

# BGES, INC.

ENVIRONMENTAL CONSULTANTS

**FORMER JOHNSON NISSAN JEEP/EAGLE  
4748 OLD SEWARD HIGHWAY  
ANCHORAGE, ALASKA**

**ADEC FILE NO. 2100.26.252**

## **SUB-SLAB SOIL GAS CHARACTERIZATION REPORT**

**NOVEMBER 2013**

**Submitted to:**

**Richard Metcalf  
Six Robblee's, Inc.  
11010 Tukwila International Blvd.  
Seattle, Washington 98168**

**Submitted by:**

**BGES, INC.  
1042 East 6th Avenue  
Anchorage, Alaska 99501  
Ph: (907) 644-2900  
Fax: (907) 644-2901**

**[www.BGESINC.com](http://www.BGESINC.com)**

**TABLE OF CONTENTS**

---

1.0 INTRODUCTION .....1

2.0 FIELD ACTIVITIES.....1

3.0 EVALUATION OF LABORATORY DATA .....3

4.0 LABORATORY DATA QUALITY REVIEW .....3

5.0 CONCEPTUAL SITE MODEL .....4

6.0 CONCLUSIONS AND RECOMMENDATIONS .....4

7.0 EXCLUSIONS AND CONSIDERATIONS .....5

**FIGURES (Located at End of report)**

---

Figure 1 Property Vicinity Map

Figure 2 Sub-Slab Sampling Point Location Map

**TABLE (Located at End of Report)**

---

Table 1 Sub-Slab Soil Gas Sample Results

**APPENDICES (Located at End of Report)**

---

Appendix A Updated Building Survey and Indoor Air Questionnaire

Appendix B Field Notes and Soil Gas Sampling Data Log

Appendix C Laboratory Analytical Data

Appendix D Laboratory Analytical Data Quality Control Checklist

---

**ACRONYMS**

---

|            |   |   |
|------------|---|---|
| Air Toxics | - | Eurofins Air Toxics, Inc.                               |
| ADEC       | - | Alaska Department of Environmental Conservation         |
| BGES       | - | Braunstein Geological and Environmental Services        |
| CSM        | - | Conceptual Site Model                                   |
| MEK        | - | methyl ethyl ketone                                     |
| MIBK       | - | 4-methyl-2-pentanone                                    |
| ml/min     | - | milliliters per minute                                  |
| NELAP      | - | National Environmental Laboratory Accreditation Program |
| PCE        | - | Tetrachloroethylene                                     |
| PID        | - | Photoionization Detector                                |
| QC         | - | Quality Control   |
| QP         | - | Qualified Person  |
| RPD        | - | Relative Percent Difference                             |

## 1.0 INTRODUCTION

BGES, Inc. (BGES) was retained by Six Robblee's, Inc., to collect soil gas samples to evaluate the potential indoor air pathway at the property located at 4748 Old Seward Highway in Anchorage, Alaska, hereafter referred to as the subject property (Figure 1). These activities were conducted in accordance with correspondence dated August 14, 2013 from Katrina Chambon, Alaska Department of Environmental Conservation (ADEC) Project Manager.

## 2.0 FIELD ACTIVITIES

All activities were completed by a Qualified Person (QP), as defined by the ADEC, and in general accordance with ADEC regulations and the ADEC Vapor Intrusion Guidance for Contaminated Sites (October 2012). These assessment activities were requested by the ADEC because of the elevated concentrations of contaminants identified in the groundwater on the southeastern side of the subject property and the potential to impact the indoor air in the building. A sub-slab soil gas sample was collected to evaluate the potential indoor air pathway and the potential human health risk. No modifications to the work plan occurred during these field activities.

Prior to the initiation of sampling activities, the ADEC Building Inventory & Indoor Air Sampling Questionnaire was updated by BGES personnel on October 4, 2013 (Appendix A). It was determined that all subsurface utilities enter the northwestern corner of the building. All photoionization detector (PID) readings for potential vapor entry points into the building were zero parts per million.

**Collection of Sub-Slab Soil Gas Sample.** On October 9, 2013, prior to the collection of sub-slab soil gas samples, BGES personnel installed a semi-permanent soil gas sampling point, which was advanced through the concrete slab and positioned in the southeastern portion of the building (Figure 2). One representative from the ADEC (Katrina Chambon) was onsite to observe the collection of the soil gas sample. The hole was drilled through the concrete foundation with a rotary hammer drill and a 1.5-inch diameter drill bit. The hole was cleared of any dust prior to installing the sampling point so that a good seal could be obtained and leakage of ambient air could be eliminated. The sampling point was constructed of stainless steel tubing (0.313-inch outer diameter by 0.183-inch inner diameter) and Swagelock compression fittings. The bottom of the sampling point was set so that it floated near the base of the slab without coming into direct contact with the soil beneath the concrete slab. To prevent/reduce the potential for cross-contamination of sub-slab vapors with ambient indoor air, the sampling point was completed by backfilling with sand, hydrated bentonite, and quick-drying cement. The sampling point was installed such that the sample point was completed flush with the surface of the concrete to allow for future use. After completion of the sampling point, the bentonite and cement were allowed to dry for approximately one hour so that a good seal could be

established. However, the sampling point moved when setting up for the collection of the soil gas sample. Therefore, additional quick drying cement was added to the sampling point and the sampling point was allowed to dry overnight to make sure that there was a good seal around the sampling point.

On October 10, BGES personnel returned to the subject property to collect a sub-slab soil gas sample from the sampling point. Ms. Chambon, ADEC Project Manager, was onsite to observe the collection of the soil gas sample. A soil gas manifold system was attached to the sampling point and a summa canister was connected to the soil gas manifold system. The soil gas sampling manifold was obtained from the laboratory and consisted of a particulate filter, two vacuum gauges, a flow restrictor [preset and calibrated to 167 milliliters per minute (ml/min) at the laboratory], a manifold valve for the purge port, and a sample collection port; these items were connected with stainless steel tubing and Swagelok compression fittings. A vacuum gauge, located prior to the flow restrictor, was utilized to ensure that sufficient vapor was being collected from the subsurface. An additional vacuum gauge, located in line after the flow restrictor and prior to the purge port, was utilized to ensure that the summa canister was filling at the expected rate.

Prior to purging or collection of the soil gas samples, the aboveground sampling train was evaluated for leaks utilizing both a shut-in test (mechanical leak-check test) and a helium gas tracer test. For the shut-in test, the valves positioned between the sub-slab probe and the soil gas manifold and the summa canister were kept in the closed position. A peristaltic pump (vacuum pump) was then connected to the purge port of the manifold. The valve for the purge port was opened and a constant vacuum (approximately 26.5 inches of mercury) was applied to the aboveground apparatus for a period of eight minutes. Vacuum placed on the sampling train was not lost over this time period. Then, the helium gas tracer test was set up to evaluate the sampling train for potential leaks. This test was performed by enclosing the entire sampling train inside a metal hood. Helium was then released into the hood via a built-in port, to completely fill the area under the hood to an approximate concentration of 49 percent. A Dielectric MGD-2002 helium detector was connected to the sampling train to evaluate the potential presence of helium for approximately four minutes. Helium was not detected in the sampling train during this time period. After successfully passing both sample train leak-check tests, and prior to sample collection, approximately three sample train volumes were purged from the sampling train to evacuate any stagnant or ambient air at an approximate rate of 167 ml/min. The purging and sampling rate was set at 167 ml/min in order to prevent stripping of volatiles and ambient air from diluting the soil gas samples.

The soil gas sample was collected in a 6-liter summa canister using a soil gas manifold obtained from the laboratory (Field Notes and a Soil Gas Sampling Data Log are included in Appendix B). One duplicate soil

gas sample was collected from the sub-slab probe, and submitted “blindly” to the laboratory to evaluate field sampling precision. After collection of the soil gas samples, the canisters were packaged in cardboard boxes and shipped via Federal Express under standard chain of custody protocol to Eurofins Air Toxics, Inc. (Air Toxics) for analyses.

The sub-slab soil gas sample collected from beneath the concrete slab of the garage was numbered, for example, SG1-1010, where the acronym SG stands for soil gas and the adjoining number indicates the sub-slab probe number; and -1010 indicates the month and day the sample was collected.

### **3.0 EVALUATION OF LABORATORY DATA**

The soil gas sample results are compared to the Target Levels for Shallow or Sub-slab Soil Gas for commercial properties listed in Appendix E in ADEC Vapor Intrusion Guidance for Contaminated Sites, dated October 2012.

The 6-liter summa canisters and soil gas manifold received from the laboratory were 100 percent certified clean by Air Toxics. The soil gas samples were analyzed at Air Toxics, a National Environmental Laboratory Accreditation Program (NELAP) laboratory, as required by the ADEC, by Modified Method TO-15. A duplicate soil gas sample was collected to evaluate sampling precision. Results of the laboratory analyses are discussed below.

Two sub-slab soil gas samples, SG1-1010 and SG2-1010 (duplicate sample of SG1-1010), were collected from beneath the concrete slab in the southeastern portion of the building on the subject property (Figure 2).

Soil Gas Samples SG1-1010 and/or SG2-1010 exhibited concentrations of acetone, benzene, carbon disulfide, dichlorodifluoromethane (Freon 12), 1,4-dioxane, ethanol, ethylbenzene, 4-ethyltoluene, hexane, methyl ethyl ketone (MEK), 4-methyl-2-pentanone (MIBK), tetrachloroethene (PCE), toluene, trichlorofluoromethane (Freon 11), 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, and, total xylenes, which were all below ADEC target levels.

Analytical results for sub-slab soil gas samples are listed in Table 1, the laboratory results are included in Appendix C, and the sub-slab soil gas sampling location is shown on Figure 2.

### **4.0 LABORATORY DATA QUALITY REVIEW**

Data quality was reviewed in accordance with ADEC guidance and standard industry practices. An ADEC laboratory data review checklist completed for the laboratory work order provides an overview of the

quality of the laboratory data and the checklist is attached in Appendix D. The following is a discussion of our evaluation of sample conditions and laboratory procedures during these field activities.

### **Work Order Number 1310351**

The case narrative for Work Order Number 1310351 (soil gas samples collected on October 10, 2013) noted that there were not any quality control (QC) failures identified by Air Toxics.

The Soil Gas Sample SG2-1010 was a duplicate of the Soil Gas Sample SG1-1010 collected from the sub-slab probe SG1-1010 and was collected to evaluate sampling precision. This sample was submitted “blindly” to the laboratory. The Relative Percent Differences (RPDs) calculated utilizing duplicate sample (SG2-1010) collected in association with Field Sample SG1-1010 ranged between 0 percent and 109 percent. The RPDs between the reported concentrations of analytes within these samples were below the acceptable limit of 25 percent for the analytes dichlorodifluoromethane (Freon 12), trichlorofluoromethane (Freon 11), acetone, 2-butanone, and PCE. The RPDs ranged from 0 percent to 12 percent for these analytes, which indicates a good measure of sampling precision. The analytes that did not have acceptable RPDs included ethanol, MIBK, toluene, total xylenes, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene. The RPDs for these analytes ranged from 32 percent to 109 percent. Because the field sample and associated field duplicate both exhibited concentrations of all analytes that are more than two orders of magnitude below the ADEC target levels, it is our opinion that these RPD exceedences do not affect the acceptability of the data for their intended use. The RPDs between the reported concentrations of numerous analytes could not be calculated, as they were not detected above the laboratory’s method reporting limits.

## **5.0 CONCEPTUAL SITE MODEL**

As requested by Ms. Chambon, ADEC Project Manager, the conceptual site model (CSM) was not updated based on the results from the soil gas samples collected under the building on the subject property.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

As described above, sub-slab soil gas samples collected from beneath the concrete slab in the southeastern portion of the building did not exhibit any analyte concentrations above the ADEC target levels for sub-slab soil gas concentrations. It is recommended that a copy of this summary report be provided to the ADEC.

## 7.0 EXCLUSIONS AND CONSIDERATIONS

This report presents facts, observations, and inferences based on conditions observed during the period of our project activities, and only those conditions that were evaluated as part of our scope of work. Our conclusions are based solely on our observations made and work conducted, and only apply to the immediate vicinities of the locations where soil gas samples were collected. In addition, changes to site conditions may have occurred since the completion of our project activities. These changes may be from the actions of man or nature. Changes in regulations may also impact the interpretation of site conditions. BGES will not disclose our findings to any parties other than our client as listed above, except as directed by our client, or as required by law.

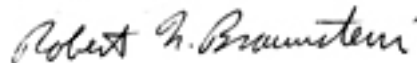
The field work was performed and this report was prepared by Jayne Martin, Senior Environmental Scientist of BGES. Ms. Martin is a QP as defined by the ADEC, and has more than 20 years of environmental consulting experience and has conducted and managed hundreds of site characterization and remediation efforts throughout Alaska and the lower 48 states. This report was reviewed and approved by Robert N. Braunstein, C.P.G., a Certified Professional Geologist, who has more than 30 years of professional geologic and environmental experience, and has performed or managed thousands of environmental site assessments in the lower 48-States and in Alaska. He has extensive knowledge and experience with contaminated sites and remediation.

Prepared by:



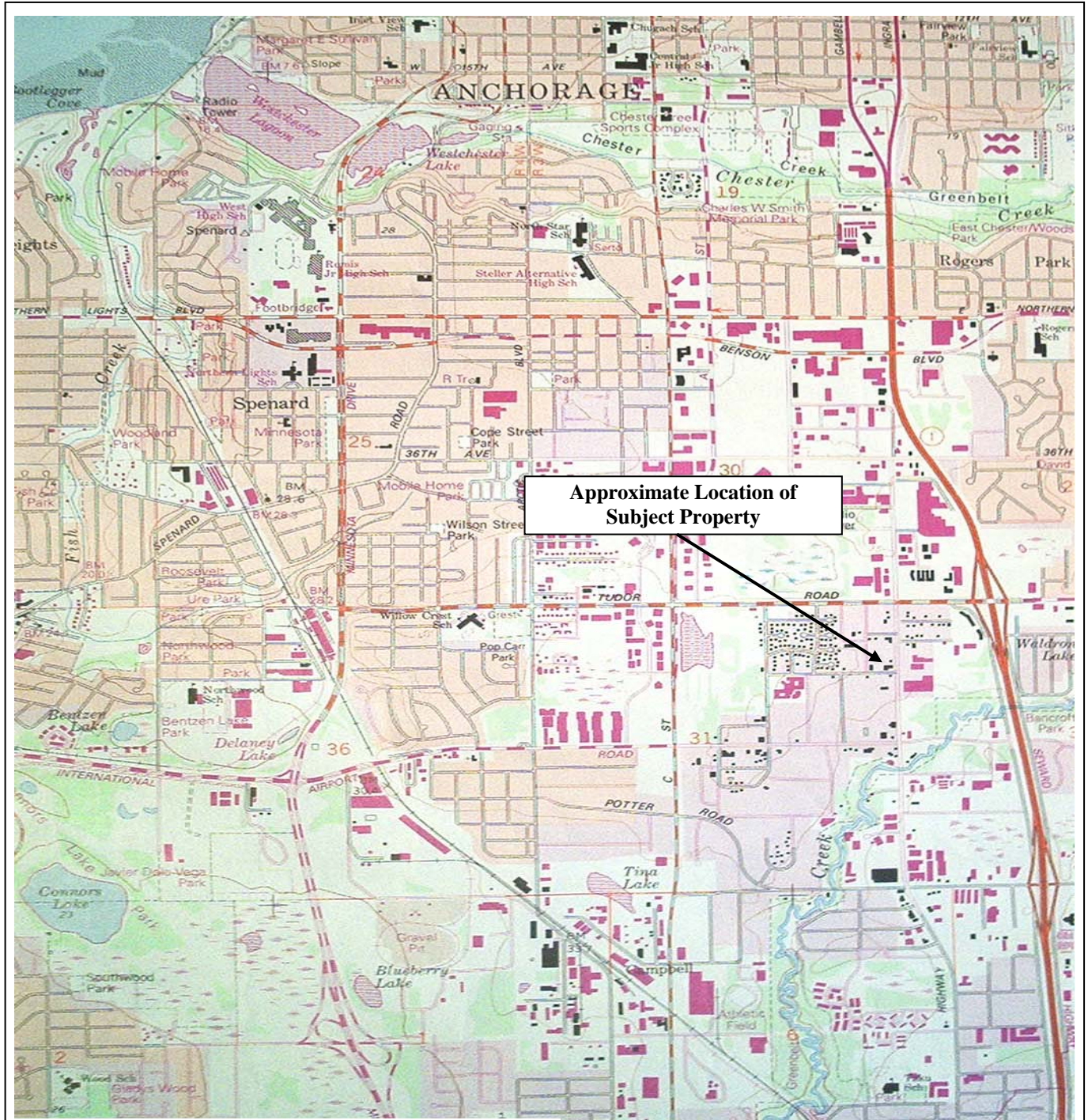
Jayne Martin  
Senior Environmental Scientist

Reviewed and Approved by:

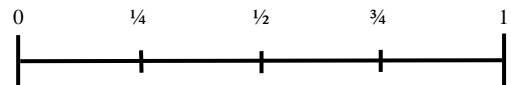
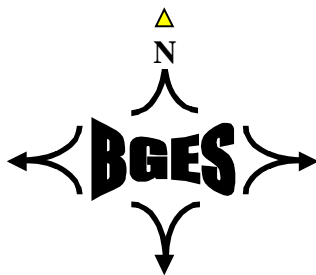


Robert N. Braunstein, C.P.G.  
Principal Geologist





Source: USGS Map, Anchorage (A-8) NW, Alaska 1979, Revised 1994.



Approximate Scale in Miles

4748 Old Seward Highway  
Anchorage, Alaska  
**Property Vicinity Map**

**BGES, INC.**

**November 2013**

**Figure 1**

Continental Motors

Building

MW9

MW3

SG1

MW2

MW13

MW10

MW15

MW1

MW14

B6/VE

MW8

48<sup>th</sup> Avenue

MW5

MW12

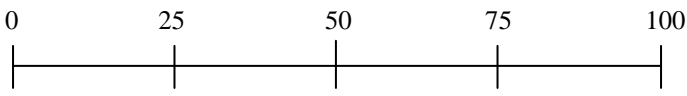
MW11



→ Old Seward Highway



Figure adapted from Chemtrack DRO history diagram.



Approximate Scale (Feet)

**LEGEND**

- = Monitoring Well Location
- = Sub-Slab Soil Gas Probe Location
- = Traffic Pattern

4748 Old Seward Highway  
Anchorage, Alaska  
**Monitoring Well and Sub-Slab Soil Gas  
Probe Locations**

|            |               |          |
|------------|---------------|----------|
| BGES, INC. | November 2013 | Figure 2 |
|------------|---------------|----------|

**TABLE 1**  
**4748 OLD SEWARD HIGHWAY**  
**ANCHORAGE, ALASKA**  
**SUB-SLAB SOIL GAS SAMPLE RESULTS - OCTOBER 2013**

BGES, INC

| Sample Name/Date Collected                 | Analyte                            | Results (ug/m <sup>3</sup> ) | Reporting Limit (ug/m <sup>3</sup> ) | Analytical Method | ADEC Target Level (ug/m <sup>3</sup> ) <sup>1</sup> |
|--|------------------------------------|------------------------------|--------------------------------------|-------------------|---|
| <b>SG1-1010</b>                            | Dichlorodifluoromethane (Freon 12) | 2.4                          | 0.78                                 | Modified TO-15    | 4,400   |
|  | Trichlorofluoromethane (Freon 11)  | 1.3                          | 0.89                                 | Modified TO-15    | 30,700  |
|  | Ethanol                            | 3.1                          | 1.5                                  | Modified TO-15    | N/A   |
|  | Acetone                            | 17                           | 1.9                                  | Modified TO-15    | 1,350,000   |
|  | Hexane                             | ND                           | 0.56                                 | Modified TO-15    | 30,700  |
|  | Carbon Disulfide                   | 2.9                          | 2.5                                  | Modified TO-15    | 30,700  |
|  | 2-Butanone (Methyl Ethyl Ketone)   | 3.0                          | 2.3                                  | Modified TO-15    | 219,000   |
|  | Benzene                            | ND                           | 0.50                                 | Modified TO-15    | 160   |
|  | 1,4-Dioxane                        | 20                           | 0.57                                 | Modified TO-15    | N/A   |
|  | 4-Methyl-2-pentanone (MIBK)        | 0.70                         | 0.65                                 | Modified TO-15    | 131,000   |
|  | Toluene                            | 0.77                         | 0.60                                 | Modified TO-15    | 219,000   |
|  | Tetrachloroethene (PCE)            | 4.6                          | 1.1                                  | Modified TO-15    | 1,800   |
|  | Ethylbenzene                       | ND                           | 0.69                                 | Modified TO-15    | 490   |
|  | Total Xylenes                      | 3.6                          | 0.69                                 | Modified TO-15    | 4,400   |
|  | 4-Ethyltoluene                     | ND                           | 0.78                                 | Modified TO-15    | N/A   |
|  | 1,3,5-Trimethylbenzene             | 0.81                         | 0.78                                 | Modified TO-15    | 310   |
|  | 1,2,4-Trimethylbenzene             | 1.4                          | 0.78                                 | Modified TO-15    | 310   |
| All Other Analytes                         | ND                                 | varies                       | Modified TO-15                       | varies            |   |
| <b>SG2-1010</b><br>(Duplicate of SG1-1010) |                                    |                              |                                      |                   |   |
| RPD = 0%                                   | Dichlorodifluoromethane (Freon 12) | 2.4                          | 0.79                                 | Modified TO-15    | 4,400   |
| RPD = 8%                                   | Trichlorofluoromethane (Freon 11)  | 1.2                          | 0.90                                 | Modified TO-15    | 30,700  |
| RPD = 64%                                  | Ethanol                            | 1.6                          | 1.5                                  | Modified TO-15    | N/A   |
| RPD = 11%                                  | Acetone                            | 19                           | 1.9                                  | Modified TO-15    | 1,350,000   |
|  | Hexane                             | 0.67                         | 0.56                                 | Modified TO-15    | 30,700  |
|  | Carbon Disulfide                   | ND                           | 2.5                                  | Modified TO-15    | 30,700  |
| RPD = 7%                                   | 2-Butanone (Methyl Ethyl Ketone)   | 2.8                          | 2.4                                  | Modified TO-15    | 219,000   |
|  | Benzene                            | 0.56                         | 0.51                                 | Modified TO-15    | 160   |
|  | 1,4-Dioxane                        | ND                           | 0.58                                 | Modified TO-15    | N/A   |
| RPD = 32%                                  | 4-Methyl-2-pentanone (MIBK)        | 0.97                         | 0.66                                 | Modified TO-15    | 131,000   |
| RPD = 109%                                 | Toluene                            | 2.6                          | 0.60                                 | Modified TO-15    | 219,000   |
| RPD = 12%                                  | Tetrachloroethene (PCE)            | 5.2                          | 1.1                                  | Modified TO-15    | 1,800   |
|  | Ethylbenzene                       | 0.85                         | 0.69                                 | Modified TO-15    | 490   |
| RPD = 43%                                  | Total Xylenes                      | 5.6                          | 0.69                                 | Modified TO-15    | 4,400   |
|  | 4-Ethyltoluene                     | 1.4                          | 0.79                                 | Modified TO-15    | N/A   |
| RPD = 39%                                  | 1,3,5-Trimethylbenzene             | 1.2                          | 0.79                                 | Modified TO-15    | 310   |
| RPD = 70%                                  | 1,2,4-Trimethylbenzene             | 2.9                          | 0.79                                 | Modified TO-15    | 310   |
|  | All Other Analytes                 | ND                           | varies                               | Modified TO-15    | varies  |

**Notes:**

<sup>1</sup> = Soil Gas Target Levels were obtained from the ADEC Vapor Intrusion Guidance For Contaminated Sites, Appendix E

Target Levels for Commercial Shallow or Subslab Soil Gas dated October 2012.

ug/m<sup>3</sup> = micrograms per cubic meter; N/A = Not Available; ND = Not Detected

**APPENDIX A**

**UPDATED BUILDING SURVEY AND INDOOR AIR QUESTIONNAIRE**

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 JAYNE MARTIN Date/Time Prepared 5/10/13 & 10/14/13  
Preparer's Affiliation BGES Phone No. 644-2900  
Purpose of Investigation BUILDING EVALUATION

**SECTION I: BUILDING INVENTORY**

10/14/13 - no changes to the building inventory

**1. OCCUPANT OR BUILDING PERSONNEL:**

Interviewed  Y /  N

Last Name PUCKETT First Name LARRY  
Address 4748 OLD SEWARD HWY  
City ANCHORAGE, AK 99503  
Phone No. (907) 354-2516 cell ; (907) 344-7497 (store)  
Number of Occupants/people at this location NOT KNOWN Age of Occupants NOT KNOWN

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

Interviewed: Y /  N

Last Name ROBBLEE First Name ANDY  
Address 11010 TUKWILA INTERNATIONAL ROAD  
City SEATTLE, WA 98168  
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.)

Multi-use

Ranch  
Raised Ranch  
Cape Cod  
Duplex  
Modular

2-Family  
Split Level  
Contemporary  
Apartment House  
Log Home

3-Family  
Colonial  
Mobile Home  
Townhouse/Condo  
Other

AN APARTMENT WAS PRESENT IN THE  
SOUTHEASTERN PORTION OF THE BUILDING

If multiple units, how many? NA

If the property is commercial, what type?

Business types(s) SALE OF TRUCK ACCESSORIES

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

If yes, how many? SINGLE APT. ON SECOND FLOOR IN  
SOUTHEAST PORTION OF BLDG.

Other characteristics:

Number of floors 1 FLOOR EXCEPT FOR  
APT. ON SECOND STORY  
IN SOUTHEAST  
PART OF BLDG.

Building age 1968 & 1990 (45 & 23 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

1ST FLOOR & ATTIC - MOVEMENT BETWEEN SHOW ROOM & ATTIC  
1ST FLOOR & APT. - THROUGH STAIRWELL, NOT INTERCONNECTED  
WITH AIR DUCTS

Airflow in building near suspected source

OPEN SPACE WITH HEATER SUSPENDED FROM CEILING  
(HEATER IS FUELED BY NATURAL GAS)  
SLAB-ON GRADE CONSTRUCTION - NO CRAWL SPACE  
HIGH CEILING

Outdoor air infiltration

VESTS FROM NEAR CEILING INTO BUILDING FROM OUTSIDE

Infiltration into air ducts

NO AIR DUCTS PRESENT

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

same no fire resist

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

Basement or lowest level depth below grade SLAB-ON GRADE (feet).

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

CRACK BETWEEN EAST & WEST GARAGE AREAS (~ 1 to 2 inches wide)

CRACK BETWEEN EAST GARAGE AREA AND ASPHALT PARKING LOT (APPROX. 1 to 2 inches wide)

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      PREVIOUSLY USED Hot water baseboard      BOILER NO LONGER USED
- Space heaters      Stream radiation      Radiant floor
- Electric baseboard      Wood stove      Outdoor wood boiler      Other \_\_\_\_\_

NATURAL GAS OPERATED  
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 NOT KNOWN

Boiler/furnace is located in:      Basement      Outdoors      Main floor      Other SEPARATE ROOM AT NW BLDE CORNER

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      DOORS Open windows      None
- Commercial HVAC      Heat-recovery system      Passive air system

Are there air distribution ducts present?      Y  N

THERE ARE VENTS BETWEEN THE ATTIC OVER THE OFFICES AND THE SHOW ROOM, 1-3

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.

~~NA~~ THERE IS NOT A VENTILATION SYSTEM IN THE BUILDING. THERE ARE SPACE HEATERS AND FRESH AIR VENTS SCATTERED THROUGHOUT BUILDING NEAR CEILINGS. DURING ~~THE~~ MANY DAYS - THE GARAGE DOORS ARE OPENED FOR VENTILATION.

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

Is the system active or passive? NA Active/Passive

7. OCCUPANCY

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

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

Basement      NA

1<sup>st</sup> Floor      SHOW ROOM, OFFICES, WAITING AREA, GARAGE & WORK AREAS

2<sup>nd</sup> Floor      APARTMENT (KITCHEN, BEDROOM & FAMILY ROOM)

3<sup>rd</sup> Floor      NA

8. WATER AND SEWAGE

Water supply:      Public water      Drilled well      Driven well      Dug well      Other PURCHASES DRINKING WATER RE EMPLOYER

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

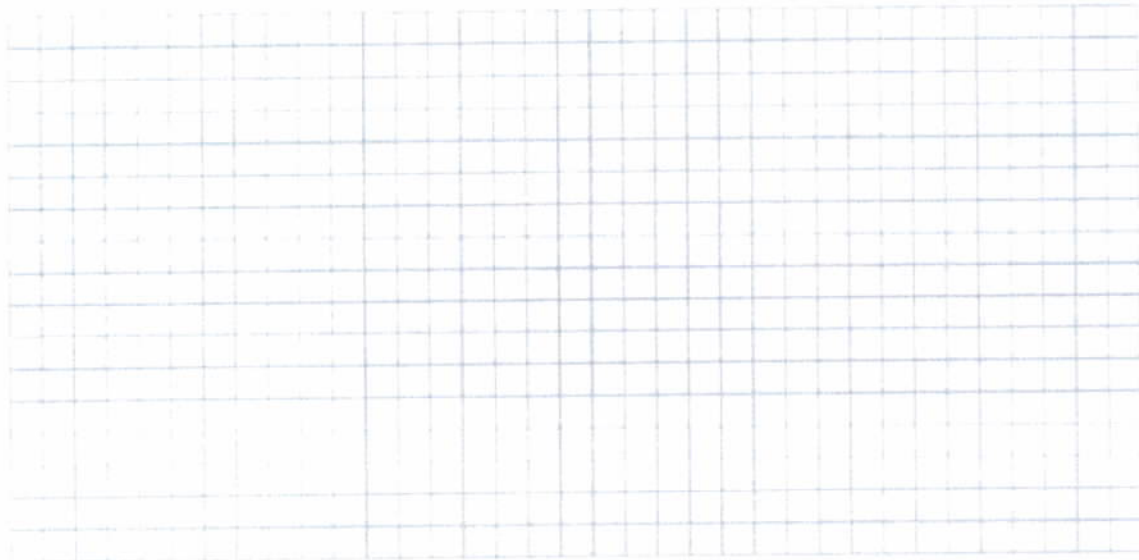
LOCATED SW OF BLDG.



9. FLOOR PLANS No PID readings were collected

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 that.

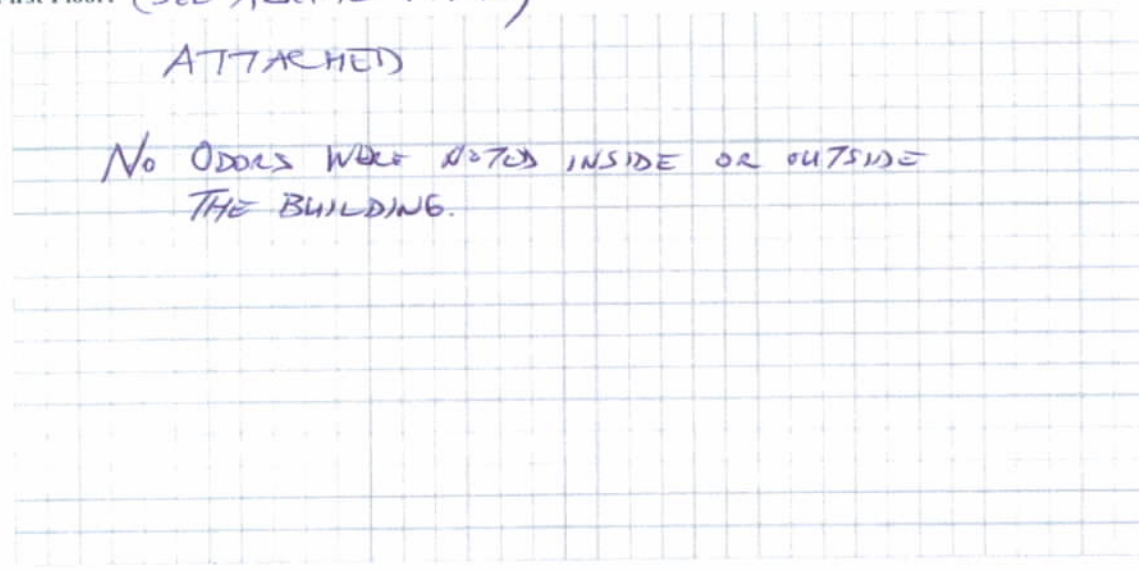
Basement: NA



First Floor: (SEE AERIAL PHOTO)

ATTACHED

No ODORS WERE NOTED INSIDE OR OUTSIDE  
THE BUILDING.

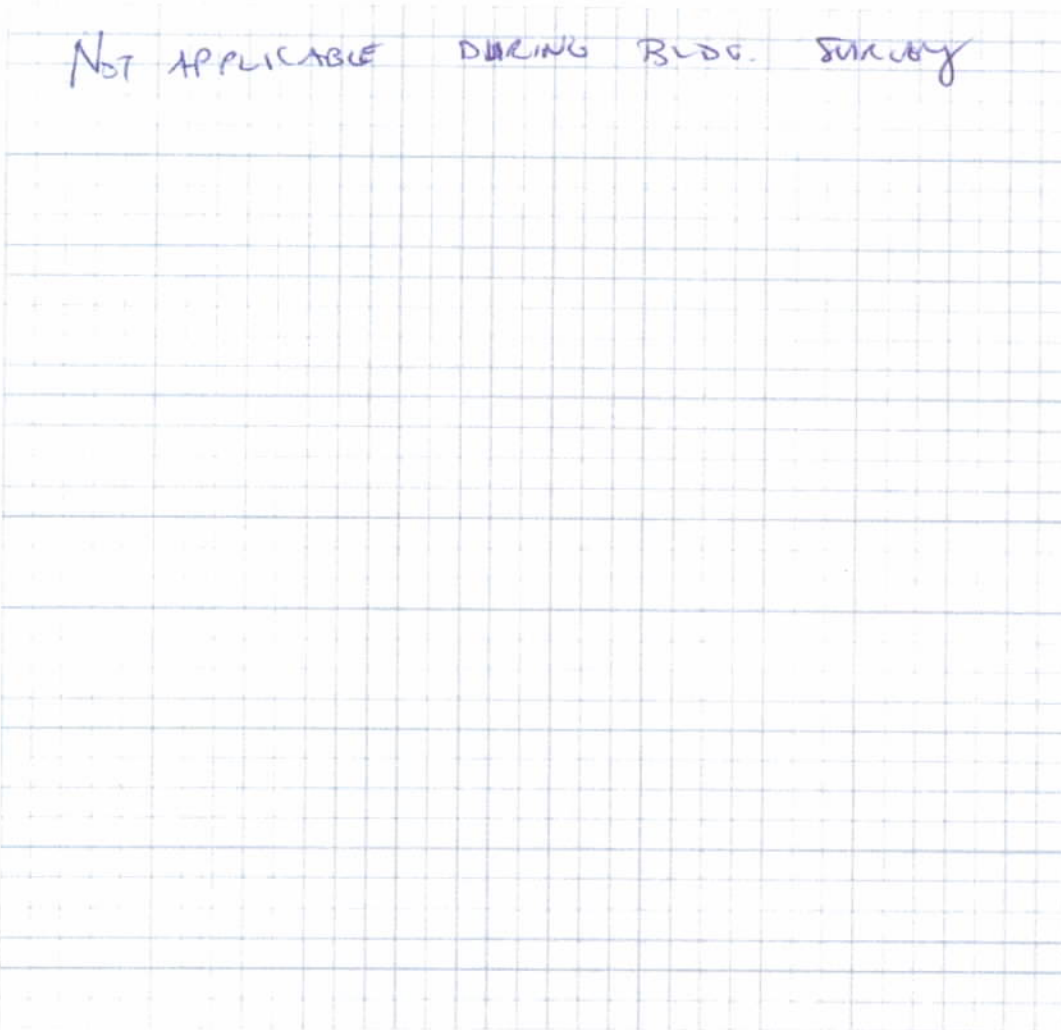


10. OUTDOOR PLOT

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

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

NOT APPLICABLE DURING BLDG. SURVEY



4 DEM, 2 to markers OF ABOVE WATER



POTABLE WELL

POOL

E 4TH AVE

STREET

CHURCH

SCHOOL

PARK

MARKET

WATER EX. MARKER

CEILING

MARK

MARK



SITE EVALUATION 5/10/13

**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

Does the garage have a separate heating unit?

Y / N / NA

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

Y / N / NA

Please specify MOTOCYCLES & TRUCKS ARE DELIVERED INTO THE GARAGE FOR INSTALLATION OF ACCESSORIES

Has the building ever had a fire?

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

Is a kerosene or unvented gas space heater present?

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

Is there a workshop or hobby/craft area?

Y / N Where and type IN GARAGE AREA, USED FOR INSTALLATION OF TRUCK ACCESSORIES

Is there smoking in the building?

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

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

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

Is there new carpet, drapes or other textiles?

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

Is there a kitchen exhaust fan?

Y / N If yes, where is it vented? N/A

Is there a bathroom exhaust fan?

Y / N If yes, where is it vented? \_\_\_\_\_

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

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

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

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

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

Make and model of field instrument used: TSW TECHNOLOGIES, PHOTONIZATION DETECTOR

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

IN GARAGE AREA

| Location | Product Description     | Site (units) | Condition <sup>1</sup> | Chemical Ingredients   | Field Instrument Reading (units) | Photo <sup>2</sup> Y/N |
|----------|-------------------------|--------------|------------------------|--|----------------------------------|------------------------|
| GARAGE   | PROTECTIVE COATING X-3  | 55 GAL       | GOOD                   | 44-DIPHENYLMETHANE DIISOCYANATE  | 0                                | Y                      |
| GARAGE   | HYDRAULIC OIL           | 5-GAL        | GOOD                   |  | 0                                | Y                      |
| GARAGE   | ARMOR ALL - ULTRA SHINE | 0.5 GAL      | GOOD                   | BENZENE SULFONIC ACID, SODIUM ALPHA-OLEFIN SULFONATE, N,N - HAT IN GLASS | 0                                |                        |
| GARAGE   | WINDOW CLEANER          |              | GOOD                   |  |                                  | N                      |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |
|          |                         |              |                        |  |                                  |                        |

<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).

The Alaska Department of Environmental Conservation's Contaminated Sites Program protects human health and the environment by managing the cleanup of contaminated soil and groundwater in Alaska. For more information, please contact our staff at the Contaminated Sites Program closest to you:  
 Juneau: 907-465-5390 / Anchorage: 907-269-7503  
 Fairbanks: 907-451-2153 / Kenai: 907-262-5210

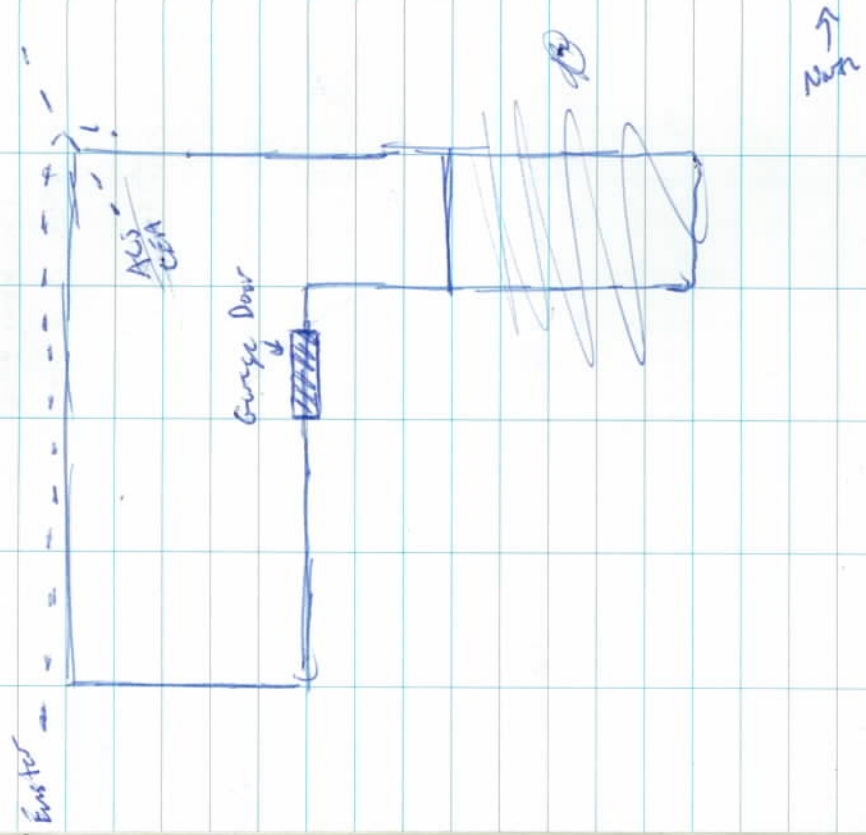
**APPENDIX B**

**FIELD NOTES AND SOIL GAS SAMPLING DATA LOG**

10-7-13 Six Rabbits Utility locate Map

12:20 BGFS onsite

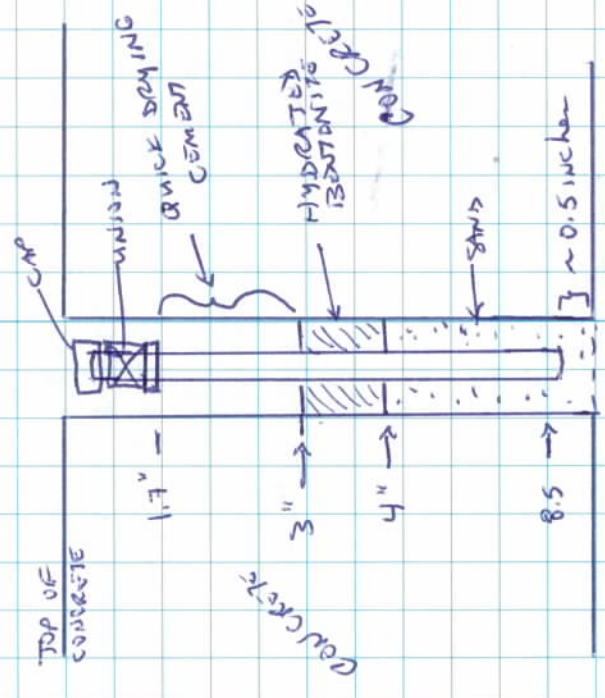
12:30 Enstar onsite / ACS / CEFA



10/9/13 Six Rabbits - Six Gas Sampling

12:00 PM BGFS onsite to install sub-slabs  
 Probe and collect sub-slabs  
 Six gas samples

J. Martin & J. BRESLIN onsite  
 ~31°F, clear & cold  
 Drilled through concrete foundation,  
 approximately 9-inches thick  
 drilling not to scale



LENGTH OF STAINING TUBIN = 6.11 feet x 5.5 ml  
 = 33.72 ml

10/9/13

WHEN PREPARING TO ATTACH SAMPLING  
TRAIN TO SUB-SLAB PROBE,  
THE PROBE MOVED; EVEN THOUGH  
IT HAD BEEN APPROPRIATELY / HOUR  
SINCE INSTALLING PROBE.

KATRINA CHAMBERLAIN, ADEC PROJECT MANAGER  
ON SITE FROM APPROX. 2:10 PM - 3:30 PM

MADE DECISION TO LET PROBE SIT OVER  
NIGHT SO IT COULD SEAL PROPERLY  
BEFORE COLLECTING SOIL GAS  
SAMPLES.

3:30 PM BGES & ADEC OFFSITE



10/10/13

Soil Gas Sampling

0825 BGES ONSITE TO SET UP & COLLECT  
SOIL GAS SAMPLE.

0840 SET UP & RAN MECHANICAL SHUT-IN  
TEST.

SEE FIELD DATA SHEET FOR

DETAILS OF THE SOIL GAS  
SAMPLING ACTIVITIES

0950 KATRINA CHAMBERLAIN, ADEC, ONSITE  
~~SET UP~~

COLLECT SOIL GAS SAMPLE.

KATRINA ALSO COLLECTS A

WATER SAMPLE FROM THE WOMEN'S

BATHROOM SINK BECAUSE ONE

OF THE EMPLOYEE'S INDICATED

THAT SHE HAD BEEN A SWEAT IN

THE WATER FROM THE FANCOIL.

1040 KATRINA OFFSITE

COMPLETES SOIL GAS SAMPLING

1145 BGES OFFSITE





SOIL GAS SAMPLING DATA

Date: 10/10/13 Sampler(s): J. MARTIN & J. BANSIS
Client: Six Robbles Project #:
Project Location: 4748 OLD SEWARDS
Container Type: 6-LITER SUMMA Container ID: 1052
Sample ID: SG1-1010 Sample Location: SG-1
Weather Conditions: CLEAR & COOL Precipitation: NONE
Temperature: 31°F Barometric Pressure: 29.73 in of Hg

EQUIPMENT INFORMATION

Helium Detector Calibration: TTT Flow regulator calibrated: 167 ml/min @ LAB
Vacuum Gauge Calibrated: LABORATORY
Canister Certification Label: FILE # 92889 CAN # 1052 Manifold Certification Label: # 1052
Sampling Equipment: soil gas manifold, peristaltic pump, hood, helium specialty gas, MGD-2002 detector;
teflon-lined tubing; 6-liter summa canister

PRE-TEST LEAK CHECKS

Mechanical Leak Testing Completed: [check] Gauge @ 26.5" Hg
Mechanical Leak Test Start Time: 0946 Mechanical Leak Test Stop Time: 0954
Helium Tracer Test Completed: [check] Helium Concentration Under Hood: 49%
Helium Test Start Time: 1003 Helium Test End Time: 1007

SAMPLE TRAIN VOLUME CALCULATIONS

Probe Depth (feet): 8.5 inches Sample Train Volume (ml): 39.72 ml
Flow Rate (ml/min): 167 ml/min
Subslab conditions: SAND
One Purge Volume (ml): 39.72 Time to Purge 1 Volume (sec): 14 sec
Three Purge Volumes (ml): 119.16 Time to Purge 3 Volumes (secs): 42 sec
Purge Start Time: 1009 Purge End Time: 1010

SOIL GAS SAMPLE COLLECTION

Sample Collection Start Time: 1017 Sample Collection End Time: 1139
Canister Start Vacuum (units): 30" Hg Canister End Vacuum (units): 6.5" Hg

Comments:
DUPLICATE SAMPLE SG2-1010 30" Hg 6.5" Hg
CANISTER # 30842, FILE # 92889 TIME 1145

**APPENDIX C**  
**LABORATORY ANALYTICAL DATA**

11/1/2013  
Ms. Jayne Martin  
BGES, Inc.  
1042 E. 6th Ave

Anchorage AK 99501

Project Name: OLD SEWARD  
Project #:  
Workorder #: 1310351

Dear Ms. Jayne Martin

The following report includes the data for the above referenced project for sample(s) received on 10/15/2013 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori  
Project Manager

**WORK ORDER #: 1310351**

Work Order Summary

|                        |  |                  |  |
|------------------------|--|------------------|--|
| <b>CLIENT:</b>         | Ms. Jayne Martin<br>BGES, Inc.<br>1042 E. 6th Ave<br>Anchorage, AK 99501 | <b>BILL TO:</b>  | Ms. Jayne Martin<br>BGES, Inc.<br>1042 E. 6th Ave<br>Anchorage, AK 99501 |
| <b>PHONE:</b>          | 907-644-2900   | <b>P.O. #</b>    |  |
| <b>FAX:</b>            |  | <b>PROJECT #</b> | OLD SEWARD   |
| <b>DATE RECEIVED:</b>  | 10/15/2013   | <b>CONTACT:</b>  | Kyle Vagadori  |
| <b>DATE COMPLETED:</b> | 11/01/2013   |                  |  |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u>    | <u>RECEIPT<br/>VAC./PRES.</u> | <u>FINAL<br/>PRESSURE</u> |
|-------------------|-------------|----------------|-------------------------------|---------------------------|
| 01A               | SG1-1010    | Modified TO-15 | 4.5 "Hg                       | 5.1 psi                   |
| 02A               | SG2-1010    | Modified TO-15 | 4.7 "Hg                       | 5.1 psi                   |
| 03A               | Lab Blank   | Modified TO-15 | NA                            | NA                        |
| 04A               | CCV         | Modified TO-15 | NA                            | NA                        |
| 05A               | LCS         | Modified TO-15 | NA                            | NA                        |
| 05AA              | LCSD        | Modified TO-15 | NA                            | NA                        |

CERTIFIED BY:   
 Technical Director

DATE: 11/01/13

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935  
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

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

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



**LABORATORY NARRATIVE**  
**Modified TO-15**  
**BGES, Inc.**  
**Workorder# 1310351**

Two 6 Liter Summa Canister (100% Certified) samples were received on October 15, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

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

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

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

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

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

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

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds

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

**Client Sample ID: SG1-1010**

**Lab ID#: 1310351-01A**

| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12                         | 0.16                 | 0.48             | 0.78                  | 2.4               |
| Freon 11                         | 0.16                 | 0.23             | 0.89                  | 1.3               |
| Ethanol                          | 0.79                 | 1.7              | 1.5                   | 3.1               |
| Acetone                          | 0.79                 | 7.3              | 1.9                   | 17                |
| Carbon Disulfide                 | 0.79                 | 0.93             | 2.5                   | 2.9               |
| 2-Butanone (Methyl Ethyl Ketone) | 0.79                 | 1.0              | 2.3                   | 3.0               |
| 1,4-Dioxane                      | 0.16                 | 5.6              | 0.57                  | 20                |
| 4-Methyl-2-pentanone             | 0.16                 | 0.17             | 0.65                  | 0.70              |
| Toluene                          | 0.16                 | 0.20             | 0.60                  | 0.77              |
| Tetrachloroethene                | 0.16                 | 0.67             | 1.1                   | 4.6               |
| m,p-Xylene                       | 0.16                 | 0.59             | 0.69                  | 2.6               |
| o-Xylene                         | 0.16                 | 0.24             | 0.69                  | 1.0               |
| 1,3,5-Trimethylbenzene           | 0.16                 | 0.16             | 0.78                  | 0.81              |
| 1,2,4-Trimethylbenzene           | 0.16                 | 0.28             | 0.78                  | 1.4               |

**Client Sample ID: SG2-1010**

**Lab ID#: 1310351-02A**

| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|----------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 12                         | 0.16                 | 0.49             | 0.79                  | 2.4               |
| Freon 11                         | 0.16                 | 0.22             | 0.90                  | 1.2               |
| Ethanol                          | 0.80                 | 0.83             | 1.5                   | 1.6               |
| Acetone                          | 0.80                 | 8.2              | 1.9                   | 19                |
| Hexane                           | 0.16                 | 0.19             | 0.56                  | 0.67              |
| 2-Butanone (Methyl Ethyl Ketone) | 0.80                 | 0.93             | 2.4                   | 2.8               |
| Benzene                          | 0.16                 | 0.18             | 0.51                  | 0.56              |
| 4-Methyl-2-pentanone             | 0.16                 | 0.24             | 0.66                  | 0.97              |
| Toluene                          | 0.16                 | 0.70             | 0.60                  | 2.6               |
| Tetrachloroethene                | 0.16                 | 0.77             | 1.1                   | 5.2               |
| Ethyl Benzene                    | 0.16                 | 0.20             | 0.69                  | 0.85              |
| m,p-Xylene                       | 0.16                 | 0.86             | 0.69                  | 3.7               |
| o-Xylene                         | 0.16                 | 0.43             | 0.69                  | 1.9               |
| 4-Ethyltoluene                   | 0.16                 | 0.29             | 0.79                  | 1.4               |

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

**Client Sample ID: SG2-1010**

**Lab ID#: 1310351-02A**

|                        |      |      |      |     |
|------------------------|------|------|------|-----|
| 1,3,5-Trimethylbenzene | 0.16 | 0.25 | 0.79 | 1.2 |
| 1,2,4-Trimethylbenzene | 0.16 | 0.58 | 0.79 | 2.9 |



Air Toxics

Client Sample ID: SG1-1010

Lab ID#: 1310351-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v102415 | Date of Collection: | 10/10/13 11:39:00 A |
| Dil. Factor: | 1.58    | Date of Analysis:   | 10/24/13 08:53 PM   |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                         | 0.16              | 0.48          | 0.78               | 2.4            |
| Freon 114                        | 0.16              | Not Detected  | 1.1                | Not Detected   |
| Chloromethane                    | 0.79              | Not Detected  | 1.6                | Not Detected   |
| Vinyl Chloride                   | 0.16              | Not Detected  | 0.40               | Not Detected   |
| 1,3-Butadiene                    | 0.16              | Not Detected  | 0.35               | Not Detected   |
| Bromomethane                     | 0.79              | Not Detected  | 3.1                | Not Detected   |
| Chloroethane                     | 0.79              | Not Detected  | 2.1                | Not Detected   |
| Freon 11                         | 0.16              | 0.23          | 0.89               | 1.3            |
| Ethanol                          | 0.79              | 1.7           | 1.5                | 3.1            |
| Freon 113                        | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene               | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Acetone                          | 0.79              | 7.3           | 1.9                | 17             |
| 2-Propanol                       | 0.79              | Not Detected  | 1.9                | Not Detected   |
| Carbon Disulfide                 | 0.79              | 0.93          | 2.5                | 2.9            |
| 3-Chloropropene                  | 0.79              | Not Detected  | 2.5                | Not Detected   |
| Methylene Chloride               | 0.32              | Not Detected  | 1.1                | Not Detected   |
| Methyl tert-butyl ether          | 0.16              | Not Detected  | 0.57               | Not Detected   |
| trans-1,2-Dichloroethene         | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Hexane                           | 0.16              | Not Detected  | 0.56               | Not Detected   |
| 1,1-Dichloroethane               | 0.16              | Not Detected  | 0.64               | Not Detected   |
| 2-Butanone (Methyl Ethyl Ketone) | 0.79              | 1.0           | 2.3                | 3.0            |
| cis-1,2-Dichloroethene           | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Tetrahydrofuran                  | 0.79              | Not Detected  | 2.3                | Not Detected   |
| Chloroform                       | 0.16              | Not Detected  | 0.77               | Not Detected   |
| 1,1,1-Trichloroethane            | 0.16              | Not Detected  | 0.86               | Not Detected   |
| Cyclohexane                      | 0.16              | Not Detected  | 0.54               | Not Detected   |
| Carbon Tetrachloride             | 0.16              | Not Detected  | 0.99               | Not Detected   |
| 2,2,4-Trimethylpentane           | 0.79              | Not Detected  | 3.7                | Not Detected   |
| Benzene                          | 0.16              | Not Detected  | 0.50               | Not Detected   |
| 1,2-Dichloroethane               | 0.16              | Not Detected  | 0.64               | Not Detected   |
| Heptane                          | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Trichloroethene                  | 0.16              | Not Detected  | 0.85               | Not Detected   |
| 1,2-Dichloropropane              | 0.16              | Not Detected  | 0.73               | Not Detected   |
| 1,4-Dioxane                      | 0.16              | 5.6           | 0.57               | 20             |
| Bromodichloromethane             | 0.16              | Not Detected  | 1.0                | Not Detected   |
| cis-1,3-Dichloropropene          | 0.16              | Not Detected  | 0.72               | Not Detected   |
| 4-Methyl-2-pentanone             | 0.16              | 0.17          | 0.65               | 0.70           |
| Toluene                          | 0.16              | 0.20          | 0.60               | 0.77           |
| trans-1,3-Dichloropropene        | 0.16              | Not Detected  | 0.72               | Not Detected   |
| 1,1,2-Trichloroethane            | 0.16              | Not Detected  | 0.86               | Not Detected   |
| Tetrachloroethene                | 0.16              | 0.67          | 1.1                | 4.6            |
| 2-Hexanone                       | 0.79              | Not Detected  | 3.2                | Not Detected   |





Client Sample ID: SG1-1010

Lab ID#: 1310351-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v102415 | Date of Collection: | 10/10/13 11:39:00 A |
| Dil. Factor: | 1.58    | Date of Analysis:   | 10/24/13 08:53 PM   |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Dibromochloromethane      | 0.16              | Not Detected  | 1.3                | Not Detected   |
| 1,2-Dibromoethane (EDB)   | 0.16              | Not Detected  | 1.2                | Not Detected   |
| Chlorobenzene             | 0.16              | Not Detected  | 0.73               | Not Detected   |
| Ethyl Benzene             | 0.16              | Not Detected  | 0.69               | Not Detected   |
| m,p-Xylene                | 0.16              | 0.59          | 0.69               | 2.6            |
| o-Xylene                  | 0.16              | 0.24          | 0.69               | 1.0            |
| Styrene                   | 0.16              | Not Detected  | 0.67               | Not Detected   |
| Bromoform                 | 0.16              | Not Detected  | 1.6                | Not Detected   |
| Cumene                    | 0.16              | Not Detected  | 0.78               | Not Detected   |
| 1,1,2,2-Tetrachloroethane | 0.16              | Not Detected  | 1.1                | Not Detected   |
| Propylbenzene             | 0.16              | Not Detected  | 0.78               | Not Detected   |
| 4-Ethyltoluene            | 0.16              | Not Detected  | 0.78               | Not Detected   |
| 1,3,5-Trimethylbenzene    | 0.16              | 0.16          | 0.78               | 0.81           |
| 1,2,4-Trimethylbenzene    | 0.16              | 0.28          | 0.78               | 1.4            |
| 1,3-Dichlorobenzene       | 0.16              | Not Detected  | 0.95               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.16              | Not Detected  | 0.95               | Not Detected   |
| alpha-Chlorotoluene       | 0.16              | Not Detected  | 0.82               | Not Detected   |
| 1,2-Dichlorobenzene       | 0.16              | Not Detected  | 0.95               | Not Detected   |
| 1,2,4-Trichlorobenzene    | 0.79              | Not Detected  | 5.9                | Not Detected   |
| Hexachlorobutadiene       | 0.79              | Not Detected  | 8.4                | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 99        | 70-130        |
| Toluene-d8            | 97        | 70-130        |
| 4-Bromofluorobenzene  | 94        | 70-130        |



Air Toxics

Client Sample ID: SG2-1010

Lab ID#: 1310351-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                     |                     |
|--------------|---------|---------------------|---------------------|
| File Name:   | v102416 | Date of Collection: | 10/10/13 11:45:00 A |
| Dil. Factor: | 1.60    | Date of Analysis:   | 10/24/13 09:31 PM   |

| Compound                         | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|----------------------------------|-------------------|---------------|--------------------|----------------|
| Freon 12                         | 0.16              | 0.49          | 0.79               | 2.4            |
| Freon 114                        | 0.16              | Not Detected  | 1.1                | Not Detected   |
| Chloromethane                    | 0.80              | Not Detected  | 1.6                | Not Detected   |
| Vinyl Chloride                   | 0.16              | Not Detected  | 0.41               | Not Detected   |
| 1,3-Butadiene                    | 0.16              | Not Detected  | 0.35               | Not Detected   |
| Bromomethane                     | 0.80              | Not Detected  | 3.1                | Not Detected   |
| Chloroethane                     | 0.80              | Not Detected  | 2.1                | Not Detected   |
| Freon 11                         | 0.16              | 0.22          | 0.90               | 1.2            |
| Ethanol                          | 0.80              | 0.83          | 1.5                | 1.6            |
| Freon 113                        | 0.16              | Not Detected  | 1.2                | Not Detected   |
| 1,1-Dichloroethene               | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Acetone                          | 0.80              | 8.2           | 1.9                | 19             |
| 2-Propanol                       | 0.80              | Not Detected  | 2.0                | Not Detected   |
| Carbon Disulfide                 | 0.80              | Not Detected  | 2.5                | Not Detected   |
| 3-Chloropropene                  | 0.80              | Not Detected  | 2.5                | Not Detected   |
| Methylene Chloride               | 0.32              | Not Detected  | 1.1                | Not Detected   |
| Methyl tert-butyl ether          | 0.16              | Not Detected  | 0.58               | Not Detected   |
| trans-1,2-Dichloroethene         | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Hexane                           | 0.16              | 0.19          | 0.56               | 0.67           |
| 1,1-Dichloroethane               | 0.16              | Not Detected  | 0.65               | Not Detected   |
| 2-Butanone (Methyl Ethyl Ketone) | 0.80              | 0.93          | 2.4                | 2.8            |
| cis-1,2-Dichloroethene           | 0.16              | Not Detected  | 0.63               | Not Detected   |
| Tetrahydrofuran                  | 0.80              | Not Detected  | 2.4                | Not Detected   |
| Chloroform                       | 0.16              | Not Detected  | 0.78               | Not Detected   |
| 1,1,1-Trichloroethane            | 0.16              | Not Detected  | 0.87               | Not Detected   |
| Cyclohexane                      | 0.16              | Not Detected  | 0.55               | Not Detected   |
| Carbon Tetrachloride             | 0.16              | Not Detected  | 1.0                | Not Detected   |
| 2,2,4-Trimethylpentane           | 0.80              | Not Detected  | 3.7                | Not Detected   |
| Benzene                          | 0.16              | 0.18          | 0.51               | 0.56           |
| 1,2-Dichloroethane               | 0.16              | Not Detected  | 0.65               | Not Detected   |
| Heptane                          | 0.16              | Not Detected  | 0.66               | Not Detected   |
| Trichloroethene                  | 0.16              | Not Detected  | 0.86               | Not Detected   |
| 1,2-Dichloropropane              | 0.16              | Not Detected  | 0.74               | Not Detected   |
| 1,4-Dioxane                      | 0.16              | Not Detected  | 0.58               | Not Detected   |
| Bromodichloromethane             | 0.16              | Not Detected  | 1.1                | Not Detected   |
| cis-1,3-Dichloropropene          | 0.16              | Not Detected  | 0.73               | Not Detected   |
| 4-Methyl-2-pentanone             | 0.16              | 0.24          | 0.66               | 0.97           |
| Toluene                          | 0.16              | 0.70          | 0.60               | 2.6            |
| trans-1,3-Dichloropropene        | 0.16              | Not Detected  | 0.73               | Not Detected   |
| 1,1,2-Trichloroethane            | 0.16              | Not Detected  | 0.87               | Not Detected   |
| Tetrachloroethene                | 0.16              | 0.77          | 1.1                | 5.2            |
| 2-Hexanone                       | 0.80              | Not Detected  | 3.3                | Not Detected   |



Client Sample ID: SG2-1010

Lab ID#: 1310351-02A

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

|                     |                |  |
|---------------------|----------------|--|
| <b>File Name:</b>   | <b>v102416</b> | <b>Date of Collection:</b> 10/10/13 11:45:00 A |
| <b>Dil. Factor:</b> | <b>1.60</b>    | <b>Date of Analysis:</b> 10/24/13 09:31 PM     |

| Compound                  | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------------------|-------------------|---------------|--------------------|----------------|
| Dibromochloromethane      | 0.16              | Not Detected  | 1.4                | Not Detected   |
| 1,2-Dibromoethane (EDB)   | 0.16              | Not Detected  | 1.2                | Not Detected   |
| Chlorobenzene             | 0.16              | Not Detected  | 0.74               | Not Detected   |
| Ethyl Benzene             | 0.16              | 0.20          | 0.69               | 0.85           |
| m,p-Xylene                | 0.16              | 0.86          | 0.69               | 3.7            |
| o-Xylene                  | 0.16              | 0.43          | 0.69               | 1.9            |
| Styrene                   | 0.16              | Not Detected  | 0.68               | Not Detected   |
| Bromoform                 | 0.16              | Not Detected  | 1.6                | Not Detected   |
| Cumene                    | 0.16              | Not Detected  | 0.79               | Not Detected   |
| 1,1,2,2-Tetrachloroethane | 0.16              | Not Detected  | 1.1                | Not Detected   |
| Propylbenzene             | 0.16              | Not Detected  | 0.79               | Not Detected   |
| 4-Ethyltoluene            | 0.16              | 0.29          | 0.79               | 1.4            |
| 1,3,5-Trimethylbenzene    | 0.16              | 0.25          | 0.79               | 1.2            |
| 1,2,4-Trimethylbenzene    | 0.16              | 0.58          | 0.79               | 2.9            |
| 1,3-Dichlorobenzene       | 0.16              | Not Detected  | 0.96               | Not Detected   |
| 1,4-Dichlorobenzene       | 0.16              | Not Detected  | 0.96               | Not Detected   |
| alpha-Chlorotoluene       | 0.16              | Not Detected  | 0.83               | Not Detected   |
| 1,2-Dichlorobenzene       | 0.16              | Not Detected  | 0.96               | Not Detected   |
| 1,2,4-Trichlorobenzene    | 0.80              | Not Detected  | 5.9                | Not Detected   |
| Hexachlorobutadiene       | 0.80              | Not Detected  | 8.5                | Not Detected   |

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

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 98        | 70-130        |
| Toluene-d8            | 98        | 70-130        |
| 4-Bromofluorobenzene  | 100       | 70-130        |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1310351-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                     |                   |
|--------------|---------|---------------------|-------------------|
| File Name:   | v102406 | Date of Collection: | NA                |
| Dil. Factor: | 1.00    | Date of Analysis:   | 10/24/13 02:03 PM |

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

Client Sample ID: Lab Blank

Lab ID#: 1310351-03A

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

|                     |                |  |
|---------------------|----------------|--|
| <b>File Name:</b>   | <b>v102406</b> | <b>Date of Collection:</b> NA              |
| <b>Dil. Factor:</b> | <b>1.00</b>    | <b>Date of Analysis:</b> 10/24/13 02:03 PM |

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

Container Type: NA - Not Applicable

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method Limits</b> |
|-----------------------|------------------|----------------------|
| 1,2-Dichloroethane-d4 | 85               | 70-130               |
| Toluene-d8            | 95               | 70-130               |
| 4-Bromofluorobenzene  | 104              | 70-130               |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1310351-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |          |                                     |
|--------------|----------|-------------------------------------|
| File Name:   | v102402a | Date of Collection: NA              |
| Dil. Factor: | 1.00     | Date of Analysis: 10/24/13 11:26 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 99        |
| Freon 114                        | 104       |
| Chloromethane                    | 96        |
| Vinyl Chloride                   | 96        |
| 1,3-Butadiene                    | 91        |
| Bromomethane                     | 92        |
| Chloroethane                     | 94        |
| Freon 11                         | 96        |
| Ethanol                          | 98        |
| Freon 113                        | 92        |
| 1,1-Dichloroethene               | 88        |
| Acetone                          | 88        |
| 2-Propanol                       | 98        |
| Carbon Disulfide                 | 113       |
| 3-Chloropropene                  | 117       |
| Methylene Chloride               | 88        |
| Methyl tert-butyl ether          | 97        |
| trans-1,2-Dichloroethene         | 108       |
| Hexane                           | 87        |
| 1,1-Dichloroethane               | 91        |
| 2-Butanone (Methyl Ethyl Ketone) | 99        |
| cis-1,2-Dichloroethene           | 96        |
| Tetrahydrofuran                  | 90        |
| Chloroform                       | 96        |
| 1,1,1-Trichloroethane            | 100       |
| Cyclohexane                      | 94        |
| Carbon Tetrachloride             | 114       |
| 2,2,4-Trimethylpentane           | 89        |
| Benzene                          | 100       |
| 1,2-Dichloroethane               | 97        |
| Heptane                          | 92        |
| Trichloroethene                  | 107       |
| 1,2-Dichloropropane              | 99        |
| 1,4-Dioxane                      | 103       |
| Bromodichloromethane             | 102       |
| cis-1,3-Dichloropropene          | 107       |
| 4-Methyl-2-pentanone             | 93        |
| Toluene                          | 100       |
| trans-1,3-Dichloropropene        | 110       |
| 1,1,2-Trichloroethane            | 100       |
| Tetrachloroethene                | 106       |
| 2-Hexanone                       | 97        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1310351-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |          |                                     |
|--------------|----------|-------------------------------------|
| File Name:   | v102402a | Date of Collection: NA              |
| Dil. Factor: | 1.00     | Date of Analysis: 10/24/13 11:26 AM |

| Compound                  | %Recovery |
|---------------------------|-----------|
| Dibromochloromethane      | 111       |
| 1,2-Dibromoethane (EDB)   | 113       |
| Chlorobenzene             | 105       |
| Ethyl Benzene             | 104       |
| m,p-Xylene                | 102       |
| o-Xylene                  | 101       |
| Styrene                   | 104       |
| Bromoform                 | 115       |
| Cumene                    | 98        |
| 1,1,2,2-Tetrachloroethane | 109       |
| Propylbenzene             | 93        |
| 4-Ethyltoluene            | 90        |
| 1,3,5-Trimethylbenzene    | 96        |
| 1,2,4-Trimethylbenzene    | 94        |
| 1,3-Dichlorobenzene       | 97        |
| 1,4-Dichlorobenzene       | 91        |
| alpha-Chlorotoluene       | 90        |
| 1,2-Dichlorobenzene       | 94        |
| 1,2,4-Trichlorobenzene    | 91        |
| Hexachlorobutadiene       | 82        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 93        | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1310351-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v102403 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/24/13 12:14 PM |

| Compound                         | %Recovery | Method Limits |
|----------------------------------|-----------|---------------|
| Freon 12                         | 97        | 70-130        |
| Freon 114                        | 104       | 70-130        |
| Chloromethane                    | 95        | 70-130        |
| Vinyl Chloride                   | 98        | 70-130        |
| 1,3-Butadiene                    | 91        | 70-130        |
| Bromomethane                     | 94        | 70-130        |
| Chloroethane                     | 99        | 70-130        |
| Freon 11                         | 94        | 70-130        |
| Ethanol                          | 92        | 70-130        |
| Freon 113                        | 101       | 70-130        |
| 1,1-Dichloroethene               | 99        | 70-130        |
| Acetone                          | 87        | 70-130        |
| 2-Propanol                       | 93        | 70-130        |
| Carbon Disulfide                 | 117       | 70-130        |
| 3-Chloropropene                  | 111       | 70-130        |
| Methylene Chloride               | 94        | 70-130        |
| Methyl tert-butyl ether          | 98        | 70-130        |
| trans-1,2-Dichloroethene         | 108       | 70-130        |
| Hexane                           | 86        | 70-130        |
| 1,1-Dichloroethane               | 91        | 70-130        |
| 2-Butanone (Methyl Ethyl Ketone) | 99        | 70-130        |
| cis-1,2-Dichloroethene           | 99        | 70-130        |
| Tetrahydrofuran                  | 86        | 70-130        |
| Chloroform                       | 95        | 70-130        |
| 1,1,1-Trichloroethane            | 95        | 70-130        |
| Cyclohexane                      | 96        | 70-130        |
| Carbon Tetrachloride             | 79        | 70-130        |
| 2,2,4-Trimethylpentane           | 88        | 70-130        |
| Benzene                          | 98        | 70-130        |
| 1,2-Dichloroethane               | 92        | 70-130        |
| Heptane                          | 90        | 70-130        |
| Trichloroethene                  | 104       | 70-130        |
| 1,2-Dichloropropane              | 92        | 70-130        |
| 1,4-Dioxane                      | 100       | 70-130        |
| Bromodichloromethane             | 98        | 70-130        |
| cis-1,3-Dichloropropene          | 98        | 70-130        |
| 4-Methyl-2-pentanone             | 89        | 70-130        |
| Toluene                          | 96        | 70-130        |
| trans-1,3-Dichloropropene        | 97        | 70-130        |
| 1,1,2-Trichloroethane            | 94        | 70-130        |
| Tetrachloroethene                | 103       | 70-130        |
| 2-Hexanone                       | 94        | 70-130        |





Air Toxics

Client Sample ID: LCS

Lab ID#: 1310351-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v102403 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/24/13 12:14 PM |

| Compound                  | %Recovery | Method Limits |
|---------------------------|-----------|---------------|
| Dibromochloromethane      | 104       | 70-130        |
| 1,2-Dibromoethane (EDB)   | 105       | 70-130        |
| Chlorobenzene             | 98        | 70-130        |
| Ethyl Benzene             | 100       | 70-130        |
| m,p-Xylene                | 100       | 70-130        |
| o-Xylene                  | 97        | 70-130        |
| Styrene                   | 101       | 70-130        |
| Bromoform                 | 104       | 70-130        |
| Cumene                    | 99        | 70-130        |
| 1,1,2,2-Tetrachloroethane | 100       | 70-130        |
| Propylbenzene             | 96        | 70-130        |
| 4-Ethyltoluene            | 94        | 70-130        |
| 1,3,5-Trimethylbenzene    | 91        | 70-130        |
| 1,2,4-Trimethylbenzene    | 86        | 70-130        |
| 1,3-Dichlorobenzene       | 93        | 70-130        |
| 1,4-Dichlorobenzene       | 87        | 70-130        |
| alpha-Chlorotoluene       | 86        | 70-130        |
| 1,2-Dichlorobenzene       | 92        | 70-130        |
| 1,2,4-Trichlorobenzene    | 81        | 70-130        |
| Hexachlorobutadiene       | 79        | 70-130        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 90        | 70-130        |
| Toluene-d8            | 99        | 70-130        |
| 4-Bromofluorobenzene  | 99        | 70-130        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1310351-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v102404 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/24/13 12:51 PM |

| Compound                         | %Recovery | Method Limits |
|----------------------------------|-----------|---------------|
| Freon 12                         | 98        | 70-130        |
| Freon 114                        | 107       | 70-130        |
| Chloromethane                    | 94        | 70-130        |
| Vinyl Chloride                   | 96        | 70-130        |
| 1,3-Butadiene                    | 91        | 70-130        |
| Bromomethane                     | 96        | 70-130        |
| Chloroethane                     | 96        | 70-130        |
| Freon 11                         | 96        | 70-130        |
| Ethanol                          | 92        | 70-130        |
| Freon 113                        | 105       | 70-130        |
| 1,1-Dichloroethene               | 101       | 70-130        |
| Acetone                          | 88        | 70-130        |
| 2-Propanol                       | 91        | 70-130        |
| Carbon Disulfide                 | 120       | 70-130        |
| 3-Chloropropene                  | 113       | 70-130        |
| Methylene Chloride               | 96        | 70-130        |
| Methyl tert-butyl ether          | 98        | 70-130        |
| trans-1,2-Dichloroethene         | 112       | 70-130        |
| Hexane                           | 86        | 70-130        |
| 1,1-Dichloroethane               | 93        | 70-130        |
| 2-Butanone (Methyl Ethyl Ketone) | 99        | 70-130        |
| cis-1,2-Dichloroethene           | 99        | 70-130        |
| Tetrahydrofuran                  | 86        | 70-130        |
| Chloroform                       | 96        | 70-130        |
| 1,1,1-Trichloroethane            | 97        | 70-130        |
| Cyclohexane                      | 96        | 70-130        |
| Carbon Tetrachloride             | 80        | 70-130        |
| 2,2,4-Trimethylpentane           | 89        | 70-130        |
| Benzene                          | 94        | 70-130        |
| 1,2-Dichloroethane               | 88        | 70-130        |
| Heptane                          | 88        | 70-130        |
| Trichloroethene                  | 104       | 70-130        |
| 1,2-Dichloropropane              | 91        | 70-130        |
| 1,4-Dioxane                      | 100       | 70-130        |
| Bromodichloromethane             | 96        | 70-130        |
| cis-1,3-Dichloropropene          | 97        | 70-130        |
| 4-Methyl-2-pentanone             | 86        | 70-130        |
| Toluene                          | 94        | 70-130        |
| trans-1,3-Dichloropropene        | 102       | 70-130        |
| 1,1,2-Trichloroethane            | 96        | 70-130        |
| Tetrachloroethene                | 103       | 70-130        |
| 2-Hexanone                       | 98        | 70-130        |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1310351-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

|              |         |                                     |
|--------------|---------|-------------------------------------|
| File Name:   | v102404 | Date of Collection: NA              |
| Dil. Factor: | 1.00    | Date of Analysis: 10/24/13 12:51 PM |

| Compound                  | %Recovery | Method Limits |
|---------------------------|-----------|---------------|
| Dibromochloromethane      | 106       | 70-130        |
| 1,2-Dibromoethane (EDB)   | 107       | 70-130        |
| Chlorobenzene             | 100       | 70-130        |
| Ethyl Benzene             | 102       | 70-130        |
| m,p-Xylene                | 100       | 70-130        |
| o-Xylene                  | 100       | 70-130        |
| Styrene                   | 102       | 70-130        |
| Bromoform                 | 106       | 70-130        |
| Cumene                    | 105       | 70-130        |
| 1,1,2,2-Tetrachloroethane | 102       | 70-130        |
| Propylbenzene             | 98        | 70-130        |
| 4-Ethyltoluene            | 98        | 70-130        |
| 1,3,5-Trimethylbenzene    | 97        | 70-130        |
| 1,2,4-Trimethylbenzene    | 88        | 70-130        |
| 1,3-Dichlorobenzene       | 97        | 70-130        |
| 1,4-Dichlorobenzene       | 89        | 70-130        |
| alpha-Chlorotoluene       | 88        | 70-130        |
| 1,2-Dichlorobenzene       | 94        | 70-130        |
| 1,2,4-Trichlorobenzene    | 83        | 70-130        |
| Hexachlorobutadiene       | 81        | 70-130        |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 90        | 70-130        |
| Toluene-d8            | 96        | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |

**SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE**

Lab Name: Air Toxics Ltd.

Lab File ID: v102404.d & v102403.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 10/24/13 & 10/24/13

| CAS Number | Compound                         | Original |       | Duplicate |       | RPD | Result Less Than<br>5X RL |
|------------|----------------------------------|----------|-------|-----------|-------|-----|---------------------------|
|            |                                  | Amount   | Flags | Amount    | Flags |     |                           |
| 71-55-6    | 1,1,1-Trichloroethane            | 95       |       | 97        |       | 2.1 |                           |
| 79-34-5    | 1,1,2,2-Tetrachloroethane        | 100      |       | 102       |       | 2.0 |                           |
| 79-00-5    | 1,1,2-Trichloroethane            | 94       |       | 96        |       | 2.1 |                           |
| 75-34-3    | 1,1-Dichloroethane               | 91       |       | 93        |       | 2.2 |                           |
| 75-35-4    | 1,1-Dichloroethene               | 99       |       | 101       |       | 2.0 |                           |
| 120-82-1   | 1,2,4-Trichlorobenzene           | 81       |       | 83        |       | 2.4 |                           |
| 95-63-6    | 1,2,4-Trimethylbenzene           | 86       |       | 88        |       | 2.3 |                           |
| 106-93-4   | 1,2-Dibromoethane (EDB)          | 105      |       | 107       |       | 1.9 |                           |
| 95-50-1    | 1,2-Dichlorobenzene              | 92       |       | 94        |       | 2.2 |                           |
| 107-06-2   | 1,2-Dichloroethane               | 92       |       | 88        |       | 4.4 |                           |
| 78-87-5    | 1,2-Dichloropropane              | 92       |       | 91        |       | 1.1 |                           |
| 108-67-8   | 1,3,5-Trimethylbenzene           | 91       |       | 97        |       | 6.4 |                           |
| 106-99-0   | 1,3-Butadiene                    | 91       |       | 91        |       | 0   |                           |
| 541-73-1   | 1,3-Dichlorobenzene              | 93       |       | 97        |       | 4.2 |                           |
| 106-46-7   | 1,4-Dichlorobenzene              | 87       |       | 89        |       | 2.3 |                           |
| 123-91-1   | 1,4-Dioxane                      | 100      |       | 100       |       | 0   |                           |
| 540-84-1   | 2,2,4-Trimethylpentane           | 88       |       | 89        |       | 1.1 |                           |
| 78-93-3    | 2-Butanone (Methyl Ethyl Ketone) | 99       |       | 99        |       | 0   |                           |
| 591-78-6   | 2-Hexanone                       | 94       |       | 98        |       | 4.2 |                           |
| 67-63-0    | 2-Propanol                       | 93       |       | 91        |       | 2.2 |                           |
| 107-05-1   | 3-Chloropropene                  | 111      |       | 113       |       | 1.8 |                           |
| 622-96-8   | 4-Ethyltoluene                   | 94       |       | 98        |       | 4.2 |                           |
| 108-10-1   | 4-Methyl-2-pentanone             | 89       |       | 86        |       | 3.4 |                           |
| 67-64-1    | Acetone                          | 87       |       | 88        |       | 1.1 |                           |
| 100-44-7   | alpha-Chlorotoluene              | 86       |       | 88        |       | 2.3 |                           |
| 71-43-2    | Benzene                          | 98       |       | 94        |       | 4.2 |                           |
| 75-27-4    | Bromodichloromethane             | 98       |       | 96        |       | 2.1 |                           |
| 75-25-2    | Bromoform                        | 104      |       | 106       |       | 1.9 |                           |
| 74-83-9    | Bromomethane                     | 94       |       | 96        |       | 2.1 |                           |
| 75-15-0    | Carbon Disulfide                 | 117      |       | 120       |       | 2.5 |                           |
| 56-23-5    | Carbon Tetrachloride             | 79       |       | 80        |       | 1.2 |                           |
| 108-90-7   | Chlorobenzene                    | 98       |       | 100       |       | 2.0 |                           |
| 75-00-3    | Chloroethane                     | 99       |       | 96        |       | 3.1 |                           |
| 67-66-3    | Chloroform                       | 95       |       | 96        |       | 1.0 |                           |
| 74-87-3    | Chloromethane                    | 95       |       | 94        |       | 1.0 |                           |
| 156-59-2   | cis-1,2-Dichloroethene           | 99       |       | 99        |       | 0   |                           |
| 10061-01-5 | cis-1,3-Dichloropropene          | 98       |       | 97        |       | 1.0 |                           |
| 98-82-8    | Cumene                           | 99       |       | 105       |       | 5.9 |                           |
| 110-82-7   | Cyclohexane                      | 96       |       | 96        |       | 0   |                           |
| 124-48-1   | Dibromochloromethane             | 104      |       | 106       |       | 1.9 |                           |
| 64-17-5    | Ethanol                          | 92       |       | 92        |       | 0   |                           |
| 100-41-4   | Ethyl Benzene                    | 100      |       | 102       |       | 2.0 |                           |
| 75-69-4    | Freon 11                         | 94       |       | 96        |       | 2.1 |                           |
| 76-13-1    | Freon 113                        | 101      |       | 105       |       | 3.9 |                           |
| 76-14-2    | Freon 114                        | 104      |       | 107       |       | 2.8 |                           |
| 75-71-8    | Freon 12                         | 97       |       | 98        |       | 1.0 |                           |

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

**SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE**

Lab Name: Air Toxics Ltd.

Lab File ID: v102404.d & v102403.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 10/24/13 & 10/24/13

| CAS Number | Compound                  | Original |       | Duplicate |       | RPD  | Result Less Than<br>5X RL |
|------------|---------------------------|----------|-------|-----------|-------|------|---------------------------|
|            |                           | Amount   | Flags | Amount    | Flags |      |                           |
| 142-82-5   | Heptane                   | 90       |       | 88        |       | 2.2  |                           |
| 87-68-3    | Hexachlorobutadiene       | 79       |       | 81        |       | 2.5  |                           |
| 110-54-3   | Hexane                    | 86       |       | 86        |       | 0    |                           |
| 108-38-3   | m,p-Xylene                | 100      |       | 100       |       | 0    |                           |
| 1634-04-4  | Methyl tert-butyl ether   | 98       |       | 98        |       | 0    |                           |
| 75-09-2    | Methylene Chloride        | 94       |       | 96        |       | 2.1  |                           |
| 95-47-6    | o-Xylene                  | 97       |       | 100       |       | 3.0  |                           |
| 103-65-1   | Propylbenzene             | 96       |       | 98        |       | 2.1  |                           |
| 100-42-5   | Styrene                   | 101      |       | 102       |       | 0.98 |                           |
| 127-18-4   | Tetrachloroethene         | 103      |       | 103       |       | 0    |                           |
| 109-99-9   | Tetrahydrofuran           | 86       |       | 86        |       | 0    |                           |
| 108-88-3   | Toluene                   | 96       |       | 94        |       | 2.1  |                           |
| 156-60-5   | trans-1,2-Dichloroethene  | 108      |       | 112       |       | 3.6  |                           |
| 10061-02-6 | trans-1,3-Dichloropropene | 97       |       | 102       |       | 5.0  |                           |
| 79-01-6    | Trichloroethene           | 104      |       | 104       |       | 0    |                           |
| 75-01-4    | Vinyl Chloride            | 98       |       | 96        |       | 2.1  |                           |

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

**APPENDIX D**

**LABORATORY ANALYTICAL DATA QUALITY CONTROL CHECKLIST**

Contaminated Sites Program  
Spill Prevention and Response Division  
Alaska Department of Environmental Conservation

**Laboratory Data Review Checklist for Air Samples**

Completed by:

Title:  Date:

CS Report Name:  Report Date:

Consultant Firm:

Laboratory Name:  Laboratory Report Number:

DEC File Number:  DEC Haz ID:

1. Laboratory

- a. Did a NELAP-certified laboratory receive and perform all of the submitted sample analyses?  
 Yes    No    N/A (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     N/A (Please explain.)

Comments:

**The samples were not transferred to another “network” laboratory or subcontracted to an alternate laboratory.**

2. Chain of Custody (COC)

- a. Was the COC information completed, signed and dated (including released/received by)?  
 Yes    No    N/A (Please explain.)

Comments:

- b. Was the correct analyses requested?  
 Yes    No    N/A (Please explain.)

Comments:

3. Laboratory Sample Receipt Documentation

- a. Was the sample condition documented? Were samples collected in gas-tight, opaque/dark Summa canisters or other DEC-approved containers? Was the canister vacuum/pressure checked, recorded upon receipt and were there no open valves?

Yes    No    N/A (Please explain.)

Comments:

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

Yes    No     N/A (Please explain.)

Comments:

**The samples were received at the laboratory in good condition and no discrepancies were noted.**

- c. Was the data quality or usability affected? (Please explain.)

Comments:

**There were no sample discrepancies identified by the laboratory.**

4. Case Narrative

- a. Is there a case narrative and is it understandable?

Yes    No    N/A (Please explain.)

Comments:

- b. Were there any discrepancies, errors or QC failures identified by the lab?

Yes     No    N/A (Please explain.)

Comments:

- c. Were all corrective actions documented?

Yes    No     N/A (Please explain.)

Comments:

**There were no data quality control failures identified by the lab.**

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

Comments:

**There were no data quality control failures identified by the lab.**



5. Samples Results

a. Was the correct analyses performed/reported as requested on COC?

Yes No N/A (Please explain.)

Comments:

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

Yes No N/A (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 N/A (Please explain.)

Comments:

d. Was the data quality or usability affected?

Comments:

6. QC Samples

a. Method Blank

i. Was one method blank reported per analysis and 20 samples?

Yes No N/A (Please explain.)

Comments:

ii. Were all method blank results less than PQL?

Yes No N/A (Please explain.)

Comments:

iii. If above PQL, what samples are affected?

Comments:

- iv. Do the affected sample(s) have data flags and, if so, are the data flags clearly defined?  
Yes No  N/A (Please explain.)

Comments:

**There were no data QC failures for the method blank.**

- v. Was the data quality or usability affected? (Please explain.)

Comments:

**There were no data QC failures for the method blank.**

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

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

Yes No N/A (Please explain.)

Comments:

- ii. Accuracy – Were all percent recoveries (%R) reported and within method or laboratory limits? What were the project specified DQOs, if applicable?

Yes No N/A (Please explain.)

Comments:

- iii. Precision – Were all relative percent differences (RPD) reported and were they less than method or laboratory limits? What were the project-specified DQOs, if applicable.

Yes No N/A (Please explain.)

Comments:

**All RPDs were less than the method limits.**

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

Comments:

N/A

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

Yes No N/A (Please explain.)

Comments:

N/A

vi. Is the data quality or usability affected? (Please explain.)

Comments:

N/A

c. Surrogates

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

Yes  No  N/A (Please explain.)

Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits?  
What were the project-specified DQOs, if applicable?

Yes  No  N/A (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  N/A (Please explain.)

Comments:

**There were no failed surrogate recoveries.**

iv. Was the data quality or usability affected? (Please explain.)

Comments:

**There were no failed surrogate recoveries.**

d. Field Duplicate

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

Yes  No  N/A (Please explain.)

Comments:

ii. Were they or was it submitted blind to the lab?

Yes  No  N/A (Please explain.)

Comments:

- iii. Precision – Were all relative percent differences (RPD) less than the 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  N/A (Please explain.)

Comments:

The soil gas sample SG2 was a duplicate of the soil gas sample collected from the sub-slab probe SG1 and was collected to evaluate sampling precision. The Relative Percent Differences (RPDs) calculated utilizing duplicate sample (SG2) collected in association with Field Sample SG1 ranged between 0 percent and 109 percent. The RPDs between the reported concentrations of analytes within these samples were below the acceptable limit of 25 percent for the analytes dichlorodifluoromethane (Freon 12), trichlorofluoromethane (Freon 11), acetone, 2-butanone, and tetrachloroethene (PCE). The RPDs ranged from 0 percent to 12 percent, which indicates a good measure of sampling precision. The analytes that did not have acceptable RPDs included ethanol, 4-methyl-2-pentanone (MIBK), toluene, total xylenes, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene. The RPDs for these analytes ranged from 32 percent to 109 percent. Because the field sample and associated field duplicate both exhibited concentrations of all analytes that are more than two orders of magnitude below the ADEC target levels, it is our opinion that these RPD exceedences do not affect the acceptability of the data for their intended use. The RPDs between the reported concentrations of numerous analytes could not be calculated, as they were not detected above the laboratory's method reporting limits.

- iv. Was the data quality or usability affected? (Please explain.)

Comments:

See Section 6, iii above.

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

Yes  No  N/A (Please explain.)

Comments:

Collection of a field blank was not part of the approved scope of work.

- i. Were all results less than the PQL?

Yes  No  N/A (Please explain.)

Comments:

Collection of a field blank was not part of the approved scope of work.

ii. If above PQL, what samples are affected?

Comments:

**Collection of a field blank was not part of the approved scope of work.**

iii. Was the data quality or usability affected? (Please explain.)

Comments:

N/A

7. Other Data Flags/Qualifiers

a. Were other data flags/qualifiers defined and appropriate?

Yes    No    **N/A** (Please explain.)

Comments: