | <b>Date of Collection: NA</b>             |
| <b>Dil. Factor:</b> | <b>1.00</b>        | <b>Date of Analysis: 3/15/18 10:28 AM</b> |

| Compound                  | %Recovery | Method Limits |
|---------------------------|-----------|---------------|
| Freon 12                  | 88        | 70-130        |
| Freon 114                 | 87        | 70-130        |
| Chloromethane             | 79        | 70-130        |
| Vinyl Chloride            | 87        | 70-130        |
| Chloroethane              | 94        | 70-130        |
| 1,1-Dichloroethene        | 85        | 70-130        |
| trans-1,2-Dichloroethene  | 73        | 70-130        |
| Methyl tert-butyl ether   | 92        | 70-130        |
| 1,1-Dichloroethane        | 87        | 70-130        |
| cis-1,2-Dichloroethene    | 95        | 70-130        |
| Chloroform                | 83        | 70-130        |
| 1,1,1-Trichloroethane     | 86        | 70-130        |
| Carbon Tetrachloride      | 94        | 60-140        |
| Benzene                   | 81        | 70-130        |
| 1,2-Dichloroethane        | 85        | 70-130        |
| Trichloroethene           | 86        | 70-130        |
| Toluene                   | 88        | 70-130        |
| 1,1,2-Trichloroethane     | 98        | 70-130        |
| Tetrachloroethene         | 85        | 70-130        |
| 1,2-Dibromoethane (EDB)   | 103       | 70-130        |
| Ethyl Benzene             | 101       | 70-130        |
| m,p-Xylene                | 93        | 70-130        |
| o-Xylene                  | 100       | 70-130        |
| 1,1,2,2-Tetrachloroethane | 106       | 70-130        |
| 1,4-Dichlorobenzene       | 75        | 70-130        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 96        | 70-130        |
| Toluene-d8            | 101       | 70-130        |
| 4-Bromofluorobenzene  | 95        | 70-130        |



800 767 6343

Sample Transportation Notice

Please sign this notice in duplicate and return it to the collector. This notice is to be kept with the sample until it is analyzed. It is the responsibility of the collector to ensure that the sample is transported in accordance with the applicable laws, regulations and ordinances of the 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. Requiring a 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) 467-6922

180 BLUE RAVINE ROAD, SUITE B  
FOLSOM, CA 95630-4719  
(916) 986-1000 FAX (916) 986-1020

Page 1 of 1

Project Info:

P.O. # \_\_\_\_\_

Project # 80056-008

Project Name Millic Salvoys

Turn Around Time:

Normal

Rush

Lab Use Only  
Presurized by

File:

Pressurization: Gas

Moisture

Project Manager: Andrew Erick  
Collected by: John and Tom Anderson  
Company: Sherron Wilson Inc. Email: awilson@sherron.com  
Address: 3255 Hill Rd City: Fairbank State: AK Zip: 99703  
Phone: 907-479-0000 Fax: \_\_\_\_\_

| Lab ID | Field Sample I.D. (Location) | Can #         | Date of Collection | Time of Collection | Analyses Requested | Canister Pressure/Vacuum | Initial | Final | Revised | Final |
|--------|------------------------------|---------------|--------------------|--------------------|--------------------|--------------------------|---------|-------|---------|-------|
| 001    | IA17-01                      | 663822316-377 | 12-26-15           | 15:28              | T0-15              | -285-7                   |         |       |         |       |
| 002    | IA17-02                      | 663822316-378 | 12-26-15           | 15:34              |                    | -27-7                    |         |       |         |       |
| 003    | IA17-03                      | 663822316-379 | 12-26-15           | 15:38              |                    | -285-7                   |         |       |         |       |
| 004    | IA17-04                      | 600803163     | 12-22-15           | 15:45              |                    | -30-8                    |         |       |         |       |
| 005    | IA17-05                      | 6615266       | 12-22-15           | 15:44              |                    | -27-8                    |         |       |         |       |
| 006    | IA17-06                      | 6618485       | 12-23-15           | 15:34              |                    | -30-7                    |         |       |         |       |
| 007    | IA17-07                      | 600803163     | 12-31-15           | 15:14              |                    | -30-7                    |         |       |         |       |
| 008    | IA17-08                      | 6610444       | 12-30-15           | 15:04              |                    | -30-7                    |         |       |         |       |

Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Shipper Name: \_\_\_\_\_ Air Bill #: \_\_\_\_\_

Temp (°C): \_\_\_\_\_ Condition: \_\_\_\_\_

Customer Seals Intact?  Yes  No  None  
Work Order #: 1803256

## Laboratory Data Review Checklist for Air Samples

|                   |   |                           |           |
|-------------------|---|---------------------------|-----------|
| Completed by:     | Sheila Hinckley                           |                           |           |
| Title:            | Environmental Scientist                   | Date:                     | 3/27/2018 |
| CS Report Name:   | Miller Salvage, Inc. Property (20062-008) | Report Date:              | 3/25/2018 |
| Consultant Firm:  | Shannon & Wilson, Inc. (Shannon & Wilson) |                           |           |
| Laboratory Name:  | Eurofins Air Toxics, Inc. (Eurofins)      | Laboratory Report Number: | 1803256   |
| ADEC File Number: | 102.23.017                                | ADEC Haz ID:              | 726       |

### 1. Laboratory

a. Did a NELAP certified laboratory receive and perform all of the submitted sample analyses?

Yes       No       NA (Please explain.)      Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses NELAP approved?

Yes       No       NA (Please explain.)      Comments:

Samples were analyzed by Eurofins of Folsom, CA, a NELAP certified laboratory.

### 2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes       No       NA (Please explain.)      Comments:

b. Correct analyses requested?

Yes       No       NA (Please explain.)      Comments:

### 3. Laboratory Sample Receipt Documentation

a. Sample condition documented -Samples collected in gas tight, opaque/dark Summa canisters or other ADEC approved container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?

Yes       No       NA (Please explain.)      Comments:

Documentation of the canister type, canister vacuum/pressure, or open valves was not provided in a sample receipt form. However, the chain of custody noted that samples were received in good condition with custody seals intact. The case narrative noted there were no receiving discrepancies.

b. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum etc.?

Yes       No       NA (Please explain)

Comments:

No, see above.

c. Data quality or usability affected? (Please explain.)

Yes       No       NA (Please explain)

Comments:

See above.

#### 4. Case Narrative

a. Present and understandable?

Yes       No       NA (Please explain)

Comments:

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Ethanol exceeded the instrument's calibration range for samples IA17-01, IA17-05, IA17-55, IA17-06 and IA17-07 and were flagged accordingly.

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."

"Dilution was performed on samples IA17-05 and IA17-55 due to the presence of high level target species."

b. Discrepancies, errors or QC failures identified by the lab?

Yes       No       NA (Please explain)

Comments:

Yes; see above.

c. Were all corrective actions documented?

Yes       No       NA (Please explain)

Comments:

Corrective actions were not identified by the laboratory.



d. What is the effect on data quality/usability according to the case narrative?

Comments:

Project samples IA17-01, IA17-05, IA17-55, IA17-06 and IA17-07 exceeded the laboratories calibration range for ethanol, and are flagged 'E' in the analytical table.

The non-detect results for the analyte 1,2,4-Trichlorobenzene in the project samples and the method blank are flagged 'UJ' by the laboratory. The QC note indicates that the "Non-detected compound is associated with low bias in the CCV". While CCV QC discrepancies are beyond the scope of a level II data review, the laboratory flag is in accordance with recommendations provided in Table 6 of the EPA's National Functions Guidelines for Organic Superfund Methods Data Review, dated January 2017.

The analyte 1,2,4-trichlorobenzene was qualified 'Q' by the laboratory in the QC samples CCV, LCS, and LCSD because the results "exceed quality control limits".

## 5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes     No     NA (Please explain)

Comments:

b. Samples analyzed within 30 days of collection or within the time required by the method?

Yes     No     NA (Please explain)

Comments:

c. Are the reported PQLs less than the Target Screening Level or the minimum required detection level for the project?

Yes     No     NA (Please explain)

Comments:

PQLs were less than the Target Screening Level (TSL) for this project for non-detect results, with a few exceptions. Refer to the analytical tables for analytes that exceed the TSL.

d. Data quality or usability affected?

Comments:

Yes. We cannot assess if the analytes that exceed the TSLs are present in the samples at concentrations greater than the TSLs but less than the PQLs.

## 6. QC Samples

a. Method Blank

i. One method blank reported per analysis and 20 samples?

Yes     No     NA (Please explain)

Comments:

ii. All method blank results less than PQL?

Yes     No     NA (Please explain)

Comments:

Project analytes were not detected in the method blank samples.

iii. If above PQL, what samples are affected?

Comments:

N/A; project analytes were not detected in the method blank samples.

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

Yes     No     NA (Please explain)

Comments:

See above.

v. Data quality or usability affected? (Please explain.)

Comments:

No; see above.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. One LCS/LCSD or one LCS and a sample/sample duplicate pair reported per analysis and 20 samples?

Yes     No     NA (Please explain)

Comments:

ii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable.

Yes     No     NA (Please explain)

Comments:

The LCS (1803256-11A) and LCSD (1803256-11AA) have low recovery failures for 1,2,4-trichlorobenzene.

iii. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable.

Yes     No     NA (Please explain)

Comments:

The RPDs were calculated from the LCS and LCSD recoveries by Shannon & Wilson and were less than 20%, as recommended in the EPA's National Functions Guidelines for Organic Superfund Methods Data Review, dated January 2017.

iv. If %R or RPD is outside of acceptable limits, what samples are affected?

Yes     No     NA (Please explain)

Comments:

All project samples are associated with the low LCS/LCSD recovery failures for 1,2,4-trichlorobenzene. This analyte was not detected in the project samples. The sample results are considered estimated, and are flagged 'UJ\*' in the analytical tables. As noted in Section 4.d., this analyte was qualified by the laboratory for a low CCV quality control failure. These qualifications are similar and indicate that the non-detect result is estimated.

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes     No     NA (Please explain)

Comments:

See above.

vi. Data quality or usability affected? (Please explain.)

Comments:

Yes; see above.

c. Surrogates

i. Are surrogate recoveries reported for field, QC and laboratory samples?

Yes     No     NA (Please explain)

Comments:

ii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable.

Yes     No     NA (Please explain)

Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes     No     NA (Please explain)

Comments:

There were no surrogate recovery failures.

iv. Data quality or usability affected? (Please explain.)

Comments:

No; see above.

d. Field Duplicate

i. One field duplicate submitted per analysis and 10 type (soil gas, indoor air etc.) samples?

Yes     No     NA (Please explain)

Comments:

ii. Submitted blind to lab?

Yes     No     NA (Please explain)

Comments:

Sample IA17-55 is a field-duplicate of sample IA17-05.

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 25 %)

$$\text{RPD (\%)} = \text{Absolute Value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where  $R_1$  = Sample Concentration

$R_2$  = Field Duplicate Concentration

Yes     No     NA (Please explain)

Comments:

RPD values were within acceptable range, where calculable.

iv. Data quality or usability affected? (Please explain.)

Comments:

No; see above.

e. Field Blank (If not used explain why).

Yes     No     NA (Please explain)

Comments:

A field blank sample was not required for this project.

i. All results less than PQL?

Yes     No     NA (Please explain)

Comments:

A field blank sample was not required for this project.

ii. If above PQL, what samples are affected?

Comments:

N/A; a field blank sample was not required for this project.

iii. Data quality or usability affected? (Please explain.)

Comments:

No; see above.

7. Other Data Flags/Qualifiers

a. Defined and appropriate?

Yes     No     NA (Please explain)

Comments:

Project samples IA17-01, IA17-05, IA17-55, IA17-06 and IA17-07 exceeded the laboratories calibration range for ethanol, and are flagged 'E' by the laboratory.

Reset Form

Updated: 2/2015

Date: April 10, 2018

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To: Alaska Department of Environmental  
Conservation  
Attn: Robert Burgess

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Re: 2018 Indoor-Air Sampling Summary Report,  
Miller Salvage, Inc. Property

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## **IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT**

### **CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.**

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

### **THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.**

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

### **SUBSURFACE CONDITIONS CAN CHANGE.**

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

### **MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.**

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

## **A REPORT'S CONCLUSIONS ARE PRELIMINARY.**

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

## **THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.**

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

## **BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.**

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

## **READ RESPONSIBILITY CLAUSES CLOSELY.**

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the  
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland