

## Limited Environmental Investigation Report

0.69-Acre Commercial Property  
2517 SE 82nd Avenue, Portland, Oregon  
Multnomah Co. Tax Lots IS2E05DD-00800 and 00900

December 9, 2014

Prepared for:  
Metro  
Portland, Oregon

AAI Project No. 1408

Metro Contract No. 933012



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## **1.0 INTRODUCTION**

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Assessment Associates, Inc. (AAI) is pleased to present this report to document environmental investigation activities conducted at the Property located at 2517 SE 82nd Street in Portland, Oregon (Figure 1). The AAI Phase I Environmental Site Assessment (ESA) report<sup>1</sup>, dated November 14, 2014, identified several Recognized Environmental Concerns (RECs) related to the Property's past use and operational history. The purpose of this site investigation was to evaluate general areas of concern to determine if readily-observable subsurface impacts related to contaminants of interest are evident at those locations. Figure 2 provides a general site map and Property layout.

## **2.0 BACKGROUND**

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### **2.1 Site Description**

The subject Property is located in a mixed residential/commercial area of Portland, Oregon, and is located on the southwest corner of the intersection between SE Division Street and 82nd Avenue. The 0.69-acre Property is currently vacant and is occupied by an 8,200-square foot building, paved parking, and grass covered area. According to the ESA report, the Property was undeveloped until 1923, when a residence was constructed on the southwestern portion. The residence was reportedly heated by natural gas at the time it was demolished in 1989. Retail fueling and service station operations formerly occurred on or adjacent to northern portions of the Property between the 1920s and 1960s. Furniture sales and grocery store operations have also occurred on the Property. Although furniture manufacturing/finishing activities are not known to have occurred on the Property, such operations and the on-site use of related chemicals have not been ruled out to our knowledge. The existing commercial/retail building is currently vacant and is expected to be occupied and/or replaced as part of future site redevelopment activities.

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<sup>1</sup> Assessment Associates, Inc. (2014) A Phase I Environmental Site Assessment, 0.69-Acre Commercial Property, 2517 SE 82nd Avenue, Portland, Oregon, Multnomah Co. Tax Lots IS2E05DD-00800 and 00900, prepared for Metro and dated November 14, 2014



## 2.2 Potential Environmental Concerns

As indicated in AAI's Phase I ESA report, potential environmental concerns related to historic Property use/operations included the following general issues:

- Fuel storage tanks and vehicle maintenance activities are reported to have occurred on or adjacent to northern portions of the Property prior to the 1970s. Specific infrastructure locations and operational details are uncertain. Primary chemicals of interest include petroleum hydrocarbons (fuels and lubricants) and related organic constituents. Volatile organic compound (VOC) solvents, polychlorinated biphenyls (PCBs), and metals related to parts cleaning, painting, and waste/hydraulic oils may also be associated with vehicle maintenance facilities.
- Since solvents and fuels containing volatile chemicals may have been used at or adjacent to the subject Property for approximately 40 years, the presence and migration of possible subsurface vapors were also evaluated.

The work scope completed in support of this limited investigation is summarized below.

## 3.0 SITE INVESTIGATION

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Site investigation activities were conducted in November and December 2014, as described below. In accordance with the AAI proposal, dated November 19, 2014, the following work scope elements were completed:

- Developed a site-specific Health and Safety Plan to guide field safety protocols, in accordance with rules established by the Occupational Safety and Health Administration (OSHA).
- Coordinated public and private utility locating in an effort to identify underground infrastructure and utilities at each planned drilling location.
- Coordinated with a drilling company to advance a total of four soil borings, four soil gas borings, and three sub-slab vapor borings in areas of the Property where potential environmental concerns were identified in the ESA report.
- Collected subsurface media samples from each boring and submitted specified samples for chemical analysis.
- Coordinated with a geophysical surveyor to scan accessible portions of the Property and provide an opinion regarding the possible presence of underground storage tanks (USTs), drywells, and other subsurface anomalies.



- Coordinated with a heating oil tank decommissioning company to evaluate a possible heating oil UST and assess surrounding soils in accordance with Oregon Department of Environmental Quality (ODEQ) heating oil tank (HOT) decommissioning rules.
- Prepared this report, which summarizes our findings, conclusions, and recommendations.

Site features and sample locations are illustrated on Figure 2. Soil boring logs and vapor sampling field notes are presented in Appendix A. Copies of the geophysical survey report and the HOT assessment report are included in Appendix B and C, respectively. Standard operating procedures for the specified logging and sampling tasks are available upon request.

### 3.1 Investigation and Sampling Activities

AAI conducted field sampling activities on November 25, 2014. A total of four soil borings were advanced to terminal depths of approximately 25 feet below ground surface (bgs) at the Property. Additionally, seven vapor samples were collected from widespread shallow soil gas and sub-slab vapor borings. Drilling activities were conducted using direct-push drilling equipment operated by Pacific Soil and Water, Inc. of Tualatin, Oregon. Groundwater was not encountered in any of the borings.

AAI directed investigation activities using the following approach:

- **Former Gas Station:** Soil borings B-2 and B-4, and soil gas boring SG-3, were advanced at accessible portions of the subject Property near the former gas station. These sample locations were intended to evaluate potential fuel impacts related to this historic feature.
- **Potential Dry Well:** Soil boring B-4 and soil gas boring SG-3 were evaluated near the catch basin/potential dry well features.
- **Former Grease Pit:** Soil boring B-1 was advanced near the former grease pit area.
- **Heating Oil UST:** AAI advanced one soil boring (B-3) adjacent to the heating oil UST discovered during this investigation on November 25, 2014. As described in Section 3.3, a heating oil tank contractor advanced two additional soil borings at the ends of this UST for decommissioning evaluation and cost estimating purposes.
- **Vapor Intrusion Assessment:** Sub-slab vapor samples (SSV-1 through SSV-3) were collected at three locations beneath the Property building floor to evaluate general vapor intrusion concerns.



- **General Site Characterization:** Soil gas borings SG-1, SG-2, and SG-4 were advanced at other locations to provide general site characterization.

### **3.1.1 Subsurface Conditions**

Subsurface conditions observed during the site investigation were generally consistent among borings. The ground surface is covered by asphalt in the northern area and by grass/topsoil or gravel in the area south of the existing building. Surficial topsoil and asphalt were underlain by silty sand and sand to the maximum depths explored (25 feet). Groundwater was not encountered during drilling. Soil descriptions and observations during drilling are presented on the boring logs (Appendix A).

### **3.1.2 Soil Sampling**

At each boring location, AAI retrieved, examined, and logged continuous soil cores in five foot long segments during drilling. Soil samples were observed for discoloration, sheen, odor, and screened for the presence of volatile organic vapors using a photo ionization detector (PID). Soil samples were collected for laboratory analysis based on field screening results and conditions observed. Field observations, sampling intervals, and field screening measurements are included in the boring logs (Appendix A).

No obvious signs of chemical contamination or unusual fill materials were observed in any of the borings. Therefore, AAI submitted soil samples collected from each boring at depths of 5 and 10 feet for laboratory analytical testing. Additional soil samples were collected from each boring at five-foot intervals and archived for possible supplemental analysis.

Soil samples were placed in laboratory prepared containers, sealed, labeled, placed in a cooler with ice, and transported to under chain-of-custody to Apex Laboratory of Tigard, Oregon, for laboratory analysis. Analytical results are summarized in Section 4.

### **3.1.3 Soil Gas and Sub-Slab Vapor Sampling**

Four shallow soil gas borings (SG-1 through SG-4) were advanced to five feet bgs on the Property using a drill rig equipped with a dedicated post-run tubing (PRT) sampler. In addition, three sub-slab vapor samples (SSV-1 through SSV-3) were collected immediately beneath the concrete floor of the Property building, at depths of approximately 0.5 to 1 feet using a dedicated stainless steel sampling tip.



At each vapor sampling location, the borehole surface annulus was sealed with hydrated bentonite. An adequate surface seal was confirmed in the field using shrouded helium tracer gas and a direct-reading helium leak-detection system. After verifying the surface seal (see below), AAI purged the Teflon sample tubing and collected soil gas and vapor samples using laboratory certified 1-liter Summa canisters fitted with 0.7-micron in-line filters and 200 milliliter-per-minute flow controllers.

During soil gas purging and after sampling activities, helium tracer gas was not detected at significant concentrations in gas purged from the sample tubing, using a direct-read-instrument (confirming no actionable sample system leaks). Published vapor intrusion guidance indicates that helium leak testing is sufficient when tracer gas concentrations below 5% by volume are observed (ODEQ, 2010). AAI measured maximum helium concentrations of 0.01% during field leak testing, confirming an adequate seal for sampling in accordance with standard technical protocols.

The presence of VOCs in purged soil vapor was also qualitatively evaluated in the field using a PID. No VOCs were detected by PID screening at any of these vapor sample locations. Soil gas and sub-slab vapor samples were shipped under chain-of-custody to Eurofins/Air Toxics Laboratory of Folsom, California, for quantitative analytical testing. Soil gas and vapor sampling field notes are presented in Appendix A.

### **3.2 Geophysical Survey**

On November 26, 2014, Pacific Geophysics of Portland, Oregon, conducted a geophysical survey of the subject Property. The purpose of the survey was to clarify and/or scan for possible USTs related to the existing vacant building, former service station, and former residence. Additional survey goals included evaluating suspect metallic objects and a potential drywell near a catch basin.

The Property was surveyed using a recording magnetometer in flat, accessible areas around the existing building. Where anomalies were identified, ground penetrating radar (GPR) and hand-held instruments were used to further evaluate these areas.

The results of the survey report one buried, ferrous object in the area of the former residence, located southwest of the existing building. Based on the size, characteristics, and location of the object, Pacific Geophysics interpreted this feature to be an underground storage tank (UST), which is consistent with likely historic use as a HOT.



Two possible drywells were detected near the catch basin located north of the existing building. No other buried objects were found in the areas surveyed. The geophysical survey report is included in Appendix B.

### **3.3 Heating Oil UST Assessment**

Based on the results of the geophysical survey, a possible abandoned heating oil UST was identified in the area of the former residence, located southwest of the existing Property building. On December 2, 2014, Alpha Environmental Services, Inc. (Alpha) of Beaverton, Oregon, conducted an assessment of the heating oil UST for decommissioning purposes. The assessment confirmed the presence of an approximately 745-gallon heating oil UST. Per ODEQ heating oil UST decommissioning requirements, soil samples were collected below each end of the tank to evaluate for a potential release of its contents. A total of two soil samples were submitted by Alpha under chain-of-custody protocol to Apex Labs of Tigard, Oregon, for analysis of diesel- and heavy oil-range petroleum hydrocarbons by Method NWTPH-Dx.

Analytical results indicate hydrocarbons were either not detected at concentrations greater than the laboratory method reporting limits, or the combined diesel- and heavy oil-range concentration is less than 50 milligrams per kilogram (mg/kg) in each of the two samples. Alpha reports that the heating oil UST does not appear to have leaked at actionable levels, based on ODEQ guidance. Alpha's December 4, 2014 Site Assessment report is included in Appendix C.

### **3.4 Investigation-Derived Waste**

A small volume of soil cuttings and wash water generated during the November 2014 field activities were placed into a 55-gallon steel drum, labeled, sealed, and staged on-site, pending analytical results. Based on low level detections of heavy-oil range petroleum hydrocarbons in site soil samples (as noted in Section 3.3), we recommend that investigation derived waste be disposed of at a Subtitle D landfill.



## **4.0 CHEMICAL ANALYTICAL RESULTS**

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AAI submitted select soil samples to Apex Laboratory and vapor samples to Eurofins/Air Toxics Laboratory for analytical testing in accordance with the AAI proposal, and as supported by field observations. Chemical analytical results are discussed below and summarized in Tables 1 through 3. Laboratory results and chain-of-custody documentation are presented in Appendix D.

### **4.1 Regulatory Screening Criteria**

Chemical analytical testing results are compared to a range of ODEQ Risk-Based Concentrations (RBCs) for various potential human receptor scenarios (ODEQ, 2012). These RBC screening levels are presented for reference on Tables 1 through 3.

### **4.2 Soil Analytical Results**

AAI submitted a total of eight soil samples (two per boring) for testing of hydrocarbon identification by Method NWTPH-HCID and volatile organic compounds (VOCs) by EPA Method 8260B. No indications of chemical impacts were identified among any of the soil samples analyzed, as summarized below and on Table 1.

- **Hydrocarbon Identification:** Petroleum hydrocarbons were not detected among any of the eight soil samples analyzed.
- **Volatile Organic Compounds:** VOC analysis was performed on six samples collected from the historic gasoline station and greasing areas of the Property to evaluate whether underlying volatile constituents (e.g. solvents, which may not be indicated by the HCID analysis) were present among these samples. No VOCs were detected among the six samples analyzed.
- **Other Compounds:** Based on the uniform absence of petroleum and VOC contaminants among analyzed soil samples, no further soil testing was conducted for fuels quantification or other related compounds such as polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), or lead.

### **4.3 Soil Gas and Sub-Slab Vapor Analytical Results**

Four soil gas samples (SG-1 through SG-4) and three sub-slab vapor samples (SSV-1 through SSV 3) were collected at the Property and submitted for VOC analysis by EPA Method TO-15. Tracer gas testing (helium by ASTM Method 1946) was also conducted



for leak-check quality control. Soil gas and sub-slab vapor chemical analytical results are summarized below and on Tables 2 and 3, respectively.

- **VOCs:** One or more VOCs were detected in each of the seven samples submitted for analysis. However, VOC concentrations were far below the most conservative ODEQ risk-based regulatory screening criteria (for residential receptors) in all seven of the vapor samples.
- **Helium:** In accordance with published ODEQ vapor intrusion guidance, AAI performed leak testing using helium tracer gas prior to sample collection. Using a Dielectric Helium Leak Detector, helium was field-measured during sampling at concentrations at or below 100 parts per million by volume (ppmV) or 0.01%, indicating tracer gas concentrations in the sample system were nearly 1,000 times below the ODEQ-referenced acceptable upper limit tracer gas concentration (5%), and sample integrity was confirmed based on the field data (Appendix A). Quantitative laboratory analytical results indicate helium was detected at concentrations of 12 and 28% in two (SSV-3 and SG-4) of the seven vapor samples, indicating a slight leak in the sampling system at these locations. Based on a review of the Property-wide soil gas and sub-slab vapor results which were generally consistent at low concentrations, and given the absence of detected VOCs in site soil, analytical data from samples SG-4 and SSV-3 appear suitable for qualitative use at this site and in our opinion do not appear representative of high vapor concentrations in this area.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

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AAI conducted limited environmental site investigation tasks in November and December 2014 to evaluate potential subsurface impacts related to historic use/operations at the Property, as identified in AAI's November 14, 2014, Phase I ESA report. The results of this investigation indicate the following:

- No subsurface impacts exceeding ODEQ's most conservative residential risk-based screening criteria were identified in the areas explored.
  - Contaminants of interest were not identified among any of eight soil samples collected at widespread Property locations.
  - Organic vapors were detected in shallow subsurface samples, at concentrations far below residential soil gas and sub-slab vapor screening criteria.
- One approximately 745-gallon heating oil UST is present in the area of the former residence. Soil samples collected from beneath the ends of the tank indicate no



evidence of a release as defined by ODEQ, and tank decommissioning is appropriate.

- One or two drywells may be located near the catch basin on the northern portion of the Property. Soil and soil gas samples collected near these features do not indicate evidence of obvious environmental impact in this area.

## 6.0 LIMITATIONS

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AAI has prepared this report for Metro. This report may be made available to other parties and to regulatory agencies at the discretion of AAI and/or Metro or if required by law. This report is not intended for use by others and the information contained herein is not applicable to other sites.

Our interpretation of site and/or subsurface conditions is based on field observations and chemical analytical data within the areas explored. Areas with contamination may exist in portions of the site that were not explored or analyzed.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices and laws, rules, and regulations at the time that the report was prepared. No other conditions, expressed or implied, should be understood.

Any comments or questions regarding this report are welcome. Thank you for the opportunity to be of service.

Assessment Associates, Inc.

Prepared by:

Reviewed by:

Michael T. O'Connor, R.G., R.E.A.  
President



Date: December 9, 2014

# Tables

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Table 1 – Soil Analytical Results

Table 2 – Soil Gas Analytical Results

Table 3 – Sub-Slab Vapor Analytical Results

**TABLE 1**  
**Soil Analytical Results (mg/kg)**  
 0.69-Acre Commercial Property  
 Portland, Oregon

Location	Date	Depth (feet)	Gasoline	Diesel	Oil	VOCs
B-1(4-5)	11/25/14	4-5	25 U	62 U	124 U	Varies U
B-1(9-10)	11/25/14	9-10	22 U	56 U	111 U	Varies U
B-2(4-5)	11/25/14	4-5	24 U	61 U	121 U	Varies U
B-2(9-10)	11/25/14	9-10	22 U	55 U	110 U	Varies U
B-3(4-5)	11/25/14	4-5	26 U	65 U	130 U	Varies U
B-3(9-10)	11/25/14	9-10	21 U	54 U	107 U	Varies U
B-4(4-5)	11/25/14	4-5	26 U	65 U	129 U	Varies U
B-4(9-10)	11/25/14	9-10	23 U	56 U	113 U	Varies U
<b>Soil Screening Level Criteria</b>						
Residential Direct Contact <sup>a</sup>			1,200	1,100	1,100	Varies <sup>l</sup>
Urban Residential Direct Contact <sup>b</sup>			2,500	2,200	2,200	Varies <sup>l</sup>
Occupational Direct Contact <sup>c</sup>			20,000	14,000	14,000	Varies <sup>l</sup>
Construction Worker Direct Contact <sup>d</sup>			9,700	4,600	4,600	Varies <sup>l</sup>
Excavation Worker Direct Contact <sup>e</sup>			>Max	>Max	>Max	Varies <sup>l</sup>
Residential Volatilization to Outdoor Air <sup>f</sup>			5,900	>Max	>Max	Varies <sup>l</sup>
Urban Residential Volatilization to Outdoor Air <sup>g</sup>			5,900	>Max	>Max	Varies <sup>l</sup>
Occupational Volatilization to Outdoor Air <sup>h</sup>			69,000	>Max	>Max	Varies <sup>l</sup>
Residential Vapor Intrusion <sup>i</sup>			94	>Max	>Max	Varies <sup>l</sup>
Urban Residential Vapor Intrusion <sup>j</sup>			94	>Max	>Max	Varies <sup>l</sup>
Occupational Vapor Intrusion <sup>k</sup>			>Max	>Max	>Max	Varies <sup>l</sup>

**Notes:**

- <sup>a</sup> Department of Environmental Quality (DEQ), Generic risk-based concentration (RBC) for soil ingestion, dermal contact, and inhalation in a residential setting (revised June 7, 2012)
  - <sup>b</sup> DEQ, RBCs for soil ingestion, dermal contact, and inhalation in an urban residential setting (revised June 7, 2012)
  - <sup>c</sup> DEQ, RBCs for soil ingestion, dermal contact, and inhalation in an occupational setting (revised June 7, 2012)
  - <sup>d</sup> DEQ, RBCs for soil ingestion, dermal contact, and inhalation for a construction worker (revised June 7, 2012)
  - <sup>e</sup> DEQ, RBCs for soil ingestion, dermal contact, and inhalation for an excavation worker (revised June 7, 2012)
  - <sup>f</sup> DEQ, RBCs for soil volatilization to outdoor air in a residential setting (revised June 7, 2012)
  - <sup>g</sup> DEQ, RBCs for soil volatilization to outdoor air in an urban residential setting (revised June 7, 2012)
  - <sup>h</sup> DEQ, RBCs for soil volatilization to outdoor air in an occupational setting (revised June 7, 2012)
  - <sup>i</sup> DEQ, RBCs for soil vapor intrusion into buildings in a residential setting (revised June 7, 2012)
  - <sup>j</sup> DEQ, RBCs for soil vapor intrusion into buildings in an urban residential setting (revised June 7, 2012)
  - <sup>k</sup> DEQ, RBCs for soil vapor intrusion into buildings in an occupational setting (revised June 7, 2012)
  - <sup>l</sup> VOCs did not exceed respective RBCs
- Gasoline, Diesel and Oil Range Hydrocarbons by Method NWTTPH-HCID  
 Volatile organic compounds (VOCs) by Method EPA 8260B  
 mg/kg = Milligrams per kilogram  
 U = Undetected at method reporting limit shown  
 ND = No VOC detections were reported  
 NA = Not available  
 >Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg. Therefore, this substance is deemed not to pose risks in this scenario.

**TABLE 2**  
**Soil Gas Analytical Results (ug/m<sup>3</sup>)**  
 0.69-Acre Commercial Property  
 Portland, Oregon

Location	Date	Depth (feet)	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	1,2,4-TMB	TCE	Helium (%)
SG-1	11/25/14	5	7.6	18	6.9	13	6.6	8.5	13	0.11 U
SG-2	11/25/14	5	6.3	13	5.1 U	7.6	5.1 U	5.8 U	6.3 U	0.12 U
SG-3	11/25/14	5	25	28	5.9	20	8.5	12	6.5 U	0.12 U
SG-4	11/25/14	5	20	110	6.8	21	8.2	8.2	6.5 U	28
<b>Soil Gas Screening Level Criteria</b>										
Residential Vapor Intrusion <sup>a</sup>			62	1,000,000	190	21,000	21,000	1,500	86	NA
Urban Residential Vapor Intrusion <sup>b</sup>			170	1,000,000	530	21,000	21,000	1,500	200	NA
Occupational Vapor Intrusion <sup>c</sup>			1,600	22,000,000	4,900	440,000	440,000	31,000	2,900	NA

**Notes:**

<sup>a</sup> Department of Environmental Quality (DEQ), Generic risk-based concentration (RBC) for soil gas vapor intrusion into buildings in a residential setting (revised June 7, 2012)

<sup>b</sup> DEQ, RBCs for soil gas vapor intrusion into buildings in an urban residential setting (revised June 7, 2012)

<sup>c</sup> DEQ, RBCs for soil gas vapor intrusion into buildings in an occupational setting (revised June 7, 2012)

Volatile organic compounds by Method EPA TO-15

Helium by Method Modified ASTM D-1946 (reported in %)

ug/m<sup>3</sup> = micrograms per cubic meter

TMB = Trimethylbenzene

TCE = Trichloroethene

U = Undetected at method reporting limit shown

**TABLE 3**  
**Sub Slab Vapor Analytical Results (ug/m<sup>3</sup>)**  
 0.69-Acre Commercial Property  
 Portland, Oregon

Location	Date	Depth (feet)	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	1,2,4-TMB	TCE	Helium (%)
SSV-1	11/25/14	0.5-1	3.7 U	15	5.0 U	12	5.0 U	9.4	6.3 U	0.12 U
SSV-2	11/25/14	0.5-1	3.8 U	9.5	5.2 U	6.9	5.2 U	5.9 U	6.4 U	0.12 U
SSV-3	11/25/14	0.5-1	15 U	49	21 U	47	21 U	23 U	26 U	12
<b>SubSlab Vapor Screening Level Criteria</b>										
Residential Inhalation <sup>a</sup>			310	5,200,000	970	100,000	100,000	7,300	440	NA
Urban Residential Inhalation <sup>b</sup>			850	5,200,000	2,700	100,000	100,000	7,300	1,000	NA
Occupational Inhalation <sup>c</sup>			1,600	22,000,000	4,900	440,000	440,000	31,000	3,000	NA

**Notes:**

<sup>a</sup> Department of Environmental Quality (DEQ), Generic risk-based concentration (RBC) for air inhalation in a residential setting (revised June 7, 2012) (multiplied by 1,000 for a sub-slab screening level)

<sup>b</sup> DEQ, RBCs for air inhalation in an urban residential setting (revised June 7, 2012) (multiplied by 1,000 for a sub-slab screening level)

<sup>c</sup> DEQ, RBCs for air inhalation in an occupational setting (revised June 7, 2012) (multiplied by 1,000 for a sub-slab screening level)

Volatile organic compounds by Method EPA TO-15

Helium by Method Modified ASTM D-1946 (reported in %)

ug/m<sup>3</sup> = micrograms per cubic meter

TMB = Trimethylbenzene

TCE = Trichloroethene

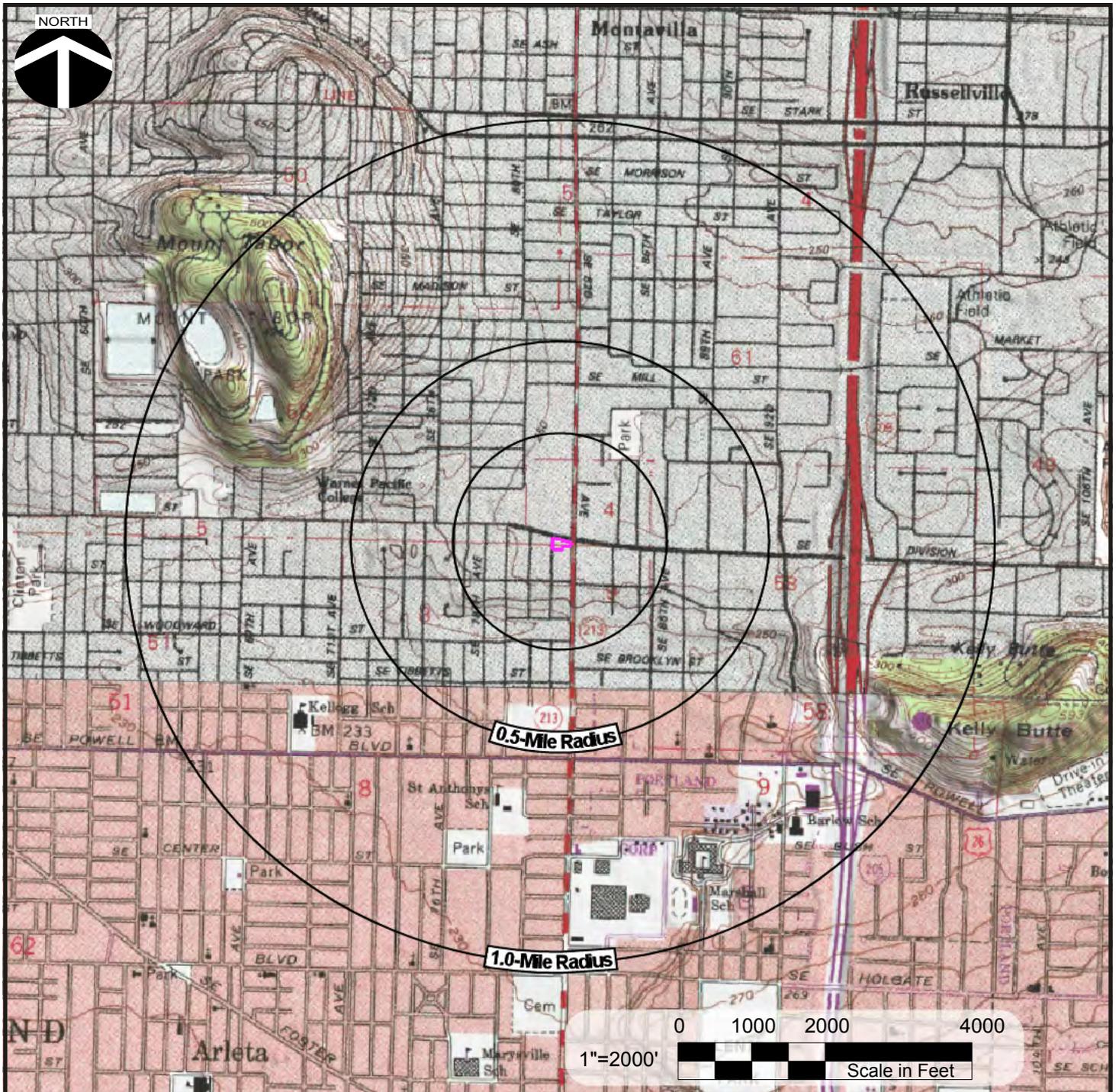
U = Undetected at method reporting limit shown

# Figures

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Figure 1 – Vicinity Map

Figure 2 – Site Features and Sample Locations



Base Map: USGS 7.5-Minute Quadrangles, Mount Tabor and Portland, Oregon, 2014

Property Boundary

### FIGURE 1

#### Site Location Map

Phase II Environmental Site Investigation  
 0.69-Acre Commercial Property  
 2517 SE 82nd Avenue, Portland, Oregon

AAI Project No. 1408

December 2014



We due diligence so you don't have to.

**Assessment Associates, Inc.**

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2014 Aerial Photograph Source: PortlandMaps  
 1950 Sanborn Fire Insurance Map: Multnomah County Library

**LEGEND**

- Property Boundary
- Storm Water Catch Basin
- Possible Drywell
- Soil Borings B-1, B-2, B-3
- Sub-Slab Vapor Samples SSV-1, SSV-2, SSV-3
- Soil Gas Samples SG-1, SG-2, SG-3
- Heating Oil Tank Assessment Boring Locations

**Figure 2- Site Features and Sample Locations**  
 Phase II Environmental Site Investigation  
 0.69-Acre Commercial Property  
 2517 SE 82nd Avenue, Portland, Oregon

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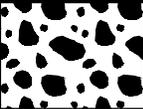
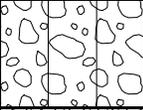
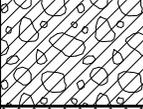
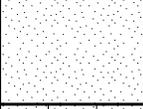
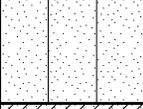
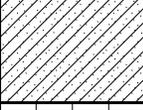
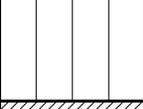
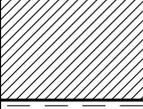
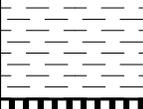
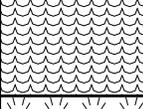
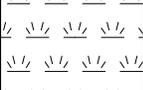
**AAI** Assessment Associates, Inc.  
 Environmental Consulting  
 1735 SE Morrison Street, Suite 1,  
 Portland, Oregon 97214  
 Phone 503.233.8565 • Fax 503.296.2638

# Appendix A

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Soil Boring Logs and Vapor Sampling Field Notes

# SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS	
			GRAPH	LETTER		
<p><b>COARSE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</p>	<p>GRAVEL AND GRAVELLY SOILS</p> <p>(LITTLE OR NO FINES)</p>	CLEAN GRAVELS		<b>GW</b>	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES	
		(LITTLE OR NO FINES)		<b>GP</b>	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES	
		GRAVELS WITH FINES		<b>GM</b>	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES	
	<p>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</p>	(APPRECIABLE AMOUNT OF FINES)		<b>GC</b>	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES	
		<p>SAND AND SANDY SOILS</p> <p>(LITTLE OR NO FINES)</p>	CLEAN SANDS		<b>SW</b>	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			(LITTLE OR NO FINES)		<b>SP</b>	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	<p>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</p>	SANDS WITH FINES		<b>SM</b>	SILTY SANDS, SAND - SILT MIXTURES	
		(APPRECIABLE AMOUNT OF FINES)		<b>SC</b>	CLAYEY SANDS, SAND - CLAY MIXTURES	
		<p><b>FINE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</p>	<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT LESS THAN 50</p>		<b>ML</b>	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				<b>CL</b>	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
	<b>OL</b>			ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY		
<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT GREATER THAN 50</p>			<b>MH</b>	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS		
			<b>CH</b>	INORGANIC CLAYS OF HIGH PLASTICITY		
			<b>OH</b>	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS		
<p>HIGHLY ORGANIC SOILS</p>				<b>PT</b>	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

START CARD - WELL ID -  
 COORDINATES  
 SURFACE ELEVATION - DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
				NS	90		ASPHALT (AC)		
5	B-1 (4-5)	Grab	1.2	NS	90		Brown silty SAND (SM); moist, sand is fine to medium.		
10	B-1 (9-10)	Grab	2.3	NS	90		Brown SAND (SP), trace fine sand; moist, sand is medium.  Becomes medium to coarse sand.		
15			2.3	NS	90				
20			3.1	NS	90				
25			2.7	NS					
							Boring complete at 25 feet. No groundwater encountered. Backfilled borehole with granular bentonite.		

EES LOG WITH WELL & SHEEN - LOG A EWMN03.GDT - 12/5/14 17:41 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\2030-01 BORING LOGS 120514.GPJ

DRILLING CONTRACTOR **Pacific Soil and Water**  
 DRILLING METHOD **Direct Push**  
 DRILLING EQUIPMENT **AMS Powerprobe 9500-VTR**  
 DRILLING STARTED **11/25/14** ENDED **11/25/14**

REMARKS  
  
 See key sheet for symbols and abbreviations used above.

START CARD - WELL ID -  
 COORDINATES  
 SURFACE ELEVATION - DATUM

EES LOG WITH WELL & SHEEN - LOG A EWMN03.GDT - 12/5/14 17:41 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\2030-01 BORING LOGS 120514.GPJ

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
				NS	90		ASPHALT (AC)		
5	B-2 (4-5)	Grab	0.7	NS	90		Brown silty SAND (SM); moist, sand is fine to medium.		
10	B-2 (9-10)	Grab	2.0	NS	90		Brown SAND (SW) with gravel; moist, sand is fine to medium.		
15			2.1	NS	90				
20			3.0	NS	90				
25			2.7	NS	90				
							Boring complete at 25 feet. No groundwater encountered. Backfilled borehole with granular bentonite.		

DRILLING CONTRACTOR **Pacific Soil and Water**  
 DRILLING METHOD **Direct Push**  
 DRILLING EQUIPMENT **AMS Powerprobe 9500-VTR**  
 DRILLING STARTED **11/25/14** ENDED **11/25/14**

REMARKS  
  
 See key sheet for symbols and abbreviations used above.



EES Environmental Consulting Inc.  
 240 N. Broadway #203  
 Portland, OR 97227  
 Telephone: 503.847.2740

BORING NO. **B-3**  
 PROJECT **0.69-Acre Commercial Property**  
 LOCATION **2517 SE 82nd Ave.**  
 PROJECT NO. **2030-01**  
 LOGGED BY **CJR**

START CARD - WELL ID -  
 COORDINATES  
 SURFACE ELEVATION - DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
				NS	90		Grass and TOPSOIL to 1.5 feet depth.		
							Brown silty SAND (SM); moist, sand is fine to medium.		
5	B-3 (4-5)	Grab	0.4	NS	90		Brown SAND (SW) with gravel; moist, sand is fine to medium.		
10	B-3 (9-10)	Grab	1.7	NS	90		Becomes without fine sand.		
15			3.8	NS	90		Brown SAND (SP) with trace silt; moist, no gravel.		
20			6.0	NS	90		Brown SAND (SP) with trace silt; moist, no gravel.		
25			1.2	NS	90		Trace fine gravel between 24 and 24.5 feet.		
							Boring complete at 25 feet. No groundwater encountered. Backfilled borehole with granular bentonite.		

EES LOG WITH WELL & SHEEN - LOG A EWMN03.GDT - 12/5/14 17:41 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\2030-01 BORING LOGS 120514.GPJ

DRILLING CONTRACTOR **Pacific Soil and Water**  
 DRILLING METHOD **Direct Push**  
 DRILLING EQUIPMENT **AMS Powerprobe 9500-VTR**  
 DRILLING STARTED **11/25/14** ENDED **11/25/14**

REMARKS

See key sheet for symbols and abbreviations used above.



EES Environmental Consulting Inc.  
 240 N. Broadway #203  
 Portland, OR 97227  
 Telephone: 503.847.2740

BORING NO. **B-4** PAGE **1** OF **1**  
 PROJECT **0.69-Acre Commercial Property**  
 LOCATION **2517 SE 82nd Ave.**  
 PROJECT NO. **2030-01**  
 LOGGED BY **CJR**

START CARD - WELL ID -  
 COORDINATES  
 SURFACE ELEVATION - DATUM

EES LOG WITH WELL & SHEEN - LOG A EWMN03.GDT - 12/5/14 17:41 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\2030-01 BORING LOGS 120514.GPJ

SAMPLE INFORMATION						STRATA	DESCRIPTION	CONSTRUCTION DETAIL/ COMMENTS	ELEVATION FEET
DEPTH FEET	LAB SAMPLE ID	SAMPLE TYPE	PID (ppmV)	SHEEN	RECOVERY %				
				NS	90		ASPHALT (AC)		
5	B-4 (4-5)	Grab	0.7	NS	50		Brown silty SAND (SM); moist, sand is fine to medium.		
10	B-4 (9-10)	Grab	2.0	NS	50		Brown SAND (SP), trace fine sand; moist, sand is medium.  Becomes medium to coarse sand.		
15			1.1	NS	90				
20			4.0	NS	90				
25			2.3	NS					
							Boring complete at 25 feet. No groundwater encountered. Backfilled borehole with granular bentonite.		

DRILLING CONTRACTOR **Pacific Soil and Water**  
 DRILLING METHOD **Direct Push**  
 DRILLING EQUIPMENT **AMS Powerprobe 9500-VTR**  
 DRILLING STARTED **11/25/14** ENDED **11/25/14**

REMARKS

See key sheet for symbols and abbreviations used above.

Soil Vapor & Subslab Vapor Sampling Sheet

EES Project No. 2030-01  
 Site Name: Banner Furniture

Location: Portland  
 Install Date: 11-25-14 Sample Date: 11-25-14

**Vapor Probe Construction**

Probe or Sample I.D.: 5/4  
 Screen Material: \_\_\_\_\_  
 Tube or Piping Material: Teflon  
 Tube or Piping Diameter (Nom.): 1/4 Inches  
 Slab Thickness: \_\_\_\_\_ Inches  
 Probe Intake Depth: 100 Inches bgs  
 Sub-Grade Aggregate Material: \_\_\_\_\_

**Indoor Air Information**

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading: \_\_\_\_\_ ppm VOCs

**Purge Volume Calculation:**

Sand Pack Dead Volume = \_\_\_\_\_ mL  
 3/8" Probe Length = \_\_\_\_\_ in (1.0 mL/in) = \_\_\_\_\_ mL  
 1/4" Tubing Length = 120 in (0.37 mL/in) = 44.4 mL  
 Total Dead Volume: 44.4 mL  
 Volumes Purged: 44.4 x 2 = 88.8 mL  
≈ 30 second purge

**Outdoor Air Information**

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )

**Leak Testing:**

Tracer Material: Helium  
 Gas or Liquid? Gas  
 Shroud Used? Yes  
 Concentration in Shroud: 9.2%  
 Summa Train Tight? Yes

**Purge Equipment**

Peristaltic Pump / Purge Canister / Syringe  
 Purge Rate: 200 mL/min  
 Flow Controller Used? yes / no Rate: 200 mL/min

**Subslab Vapor Measurements (During/After Purging)**

Temperature: \_\_\_\_\_ °F  
 Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading (Stable): 0 ppm VOCs  
 Tracer Detected? yes / no  
 Concentration: 0

**Sample Information**

Sample I.D.: SG-1  
 Canister I.D.: 31783  
 Begin Vacuum: 30 in. Hg  
 End Vacuum: 6 in. Hg  
 Begin Sample Time: 1053  
 End Sample Time: 1102  
 Vacuum Gauge I.D.: 30  
 Flow Regulator I.D.: 30538  
 Particulate Filter I.D.: \_\_\_\_\_

Notes:

Volume Calcs: (1 in<sup>3</sup> = 16.39 mL)  
 1/4-inch O.D. (0.170-inch I.D.) Tubing: 0.37 mL per linear inch of tubing  
 3/8-inch O.D. (0.277-inch I.D.) Tubing/Pipe: 1.0 mL per linear inch of tubing/piping

Handheld Meters:  
 RAE 2000 PID: Flow rate = 550 mL/min  
 Gas-Check Helium Meter: Flow rate = 2 mL/min

# EES Environmental Consulting, Inc.

## Soil Vapor & Subslab Vapor Sampling Sheet

EES Project No. 2030-01  
 Site Name: Banner Furniture

Location: Portland  
 Install Date: 11-25-14 Sample Date: 11-25-14

### Vapor Probe Construction

Probe or Sample I.D.: 59-2  
 Screen Material: \_\_\_\_\_  
 Tube or Piping Material: Teflon  
 Tube or Piping Diameter (Nom.): 1/4 Inches  
 Slab Thickness: \_\_\_\_\_ Inches  
 Probe Intake Depth: 60 Inches bgs  
 Sub-Grade Aggregate Material: \_\_\_\_\_

### Indoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading: \_\_\_\_\_ ppm VOCs

### Purge Volume Calculation:

Sand Pack Dead Volume = \_\_\_\_\_ mL  
 3/8" Probe Length = \_\_\_\_\_ in (1.0 mL/in) = \_\_\_\_\_ mL  
 1/4" Tubing Length = 120 in (0.37 mL/in) = \_\_\_\_\_ mL  
 Total Dead Volume: \_\_\_\_\_ mL  
 Volumes Purged: 88.8 mL

### Outdoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )

### Leak Testing:

Tracer Material: Helium  
 Gas or Liquid? Gas  
 Shroud Used? Yes  
 Concentration in Shroud: 18.1%  
 Summa Train Tight? Yes

### Purge Equipment

Peristaltic Pump / Purge Canister / Syringe  
 Purge Rate: 200 mL/min  
 Flow Controller Used? yes / no Rate: 200

### Subslab Vapor Measurements (During/After Purging)

Temperature: \_\_\_\_\_ °F  
 Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading (Stable): 0 ppm VOCs  
 Tracer Detected? yes / no  
 Concentration: 100 ppm (background)

### Sample Information

Sample I.D.: SG-2  
 Canister I.D.: 2442 37312  
 Begin Vacuum: 30 in. Hg  
 End Vacuum: 6 in. Hg  
 Begin Sample Time: 1203  
 End Sample Time: 1210  
 Vacuum Gauge I.D.: \_\_\_\_\_  
 Flow Regulator I.D.: 30554  
 Particulate Filter I.D.: \_\_\_\_\_

Notes:

Volume Calcs: (1 in<sup>3</sup> = 16.39 mL)  
 1/4-inch O.D. (0.170-inch I.D.) Tubing: 0.37 mL per linear inch of tubing  
 3/8-inch O.D. (0.277-inch I.D.) Tubing/Pipe: 1.0 mL per linear inch of tubing/piping

Handheld Meters:  
 RAE 2000 PID: Flow rate = 550 mL/min  
 Gas-Check Helium Meter: Flow rate = 2 mL/min

Soil Vapor & Subslab Vapor Sampling Sheet

EES Project No. 2030-01

Location: Portland

Site Name: Banner Furniture

Install Date: 11-25-14

Sample Date: 11-25-14

Vapor Probe Construction

Probe or Sample I.D.: 56-3  
 Screen Material: \_\_\_\_\_  
 Tube or Piping Material: Teflon  
 Tube or Piping Diameter (Nom.): 1/4 Inches  
 Slab Thickness: \_\_\_\_\_ Inches  
 Probe Intake Depth: 100 Inches bgs  
 Sub-Grade Aggregate Material: \_\_\_\_\_

Indoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( \_\_\_\_\_ )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading: \_\_\_\_\_ ppm VOCs

Purge Volume Calculation:

Sand Pack Dead Volume = \_\_\_\_\_ mL  
 3/8" Probe Length = 1 in (1.0 mL/in) = \_\_\_\_\_ mL  
 1/4" Tubing Length = 120 in (0.37 mL/in) = \_\_\_\_\_ mL  
 Total Dead Volume: \_\_\_\_\_ mL  
 Volumes Purged: 88.8 mL

Outdoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( \_\_\_\_\_ )

Leak Testing:

Tracer Material: Helium  
 Gas or Liquid? Gas  
 Shroud Used? Yes  
 Concentration in Shroud: 10.3%  
 Summa Train Tight? Yes

Purge Equipment

Peristaltic Pump / Purge Canister / Syringe  
 Purge Rate: 200 mL/min  
 Flow Controller Used? (yes) / no Rate: 200

Subslab Vapor Measurements (During/After Purging)

Temperature: \_\_\_\_\_ °F  
 Pressure: \_\_\_\_\_ ( \_\_\_\_\_ )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading (Stable): 0 ppm VOCs  
 Tracer Detected? yes / no  
 Concentration: 0

Sample Information

Sample I.D.: 56-3  
 Canister I.D.: 33713  
 Begin Vacuum: 30 in. Hg  
 End Vacuum: \_\_\_\_\_ in. Hg  
 Begin Sample Time: 1233  
 End Sample Time: 1242  
 Vacuum Gauge I.D.: \_\_\_\_\_  
 Flow Regulator I.D.: 30573  
 Particulate Filter I.D.: \_\_\_\_\_

Notes:

Volume Calcs: (1 in<sup>3</sup> = 16.39 mL)  
 1/4-inch O.D. (0.170-inch I.D.) Tubing: 0.37 mL per linear inch of tubing  
 3/8-inch O.D. (0.277-inch I.D.) Tubing/Pipe: 1.0 mL per linear inch of tubing/piping

Handheld Meters:  
 RAE 2000 PID: Flow rate = 550 mL/min  
 Gas-Check Helium Meter: Flow rate = 2 mL/min

# EES Environmental Consulting, Inc.

## Soil Vapor & Subslab Vapor Sampling Sheet

EES Project No. 2030-01

Location: Portland

Site Name: Banner Furniture

Install Date: 11-25-14

Sample Date: 11-25-14

### Vapor Probe Construction

Probe or Sample I.D.: 56-4  
 Screen Material: \_\_\_\_\_  
 Tube or Piping Material: Teflon  
 Tube or Piping Diameter (Nom.): 1/4 Inches  
 Slab Thickness: 1 Inches  
 Probe Intake Depth: 60 Inches bgs  
 Sub-Grade Aggregate Material: \_\_\_\_\_

### Indoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading: \_\_\_\_\_ ppm VOCs

### Purge Volume Calculation:

Sand Pack Dead Volume = \_\_\_\_\_ mL  
 3/8" Probe Length = \_\_\_\_\_ in (1.0 mL/in) = \_\_\_\_\_ mL  
 1/4" Tubing Length = 170 in (0.37 mL/in) = \_\_\_\_\_ mL  
 Total Dead Volume: \_\_\_\_\_ mL  
 Volumes Purged: 88.8 mL

### Outdoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )

### Leak Testing:

Tracer Material: Helium  
 Gas or Liquid? Gas  
 Shroud Used? Shroud  
 Concentration in Shroud: 14.8% (background)  
 Summa Train Tight? yes

### Purge Equipment

Peristaltic Pump / Purge Canister / Syringe  
 Purge Rate: 200 mL/min  
 Flow Controller Used? (yes / no) Rate: 900

### Subslab Vapor Measurements (During/After Purging)

Temperature: \_\_\_\_\_ °F  
 Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading (Stable): 0 ppm VOCs  
 Tracer Detected? yes (no)  
 Concentration: 75 ppm (background)

### Sample Information

Sample I.D.: 59-4  
 Canister I.D.: 34087  
 Begin Vacuum: 30 in. Hg  
 End Vacuum: 6 in. Hg  
 Begin Sample Time: 1307  
 End Sample Time: 1316  
 Vacuum Gauge I.D.: 20145  
 Flow Regulator I.D.: \_\_\_\_\_  
 Particulate Filter I.D.: \_\_\_\_\_

Notes:

Volume Calcs: (1 in<sup>3</sup> = 16.39 mL)  
 1/4-inch O.D. (0.170-inch I.D.) Tubing: 0.37 mL per linear inch of tubing  
 3/8-inch O.D. (0.277-inch I.D.) Tubing/Pipe: 1.0 mL per linear inch of tubing/piping

Handheld Meters:  
 RAE 2000 PID: Flow rate = 550 mL/min  
 Gas-Check Helium Meter: Flow rate = 2 mL/min

# EES Environmental Consulting, Inc.

## Soil Vapor & Subslab Vapor Sampling Sheet

EES Project No. 2030-01

Location: Portland

Site Name: Banner Furniture

Install Date: 11-25-14

Sample Date: 11-25-14

### Vapor Probe Construction

Probe or Sample I.D.: SSV-1

Screen Material: \_\_\_\_\_

Tube or Piping Material: Teflon

Tube or Piping Diameter (Nom.): \_\_\_\_\_ Inches

Slab Thickness: \_\_\_\_\_ Inches

Probe Intake Depth: 12 Inches bgs

Sub-Grade Aggregate Material: \_\_\_\_\_

### Indoor Air Information

Temperature: \_\_\_\_\_ °F

Barometric Pressure: \_\_\_\_\_ ( )

GEM Readings: \_\_\_\_\_ % O<sub>2</sub>

\_\_\_\_\_ % CO<sub>2</sub>

PID Reading: \_\_\_\_\_ ppm VOCs

### Purge Volume Calculation:

Sand Pack Dead Volume = \_\_\_\_\_ mL

3/8" Probe Length = \_\_\_\_\_ in (1.0 mL/in) = \_\_\_\_\_ mL

1/4" Tubing Length = 84 in (0.37 mL/in) = \_\_\_\_\_ mL

Total Dead Volume: \_\_\_\_\_ mL

Volumes Purged: 62 mL

~20 second purge

### Leak Testing:

Tracer Material: Helium

Gas or Liquid? Gas

Shroud Used? Yes

Concentration in Shroud: 15.51% (1.0% minimum)

Summa Train Tight? Yes

### Outdoor Air Information

Temperature: \_\_\_\_\_ °F

Barometric Pressure: \_\_\_\_\_ ( )

### Purge Equipment

Peristaltic Pump / Purge Canister / Syringe

Purge Rate: 200 mL/min

Flow Controller Used? yes no Rate: 200

### Subslab Vapor Measurements (During/After Purging)

Temperature: \_\_\_\_\_ °F

Pressure: \_\_\_\_\_ ( )

GEM Readings: \_\_\_\_\_ % O<sub>2</sub>

\_\_\_\_\_ % CO<sub>2</sub>

PID Reading (Stable): 0 ppm VOCs

Tracer Detected? yes / no

Concentration: 50 ppm (background)

### Sample Information

Sample I.D.: SSV-1

Canister I.D.: 35618

Begin Vacuum: 30 in. Hg

End Vacuum: 6 in. Hg

Begin Sample Time: 1419

End Sample Time: 1426

Vacuum Gauge I.D.: \_\_\_\_\_

Flow Regulator I.D.: 30474

Particulate Filter I.D.: \_\_\_\_\_

Notes:

Volume Calcs: (1 in<sup>3</sup> = 16.39 mL)  
 1/4-inch O.D. (0.170-inch I.D.) Tubing: 0.37 mL per linear inch of tubing  
 3/8-inch O.D. (0.277-inch I.D.) Tubing/Pipe: 1.0 mL per linear inch of tubing/piping

Handheld Meters:  
 RAE 2000 PID: Flow rate = 550 mL/min  
 Gas-Check Helium Meter: Flow rate = 2 mL/min

# EES Environmental Consulting, Inc.

## Soil Vapor & Subslab Vapor Sampling Sheet

EES Project No. 2030-01

Location: Portland

Site Name: Banner Furniture

Install Date: 11-25-14

Sample Date: 11-25-14

### Vapor Probe Construction

Probe or Sample I.D.: SSIV62

Screen Material: \_\_\_\_\_

Tube or Piping Material: Teflon

Tube or Piping Diameter (Nom.): \_\_\_\_\_ Inches

Slab Thickness: \_\_\_\_\_ Inches

Probe Intake Depth: 12 Inches bgs

Sub-Grade Aggregate Material: \_\_\_\_\_

### Indoor Air Information

Temperature: \_\_\_\_\_ °F

Barometric Pressure: \_\_\_\_\_ ( \_\_\_\_\_ )

GEM Readings: \_\_\_\_\_ % O<sub>2</sub>

\_\_\_\_\_ % CO<sub>2</sub>

PID Reading: \_\_\_\_\_ ppm VOCs

### Purge Volume Calculation:

Sand Pack Dead Volume = \_\_\_\_\_ mL

3/8" Probe Length = \_\_\_\_\_ in (1.0 mL/in) = \_\_\_\_\_ mL

1/4" Tubing Length = 84 in (0.37 mL/in) = \_\_\_\_\_ mL

Total Dead Volume: \_\_\_\_\_ mL

Volumes Purged: 62 mL

### Outdoor Air Information

Temperature: \_\_\_\_\_ °F

Barometric Pressure: \_\_\_\_\_ ( \_\_\_\_\_ )

### Leak Testing:

Tracer Material: Helium

Gas or Liquid? Gas

Shroud Used? Yes

Concentration in Shroud: 15.0%

Summa Train Tight? Yes

### Purge Equipment

Peristaltic Pump / Purge Canister / Syringe

Purge Rate: 200 mL/min

Flow Controller Used? yes / no Rate: 200

### Subslab Vapor Measurements (During/After Purging)

Temperature: \_\_\_\_\_ °F

Pressure: \_\_\_\_\_ ( \_\_\_\_\_ )

GEM Readings: \_\_\_\_\_ % O<sub>2</sub>

\_\_\_\_\_ % CO<sub>2</sub>

PID Reading (Stable): 0 ppm VOCs

Tracer Detected? yes / (no)

Concentration: 0 ppm

### Sample Information

Sample I.D.: SSIV62

Canister I.D.: 37718

Begin Vacuum: 30 in. Hg

End Vacuum: 6 in. Hg

Begin Sample Time: 1443

End Sample Time: 1449

Vacuum Gauge I.D.: \_\_\_\_\_

Flow Regulator I.D.: 30457

Particulate Filter I.D.: \_\_\_\_\_

Notes:

Volume Calcs: (1 in<sup>3</sup> = 16.39 mL)  
 1/4-inch O.D. (0.170-inch I.D.) Tubing: 0.37 mL per linear inch of tubing  
 3/8-inch O.D. (0.277-inch I.D.) Tubing/Pipe: 1.0 mL per linear inch of tubing/piping

Handheld Meters:  
 RAE 2000 PID: Flow rate = 550 mL/min  
 Gas-Check Helium Meter: Flow rate = 2 mL/min

Soil Vapor & Subslab Vapor Sampling Sheet

EES Project No. 2030-01

Location: Portland

Site Name: Banner Furniture

Install Date: 11-25-14

Sample Date: 11-25-14

Vapor Probe Construction

Probe or Sample I.D.: SSV-3  
 Screen Material: 1  
 Tube or Piping Material: Teflon  
 Tube or Piping Diameter (Nom.): \_\_\_\_\_ Inches  
 Slab Thickness: \_\_\_\_\_ Inches  
 Probe Intake Depth: 12 Inches bgs  
 Sub-Grade Aggregate Material: \_\_\_\_\_

Indoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading: \_\_\_\_\_ ppm VOCs

Purge Volume Calculation:

Sand Pack Dead Volume = \_\_\_\_\_ mL  
 3/8" Probe Length = \_\_\_\_\_ in (1.0 mL/in) = \_\_\_\_\_ mL  
 1/4" Tubing Length = 84 in (0.37 mL/in) = \_\_\_\_\_ mL  
 Total Dead Volume: \_\_\_\_\_ mL  
 Volumes Purged: 62 mL

Outdoor Air Information

Temperature: \_\_\_\_\_ °F  
 Barometric Pressure: \_\_\_\_\_ ( )

Leak Testing:

Tracer Material: Helium  
 Gas or Liquid? gas  
 Shroud Used? yes  
 Concentration in Shroud: 20%  
 Summa Train Tight? yes

Purge Equipment

Peristaltic Pump / Purge Canister / Syringe  
 Purge Rate: 200 mL/min  
 Flow Controller Used? yes no Rate: 200

Subslab Vapor Measurements (During/After Purging)

Temperature: \_\_\_\_\_ °F  
 Pressure: \_\_\_\_\_ ( )  
 GEM Readings: \_\_\_\_\_ % O<sub>2</sub>  
 \_\_\_\_\_ % CO<sub>2</sub>  
 PID Reading (Stable): 0 ppm VOCs  
 Tracer Detected? yes / no  
 Concentration: 0 ppm

Sample Information

Sample I.D.: SSV-3  
 Canister I.D.: 34637  
 Begin Vacuum: 30 in. Hg  
 End Vacuum: 6 in. Hg  
 Begin Sample Time: 1517  
 End Sample Time: 1524  
 Vacuum Gauge I.D.: 20125  
 Flow Regulator I.D.: \_\_\_\_\_  
 Particulate Filter I.D.: \_\_\_\_\_

Notes:

Volume Calcs: (1 in<sup>3</sup> = 16.39 mL)  
 1/4-inch O.D. (0.170-inch I.D.) Tubing: 0.37 mL per linear inch of tubing  
 3/8-inch O.D. (0.277-inch I.D.) Tubing/Pipe: 1.0 mL per linear inch of tubing/piping

Handheld Meters:  
 RAE 2000 PID: Flow rate = 550 mL/min  
 Gas-Check Helium Meter: Flow rate = 2 mL/min

# Appendix B

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Geophysical Survey Report



# GEOPHYSICAL SURVEY REPORT

Vacant Lots  
8114 SE Division Street  
Portland, Oregon

Project Number: 141111  
Survey Date: November 26, 2014

Prepared for:

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## Introduction

Pacific Geophysics conducted a geophysical survey at the above address for AAI Consultants. The scope of the survey was to detect possible underground storage tanks (USTs) related to an existing vacant building, a former service station and a former residence. Additional goals included investigating four metallic objects detected by a utility locator previously and locating a possible drywell near a catch basin.

A recording magnetometer was used to scan the flat, open areas around the current building. Ground penetrating radar (GPR) and hand-held instruments were used to investigate several magnetic anomalies discovered during the magnetometer survey and the previously detected anomalies. GPR was used to investigate the area around the catch basin.

One buried, ferrous object that is interpreted to be a UST was found in the grass-covered lot south of the building. No other suspicious objects were found, including the areas marked by the utility locator. Two possible drywells were detected near the catch basin.

This report includes descriptions of the site, the scope of work, the equipment and methodology and the results of the survey.

## Site Description

Figure 1 shows the location of the Site. The survey area is asphalt- and grass-covered. No evidence of a tank was noticed around the building. The service station structure was located off site in what is now SE Division Street; only the area south of the former station building was included in this survey (figure 1). The residence was located in the grassy lot south of the building. Only a driveway remains.

Several surface objects created significant magnetic interference that limited the effectiveness of all the metal-detecting instruments. These included parked cars in the lot and along SE 81<sup>st</sup> Avenue, the building, bollards and fencing along the south and east edges of the south lot. The magnetometer data were unusable within about 8 feet of the cars.

## Scope of Work

The goal of the survey was to detect possible USTs from the former service station, the former residence and the current building. Additional goals included investigating four anomalies marked by a utility locating company in the parking lot and determining a catch basin's drainage.

Jeff Mann and Nikos Tzetos of Pacific Geophysics conducted the survey for AAI Consultants on November 26, 2014. Mr. Michael O'Connor of AAI was on site during part of the fieldwork. This report was written by Nikos Tzetos, reviewed by Jeff Mann and emailed to Mr. O'Connor on December 2, 2014.

## Geophysical Equipment and Survey Procedures

### **General Procedures:**

A magnetometer is the first instrument used to investigate a site for subsurface ferrous metallic objects because it enables the operator to rapidly scan the subsurface. Data are collected across an accurately measured survey grid established on the site. For larger areas, where it would be difficult to set up an accurate survey grid, the magnetometer can be coupled to a GPS antenna.

Upon completing the data acquisition phase of the survey, a contour map of the earth's local magnetic field is produced. Small, hand-held metal detectors are then used to more thoroughly investigate the magnetic anomalies detected with the magnetometer. These instruments are excellent at detecting and characterizing buried metal objects; however, they do not record data, and are not adequate to survey large areas.

Ground Penetrating Radar (GPR) is usually the last method used to investigate a site for buried metallic objects. The shape of radar reflections produced by buried objects may assist in the interpretation of magnetic anomalies.

### **Magnetic Survey:**

At this site, a Geometrics G-858-G Portable Cesium Magnetometer was used to acquire the magnetic data. Magnetic data were collected along an orthogonal survey grid established over the survey area with measuring tapes. For most UST or pit surveys a line spacing of 5-feet is used. Data points along lines are spaced about 1-foot apart at normal walking speed. Data collected along sidewalks are usually spaced 2 ½ feet apart.

A colored contour map showing the earth's local magnetic field was created in the field. Magnetic anomalies higher in amplitude than the normal local magnetic background are shown in red, and are usually found over areas where ferrous objects are located below the sensor. The objects may be surface objects such as manholes or other surface features, or buried objects of interest, such as USTs, drums, pipes and debris. Magnetic anomalies at or below the amplitude of the local magnetic field are shown in blue, and are caused by ferrous objects located above the sensor, such as buildings, poles, chain-link fences and other surface objects.

Surface objects including buildings, cars, and fences can produce significant magnetic interference that can conceal buried objects of interest.

### **Hand-held instruments:**

An Aqua-Tronics A6 Tracer and a Schonstedt GA92XTd magnetic gradiometer are used to locate and investigate the anomalies detected by the magnetometer. These instruments can pinpoint the peaks and troughs of the anomalies, and in many cases determine if an object is linear (pipe or utility) or three-dimensional (UST). Because they are small, they may be used to scan areas inaccessible to the recording magnetometer. Neither records data.

The transmitter unit of a Radio Detection RD8000 PDL pipe and cable detector may be used to electrically charge an accessible metal pipe or utility. The charged object

can then be “traced” using the receiver unit. The receiver can also detect some metallic features indirectly, using the system’s “radio” function.

### **Ground Penetrating Radar:**

Following the hand-held instrument survey, a GSSI SIR-2000 GPR system coupled to a 270 or 400 MHz antenna may be used to investigate suspicious magnetic anomalies. Radar reflections across the anomalies may give clues to the size and shape of the buried metallic objects producing them. Objects themselves are not actually seen. Under some conditions, a 900 MHz antenna may be used to investigate shallow features and small pipes. This antenna has greater resolution but less power so it cannot penetrate to depths of more than 2 or 3 feet. Because of its smaller aperture the signal may be able to pass between strands of rebar depending on their spacing.

The collection of radar data is very time consuming and the data may be ambiguous; therefore, GPR is not a cost-effective method to “blindly” scan a site for buried metallic objects. Radar is, however, one of the only methods capable of detecting non-metallic features, including PVC and clay pipes, septic tanks, drywells, trenches and excavations.

GPR data may be collected on a grid when searching for non-conductive features like UST pits or pipes.

GPR is used in borehole clearance surveys: parallel traverses in orthogonal directions are taken and the profiles are inspected in the field. Boreholes may be moved to clear locations, based on the interpretation of the radar data.

Additional information regarding these instruments, methods, surveys and limitations with references can be found in the Appendix.

## **Results**

The colored magnetic contour map is shown in Figure 2, contoured using an interval of 250 nT. Blue contours are generally caused by ferrous objects situated above the magnetometer sensor. Red contours are produced by ferrous objects below the sensor, including surface features and buried objects. USTs produce red-colored contours.

Several large anomalies were detected but most are caused by surface features.

Magnetic anomaly A is interpreted to be caused by a buried UST, measuring 5 feet by 9 feet and buried 12 inches below the surface. It is shown in figure 3, an interpretation map of our results. It was touched using a metal soil probe.

Anomaly B is caused by a metallic fence/trellis system for berry plants.

Cars 1 and 2 were moved after the completion of the data collection. The areas were scanned with hand-held instruments; no metallic objects were detected.

No anomalies from USTs were detected near the building.

The anomalies detected by the utility-locating company (C-F) were scanned with GPR and hand-held instruments. C, E and F were caused by non-3D objects. D was caused by a conductive pipe.

Several pipes were seen in the vicinity of the catch basin; they are believed to be older and current drain pipes connecting the catch basin to the city storm sewer. Two suspicious disturbed-soil zones near the catch basin may be possible drywells. They are shown in figure 3.

## Conclusion

One UST was detected in the former residential lot south of the building. No other tanks were detected with this survey.

Four anomalous locations marked by a utility-locating company were scanned. No 3D objects were detected with hand-held instruments and GPR.

Two disturbed-soil zones were detected near a catch basin in the parking lot. They are interpreted to be possible drywells.

## Limitations

The conclusions presented in this report were based upon widely accepted geophysical principles, methods and equipment. This survey was conducted with limited knowledge of the site, the site history and the subsurface conditions.

The goal of near-surface geophysics is to provide a rapid means of characterizing the subsurface using non-intrusive methods. Conclusions based upon these methods are generally reliable; however, due to the inherent ambiguity of the methods, no single interpretation of the data can be made. As an example, rocks and roots produce radar reflections that may appear the same as pipes and tanks.

Under reasonable site conditions, geophysical surveys are good at detecting changes in the subsurface caused by manmade objects or changes in subsurface conditions, but they are poor at identifying those objects or subsurface conditions.

Objects of interest are not always detectable due to surface and subsurface conditions. The deeper an object is buried, the more difficult it is to detect, and the less accurately it can be located.

The only way to see an object is to physically expose it.

Jeff Mann  
Pacific Geophysics

December 2, 2014



Nikos Tzetos  
Pacific Geophysics

December 2, 2014

A handwritten signature in cursive script, appearing to read "Nikos Tzetos".



FIGURE

1

Site Location Photo

Project:  
141111

Vacant Building  
8114 SE Division Street  
Portland, Oregon

Drawn by : NT

Prepared for: AAI Consultants

Survey Date: November 26, 2014

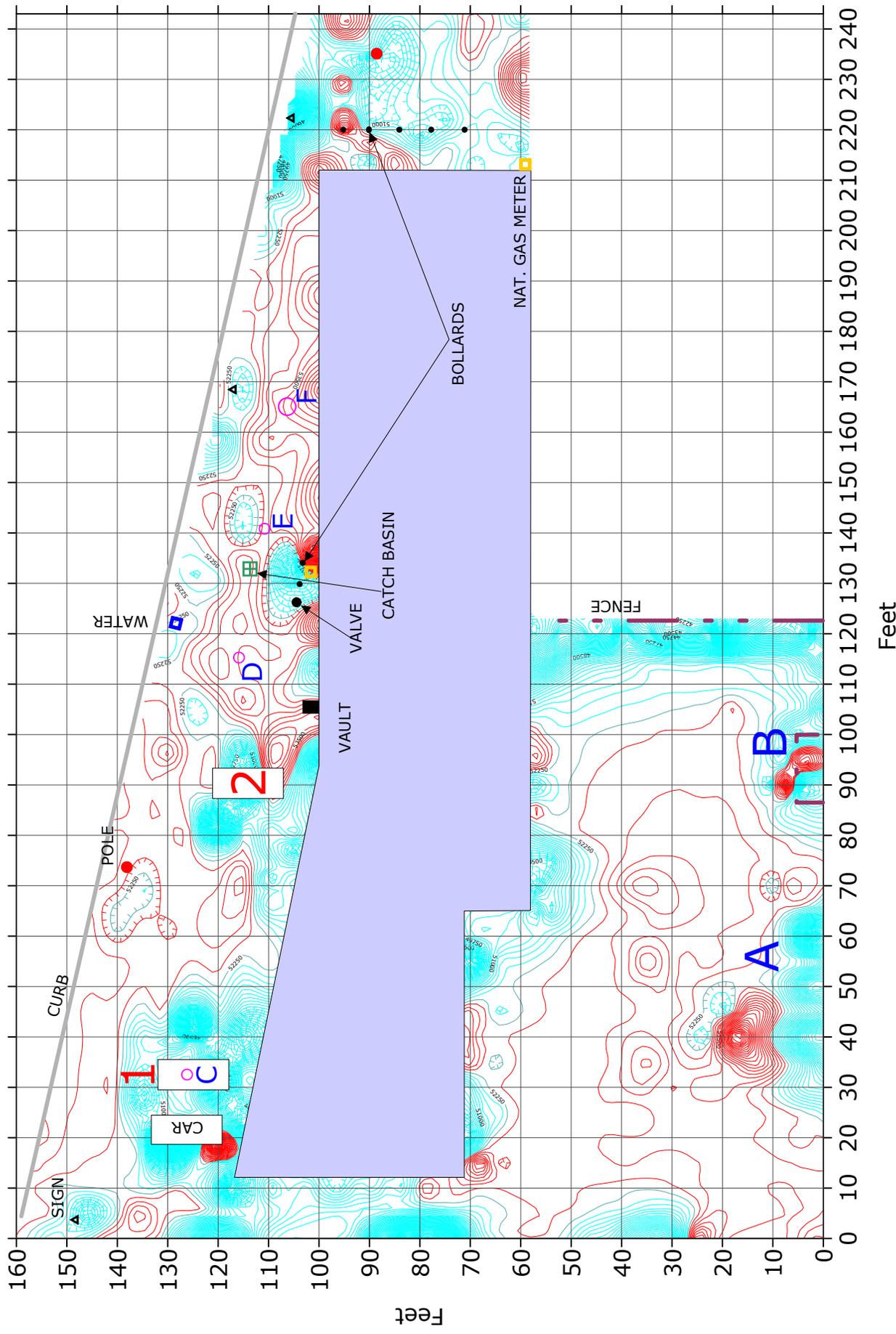


FIGURE	Magnetic Contour Map - C.I. = 250 nT	
	Project: 141111	Vacant Building 8114 SE Division Street Portland, Oregon
	Drawn by : NT	Prepared for: AAI Consultants
		Survey Date: November 26, 2014

2



Feet

**PACIFIC GEOPHYSICS**  
Applied Geophysics

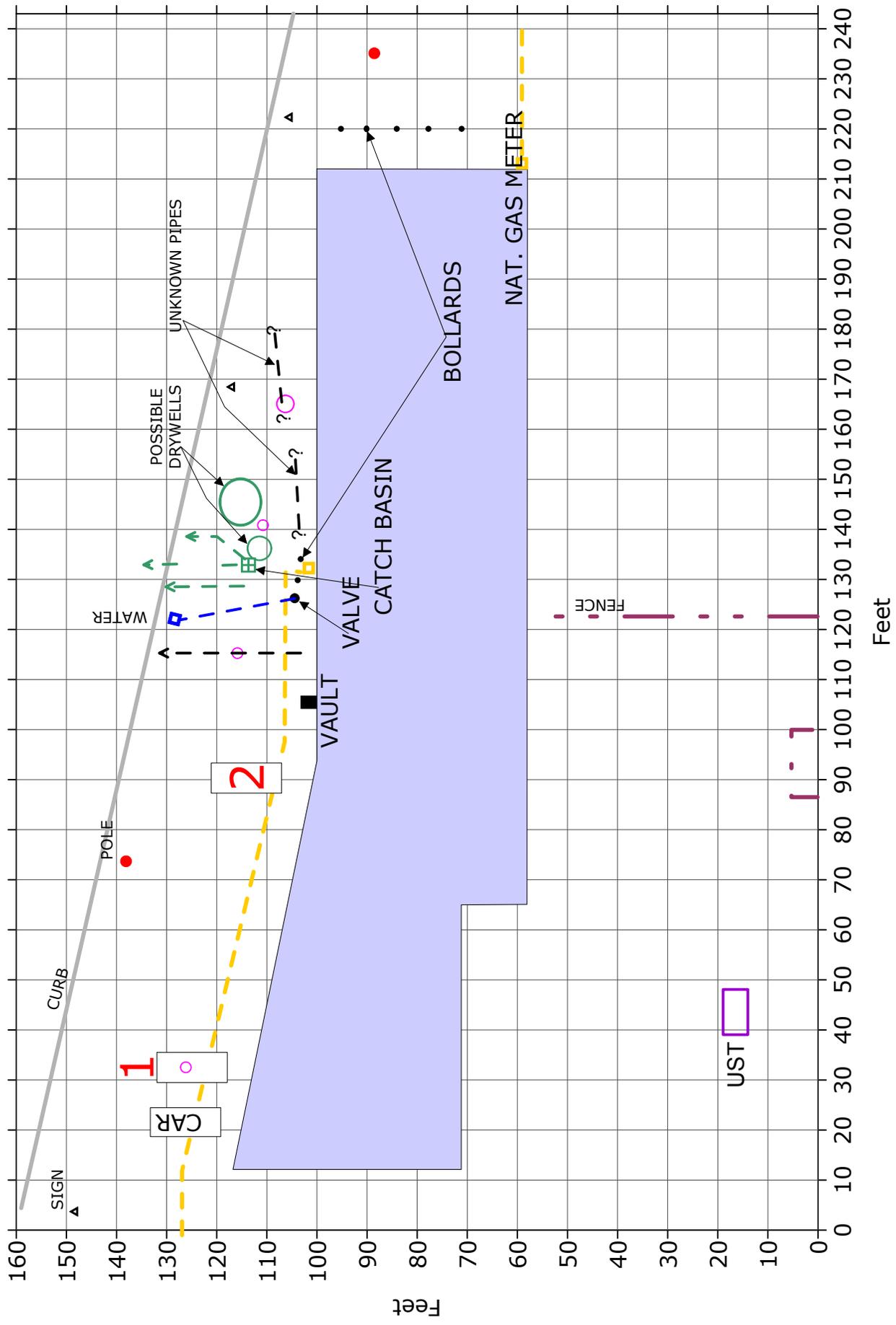


FIGURE 3

Interpretation Map

Project: 141111	Vacant Building 8114 SE Division Street Portland, Oregon
Drawn by : NT	Prepared for: AAI Consultants
Survey Date: November 26, 2014	

**PACIFIC GEOPHYSICS**  
Applied Geophysics

North Arrow

# Appendix A. Geophysical Survey Methods

## Magnetometer Surveys

Small disturbances in the Earth's local magnetic field are called "magnetic anomalies". These may be caused by naturally occurring features such as metallic mineral ore bodies, or from manmade features such as metal buildings, vehicles, fences, and underground storage tanks. The magnetometer only detects changes produced by **ferrous** objects. Aluminum and brass are non-ferrous metals and cannot be detected using a magnetometer.

A magnetometer is an electronic instrument designed to detect small changes in the Earth's local magnetic field. Over the years different technologies have been used in magnetometers. The Geometrics G-858 Portable Cesium Magnetometer used to collect magnetic data for Pacific Geophysics uses one of the most recent methods to detect magnetic anomalies. A detailed discussion describing the method this unit uses is available at [Geometrics.com](http://Geometrics.com).

This magnetometer enables the operator to collect data rapidly and continuously rather than the older instruments that collected data at discreet points only. The G-858 is carried by hand across the site. The sensor is carried at waist level. Typically individual data points collected at normal walking speed are about 6" apart along survey lines usually 5 feet apart, depending on the dimensions of the target objects.

It is critical to know the exact location of each data point so that if an anomaly is detected it can be accurately plotted on a magnetic contour map. At most small sites, data are collected along straight, parallel survey lines set up on the site before the data collection stage begins. For very large, complex sites, the G-858 can be connected to a Global Positioning System (GPS) antenna which allows the operator to collect accurately-located data without establishing a survey grid. With GPS, data are collected and positioned wherever the operator walks. A limitation using GPS is that the GPS antenna must have line of sight with the GPS satellites. Data can be mislocated if the GPS antenna is under trees or near tall buildings.

Data are stored in the unit's memory for later downloading and processing. A magnetic contour map of the data is plotted in the field. Geographical features are plotted on the map. Magnetic anomalies appearing to be caused by objects of interest are then investigated on the site using several small hand-held metal detectors. If an object appears to be a possible object of interest, it may be investigated with GPR.

Magnetic contour maps may be printed in color in order to highlight anomalies caused by ferrous objects located under the magnetic sensor. Usually, ferrous objects situated below the sensor produce magnetic "highs" and anomalies located above the sensor produce magnetic "lows". Magnetic highs are of interest to the operator since most objects of interest are located underground.

Depending on the orientation, shape and mass of a metallic object, a high/low pair of magnetic anomalies may be present. In the northern hemisphere the magnetic low is located north of the object and the magnetic high toward the south. The object producing the anomaly is located part way between the high and the low anomalies.

Magnetometer surveys have limitations. Magnetometers only detect objects made of ferrous (iron-containing) metal. Large ferrous objects (buildings, cars, fences, etc.) within several feet of the magnetometer create interference that may hide the anomaly produced by a nearby object of interest.

### **Ground Penetrating Radar**

A Geophysical Survey Systems, Inc. (GSSI) SIR-2000 GPR system coupled to a 270-MHz GSSI antenna is used to obtain the radar data for our surveys.

The 270-MHz radar antenna used for the surveys is designed to transmit and receive electromagnetic energy. EM energy is transmitted into the material the antenna passes over. A portion of that energy is reflected back to the antenna and amplified. Reflections are displayed in real-time in a continuous cross section. Reflections are produced where there is a sufficient electrical contrast between two materials. Changes in the electrical properties (namely the dielectric constant) that produce radar reflections include the moisture content, porosity, mineralogy, and texture of the material. Metallic objects of interest exhibit a strong electrical contrast with the surrounding material and thus produce relatively strong reflections. Non-metallic objects of interest (septic tanks, cesspools, dry wells, PVC and clay tile pipes) are not always good reflectors.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. In concrete investigations reflections produced by metal rebar look exactly like those from electrical conduit or post-tension cables. Objects with too small an electrical contrast may produce no reflections at all and may be missed.

In addition to interpreting ambiguous data, radar has several limitations that cannot be controlled by the operator. The radar signal is severely attenuated by electrically conductive material, including wet, clay-rich soil and reinforced concrete. The quality of the data is affected by the surface conditions over which the antenna is pulled. Ideally the antenna should rest firmly on a smooth surface. Rough terrain and tall grass reduce the quality of radar data.

It is the job of an experienced interpreter to examine the GPR profiles and deduce if reflections are from objects of interest. A GPR interpreter cannot see underground, but can only interpret reflections based on experience.

The only way to truly identify an object is to excavate.

### **Hand-held Metal detectors**

Two small, non-recording metal detectors are used to locate suspect magnetic anomalies detected using the G-858 Magnetometer in order to determine the likely cause of the anomaly. First, the magnetic contour map and a Schonstedt Magnetic Gradiometer are used to locate the center of the magnetic anomalies.

Once the anomaly is located an Aqua-Tronics Tracer is used to determine if the object producing the anomaly is a possible object of interest. Most anomalies are at least in part produced by features observed on the ground surface.

*Schonstedt Magnetic Gradiometer:* This magnetometer has two magnetic sensors separated vertically by 10". The magnetic field surrounding a ferrous object is strongest near the object and decreases rapidly as the distance increases. If the magnitude measured by the sensor located in the tip of the Schonstedt is very high, and the magnetic field measured by the sensor located farther up the shaft of the Schonstedt is low, there is a large vertical magnetic gradient and the instrument responds with a loud whistle indicating the object is near the surface. If there is a small difference in the magnitudes measured by the two sensors, the object is deeper. The instrument responds with a softer tone. A discussion of this instrument is available at [Schonstedt.com](http://Schonstedt.com).

*Aqua-Tronics A-6 Tracer:* The Aqua-Tronics A-6 Tracer uses a different method of detecting metallic objects. This instrument measures the electrical conductivity of a metal object. It is capable of detecting any electrically conductive metal, including non-ferrous aluminum and brass. The Tracer is capable of detecting three-dimensional objects as well as pipes.

The Tracer consists of a transmitter coil and a receiver coil. In the absence of any electrically conductive material in the vicinity of the Tracer, the electromagnetic field around each coil is balanced.

Basically the electromagnetic field produced by the transmitter induces an electric current into the area surrounding the instrument. Nearby conductive objects distort the EM field. The balance between the two coils is disturbed and the instrument produces an audible tone and meter indication.

# Appendix C

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Heating Oil UST Assessment Report



December 4, 2014

Mike O'Connor and Assessment Associates Inc  
mike@aaiconsulting.com

Site Address – 2517 SE Division Street  
Portland, OR

Project No. 14-10611

Re.: Summary of Site Assessment of Tank at 2517 SE Division Street, Portland, OR

Dear Mike:

Alpha Environmental Services, Inc. (Alpha) performed an Oregon Department of Environmental Quality (DEQ) standard site assessment for the underground heating oil tank at the above-referenced address on December 2, 2014.

The tank is approximately 745 gallons in capacity, and is orientated approximately east-west. Per DEQ requirements, a soil sample was collected no more than six inches from each end of the tank and at a depth of one to two feet below each end of the tank.

Soils appeared by visual and olfactory observation to be free of petroleum contamination. The samples were collected in labeled 4oz glass jars with Teflon lined caps and were placed in a refrigerated cooler for delivery to the an appropriately-licensed laboratory. The samples were taken to Apex Labs, Tigard, Oregon and analyzed by Oregon method NWTPH-Dx. This method tests for diesel ranges of petroleum hydrocarbons (heating oil).

The soil samples were analyzed as non-detect (ND), or having combined diesel and heavy-oil concentrations less than 50 parts per million. Therefore, the DEQ does not consider your tank to have leaked. Please note the DEQ considers these samples as representative of site conditions for 90 days from the original collection date. If the tank is to be decommissioned, it would need to be completed within that time or new samples would need to be collected and analyzed.

If you would like a proposal to decommission your tank or have any questions, please contact us at (503) 292-5346.

Sincerely,

A handwritten signature in black ink, appearing to read "Zachary J. Goodman".

Zachary J. Goodman  
Heating Oil Tank Supervisor

Encl.: Laboratory Analysis and Chain of Custody

Alpha Environmental Services, Inc.  
11080 SW Allen Blvd, Ste. 100, Beaverton, OR 97005  
(503) 292-5346 fax: (503) 203-1516  
info@alphaenvironmental.net  
CCB #152125 DEQ Licensed Service Provider #17703

# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

Alpha Environmental  
11080 SW Allen Blvd, Suite 100  
Beaverton, OR 97005

Project/ #: 2528 SE 81st Ave/14-10611

Project Manager: Zachary Goodman

Reported:  
12/03/14 15:53

## ANALYTICAL SAMPLE RESULTS

### Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>14-10611 EOT 4.5-6.5 (A4L0067-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120063</b>			
Diesel	27.7	---	25.0	mg/kg dry	1	12/03/14 06:06	NWTPH-Dx	F-11
Oil	ND	---	50.0	"	"	"	"	"
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>14-10611 WFOT 4.5-6.5 (A4L0067-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120063</b>			
Diesel	ND	---	25.0	mg/kg dry	1	12/03/14 06:47	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>		"	"	"

DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory.*

DRAFT REPORT, DATA SUBJECT TO CHANGE

Page 3 of 9



# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

Wednesday, December 3, 2014

Zachary Goodman  
Alpha Environmental  
11080 SW Allen Blvd, Suite 100  
Beaverton, OR 97005

RE: 2528 SE 81st Ave/14-10611

Enclosed are the results of analyses for work order A4L006Z, which was received by the laboratory on 12/2/2014 at 5:55:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [DAuvil@apex-labs.com](mailto:DAuvil@apex-labs.com), or by phone at 503-718-2323.

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DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory*

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DRAFT REPORT, DATA SUBJECT TO CHANGE

**Alpha Environmental**  
11080 SW Allen Blvd, Suite 100  
Beaverton, OR 97005

Project#: 2528 SE 81st Ave/14-10611

Project Manager: Zachary Goodman

**Reported:**  
12/03/14 15:53

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
14-10611 EOT 4.5-6.5	A4L0067-01	Soil	12/02/14 14:15	12/02/14 17:55
14-10611 WFOT 4.5-6.5	A4L0067-02	Soil	12/02/14 14:15	12/02/14 17:55

DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory*

<b>Alpha Environmental</b> 11080 SW Allen Blvd, Suite 100 Beaverton, OR 97005	Project/#: <b>2528 SE 81st Ave/14-10611</b>  Project Manager: Zachary Goodman	<b>Reported:</b> 12/03/14 15:53
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## ANALYTICAL SAMPLE RESULTS

### Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>14-10611 EOT 4.5-6.5 (A4L0067-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120063</b>				
Diesel	27.7	---	25.0	mg/kg dry	1	12/03/14 06:06	NWTPH-Dx	F-11
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>14-10611 WFOT 4.5-6.5 (A4L0067-02)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120063</b>				
Diesel	ND	---	25.0	mg/kg dry	1	12/03/14 06:47	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>		"	"	"

DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory*

**Alpha Environmental**  
 11080 SW Allen Blvd, Suite 100  
 Beaverton, OR 97005

Project/#: **2528 SE 81st Ave/14-10611**

Project Manager: Zachary Goodman

**Reported:**  
 12/03/14 15:53

## ANALYTICAL SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>14-10611 EOT 4.5-6.5 (A4L0067-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120044</b>			
% Solids	81.0	---	1.00	% by Weight	1	12/03/14 10:33	EPA 8000C	
<b>14-10611 WFOT 4.5-6.5 (A4L0067-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120044</b>			
% Solids	81.3	---	1.00	% by Weight	1	12/03/14 10:33	EPA 8000C	

DRAFT REPORT

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<b>Alpha Environmental</b> 11080 SW Allen Blvd, Suite 100 Beaverton, OR 97005	Project/#: <b>2528 SE 81st Ave/14-10611</b>  Project Manager: Zachary Goodman	<b>Reported:</b> 12/03/14 15:53
---	---	------------------------------------

## QUALITY CONTROL (QC) SAMPLE RESULTS

### DRAFT: Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120063 - EPA 3546 (Fuels)</b>						<b>Soil</b>						
<b>Blank (4120063-BLK1)</b>						Prepared: 12/02/14 19:32 Analyzed: 12/03/14 03:05						
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<b>LCS (4120063-BS1)</b>						Prepared: 12/02/14 19:32 Analyzed: 12/03/14 03:25						
NWTPH-Dx												
Diesel	113	---	25.0	mg/kg wet	1	125	---	91	76-115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

DRAFT REPORT

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<b>Alpha Environmental</b> 11080 SW Allen Blvd, Suite 100 Beaverton, OR 97005	Project/#: <b>2528 SE 81st Ave/14-10611</b>  Project Manager: Zachary Goodman	<b>Reported:</b> 12/03/14 15:53
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## QUALITY CONTROL (QC) SAMPLE RESULTS

<b>DRAFT: Percent Dry Weight</b>
----------------------------------

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120044 - Total Solids (Dry Weight)</b>							<b>Soil</b>					

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

DRAFT REPORT

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<b>Alpha Environmental</b> 11080 SW Allen Blvd, Suite 100 Beaverton, OR 97005	Project#: <b>2528 SE 81st Ave/14-10611</b>  Project Manager: Zachary Goodman	<b>Reported:</b> 12/03/14 15:53
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### SAMPLE PREPARATION INFORMATION

#### Diesel and Oil Hydrocarbons by NWTPH-Dx

**Prep: EPA 3546 (Fuels)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4120063</b>							
A4L0067-01	Soil	NWTPH-Dx	12/02/14 14:15	12/02/14 19:35	11.87g/5mL	10g/5mL	0.84
A4L0067-02	Soil	NWTPH-Dx	12/02/14 14:15	12/02/14 19:35	11.86g/5mL	10g/5mL	0.84

#### Percent Dry Weight

**Prep: Total Solids (Dry Weight)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4120044</b>							
A4L0067-01	Soil	EPA 8000C	12/02/14 14:15	12/02/14 19:36	1N/A/1N/A	1N/A/1N/A	NA
A4L0067-02	Soil	EPA 8000C	12/02/14 14:15	12/02/14 19:36	1N/A/1N/A	1N/A/1N/A	NA

DRAFT REPORT

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**Alpha Environmental**

11080 SW Allen Blvd, Suite 100  
Beaverton, OR 97005

Project/#: 2528 SE 81st Ave/14-10611

Project Manager: Zachary Goodman

Reported:

12/03/14 15:53

## Notes and Definitions

### Qualifiers:

F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.

### Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

\*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

---

DRAFT REPORT

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Alpha Environmental  
11080 SW Allen Blvd, Suite 100  
Beaverton, OR 97005

Project/#: 2528 SE 81st Ave/14-10611

Project Manager: Zachary Goodman

Reported:  
12/03/14 15:53

Lab # ACTL0067 of       

### CHAIN OF CUSTODY

**APEX LABS**

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: <u>Alpha</u>		Project Name: <u>2528 SE 81st Ave</u>		Project # <u>14-10611</u>	
Address: <u>      </u>		Phone: <u>      </u>		Email: <u>      </u>	
Sampled by: <u>Kent</u>		Fax: <u>      </u>		ANALYSIS REQUEST	
Site Location: OR	WA	<input type="checkbox"/> TCLP Metals (S) <input type="checkbox"/> RCRA Metals (S) <input type="checkbox"/> 608 T10 <input type="checkbox"/> 5053 PCBs <input type="checkbox"/> 4370 SIM PAHs <input type="checkbox"/> 4370 SVOC <input type="checkbox"/> 4360 BTEX <input type="checkbox"/> 4360 RHM VOCs <input type="checkbox"/> 4360 VOC <input type="checkbox"/> NMTH-GX <input type="checkbox"/> NMTH-DX <input type="checkbox"/> NMTH-HCD <input type="checkbox"/> # OF CONTAINERS <input type="checkbox"/> MATRIX <input type="checkbox"/> TIME <input type="checkbox"/> DATE <input type="checkbox"/> LAB ID #			
Other: <u>      </u>					
SAMPLE ID					
<u>Fot 45-6.5</u>					
<u>Wot 45-6.5</u>					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
Normal Turn Around Time (TAT) = 7-10 Business Days					
TAT Requested (circle)		1 Day	2 Day	3 Day	Other: _____
		4 DAY	5 DAY		
SPECIAL INSTRUCTIONS:					
SAMPLES ARE HELD FOR 30 DAYS					
RELINQUISHED BY:		RECEIVED BY:		RECEIVED BY:	
Signature: <u>Kent</u>	Date: <u>12-2-14</u>	Signature: <u>CPB</u>	Date: <u>12-2-14</u>	Signature: _____	Date: _____
Printed Name: <u>Kent Slaffs</u>	Title: <u>DSSI</u>	Printed Name: <u>Chris O'Brien</u>	Title: <u>Transtech</u>	Printed Name: _____	Title: _____
Company: <u>Alpha</u>	Company: <u>Apex</u>	Company: _____	Company: _____	Company: _____	Company: _____

DRAFT REPORT

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# Appendix D

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Laboratory Reports

# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

Friday, December 5, 2014

Chris Rhea  
EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

RE: Banner Furniture / 2030-01

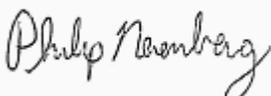
Enclosed are the results of analyses for work order A4K0747, which was received by the laboratory on 11/26/2014 at 12:57:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [pnerenberg@apex-labs.com](mailto:pnerenberg@apex-labs.com), or by phone at 503-718-2323.

---

Apex Laboratories



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

---

Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:17

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1(4-5)	A4K0747-01	Soil	11/25/14 08:00	11/26/14 12:57
B-1(9-10)	A4K0747-02	Soil	11/25/14 08:05	11/26/14 12:57
B-2(4-5)	A4K0747-06	Soil	11/25/14 08:35	11/26/14 12:57
B-2(9-10)	A4K0747-07	Soil	11/25/14 08:40	11/26/14 12:57
B-3(4-5)	A4K0747-11	Soil	11/25/14 09:50	11/26/14 12:57
B-3(9-10)	A4K0747-12	Soil	11/25/14 09:55	11/26/14 12:57
B-4(4-5)	A4K0747-16	Soil	11/25/14 13:30	11/26/14 12:57
B-4(9-10)	A4K0747-17	Soil	11/25/14 13:35	11/26/14 12:57

Apex Laboratories



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Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:17

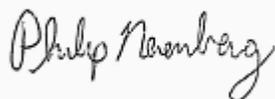
## ANALYTICAL SAMPLE RESULTS

### Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	24.8	mg/kg dry	1	11/27/14 00:17	NWTPH-HCID	
Diesel Range Organics	ND	---	62.1	"	"	"	"	
Oil Range Organics	ND	---	124	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 79 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			76 %		Limits: 50-150 %		"	"
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	22.2	mg/kg dry	1	11/27/14 00:41	NWTPH-HCID	
Diesel Range Organics	ND	---	55.5	"	"	"	"	
Oil Range Organics	ND	---	111	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 95 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			91 %		Limits: 50-150 %		"	"
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	24.2	mg/kg dry	1	11/27/14 01:05	NWTPH-HCID	
Diesel Range Organics	ND	---	60.5	"	"	"	"	
Oil Range Organics	ND	---	121	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 84 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			80 %		Limits: 50-150 %		"	"
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	22.0	mg/kg dry	1	11/27/14 01:29	NWTPH-HCID	
Diesel Range Organics	ND	---	55.1	"	"	"	"	
Oil Range Organics	ND	---	110	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 92 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			88 %		Limits: 50-150 %		"	"
<b>B-3(4-5) (A4K0747-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	26.0	mg/kg dry	1	11/27/14 01:53	NWTPH-HCID	
Diesel Range Organics	ND	---	64.9	"	"	"	"	
Oil Range Organics	ND	---	130	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 86 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			82 %		Limits: 50-150 %		"	"
<b>B-3(9-10) (A4K0747-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	21.4	mg/kg dry	1	11/27/14 02:18	NWTPH-HCID	
Diesel Range Organics	ND	---	53.6	"	"	"	"	
Oil Range Organics	ND	---	107	"	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

**EES Environmental Inc**  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

**Reported:**  
 12/05/14 10:17

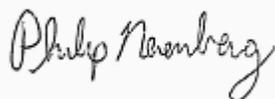
## ANALYTICAL SAMPLE RESULTS

### Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B-3(9-10) (A4K0747-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>	1	"	NWTPH-HCID	
<i>4-Bromofluorobenzene (Surr)</i>			96 %	<i>Limits: 50-150 %</i>	"	"	"	
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	25.9	mg/kg dry	1	11/27/14 02:42	NWTPH-HCID	
Diesel Range Organics	ND	---	64.7	"	"	"	"	
Oil Range Organics	ND	---	129	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 81 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			77 %	<i>Limits: 50-150 %</i>	"	"	"	
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	22.5	mg/kg dry	1	11/27/14 03:06	NWTPH-HCID	
Diesel Range Organics	ND	---	56.3	"	"	"	"	
Oil Range Organics	ND	---	113	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			86 %	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:17

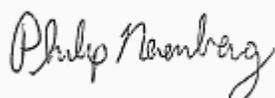
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
Acetone	ND	---	1360	ug/kg dry	50	12/03/14 18:54	5035/8260B	
Benzene	ND	---	17.0	"	"	"	"	
Bromobenzene	ND	---	34.0	"	"	"	"	
Bromochloromethane	ND	---	68.0	"	"	"	"	
Bromodichloromethane	ND	---	68.0	"	"	"	"	
Bromoform	ND	---	68.0	"	"	"	"	
Bromomethane	ND	---	68.0	"	"	"	"	
2-Butanone (MEK)	ND	---	1360	"	"	"	"	
n-Butylbenzene	ND	---	68.0	"	"	"	"	
sec-Butylbenzene	ND	---	68.0	"	"	"	"	
tert-Butylbenzene	ND	---	68.0	"	"	"	"	
Carbon tetrachloride	ND	---	34.0	"	"	"	"	
Chlorobenzene	ND	---	34.0	"	"	"	"	
Chloroethane	ND	---	68.0	"	"	"	"	
Chloroform	ND	---	68.0	"	"	"	"	
Chloromethane	ND	---	34.0	"	"	"	"	
2-Chlorotoluene	ND	---	68.0	"	"	"	"	
4-Chlorotoluene	ND	---	68.0	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	34.0	"	"	"	"	
Dibromochloromethane	ND	---	136	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	34.0	"	"	"	"	
Dibromomethane	ND	---	68.0	"	"	"	"	
1,2-Dichlorobenzene	ND	---	34.0	"	"	"	"	
1,3-Dichlorobenzene	ND	---	34.0	"	"	"	"	
1,4-Dichlorobenzene	ND	---	34.0	"	"	"	"	
Dichlorodifluoromethane	ND	---	136	"	"	"	"	
1,1-Dichloroethane	ND	---	34.0	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	34.0	"	"	"	"	
1,1-Dichloroethene	ND	---	34.0	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	34.0	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	34.0	"	"	"	"	
1,2-Dichloropropane	ND	---	34.0	"	"	"	"	
1,3-Dichloropropane	ND	---	68.0	"	"	"	"	
2,2-Dichloropropane	ND	---	68.0	"	"	"	"	
1,1-Dichloropropene	ND	---	68.0	"	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:17

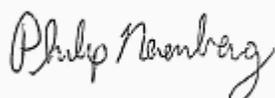
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
cis-1,3-Dichloropropene	ND	---	68.0	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	68.0	"	"	"	"	
Ethylbenzene	ND	---	34.0	"	"	"	"	
Hexachlorobutadiene	ND	---	136	"	"	"	"	
2-Hexanone	ND	---	1360	"	"	"	"	
Isopropylbenzene	ND	---	68.0	"	"	"	"	
4-Isopropyltoluene	ND	---	68.0	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	680	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	68.0	"	"	"	"	
Methylene chloride	ND	---	340	"	"	"	"	
Naphthalene	ND	---	136	"	"	"	"	
n-Propylbenzene	ND	---	34.0	"	"	"	"	
Styrene	ND	---	68.0	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	34.0	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	34.0	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	34.0	"	"	"	"	
Toluene	ND	---	68.0	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	340	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	340	"	"	"	"	
1,1,1-Trichloroethane	ND	---	34.0	"	"	"	"	
1,1,2-Trichloroethane	ND	---	34.0	"	"	"	"	
Trichloroethene (TCE)	ND	---	34.0	"	"	"	"	
Trichlorofluoromethane	ND	---	136	"	"	"	"	
1,2,3-Trichloropropane	ND	---	68.0	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	68.0	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	68.0	"	"	"	"	
Vinyl chloride	ND	---	34.0	"	"	"	"	
m,p-Xylene	ND	---	68.0	"	"	"	"	
o-Xylene	ND	---	34.0	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:17

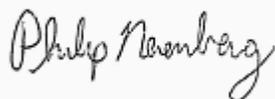
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
Acetone	ND	---	1020	ug/kg dry	50	12/03/14 19:20	5035/8260B	
Benzene	ND	---	12.7	"	"	"	"	
Bromobenzene	ND	---	25.4	"	"	"	"	
Bromochloromethane	ND	---	50.8	"	"	"	"	
Bromodichloromethane	ND	---	50.8	"	"	"	"	
Bromoform	ND	---	50.8	"	"	"	"	
Bromomethane	ND	---	508	"	"	"	"	
2-Butanone (MEK)	ND	---	1020	"	"	"	"	
n-Butylbenzene	ND	---	50.8	"	"	"	"	
sec-Butylbenzene	ND	---	50.8	"	"	"	"	
tert-Butylbenzene	ND	---	50.8	"	"	"	"	
Carbon tetrachloride	ND	---	25.4	"	"	"	"	
Chlorobenzene	ND	---	25.4	"	"	"	"	
Chloroethane	ND	---	508	"	"	"	"	
Chloroform	ND	---	50.8	"	"	"	"	
Chloromethane	ND	---	254	"	"	"	"	
2-Chlorotoluene	ND	---	50.8	"	"	"	"	
4-Chlorotoluene	ND	---	50.8	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	254	"	"	"	"	
Dibromochloromethane	ND	---	102	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	25.4	"	"	"	"	
Dibromomethane	ND	---	50.8	"	"	"	"	
1,2-Dichlorobenzene	ND	---	25.4	"	"	"	"	
1,3-Dichlorobenzene	ND	---	25.4	"	"	"	"	
1,4-Dichlorobenzene	ND	---	25.4	"	"	"	"	
Dichlorodifluoromethane	ND	---	102	"	"	"	"	
1,1-Dichloroethane	ND	---	25.4	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	25.4	"	"	"	"	
1,1-Dichloroethene	ND	---	25.4	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	25.4	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	25.4	"	"	"	"	
1,2-Dichloropropane	ND	---	25.4	"	"	"	"	
1,3-Dichloropropane	ND	---	50.8	"	"	"	"	
2,2-Dichloropropane	ND	---	50.8	"	"	"	"	
1,1-Dichloropropene	ND	---	50.8	"	"	"	"	

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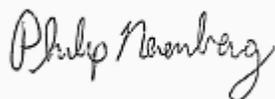
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
cis-1,3-Dichloropropene	ND	---	50.8	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	50.8	"	"	"	"	
Ethylbenzene	ND	---	25.4	"	"	"	"	
Hexachlorobutadiene	ND	---	102	"	"	"	"	
2-Hexanone	ND	---	1020	"	"	"	"	
Isopropylbenzene	ND	---	50.8	"	"	"	"	
4-Isopropyltoluene	ND	---	50.8	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	508	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	50.8	"	"	"	"	
Methylene chloride	ND	---	254	"	"	"	"	
Naphthalene	ND	---	102	"	"	"	"	
n-Propylbenzene	ND	---	25.4	"	"	"	"	
Styrene	ND	---	50.8	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	25.4	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	25.4	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	25.4	"	"	"	"	
Toluene	ND	---	50.8	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	254	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	254	"	"	"	"	
1,1,1-Trichloroethane	ND	---	25.4	"	"	"	"	
1,1,2-Trichloroethane	ND	---	25.4	"	"	"	"	
Trichloroethene (TCE)	ND	---	25.4	"	"	"	"	
Trichlorofluoromethane	ND	---	102	"	"	"	"	
1,2,3-Trichloropropane	ND	---	50.8	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	50.8	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	50.8	"	"	"	"	
Vinyl chloride	ND	---	25.4	"	"	"	"	
m,p-Xylene	ND	---	50.8	"	"	"	"	
o-Xylene	ND	---	25.4	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>104 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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 Project Number: 2030-01  
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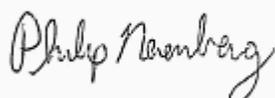
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
Acetone	ND	---	1290	ug/kg dry	50	12/03/14 19:46	5035/8260B	
Benzene	ND	---	16.1	"	"	"	"	
Bromobenzene	ND	---	32.2	"	"	"	"	
Bromochloromethane	ND	---	64.4	"	"	"	"	
Bromodichloromethane	ND	---	64.4	"	"	"	"	
Bromoform	ND	---	64.4	"	"	"	"	
Bromomethane	ND	---	64.4	"	"	"	"	
2-Butanone (MEK)	ND	---	1290	"	"	"	"	
n-Butylbenzene	ND	---	64.4	"	"	"	"	
sec-Butylbenzene	ND	---	64.4	"	"	"	"	
tert-Butylbenzene	ND	---	64.4	"	"	"	"	
Carbon tetrachloride	ND	---	32.2	"	"	"	"	
Chlorobenzene	ND	---	32.2	"	"	"	"	
Chloroethane	ND	---	64.4	"	"	"	"	
Chloroform	ND	---	64.4	"	"	"	"	
Chloromethane	ND	---	32.2	"	"	"	"	
2-Chlorotoluene	ND	---	64.4	"	"	"	"	
4-Chlorotoluene	ND	---	64.4	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	32.2	"	"	"	"	
Dibromochloromethane	ND	---	129	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	32.2	"	"	"	"	
Dibromomethane	ND	---	64.4	"	"	"	"	
1,2-Dichlorobenzene	ND	---	32.2	"	"	"	"	
1,3-Dichlorobenzene	ND	---	32.2	"	"	"	"	
1,4-Dichlorobenzene	ND	---	32.2	"	"	"	"	
Dichlorodifluoromethane	ND	---	129	"	"	"	"	
1,1-Dichloroethane	ND	---	32.2	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	32.2	"	"	"	"	
1,1-Dichloroethene	ND	---	32.2	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	32.2	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	32.2	"	"	"	"	
1,2-Dichloropropane	ND	---	32.2	"	"	"	"	
1,3-Dichloropropane	ND	---	64.4	"	"	"	"	
2,2-Dichloropropane	ND	---	64.4	"	"	"	"	
1,1-Dichloropropene	ND	---	64.4	"	"	"	"	

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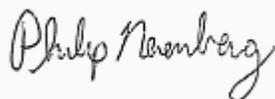
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
cis-1,3-Dichloropropene	ND	---	64.4	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	64.4	"	"	"	"	
Ethylbenzene	ND	---	32.2	"	"	"	"	
Hexachlorobutadiene	ND	---	129	"	"	"	"	
2-Hexanone	ND	---	1290	"	"	"	"	
Isopropylbenzene	ND	---	64.4	"	"	"	"	
4-Isopropyltoluene	ND	---	64.4	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	644	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	64.4	"	"	"	"	
Methylene chloride	ND	---	322	"	"	"	"	
Naphthalene	ND	---	129	"	"	"	"	
n-Propylbenzene	ND	---	32.2	"	"	"	"	
Styrene	ND	---	64.4	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	32.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	32.2	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	32.2	"	"	"	"	
Toluene	ND	---	64.4	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	322	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	322	"	"	"	"	
1,1,1-Trichloroethane	ND	---	32.2	"	"	"	"	
1,1,2-Trichloroethane	ND	---	32.2	"	"	"	"	
Trichloroethene (TCE)	ND	---	32.2	"	"	"	"	
Trichlorofluoromethane	ND	---	129	"	"	"	"	
1,2,3-Trichloropropane	ND	---	64.4	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	64.4	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	64.4	"	"	"	"	
Vinyl chloride	ND	---	32.2	"	"	"	"	
m,p-Xylene	ND	---	64.4	"	"	"	"	
o-Xylene	ND	---	32.2	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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 Portland, OR 97227

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 Project Number: 2030-01  
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 12/05/14 10:17

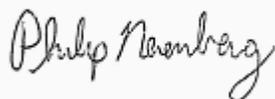
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
Acetone	ND	---	1130	ug/kg dry	50	12/03/14 20:11	5035/8260B	
Benzene	ND	---	14.1	"	"	"	"	
Bromobenzene	ND	---	28.3	"	"	"	"	
Bromochloromethane	ND	---	56.5	"	"	"	"	
Bromodichloromethane	ND	---	56.5	"	"	"	"	
Bromoform	ND	---	56.5	"	"	"	"	
Bromomethane	ND	---	56.5	"	"	"	"	
2-Butanone (MEK)	ND	---	1130	"	"	"	"	
n-Butylbenzene	ND	---	56.5	"	"	"	"	
sec-Butylbenzene	ND	---	56.5	"	"	"	"	
tert-Butylbenzene	ND	---	56.5	"	"	"	"	
Carbon tetrachloride	ND	---	28.3	"	"	"	"	
Chlorobenzene	ND	---	28.3	"	"	"	"	
Chloroethane	ND	---	56.5	"	"	"	"	
Chloroform	ND	---	56.5	"	"	"	"	
Chloromethane	ND	---	28.3	"	"	"	"	
2-Chlorotoluene	ND	---	56.5	"	"	"	"	
4-Chlorotoluene	ND	---	56.5	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	28.3	"	"	"	"	
Dibromochloromethane	ND	---	113	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	28.3	"	"	"	"	
Dibromomethane	ND	---	56.5	"	"	"	"	
1,2-Dichlorobenzene	ND	---	28.3	"	"	"	"	
1,3-Dichlorobenzene	ND	---	28.3	"	"	"	"	
1,4-Dichlorobenzene	ND	---	28.3	"	"	"	"	
Dichlorodifluoromethane	ND	---	113	"	"	"	"	
1,1-Dichloroethane	ND	---	28.3	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	28.3	"	"	"	"	
1,1-Dichloroethene	ND	---	28.3	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	28.3	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	28.3	"	"	"	"	
1,2-Dichloropropane	ND	---	28.3	"	"	"	"	
1,3-Dichloropropane	ND	---	56.5	"	"	"	"	
2,2-Dichloropropane	ND	---	56.5	"	"	"	"	
1,1-Dichloropropene	ND	---	56.5	"	"	"	"	

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Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:17

## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
cis-1,3-Dichloropropene	ND	---	56.5	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	56.5	"	"	"	"	
Ethylbenzene	ND	---	28.3	"	"	"	"	
Hexachlorobutadiene	ND	---	113	"	"	"	"	
2-Hexanone	ND	---	1130	"	"	"	"	
Isopropylbenzene	ND	---	56.5	"	"	"	"	
4-Isopropyltoluene	ND	---	56.5	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	565	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	56.5	"	"	"	"	
Methylene chloride	ND	---	283	"	"	"	"	
Naphthalene	ND	---	113	"	"	"	"	
n-Propylbenzene	ND	---	28.3	"	"	"	"	
Styrene	ND	---	56.5	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	28.3	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	28.3	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	28.3	"	"	"	"	
Toluene	ND	---	56.5	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	283	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	283	"	"	"	"	
1,1,1-Trichloroethane	ND	---	28.3	"	"	"	"	
1,1,2-Trichloroethane	ND	---	28.3	"	"	"	"	
Trichloroethene (TCE)	ND	---	28.3	"	"	"	"	
Trichlorofluoromethane	ND	---	113	"	"	"	"	
1,2,3-Trichloropropane	ND	---	56.5	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	56.5	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	56.5	"	"	"	"	
Vinyl chloride	ND	---	28.3	"	"	"	"	
m,p-Xylene	ND	---	56.5	"	"	"	"	
o-Xylene	ND	---	28.3	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 107 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>106 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:17

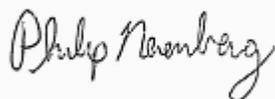
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
Acetone	ND	---	1400	ug/kg dry	50	12/03/14 20:37	5035/8260B	
Benzene	ND	---	17.5	"	"	"	"	
Bromobenzene	ND	---	35.1	"	"	"	"	
Bromochloromethane	ND	---	70.2	"	"	"	"	
Bromodichloromethane	ND	---	70.2	"	"	"	"	
Bromoform	ND	---	70.2	"	"	"	"	
Bromomethane	ND	---	702	"	"	"	"	
2-Butanone (MEK)	ND	---	1400	"	"	"	"	
n-Butylbenzene	ND	---	70.2	"	"	"	"	
sec-Butylbenzene	ND	---	70.2	"	"	"	"	
tert-Butylbenzene	ND	---	70.2	"	"	"	"	
Carbon tetrachloride	ND	---	35.1	"	"	"	"	
Chlorobenzene	ND	---	35.1	"	"	"	"	
Chloroethane	ND	---	702	"	"	"	"	
Chloroform	ND	---	70.2	"	"	"	"	
Chloromethane	ND	---	351	"	"	"	"	
2-Chlorotoluene	ND	---	70.2	"	"	"	"	
4-Chlorotoluene	ND	---	70.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	351	"	"	"	"	
Dibromochloromethane	ND	---	140	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	35.1	"	"	"	"	
Dibromomethane	ND	---	70.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	35.1	"	"	"	"	
1,3-Dichlorobenzene	ND	---	35.1	"	"	"	"	
1,4-Dichlorobenzene	ND	---	35.1	"	"	"	"	
Dichlorodifluoromethane	ND	---	140	"	"	"	"	
1,1-Dichloroethane	ND	---	35.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	35.1	"	"	"	"	
1,1-Dichloroethene	ND	---	35.1	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	35.1	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	35.1	"	"	"	"	
1,2-Dichloropropane	ND	---	35.1	"	"	"	"	
1,3-Dichloropropane	ND	---	70.2	"	"	"	"	
2,2-Dichloropropane	ND	---	70.2	"	"	"	"	
1,1-Dichloropropene	ND	---	70.2	"	"	"	"	

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## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
cis-1,3-Dichloropropene	ND	---	70.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	70.2	"	"	"	"	
Ethylbenzene	ND	---	35.1	"	"	"	"	
Hexachlorobutadiene	ND	---	140	"	"	"	"	
2-Hexanone	ND	---	1400	"	"	"	"	
Isopropylbenzene	ND	---	70.2	"	"	"	"	
4-Isopropyltoluene	ND	---	70.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	702	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	70.2	"	"	"	"	
Methylene chloride	ND	---	351	"	"	"	"	
Naphthalene	ND	---	140	"	"	"	"	
n-Propylbenzene	ND	---	35.1	"	"	"	"	
Styrene	ND	---	70.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	35.1	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	35.1	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	35.1	"	"	"	"	
Toluene	ND	---	70.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	351	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	351	"	"	"	"	
1,1,1-Trichloroethane	ND	---	35.1	"	"	"	"	
1,1,2-Trichloroethane	ND	---	35.1	"	"	"	"	
Trichloroethene (TCE)	ND	---	35.1	"	"	"	"	
Trichlorofluoromethane	ND	---	140	"	"	"	"	
1,2,3-Trichloropropane	ND	---	70.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	70.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	70.2	"	"	"	"	
Vinyl chloride	ND	---	35.1	"	"	"	"	
m,p-Xylene	ND	---	70.2	"	"	"	"	
o-Xylene	ND	---	35.1	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>105 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
Acetone	ND	---	1190	ug/kg dry	50	12/04/14 01:48	5035/8260B	
Benzene	ND	---	14.8	"	"	"	"	
Bromobenzene	ND	---	29.6	"	"	"	"	
Bromochloromethane	ND	---	59.3	"	"	"	"	
Bromodichloromethane	ND	---	59.3	"	"	"	"	
Bromoform	ND	---	59.3	"	"	"	"	
Bromomethane	ND	---	59.3	"	"	"	"	
2-Butanone (MEK)	ND	---	1190	"	"	"	"	
n-Butylbenzene	ND	---	59.3	"	"	"	"	
sec-Butylbenzene	ND	---	59.3	"	"	"	"	
tert-Butylbenzene	ND	---	59.3	"	"	"	"	
Carbon tetrachloride	ND	---	29.6	"	"	"	"	
Chlorobenzene	ND	---	29.6	"	"	"	"	
Chloroethane	ND	---	59.3	"	"	"	"	
Chloroform	ND	---	59.3	"	"	"	"	
Chloromethane	ND	---	29.6	"	"	"	"	
2-Chlorotoluene	ND	---	59.3	"	"	"	"	
4-Chlorotoluene	ND	---	59.3	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	29.6	"	"	"	"	
Dibromochloromethane	ND	---	119	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	29.6	"	"	"	"	
Dibromomethane	ND	---	59.3	"	"	"	"	
1,2-Dichlorobenzene	ND	---	29.6	"	"	"	"	
1,3-Dichlorobenzene	ND	---	29.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	29.6	"	"	"	"	
Dichlorodifluoromethane	ND	---	119	"	"	"	"	
1,1-Dichloroethane	ND	---	29.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	29.6	"	"	"	"	
1,1-Dichloroethene	ND	---	29.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	29.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	29.6	"	"	"	"	
1,2-Dichloropropane	ND	---	29.6	"	"	"	"	
1,3-Dichloropropane	ND	---	59.3	"	"	"	"	
2,2-Dichloropropane	ND	---	59.3	"	"	"	"	
1,1-Dichloropropene	ND	---	59.3	"	"	"	"	

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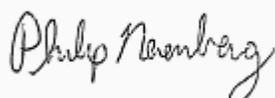
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>		<b>V-16, V-21</b>	
cis-1,3-Dichloropropene	ND	---	59.3	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	59.3	"	"	"	"	
Ethylbenzene	ND	---	29.6	"	"	"	"	
Hexachlorobutadiene	ND	---	119	"	"	"	"	
2-Hexanone	ND	---	1190	"	"	"	"	
Isopropylbenzene	ND	---	59.3	"	"	"	"	
4-Isopropyltoluene	ND	---	59.3	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	593	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	59.3	"	"	"	"	
Methylene chloride	ND	---	296	"	"	"	"	
Naphthalene	ND	---	119	"	"	"	"	
n-Propylbenzene	ND	---	29.6	"	"	"	"	
Styrene	ND	---	59.3	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	29.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	29.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	29.6	"	"	"	"	
Toluene	ND	---	59.3	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	296	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	296	"	"	"	"	
1,1,1-Trichloroethane	ND	---	29.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	29.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	29.6	"	"	"	"	
Trichlorofluoromethane	ND	---	119	"	"	"	"	
1,2,3-Trichloropropane	ND	---	59.3	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	59.3	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	59.3	"	"	"	"	
Vinyl chloride	ND	---	29.6	"	"	"	"	
m,p-Xylene	ND	---	59.3	"	"	"	"	
o-Xylene	ND	---	29.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 109 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>107 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>106 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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## ANALYTICAL SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	78.6	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	88.0	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	80.1	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	83.7	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-3(4-5) (A4K0747-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	79.8	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-3(9-10) (A4K0747-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	90.8	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	76.7	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	85.0	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	

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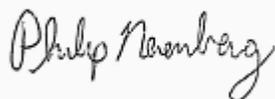
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4110777 - NWTPH-HCID (Soil)</b>						<b>Soil</b>						
<b>Blank (4110777-BLK1)</b>						Prepared: 11/26/14 15:26 Analyzed: 11/26/14 21:03						
<b>NWTPH-HCID</b>												
Gasoline Range Organics	ND	---	18.2	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	45.5	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	---	90.9	"	"	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>		<i>50-150 %</i>		<i>"</i>					
<b>Duplicate (4110777-DUP2)</b>						Prepared: 11/26/14 17:23 Analyzed: 11/27/14 03:30						
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
<b>NWTPH-HCID</b>												
Gasoline Range Organics	ND	---	23.4	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	58.4	"	"	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	117	"	"	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>92 %</i>		<i>50-150 %</i>		<i>"</i>					

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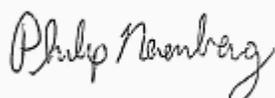
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (4120090-BLK1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 16:45						
<b>5035/8260B</b>												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromoform	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	667	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

**EES Environmental Inc**  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

**Reported:**  
 12/05/14 10:17

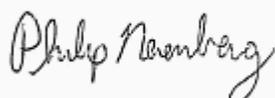
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (4120090-BLK1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 16:45						
cis-1,2-Dichloroethene	ND	---	16.7	ug/kg wet	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	667	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:17

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (4120090-BLK1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 16:45						
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Surr)</i>		<i>103 %</i>		<i>70-130 %</i>		<i>"</i>						
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>70-130 %</i>		<i>"</i>						

### LCS (4120090-BS1)

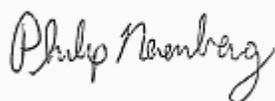
Prepared: 12/03/14 14:00 Analyzed: 12/03/14 15:53

#### 5035/8260B

Acetone	2510	---	1000	ug/kg wet	50	2000	---	125	65-135%	---	---
Benzene	1150	---	12.5	"	"	1000	---	115	"	---	---
Bromobenzene	1070	---	25.0	"	"	"	---	107	"	---	---
Bromochloromethane	1130	---	50.0	"	"	"	---	113	"	---	---
Bromodichloromethane	1200	---	50.0	"	"	"	---	120	"	---	---
Bromoform	1040	---	50.0	"	"	"	---	104	"	---	---
Bromomethane	992	---	500	"	"	"	---	99	"	---	---
2-Butanone (MEK)	2210	---	1000	"	"	2000	---	111	"	---	---
n-Butylbenzene	1120	---	50.0	"	"	1000	---	112	"	---	---
sec-Butylbenzene	1060	---	50.0	"	"	"	---	106	"	---	---
tert-Butylbenzene	1060	---	50.0	"	"	"	---	106	"	---	---
Carbon tetrachloride	1140	---	25.0	"	"	"	---	114	"	---	---
Chlorobenzene	1060	---	25.0	"	"	"	---	106	"	---	---
Chloroethane	950	---	500	"	"	"	---	95	"	---	---
Chloroform	1090	---	50.0	"	"	"	---	109	"	---	---
Chloromethane	1020	---	250	"	"	"	---	102	"	---	---
2-Chlorotoluene	1080	---	50.0	"	"	"	---	108	"	---	---
4-Chlorotoluene	1140	---	50.0	"	"	"	---	114	"	---	---
1,2-Dibromo-3-chloroprop ane	1030	---	250	"	"	"	---	103	"	---	---

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 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:17

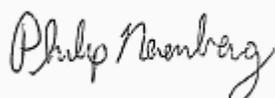
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (4120090-BS1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 15:53						
Dibromochloromethane	1120	---	100	ug/kg wet	"	"	---	112	"	---	---	
1,2-Dibromoethane (EDB)	1020	---	25.0	"	"	"	---	102	"	---	---	
Dibromomethane	1130	---	50.0	"	"	"	---	113	"	---	---	
1,2-Dichlorobenzene	1130	---	25.0	"	"	"	---	113	"	---	---	
1,3-Dichlorobenzene	1120	---	25.0	"	"	"	---	112	"	---	---	
1,4-Dichlorobenzene	1040	---	25.0	"	"	"	---	104	"	---	---	
Dichlorodifluoromethane	1090	---	100	"	"	"	---	109	"	---	---	
1,1-Dichloroethane	1160	---	25.0	"	"	"	---	116	"	---	---	
1,2-Dichloroethane (EDC)	1130	---	25.0	"	"	"	---	113	"	---	---	
1,1-Dichloroethene	1080	---	25.0	"	"	"	---	108	"	---	---	
cis-1,2-Dichloroethene	1140	---	25.0	"	"	"	---	114	"	---	---	
trans-1,2-Dichloroethene	1120	---	25.0	"	"	"	---	112	"	---	---	
1,2-Dichloropropane	1100	---	25.0	"	"	"	---	110	"	---	---	
1,3-Dichloropropane	1060	---	50.0	"	"	"	---	106	"	---	---	
2,2-Dichloropropane	1150	---	50.0	"	"	"	---	115	"	---	---	
1,1-Dichloropropene	1150	---	50.0	"	"	"	---	115	"	---	---	
cis-1,3-Dichloropropene	1090	---	50.0	"	"	"	---	109	"	---	---	
trans-1,3-Dichloropropene	1020	---	50.0	"	"	"	---	102	"	---	---	
Ethylbenzene	1080	---	25.0	"	"	"	---	108	"	---	---	
Hexachlorobutadiene	1170	---	100	"	"	"	---	117	"	---	---	
2-Hexanone	1930	---	1000	"	"	2000	---	97	"	---	---	
Isopropylbenzene	1100	---	50.0	"	"	1000	---	110	"	---	---	
4-Isopropyltoluene	1120	---	50.0	"	"	"	---	112	"	---	---	
4-Methyl-2-pentanone (MiBK)	1930	---	500	"	"	2000	---	97	"	---	---	
Methyl tert-butyl ether (MTBE)	1100	---	50.0	"	"	1000	---	110	"	---	---	
Methylene chloride	1090	---	250	"	"	"	---	109	"	---	---	
Naphthalene	1120	---	100	"	"	"	---	112	"	---	---	
n-Propylbenzene	1100	---	25.0	"	"	"	---	110	"	---	---	
Styrene	1090	---	50.0	"	"	"	---	109	"	---	---	
1,1,1,2-Tetrachloroethane	1050	---	25.0	"	"	"	---	105	"	---	---	

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Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:17

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (4120090-BS1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 15:53						
1,1,2,2-Tetrachloroethane	1100	---	25.0	"	"	"	---	110	"	---	---	
Tetrachloroethene (PCE)	1050	---	25.0	"	"	"	---	105	"	---	---	
Toluene	1030	---	50.0	"	"	"	---	103	"	---	---	
1,2,3-Trichlorobenzene	1130	---	250	"	"	"	---	113	"	---	---	
1,2,4-Trichlorobenzene	1100	---	250	"	"	"	---	110	"	---	---	
1,1,1-Trichloroethane	1140	---	25.0	"	"	"	---	114	"	---	---	
1,1,2-Trichloroethane	1090	---	25.0	"	"	"	---	109	"	---	---	
Trichloroethene (TCE)	1160	---	25.0	"	"	"	---	116	"	---	---	
Trichlorofluoromethane	886	---	100	"	"	"	---	89	"	---	---	
1,2,3-Trichloropropane	1070	---	50.0	"	"	"	---	107	"	---	---	
1,2,4-Trimethylbenzene	1110	---	50.0	"	"	"	---	111	"	---	---	
1,3,5-Trimethylbenzene	1070	---	50.0	"	"	"	---	107	"	---	---	
Vinyl chloride	1160	---	25.0	"	"	"	---	116	"	---	---	
m,p-Xylene	2120	---	50.0	"	"	2000	---	106	"	---	---	
o-Xylene	1020	---	25.0	"	"	1000	---	102	"	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 106 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	105 %	70-130 %	"
Toluene-d8 (Surr)	101 %	70-130 %	"
4-Bromofluorobenzene (Surr)	97 %	70-130 %	"

### Matrix Spike (4120090-MS1)

Prepared: 12/02/14 18:25 Analyzed: 12/04/14 02:14

V-16, V-21

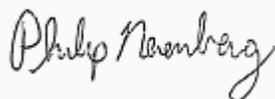
### QC Source Sample: B-4(9-10) (A4K0747-17)

#### 5035/8260B

Acetone	2440	---	1190	ug/kg dry	50	2370	ND	103	65-135%	---	---	
Benzene	1310	---	14.8	"	"	1180	ND	110	"	---	---	
Bromobenzene	1190	---	29.6	"	"	"	ND	100	"	---	---	
Bromochloromethane	1340	---	59.3	"	"	"	ND	113	"	---	---	
Bromodichloromethane	1320	---	59.3	"	"	"	ND	111	"	---	---	
Bromoform	1070	---	59.3	"	"	"	ND	90	"	---	---	
Bromomethane	1070	---	59.3	"	"	"	ND	91	"	---	---	
2-Butanone (MEK)	2270	---	1190	"	"	2370	ND	96	"	---	---	
n-Butylbenzene	1230	---	59.3	"	"	1180	ND	104	"	---	---	

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 Project Number: 2030-01  
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Reported:  
 12/05/14 10:17

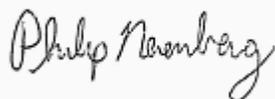
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (4120090-MS1)</b>						Prepared: 12/02/14 18:25 Analyzed: 12/04/14 02:14				V-16, V-21		
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
sec-Butylbenzene	1230	---	59.3	ug/kg dry	"	"	ND	104	"	---	---	
tert-Butylbenzene	1210	---	59.3	"	"	"	ND	102	"	---	---	
Carbon tetrachloride	1340	---	29.6	"	"	"	ND	113	"	---	---	
Chlorobenzene	1170	---	29.6	"	"	"	ND	98	"	---	---	
Chloroethane	1120	---	59.3	"	"	"	ND	95	"	---	---	
Chloroform	1220	---	59.3	"	"	"	ND	103	"	---	---	
Chloromethane	1310	---	29.6	"	"	"	ND	111	"	---	---	
2-Chlorotoluene	1180	---	59.3	"	"	"	ND	100	"	---	---	
4-Chlorotoluene	1340	---	59.3	"	"	"	ND	113	"	---	---	
1,2-Dibromo-3-chloropropane	1050	---	29.6	"	"	"	ND	89	"	---	---	
Dibromochloromethane	1200	---	119	"	"	"	ND	101	"	---	---	
1,2-Dibromoethane (EDB)	1160	---	29.6	"	"	"	ND	98	"	---	---	
Dibromomethane	1260	---	59.3	"	"	"	ND	107	"	---	---	
1,2-Dichlorobenzene	1180	---	29.6	"	"	"	ND	100	"	---	---	
1,3-Dichlorobenzene	1200	---	29.6	"	"	"	ND	101	"	---	---	
1,4-Dichlorobenzene	1120	---	29.6	"	"	"	ND	94	"	---	---	
Dichlorodifluoromethane	1340	---	119	"	"	"	ND	113	"	---	---	
1,1-Dichloroethane	1300	---	29.6	"	"	"	ND	110	"	---	---	
1,2-Dichloroethane (EDC)	1320	---	29.6	"	"	"	ND	112	"	---	---	
1,1-Dichloroethene	1190	---	29.6	"	"	"	ND	100	"	---	---	
cis-1,2-Dichloroethene	1350	---	29.6	"	"	"	ND	114	"	---	---	
trans-1,2-Dichloroethene	1310	---	29.6	"	"	"	ND	111	"	---	---	
1,2-Dichloropropane	1290	---	29.6	"	"	"	ND	109	"	---	---	
1,3-Dichloropropane	1230	---	59.3	"	"	"	ND	104	"	---	---	
2,2-Dichloropropane	1110	---	59.3	"	"	"	ND	94	"	---	---	
1,1-Dichloropropene	1280	---	59.3	"	"	"	ND	108	"	---	---	
cis-1,3-Dichloropropene	1230	---	59.3	"	"	"	ND	104	"	---	---	
trans-1,3-Dichloropropene	1150	---	59.3	"	"	"	ND	97	"	---	---	
Ethylbenzene	1260	---	29.6	"	"	"	ND	106	"	---	---	

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Reported:  
 12/05/14 10:17

## QUALITY CONTROL (QC) SAMPLE RESULTS

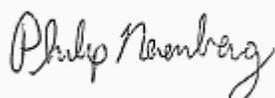
### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (4120090-MS1)</b>						Prepared: 12/02/14 18:25 Analyzed: 12/04/14 02:14				V-16, V-21		
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
Hexachlorobutadiene	1150	---	119	ug/kg dry	"	"	ND	97	"	---	---	
2-Hexanone	2210	---	1190	"	"	2370	ND	93	"	---	---	
Isopropylbenzene	1270	---	59.3	"	"	1180	ND	107	"	---	---	
4-Isopropyltoluene	1250	---	59.3	"	"	"	ND	105	"	---	---	
4-Methyl-2-pentanone (MiBK)	2250	---	593	"	"	2370	ND	95	"	---	---	
Methyl tert-butyl ether (MTBE)	1290	---	59.3	"	"	1180	ND	109	"	---	---	
Methylene chloride	1280	---	296	"	"	"	ND	108	"	---	---	
Naphthalene	1200	---	119	"	"	"	ND	102	"	---	---	
n-Propylbenzene	1300	---	29.6	"	"	"	ND	110	"	---	---	
Styrene	1210	---	59.3	"	"	"	ND	102	"	---	---	
1,1,1,2-Tetrachloroethane	1150	---	29.6	"	"	"	ND	97	"	---	---	
1,1,2,2-Tetrachloroethane	1220	---	29.6	"	"	"	ND	103	"	---	---	
Tetrachloroethene (PCE)	1120	---	29.6	"	"	"	ND	94	"	---	---	
Toluene	1210	---	59.3	"	"	"	ND	103	"	---	---	
1,2,3-Trichlorobenzene	1140	---	296	"	"	"	ND	96	"	---	---	
1,2,4-Trichlorobenzene	1110	---	296	"	"	"	ND	94	"	---	---	
1,1,1-Trichloroethane	1350	---	29.6	"	"	"	ND	114	"	---	---	
1,1,2-Trichloroethane	1280	---	29.6	"	"	"	ND	108	"	---	---	
Trichloroethene (TCE)	1280	---	29.6	"	"	"	ND	108	"	---	---	
Trichlorofluoromethane	1080	---	119	"	"	"	ND	91	"	---	---	
1,2,3-Trichloropropane	1190	---	59.3	"	"	"	ND	100	"	---	---	
1,2,4-Trimethylbenzene	1290	---	59.3	"	"	"	ND	109	"	---	---	
1,3,5-Trimethylbenzene	1290	---	59.3	"	"	"	ND	109	"	---	---	
Vinyl chloride	1460	---	29.6	"	"	"	ND	123	"	---	---	
m,p-Xylene	2450	---	59.3	"	"	2370	ND	104	"	---	---	
o-Xylene	1190	---	29.6	"	"	1180	ND	100	"	---	---	

Surr: Dibromofluoromethane (Surr) Recovery: 108 % Limits: 70-130 % Dilution: 1x  
 1,4-Difluorobenzene (Surr) 109 % 70-130 % "  
 Toluene-d8 (Surr) 107 % 70-130 % "

Apex Laboratories

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Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**

Project Number: 2030-01

Project Manager: Chris Rhea

Reported:  
12/05/14 10:17

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (4120090-MS1)</b>						Prepared: 12/02/14 18:25 Analyzed: 12/04/14 02:14					V-16, V-21	
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
Surr: 4-Bromofluorobenzene (Surr)			Recovery: 98 %			Limits: 70-130 %			Dilution: 1x			

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Philip Nerenberg, Lab Director

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**EES Environmental Inc**  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

**Reported:**  
 12/05/14 10:17

## QUALITY CONTROL (QC) SAMPLE RESULTS

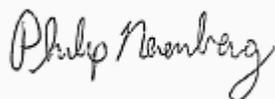
### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120027 - Total Solids (Dry Weight)</b>						<b>Soil</b>						
<b>Duplicate (4120027-DUP1)</b>						Prepared: 12/01/14 17:14 Analyzed: 12/02/14 09:00						
QC Source Sample: B-4(9-10) (A4K0747-17)												
EPA 8000C												
% Solids	85.2	---	1.00	% by Weight	1	---	85.0	---	---	0.2	20%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:17

## SAMPLE PREPARATION INFORMATION

### Hydrocarbon Identification Screen by NWTPH-HCID

#### Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4110777</b>							
A4K0747-01	Soil	NWTPH-HCID	11/25/14 08:00	11/26/14 17:23	10.25g/10mL	10g/10mL	0.98
A4K0747-02	Soil	NWTPH-HCID	11/25/14 08:05	11/26/14 17:23	10.24g/10mL	10g/10mL	0.98
A4K0747-06	Soil	NWTPH-HCID	11/25/14 08:35	11/26/14 17:23	10.32g/10mL	10g/10mL	0.97
A4K0747-07	Soil	NWTPH-HCID	11/25/14 08:40	11/26/14 17:23	10.84g/10mL	10g/10mL	0.92
A4K0747-11	Soil	NWTPH-HCID	11/25/14 09:50	11/26/14 17:23	9.65g/10mL	10g/10mL	1.04
A4K0747-12	Soil	NWTPH-HCID	11/25/14 09:55	11/26/14 17:23	10.27g/10mL	10g/10mL	0.97
A4K0747-16	Soil	NWTPH-HCID	11/25/14 13:30	11/26/14 17:23	10.07g/10mL	10g/10mL	0.99
A4K0747-17	Soil	NWTPH-HCID	11/25/14 13:35	11/26/14 17:23	10.44g/10mL	10g/10mL	0.96

### Volatile Organic Compounds by EPA 8260B

#### Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4120090</b>							
A4K0747-01	Soil	5035/8260B	11/25/14 08:00	12/02/14 18:25	11.69g/10mL	10g/10mL	0.86
A4K0747-02	Soil	5035/8260B	11/25/14 08:05	12/02/14 18:25	12.914g/10mL	10g/10mL	0.77
A4K0747-06	Soil	5035/8260B	11/25/14 08:35	12/02/14 18:25	12.003g/10mL	10g/10mL	0.83
A4K0747-07	Soil	5035/8260B	11/25/14 08:40	12/02/14 18:25	12.766g/10mL	10g/10mL	0.78
A4K0747-16	Soil	5035/8260B	11/25/14 13:30	12/02/14 18:25	11.852g/10mL	10g/10mL	0.84
A4K0747-17	Soil	5035/8260B	11/25/14 13:35	12/02/14 18:25	11.656g/10mL	10g/10mL	0.86

### Percent Dry Weight

#### Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4120027</b>							
A4K0747-01	Soil	EPA 8000C	11/25/14 08:00	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-02	Soil	EPA 8000C	11/25/14 08:05	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-06	Soil	EPA 8000C	11/25/14 08:35	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-07	Soil	EPA 8000C	11/25/14 08:40	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-11	Soil	EPA 8000C	11/25/14 09:50	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-12	Soil	EPA 8000C	11/25/14 09:55	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-16	Soil	EPA 8000C	11/25/14 13:30	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-17	Soil	EPA 8000C	11/25/14 13:35	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA

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Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:17

## Notes and Definitions

### Qualifiers:

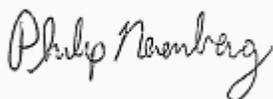
- V-16 Sample aliquot was subsampled from the sample container in the laboratory. The subsampled aliquot was not preserved within 48 hours of sampling.
- V-21 Sample aliquot was subsampled from a sample container that had been previously opened and had sample removed for another analysis.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- \*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:17

**CHAIN OF CUSTODY**

Lab # A440747 coc L of R

Project Name: Banner Furniture Project: 2030-01

Project Mgr: Chris Rhea Project No: 503-697-2740 Fax: --- Email: Chris@ees-environment.com

Company: EES Environmental Address: 240 N Broadway Ste 203, PDX Phone: 503-718-2323 Fax: 503-718-0333

Sampled by: Roxanne Russell

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST	
						YES	NO
B-1(14-5)		11-25-14	0800	S	2	<input checked="" type="checkbox"/>	
B-1(19-10)			0805				
B-1(14-15)			0810				
B-1(19-20)			0815				
B-1(24-25)			0820				
B-2(14-5)			0835				
B-2(19-10)			0840				
B-2(14-15)			0845				
B-2(19-20)			0850				
B-2(24-25)			0855				

Site Location:  WA  
Other: \_\_\_\_\_

ANALYSIS REQUEST:

AL, St, A, B, Br, B, C, D	
Cr, Ca, Cu, Ni, Pb, Zn	
Hp, Mn, Ni, Ti, V, Zn	
TOTAL DISC TCFP	
1209-Z	
1209-COLS	
TCDF Metals (B)	
TCDF Metals (B)	
RCRA Metals (B)	
600 TFO	
8083 PCBs	
8270 SIM PAHs	
8270 SVOC	
8266 BTXs	
8260 BDM VOCs	
8260 VOC	
NWTFH-CX	
NWTFH-IX	
NWTFH-ICID	

SPECIAL INSTRUCTIONS:  
Invoicing sent to Mike O'Conner / AA1  
Mike @ aeiconsulting.com  
- CC EES and Mike on analytical results

RELINQUISHED BY: Roxanne Russell Date: 11/26/14 Signature: [Signature] Date: 11/26/14  
Printed Name: Roxanne Russell Printed Name: Gregory Sun Time: 12:17  
Company: EES Company: Apea

RECEIVED BY: \_\_\_\_\_ Date: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Printed Name: \_\_\_\_\_ Printed Name: \_\_\_\_\_ Time: \_\_\_\_\_  
Company: \_\_\_\_\_ Company: \_\_\_\_\_

TAT Requested (circle): 2 Day 3 Day 5 DAY Other: \_\_\_\_\_  
Normal Turn Around Time (TAT) = 7-10 Business Days

SAMPLES ARE HELD FOR 30 DAYS

Apex Laboratories

*Philip Nerenberg*

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

Friday, December 5, 2014

Chris Rhea  
EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

RE: Banner Furniture / 2030-01

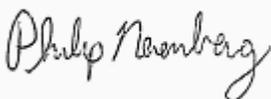
Enclosed are the results of analyses for work order A4K0747, which was received by the laboratory on 11/26/2014 at 12:57:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [pnereberg@apex-labs.com](mailto:pnereberg@apex-labs.com), or by phone at 503-718-2323.

---

Apex Laboratories



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---

Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:29

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1(4-5)	A4K0747-01	Soil	11/25/14 08:00	11/26/14 12:57
B-1(9-10)	A4K0747-02	Soil	11/25/14 08:05	11/26/14 12:57
B-2(4-5)	A4K0747-06	Soil	11/25/14 08:35	11/26/14 12:57
B-2(9-10)	A4K0747-07	Soil	11/25/14 08:40	11/26/14 12:57
B-3(4-5)	A4K0747-11	Soil	11/25/14 09:50	11/26/14 12:57
B-3(9-10)	A4K0747-12	Soil	11/25/14 09:55	11/26/14 12:57
B-4(4-5)	A4K0747-16	Soil	11/25/14 13:30	11/26/14 12:57
B-4(9-10)	A4K0747-17	Soil	11/25/14 13:35	11/26/14 12:57

Apex Laboratories



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Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:29

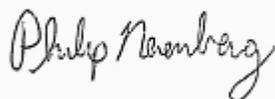
## ANALYTICAL SAMPLE RESULTS

### Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	24.8	mg/kg dry	1	11/27/14 00:17	NWTPH-HCID	
Diesel Range Organics	ND	---	62.1	"	"	"	"	
Oil Range Organics	ND	---	124	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 79 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			76 %		Limits: 50-150 %		"	"
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	22.2	mg/kg dry	1	11/27/14 00:41	NWTPH-HCID	
Diesel Range Organics	ND	---	55.5	"	"	"	"	
Oil Range Organics	ND	---	111	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 95 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			91 %		Limits: 50-150 %		"	"
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	24.2	mg/kg dry	1	11/27/14 01:05	NWTPH-HCID	
Diesel Range Organics	ND	---	60.5	"	"	"	"	
Oil Range Organics	ND	---	121	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 84 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			80 %		Limits: 50-150 %		"	"
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	22.0	mg/kg dry	1	11/27/14 01:29	NWTPH-HCID	
Diesel Range Organics	ND	---	55.1	"	"	"	"	
Oil Range Organics	ND	---	110	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 92 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			88 %		Limits: 50-150 %		"	"
<b>B-3(4-5) (A4K0747-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	26.0	mg/kg dry	1	11/27/14 01:53	NWTPH-HCID	
Diesel Range Organics	ND	---	64.9	"	"	"	"	
Oil Range Organics	ND	---	130	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 86 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			82 %		Limits: 50-150 %		"	"
<b>B-3(9-10) (A4K0747-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	21.4	mg/kg dry	1	11/27/14 02:18	NWTPH-HCID	
Diesel Range Organics	ND	---	53.6	"	"	"	"	
Oil Range Organics	ND	---	107	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			Recovery: 102 %		Limits: 50-150 %		"	"
<i>4-Bromofluorobenzene (Surr)</i>			96 %		Limits: 50-150 %		"	"

Apex Laboratories

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

## ANALYTICAL SAMPLE RESULTS

### Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	25.9	mg/kg dry	1	11/27/14 02:42	NWTPH-HCID	
Diesel Range Organics	ND	---	64.7	"	"	"	"	
Oil Range Organics	ND	---	129	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>			
<i>4-Bromofluorobenzene (Surr)</i>			<i>77 %</i>		<i>Limits: 50-150 %</i>			
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 4110777</b>			
Gasoline Range Organics	ND	---	22.5	mg/kg dry	1	11/27/14 03:06	NWTPH-HCID	
Diesel Range Organics	ND	---	56.3	"	"	"	"	
Oil Range Organics	ND	---	113	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>			
<i>4-Bromofluorobenzene (Surr)</i>			<i>86 %</i>		<i>Limits: 50-150 %</i>			

Apex Laboratories

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EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

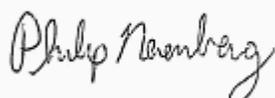
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120090</b>				V-16, V-21
Acetone	ND	---	1360	ug/kg dry	50	12/03/14 18:54	5035/8260B	
Benzene	ND	---	17.0	"	"	"	"	
Bromobenzene	ND	---	34.0	"	"	"	"	
Bromochloromethane	ND	---	68.0	"	"	"	"	
Bromodichloromethane	ND	---	68.0	"	"	"	"	
Bromoform	ND	---	68.0	"	"	"	"	
Bromomethane	ND	---	68.0	"	"	"	"	
2-Butanone (MEK)	ND	---	1360	"	"	"	"	
n-Butylbenzene	ND	---	68.0	"	"	"	"	
sec-Butylbenzene	ND	---	68.0	"	"	"	"	
tert-Butylbenzene	ND	---	68.0	"	"	"	"	
Carbon tetrachloride	ND	---	34.0	"	"	"	"	
Chlorobenzene	ND	---	34.0	"	"	"	"	
Chloroethane	ND	---	68.0	"	"	"	"	
Chloroform	ND	---	68.0	"	"	"	"	
Chloromethane	ND	---	34.0	"	"	"	"	
2-Chlorotoluene	ND	---	68.0	"	"	"	"	
4-Chlorotoluene	ND	---	68.0	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	34.0	"	"	"	"	
Dibromochloromethane	ND	---	136	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	34.0	"	"	"	"	
Dibromomethane	ND	---	68.0	"	"	"	"	
1,2-Dichlorobenzene	ND	---	34.0	"	"	"	"	
1,3-Dichlorobenzene	ND	---	34.0	"	"	"	"	
1,4-Dichlorobenzene	ND	---	34.0	"	"	"	"	
Dichlorodifluoromethane	ND	---	136	"	"	"	"	
1,1-Dichloroethane	ND	---	34.0	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	34.0	"	"	"	"	
1,1-Dichloroethene	ND	---	34.0	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	34.0	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	34.0	"	"	"	"	
1,2-Dichloropropane	ND	---	34.0	"	"	"	"	
1,3-Dichloropropane	ND	---	68.0	"	"	"	"	
2,2-Dichloropropane	ND	---	68.0	"	"	"	"	
1,1-Dichloropropene	ND	---	68.0	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	68.0	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	68.0	"	"	"	"	

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

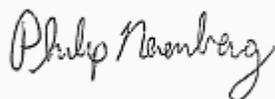
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120090</b>				V-16, V-21
Ethylbenzene	ND	---	34.0	ug/kg dry	50	"	5035/8260B	
Hexachlorobutadiene	ND	---	136	"	"	"	"	
2-Hexanone	ND	---	1360	"	"	"	"	
Isopropylbenzene	ND	---	68.0	"	"	"	"	
4-Isopropyltoluene	ND	---	68.0	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	680	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	68.0	"	"	"	"	
Methylene chloride	ND	---	340	"	"	"	"	
Naphthalene	ND	---	136	"	"	"	"	
n-Propylbenzene	ND	---	34.0	"	"	"	"	
Styrene	ND	---	68.0	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	34.0	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	34.0	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	34.0	"	"	"	"	
Toluene	ND	---	68.0	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	340	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	340	"	"	"	"	
1,1,1-Trichloroethane	ND	---	34.0	"	"	"	"	
1,1,2-Trichloroethane	ND	---	34.0	"	"	"	"	
Trichloroethene (TCE)	ND	---	34.0	"	"	"	"	
Trichlorofluoromethane	ND	---	136	"	"	"	"	
1,2,3-Trichloropropane	ND	---	68.0	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	68.0	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	68.0	"	"	"	"	
Vinyl chloride	ND	---	34.0	"	"	"	"	
m,p-Xylene	ND	---	68.0	"	"	"	"	
o-Xylene	ND	---	34.0	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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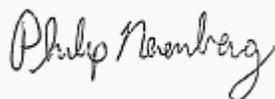
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>			V-16, V-21
Acetone	ND	---	1020	ug/kg dry	50	12/03/14 19:20	5035/8260B	
Benzene	ND	---	12.7	"	"	"	"	
Bromobenzene	ND	---	25.4	"	"	"	"	
Bromochloromethane	ND	---	50.8	"	"	"	"	
Bromodichloromethane	ND	---	50.8	"	"	"	"	
Bromoform	ND	---	50.8	"	"	"	"	
Bromomethane	ND	---	508	"	"	"	"	
2-Butanone (MEK)	ND	---	1020	"	"	"	"	
n-Butylbenzene	ND	---	50.8	"	"	"	"	
sec-Butylbenzene	ND	---	50.8	"	"	"	"	
tert-Butylbenzene	ND	---	50.8	"	"	"	"	
Carbon tetrachloride	ND	---	25.4	"	"	"	"	
Chlorobenzene	ND	---	25.4	"	"	"	"	
Chloroethane	ND	---	508	"	"	"	"	
Chloroform	ND	---	50.8	"	"	"	"	
Chloromethane	ND	---	254	"	"	"	"	
2-Chlorotoluene	ND	---	50.8	"	"	"	"	
4-Chlorotoluene	ND	---	50.8	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	254	"	"	"	"	
Dibromochloromethane	ND	---	102	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	25.4	"	"	"	"	
Dibromomethane	ND	---	50.8	"	"	"	"	
1,2-Dichlorobenzene	ND	---	25.4	"	"	"	"	
1,3-Dichlorobenzene	ND	---	25.4	"	"	"	"	
1,4-Dichlorobenzene	ND	---	25.4	"	"	"	"	
Dichlorodifluoromethane	ND	---	102	"	"	"	"	
1,1-Dichloroethane	ND	---	25.4	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	25.4	"	"	"	"	
1,1-Dichloroethene	ND	---	25.4	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	25.4	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	25.4	"	"	"	"	
1,2-Dichloropropane	ND	---	25.4	"	"	"	"	
1,3-Dichloropropane	ND	---	50.8	"	"	"	"	
2,2-Dichloropropane	ND	---	50.8	"	"	"	"	
1,1-Dichloropropene	ND	---	50.8	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	50.8	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	50.8	"	"	"	"	

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## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120090</b>				V-16, V-21
Ethylbenzene	ND	---	25.4	ug/kg dry	50	"	5035/8260B	
Hexachlorobutadiene	ND	---	102	"	"	"	"	
2-Hexanone	ND	---	1020	"	"	"	"	
Isopropylbenzene	ND	---	50.8	"	"	"	"	
4-Isopropyltoluene	ND	---	50.8	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	508	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	50.8	"	"	"	"	
Methylene chloride	ND	---	254	"	"	"	"	
Naphthalene	ND	---	102	"	"	"	"	
n-Propylbenzene	ND	---	25.4	"	"	"	"	
Styrene	ND	---	50.8	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	25.4	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	25.4	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	25.4	"	"	"	"	
Toluene	ND	---	50.8	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	254	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	254	"	"	"	"	
1,1,1-Trichloroethane	ND	---	25.4	"	"	"	"	
1,1,2-Trichloroethane	ND	---	25.4	"	"	"	"	
Trichloroethene (TCE)	ND	---	25.4	"	"	"	"	
Trichlorofluoromethane	ND	---	102	"	"	"	"	
1,2,3-Trichloropropane	ND	---	50.8	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	50.8	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	50.8	"	"	"	"	
Vinyl chloride	ND	---	25.4	"	"	"	"	
m,p-Xylene	ND	---	50.8	"	"	"	"	
o-Xylene	ND	---	25.4	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>104 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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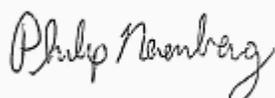
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>			V-16, V-21
Acetone	ND	---	1290	ug/kg dry	50	12/03/14 19:46	5035/8260B	
Benzene	ND	---	16.1	"	"	"	"	
Bromobenzene	ND	---	32.2	"	"	"	"	
Bromochloromethane	ND	---	64.4	"	"	"	"	
Bromodichloromethane	ND	---	64.4	"	"	"	"	
Bromoform	ND	---	64.4	"	"	"	"	
Bromomethane	ND	---	64.4	"	"	"	"	
2-Butanone (MEK)	ND	---	1290	"	"	"	"	
n-Butylbenzene	ND	---	64.4	"	"	"	"	
sec-Butylbenzene	ND	---	64.4	"	"	"	"	
tert-Butylbenzene	ND	---	64.4	"	"	"	"	
Carbon tetrachloride	ND	---	32.2	"	"	"	"	
Chlorobenzene	ND	---	32.2	"	"	"	"	
Chloroethane	ND	---	64.4	"	"	"	"	
Chloroform	ND	---	64.4	"	"	"	"	
Chloromethane	ND	---	32.2	"	"	"	"	
2-Chlorotoluene	ND	---	64.4	"	"	"	"	
4-Chlorotoluene	ND	---	64.4	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	32.2	"	"	"	"	
Dibromochloromethane	ND	---	129	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	32.2	"	"	"	"	
Dibromomethane	ND	---	64.4	"	"	"	"	
1,2-Dichlorobenzene	ND	---	32.2	"	"	"	"	
1,3-Dichlorobenzene	ND	---	32.2	"	"	"	"	
1,4-Dichlorobenzene	ND	---	32.2	"	"	"	"	
Dichlorodifluoromethane	ND	---	129	"	"	"	"	
1,1-Dichloroethane	ND	---	32.2	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	32.2	"	"	"	"	
1,1-Dichloroethene	ND	---	32.2	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	32.2	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	32.2	"	"	"	"	
1,2-Dichloropropane	ND	---	32.2	"	"	"	"	
1,3-Dichloropropane	ND	---	64.4	"	"	"	"	
2,2-Dichloropropane	ND	---	64.4	"	"	"	"	
1,1-Dichloropropene	ND	---	64.4	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	64.4	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	64.4	"	"	"	"	

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Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

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 12/05/14 10:29

## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>			V-16, V-21
Ethylbenzene	ND	---	32.2	ug/kg dry	50	"	5035/8260B	
Hexachlorobutadiene	ND	---	129	"	"	"	"	
2-Hexanone	ND	---	1290	"	"	"	"	
Isopropylbenzene	ND	---	64.4	"	"	"	"	
4-Isopropyltoluene	ND	---	64.4	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	644	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	64.4	"	"	"	"	
Methylene chloride	ND	---	322	"	"	"	"	
Naphthalene	ND	---	129	"	"	"	"	
n-Propylbenzene	ND	---	32.2	"	"	"	"	
Styrene	ND	---	64.4	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	32.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	32.2	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	32.2	"	"	"	"	
Toluene	ND	---	64.4	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	322	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	322	"	"	"	"	
1,1,1-Trichloroethane	ND	---	32.2	"	"	"	"	
1,1,2-Trichloroethane	ND	---	32.2	"	"	"	"	
Trichloroethene (TCE)	ND	---	32.2	"	"	"	"	
Trichlorofluoromethane	ND	---	129	"	"	"	"	
1,2,3-Trichloropropane	ND	---	64.4	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	64.4	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	64.4	"	"	"	"	
Vinyl chloride	ND	---	32.2	"	"	"	"	
m,p-Xylene	ND	---	64.4	"	"	"	"	
o-Xylene	ND	---	32.2	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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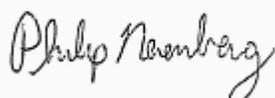
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>			V-16, V-21
Acetone	ND	---	1130	ug/kg dry	50	12/03/14 20:11	5035/8260B	
Benzene	ND	---	14.1	"	"	"	"	
Bromobenzene	ND	---	28.3	"	"	"	"	
Bromochloromethane	ND	---	56.5	"	"	"	"	
Bromodichloromethane	ND	---	56.5	"	"	"	"	
Bromoform	ND	---	56.5	"	"	"	"	
Bromomethane	ND	---	565	"	"	"	"	
2-Butanone (MEK)	ND	---	1130	"	"	"	"	
n-Butylbenzene	ND	---	56.5	"	"	"	"	
sec-Butylbenzene	ND	---	56.5	"	"	"	"	
tert-Butylbenzene	ND	---	56.5	"	"	"	"	
Carbon tetrachloride	ND	---	28.3	"	"	"	"	
Chlorobenzene	ND	---	28.3	"	"	"	"	
Chloroethane	ND	---	565	"	"	"	"	
Chloroform	ND	---	56.5	"	"	"	"	
Chloromethane	ND	---	283	"	"	"	"	
2-Chlorotoluene	ND	---	56.5	"	"	"	"	
4-Chlorotoluene	ND	---	56.5	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	283	"	"	"	"	
Dibromochloromethane	ND	---	113	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	28.3	"	"	"	"	
Dibromomethane	ND	---	56.5	"	"	"	"	
1,2-Dichlorobenzene	ND	---	28.3	"	"	"	"	
1,3-Dichlorobenzene	ND	---	28.3	"	"	"	"	
1,4-Dichlorobenzene	ND	---	28.3	"	"	"	"	
Dichlorodifluoromethane	ND	---	113	"	"	"	"	
1,1-Dichloroethane	ND	---	28.3	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	28.3	"	"	"	"	
1,1-Dichloroethene	ND	---	28.3	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	28.3	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	28.3	"	"	"	"	
1,2-Dichloropropane	ND	---	28.3	"	"	"	"	
1,3-Dichloropropane	ND	---	56.5	"	"	"	"	
2,2-Dichloropropane	ND	---	56.5	"	"	"	"	
1,1-Dichloropropene	ND	---	56.5	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	56.5	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	56.5	"	"	"	"	

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 12/05/14 10:29

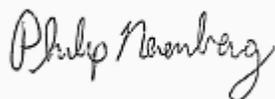
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120090</b>				V-16, V-21
Ethylbenzene	ND	---	28.3	ug/kg dry	50	"	5035/8260B	
Hexachlorobutadiene	ND	---	113	"	"	"	"	
2-Hexanone	ND	---	1130	"	"	"	"	
Isopropylbenzene	ND	---	56.5	"	"	"	"	
4-Isopropyltoluene	ND	---	56.5	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	565	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	56.5	"	"	"	"	
Methylene chloride	ND	---	283	"	"	"	"	
Naphthalene	ND	---	113	"	"	"	"	
n-Propylbenzene	ND	---	28.3	"	"	"	"	
Styrene	ND	---	56.5	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	28.3	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	28.3	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	28.3	"	"	"	"	
Toluene	ND	---	56.5	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	283	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	283	"	"	"	"	
1,1,1-Trichloroethane	ND	---	28.3	"	"	"	"	
1,1,2-Trichloroethane	ND	---	28.3	"	"	"	"	
Trichloroethene (TCE)	ND	---	28.3	"	"	"	"	
Trichlorofluoromethane	ND	---	113	"	"	"	"	
1,2,3-Trichloropropane	ND	---	56.5	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	56.5	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	56.5	"	"	"	"	
Vinyl chloride	ND	---	28.3	"	"	"	"	
m,p-Xylene	ND	---	56.5	"	"	"	"	
o-Xylene	ND	---	28.3	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 107 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>106 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

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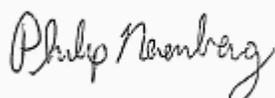
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>			V-16, V-21
Acetone	ND	---	1400	ug/kg dry	50	12/03/14 20:37	5035/8260B	
Benzene	ND	---	17.5	"	"	"	"	
Bromobenzene	ND	---	35.1	"	"	"	"	
Bromochloromethane	ND	---	70.2	"	"	"	"	
Bromodichloromethane	ND	---	70.2	"	"	"	"	
Bromoform	ND	---	70.2	"	"	"	"	
Bromomethane	ND	---	702	"	"	"	"	
2-Butanone (MEK)	ND	---	1400	"	"	"	"	
n-Butylbenzene	ND	---	70.2	"	"	"	"	
sec-Butylbenzene	ND	---	70.2	"	"	"	"	
tert-Butylbenzene	ND	---	70.2	"	"	"	"	
Carbon tetrachloride	ND	---	35.1	"	"	"	"	
Chlorobenzene	ND	---	35.1	"	"	"	"	
Chloroethane	ND	---	702	"	"	"	"	
Chloroform	ND	---	70.2	"	"	"	"	
Chloromethane	ND	---	351	"	"	"	"	
2-Chlorotoluene	ND	---	70.2	"	"	"	"	
4-Chlorotoluene	ND	---	70.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	351	"	"	"	"	
Dibromochloromethane	ND	---	140	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	35.1	"	"	"	"	
Dibromomethane	ND	---	70.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	35.1	"	"	"	"	
1,3-Dichlorobenzene	ND	---	35.1	"	"	"	"	
1,4-Dichlorobenzene	ND	---	35.1	"	"	"	"	
Dichlorodifluoromethane	ND	---	140	"	"	"	"	
1,1-Dichloroethane	ND	---	35.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	35.1	"	"	"	"	
1,1-Dichloroethene	ND	---	35.1	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	35.1	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	35.1	"	"	"	"	
1,2-Dichloropropane	ND	---	35.1	"	"	"	"	
1,3-Dichloropropane	ND	---	70.2	"	"	"	"	
2,2-Dichloropropane	ND	---	70.2	"	"	"	"	
1,1-Dichloropropene	ND	---	70.2	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	70.2	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	70.2	"	"	"	"	

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 Project Number: 2030-01  
 Project Manager: Chris Rhea

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 12/05/14 10:29

## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120090</b>				V-16, V-21
Ethylbenzene	ND	---	35.1	ug/kg dry	50	"	5035/8260B	
Hexachlorobutadiene	ND	---	140	"	"	"	"	
2-Hexanone	ND	---	1400	"	"	"	"	
Isopropylbenzene	ND	---	70.2	"	"	"	"	
4-Isopropyltoluene	ND	---	70.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	702	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	70.2	"	"	"	"	
Methylene chloride	ND	---	351	"	"	"	"	
Naphthalene	ND	---	140	"	"	"	"	
n-Propylbenzene	ND	---	35.1	"	"	"	"	
Styrene	ND	---	70.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	35.1	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	35.1	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	35.1	"	"	"	"	
Toluene	ND	---	70.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	351	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	351	"	"	"	"	
1,1,1-Trichloroethane	ND	---	35.1	"	"	"	"	
1,1,2-Trichloroethane	ND	---	35.1	"	"	"	"	
Trichloroethene (TCE)	ND	---	35.1	"	"	"	"	
Trichlorofluoromethane	ND	---	140	"	"	"	"	
1,2,3-Trichloropropane	ND	---	70.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	70.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	70.2	"	"	"	"	
Vinyl chloride	ND	---	35.1	"	"	"	"	
m,p-Xylene	ND	---	70.2	"	"	"	"	
o-Xylene	ND	---	35.1	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>105 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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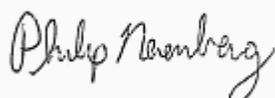
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120090</b>			V-16, V-21
Acetone	ND	---	1190	ug/kg dry	50	12/04/14 01:48	5035/8260B	
Benzene	ND	---	14.8	"	"	"	"	
Bromobenzene	ND	---	29.6	"	"	"	"	
Bromochloromethane	ND	---	59.3	"	"	"	"	
Bromodichloromethane	ND	---	59.3	"	"	"	"	
Bromoform	ND	---	59.3	"	"	"	"	
Bromomethane	ND	---	59.3	"	"	"	"	
2-Butanone (MEK)	ND	---	1190	"	"	"	"	
n-Butylbenzene	ND	---	59.3	"	"	"	"	
sec-Butylbenzene	ND	---	59.3	"	"	"	"	
tert-Butylbenzene	ND	---	59.3	"	"	"	"	
Carbon tetrachloride	ND	---	29.6	"	"	"	"	
Chlorobenzene	ND	---	29.6	"	"	"	"	
Chloroethane	ND	---	59.3	"	"	"	"	
Chloroform	ND	---	59.3	"	"	"	"	
Chloromethane	ND	---	29.6	"	"	"	"	
2-Chlorotoluene	ND	---	59.3	"	"	"	"	
4-Chlorotoluene	ND	---	59.3	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	29.6	"	"	"	"	
Dibromochloromethane	ND	---	119	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	29.6	"	"	"	"	
Dibromomethane	ND	---	59.3	"	"	"	"	
1,2-Dichlorobenzene	ND	---	29.6	"	"	"	"	
1,3-Dichlorobenzene	ND	---	29.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	29.6	"	"	"	"	
Dichlorodifluoromethane	ND	---	119	"	"	"	"	
1,1-Dichloroethane	ND	---	29.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	29.6	"	"	"	"	
1,1-Dichloroethene	ND	---	29.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	29.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	29.6	"	"	"	"	
1,2-Dichloropropane	ND	---	29.6	"	"	"	"	
1,3-Dichloropropane	ND	---	59.3	"	"	"	"	
2,2-Dichloropropane	ND	---	59.3	"	"	"	"	
1,1-Dichloropropene	ND	---	59.3	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	59.3	"	"	"	"	
trans-1,3-Dichloropropene	ND	---	59.3	"	"	"	"	

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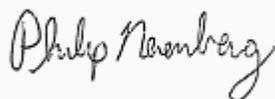
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>	<b>Batch: 4120090</b>				V-16, V-21
Ethylbenzene	ND	---	29.6	ug/kg dry	50	"	5035/8260B	
Hexachlorobutadiene	ND	---	119	"	"	"	"	
2-Hexanone	ND	---	1190	"	"	"	"	
Isopropylbenzene	ND	---	59.3	"	"	"	"	
4-Isopropyltoluene	ND	---	59.3	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	59.3	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	59.3	"	"	"	"	
Methylene chloride	ND	---	296	"	"	"	"	
Naphthalene	ND	---	119	"	"	"	"	
n-Propylbenzene	ND	---	29.6	"	"	"	"	
Styrene	ND	---	59.3	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	29.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	29.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	29.6	"	"	"	"	
Toluene	ND	---	59.3	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	296	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	296	"	"	"	"	
1,1,1-Trichloroethane	ND	---	29.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	29.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	29.6	"	"	"	"	
Trichlorofluoromethane	ND	---	119	"	"	"	"	
1,2,3-Trichloropropane	ND	---	59.3	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	59.3	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	59.3	"	"	"	"	
Vinyl chloride	ND	---	29.6	"	"	"	"	
m,p-Xylene	ND	---	59.3	"	"	"	"	
o-Xylene	ND	---	29.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 109 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>107 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>106 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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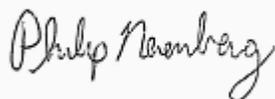
## ANALYTICAL SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B-1(4-5) (A4K0747-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	78.6	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-1(9-10) (A4K0747-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	88.0	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-2(4-5) (A4K0747-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	80.1	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-2(9-10) (A4K0747-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	83.7	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-3(4-5) (A4K0747-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	79.8	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-3(9-10) (A4K0747-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	90.8	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-4(4-5) (A4K0747-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	76.7	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	
<b>B-4(9-10) (A4K0747-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 4120027</b>			
% Solids	85.0	---	1.00	% by Weight	1	12/02/14 09:00	EPA 8000C	

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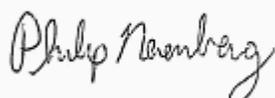
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4110777 - NWTPH-HCID (Soil)</b>						<b>Soil</b>						
<b>Blank (4110777-BLK1)</b>						Prepared: 11/26/14 15:26 Analyzed: 11/26/14 21:03						
<b>NWTPH-HCID</b>												
Gasoline Range Organics	ND	---	18.2	mg/kg wet	1	---	---	---	---	---	---	---
Diesel Range Organics	ND	---	45.5	"	"	---	---	---	---	---	---	---
Oil Range Organics	ND	---	90.9	"	"	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>		<i>50-150 %</i>		<i>"</i>					
<b>Duplicate (4110777-DUP1)</b>						Prepared: 11/26/14 15:26 Analyzed: 11/26/14 21:52						
<b>QC Source Sample: Other (A4K0715-01)</b>												
<b>NWTPH-HCID</b>												
Gasoline Range Organics	ND	---	29.7	mg/kg dry	1	---	ND	---	---	---	---	30%
Diesel Range Organics	ND	---	74.1	"	"	---	ND	---	---	---	---	30%
Oil Range Organics	ND	---	148	"	"	---	ND	---	---	---	---	30%
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>96 %</i>		<i>50-150 %</i>		<i>"</i>					
<b>Duplicate (4110777-DUP2)</b>						Prepared: 11/26/14 17:23 Analyzed: 11/27/14 03:30						
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
<b>NWTPH-HCID</b>												
Gasoline Range Organics	ND	---	23.4	mg/kg dry	1	---	ND	---	---	---	---	30%
Diesel Range Organics	ND	---	58.4	"	"	---	ND	---	---	---	---	30%
Oil Range Organics	ND	---	117	"	"	---	ND	---	---	---	---	30%
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>92 %</i>		<i>50-150 %</i>		<i>"</i>					

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (4120090-BLK1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 16:45						
<b>5035/8260B</b>												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromoform	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	667	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	

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EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

## QUALITY CONTROL (QC) SAMPLE RESULTS

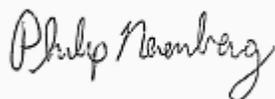
### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (4120090-BLK1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 16:45						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	66.7	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 104 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	103 %	70-130 %	"
Toluene-d8 (Surr)	99 %	70-130 %	"
4-Bromofluorobenzene (Surr)	100 %	70-130 %	"

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 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

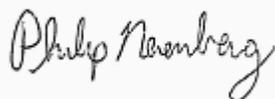
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (4120090-BS1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 15:53						
<b>5035/8260B</b>												
Acetone	2510	---	1000	ug/kg wet	50	2000	---	125	65-135%	---	---	
Benzene	1150	---	12.5	"	"	1000	---	115	"	---	---	
Bromobenzene	1070	---	25.0	"	"	"	---	107	"	---	---	
Bromochloromethane	1130	---	50.0	"	"	"	---	113	"	---	---	
Bromodichloromethane	1200	---	50.0	"	"	"	---	120	"	---	---	
Bromoform	1040	---	50.0	"	"	"	---	104	"	---	---	
Bromomethane	992	---	500	"	"	"	---	99	"	---	---	
2-Butanone (MEK)	2210	---	1000	"	"	2000	---	111	"	---	---	
n-Butylbenzene	1120	---	50.0	"	"	1000	---	112	"	---	---	
sec-Butylbenzene	1060	---	50.0	"	"	"	---	106	"	---	---	
tert-Butylbenzene	1060	---	50.0	"	"	"	---	106	"	---	---	
Carbon tetrachloride	1140	---	25.0	"	"	"	---	114	"	---	---	
Chlorobenzene	1060	---	25.0	"	"	"	---	106	"	---	---	
Chloroethane	950	---	500	"	"	"	---	95	"	---	---	
Chloroform	1090	---	50.0	"	"	"	---	109	"	---	---	
Chloromethane	1020	---	250	"	"	"	---	102	"	---	---	
2-Chlorotoluene	1080	---	50.0	"	"	"	---	108	"	---	---	
4-Chlorotoluene	1140	---	50.0	"	"	"	---	114	"	---	---	
1,2-Dibromo-3-chloropropane	1030	---	250	"	"	"	---	103	"	---	---	
Dibromochloromethane	1120	---	100	"	"	"	---	112	"	---	---	
1,2-Dibromoethane (EDB)	1020	---	25.0	"	"	"	---	102	"	---	---	
Dibromomethane	1130	---	50.0	"	"	"	---	113	"	---	---	
1,2-Dichlorobenzene	1130	---	25.0	"	"	"	---	113	"	---	---	
1,3-Dichlorobenzene	1120	---	25.0	"	"	"	---	112	"	---	---	
1,4-Dichlorobenzene	1040	---	25.0	"	"	"	---	104	"	---	---	
Dichlorodifluoromethane	1090	---	100	"	"	"	---	109	"	---	---	
1,1-Dichloroethane	1160	---	25.0	"	"	"	---	116	"	---	---	
1,2-Dichloroethane (EDC)	1130	---	25.0	"	"	"	---	113	"	---	---	
1,1-Dichloroethene	1080	---	25.0	"	"	"	---	108	"	---	---	
cis-1,2-Dichloroethene	1140	---	25.0	"	"	"	---	114	"	---	---	
trans-1,2-Dichloroethene	1120	---	25.0	"	"	"	---	112	"	---	---	
1,2-Dichloropropane	1100	---	25.0	"	"	"	---	110	"	---	---	
1,3-Dichloropropane	1060	---	50.0	"	"	"	---	106	"	---	---	
2,2-Dichloropropane	1150	---	50.0	"	"	"	---	115	"	---	---	

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 12/05/14 10:29

## QUALITY CONTROL (QC) SAMPLE RESULTS

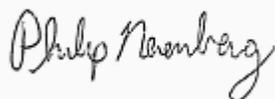
### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (4120090-BS1)</b>						Prepared: 12/03/14 14:00 Analyzed: 12/03/14 15:53						
1,1-Dichloropropene	1150	---	50.0	ug/kg wet	"	"	---	115	"	---	---	
cis-1,3-Dichloropropene	1090	---	50.0	"	"	"	---	109	"	---	---	
trans-1,3-Dichloropropene	1020	---	50.0	"	"	"	---	102	"	---	---	
Ethylbenzene	1080	---	25.0	"	"	"	---	108	"	---	---	
Hexachlorobutadiene	1170	---	100	"	"	"	---	117	"	---	---	
2-Hexanone	1930	---	1000	"	"	2000	---	97	"	---	---	
Isopropylbenzene	1100	---	50.0	"	"	1000	---	110	"	---	---	
4-Isopropyltoluene	1120	---	50.0	"	"	"	---	112	"	---	---	
4-Methyl-2-pentanone (MiBK)	1930	---	500	"	"	2000	---	97	"	---	---	
Methyl tert-butyl ether (MTBE)	1100	---	50.0	"	"	1000	---	110	"	---	---	
Methylene chloride	1090	---	250	"	"	"	---	109	"	---	---	
Naphthalene	1120	---	100	"	"	"	---	112	"	---	---	
n-Propylbenzene	1100	---	25.0	"	"	"	---	110	"	---	---	
Styrene	1090	---	50.0	"	"	"	---	109	"	---	---	
1,1,1,2-Tetrachloroethane	1050	---	25.0	"	"	"	---	105	"	---	---	
1,1,2,2-Tetrachloroethane	1100	---	25.0	"	"	"	---	110	"	---	---	
Tetrachloroethene (PCE)	1050	---	25.0	"	"	"	---	105	"	---	---	
Toluene	1030	---	50.0	"	"	"	---	103	"	---	---	
1,2,3-Trichlorobenzene	1130	---	250	"	"	"	---	113	"	---	---	
1,2,4-Trichlorobenzene	1100	---	250	"	"	"	---	110	"	---	---	
1,1,1-Trichloroethane	1140	---	25.0	"	"	"	---	114	"	---	---	
1,1,2-Trichloroethane	1090	---	25.0	"	"	"	---	109	"	---	---	
Trichloroethene (TCE)	1160	---	25.0	"	"	"	---	116	"	---	---	
Trichlorofluoromethane	886	---	100	"	"	"	---	89	"	---	---	
1,2,3-Trichloropropane	1070	---	50.0	"	"	"	---	107	"	---	---	
1,2,4-Trimethylbenzene	1110	---	50.0	"	"	"	---	111	"	---	---	
1,3,5-Trimethylbenzene	1070	---	50.0	"	"	"	---	107	"	---	---	
Vinyl chloride	1160	---	25.0	"	"	"	---	116	"	---	---	
m,p-Xylene	2120	---	50.0	"	"	2000	---	106	"	---	---	
o-Xylene	1020	---	25.0	"	"	1000	---	102	"	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 106 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	105 %	70-130 %	"
Toluene-d8 (Surr)	101 %	70-130 %	"
4-Bromofluorobenzene (Surr)	97 %	70-130 %	"

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Project: **Banner Furniture**  
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 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Duplicate (4120090-DUP1)</b>						Prepared: 12/02/14 18:20 Analyzed: 12/03/14 17:36					V-15	
<b>QC Source Sample: Other (A4L0046-09)</b>												
<b>5035/8260B</b>												
Acetone	ND	---	876	ug/kg wet	50	---	ND	---	---	---	30%	
Benzene	ND	---	11.0	"	"	---	ND	---	---	---	30%	
Bromobenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Bromoform	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Bromomethane	ND	---	438	"	"	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	876	"	"	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	---	438	"	"	---	ND	---	---	---	30%	
Chloroform	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	---	219	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	219	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	87.6	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	---	43.8	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	87.6	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	43.8	"	"	---	ND	---	---	---	30%	

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 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

## QUALITY CONTROL (QC) SAMPLE RESULTS

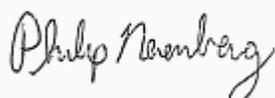
### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Duplicate (4120090-DUP1)</b>						Prepared: 12/02/14 18:20 Analyzed: 12/03/14 17:36					V-15	
<b>QC Source Sample: Other (A4L0046-09)</b>												
2,2-Dichloropropane	ND	---	43.8	ug/kg wet	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	87.6	"	"	---	ND	---	---	---	30%	
2-Hexanone	ND	---	87.6	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	87.6	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Styrene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Toluene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	21.9	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	21.9	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	87.6	"	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	43.8	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	21.9	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	43.8	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	---	21.9	"	"	---	ND	---	---	---	30%	

Surr: Dibromofluoromethane (Surr) Recovery: 105 % Limits: 70-130 % Dilution: 1x  
 1,4-Difluorobenzene (Surr) 104 % 70-130 % "  
 Toluene-d8 (Surr) 102 % 70-130 % "

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Philip Nerenberg, Lab Director

EES Environmental Inc  
 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

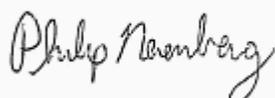
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Duplicate (4120090-DUP1)</b>						Prepared: 12/02/14 18:20 Analyzed: 12/03/14 17:36					V-15	
<b>QC Source Sample: Other (A4L0046-09)</b>												
<i>Surr: 4-Bromofluorobenzene (Surr)</i>			<i>Recovery: 97 %</i>			<i>Limits: 70-130 %</i>			<i>Dilution: 1x</i>			
<b>Matrix Spike (4120090-MS1)</b>						Prepared: 12/02/14 18:25 Analyzed: 12/04/14 02:14					V-16, V-21	
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
<b>5035/8260B</b>												
Acetone	2440	---	1190	ug/kg dry	50	2370	ND	103	65-135%	---	---	
Benzene	1310	---	14.8	"	"	1180	ND	110	"	---	---	
Bromobenzene	1190	---	29.6	"	"	"	ND	100	"	---	---	
Bromochloromethane	1340	---	59.3	"	"	"	ND	113	"	---	---	
Bromodichloromethane	1320	---	59.3	"	"	"	ND	111	"	---	---	
Bromoform	1070	---	59.3	"	"	"	ND	90	"	---	---	
Bromomethane	1070	---	59.3	"	"	"	ND	91	"	---	---	
2-Butanone (MEK)	2270	---	1190	"	"	2370	ND	96	"	---	---	
n-Butylbenzene	1230	---	59.3	"	"	1180	ND	104	"	---	---	
sec-Butylbenzene	1230	---	59.3	"	"	"	ND	104	"	---	---	
tert-Butylbenzene	1210	---	59.3	"	"	"	ND	102	"	---	---	
Carbon tetrachloride	1340	---	29.6	"	"	"	ND	113	"	---	---	
Chlorobenzene	1170	---	29.6	"	"	"	ND	98	"	---	---	
Chloroethane	1120	---	59.3	"	"	"	ND	95	"	---	---	
Chloroform	1220	---	59.3	"	"	"	ND	103	"	---	---	
Chloromethane	1310	---	29.6	"	"	"	ND	111	"	---	---	
2-Chlorotoluene	1180	---	59.3	"	"	"	ND	100	"	---	---	
4-Chlorotoluene	1340	---	59.3	"	"	"	ND	113	"	---	---	
1,2-Dibromo-3-chloropropane	1050	---	29.6	"	"	"	ND	89	"	---	---	
Dibromochloromethane	1200	---	119	"	"	"	ND	101	"	---	---	
1,2-Dibromoethane (EDB)	1160	---	29.6	"	"	"	ND	98	"	---	---	
Dibromomethane	1260	---	59.3	"	"	"	ND	107	"	---	---	
1,2-Dichlorobenzene	1180	---	29.6	"	"	"	ND	100	"	---	---	
1,3-Dichlorobenzene	1200	---	29.6	"	"	"	ND	101	"	---	---	
1,4-Dichlorobenzene	1120	---	29.6	"	"	"	ND	94	"	---	---	
Dichlorodifluoromethane	1340	---	119	"	"	"	ND	113	"	---	---	
1,1-Dichloroethane	1300	---	29.6	"	"	"	ND	110	"	---	---	
1,2-Dichloroethane (EDC)	1320	---	29.6	"	"	"	ND	112	"	---	---	
1,1-Dichloroethene	1190	---	29.6	"	"	"	ND	100	"	---	---	

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Philip Nerenberg, Lab Director

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:29

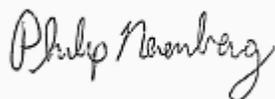
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (4120090-MS1)</b>						Prepared: 12/02/14 18:25 Analyzed: 12/04/14 02:14				V-16, V-21		
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
cis-1,2-Dichloroethene	1350	---	29.6	ug/kg dry	"	"	ND	114	"	---	---	
trans-1,2-Dichloroethene	1310	---	29.6	"	"	"	ND	111	"	---	---	
1,2-Dichloropropane	1290	---	29.6	"	"	"	ND	109	"	---	---	
1,3-Dichloropropane	1230	---	59.3	"	"	"	ND	104	"	---	---	
2,2-Dichloropropane	1110	---	59.3	"	"	"	ND	94	"	---	---	
1,1-Dichloropropene	1280	---	59.3	"	"	"	ND	108	"	---	---	
cis-1,3-Dichloropropene	1230	---	59.3	"	"	"	ND	104	"	---	---	
trans-1,3-Dichloropropene	1150	---	59.3	"	"	"	ND	97	"	---	---	
Ethylbenzene	1260	---	29.6	"	"	"	ND	106	"	---	---	
Hexachlorobutadiene	1150	---	119	"	"	"	ND	97	"	---	---	
2-Hexanone	2210	---	1190	"	"	2370	ND	93	"	---	---	
Isopropylbenzene	1270	---	59.3	"	"	1180	ND	107	"	---	---	
4-Isopropyltoluene	1250	---	59.3	"	"	"	ND	105	"	---	---	
4-Methyl-2-pentanone (MiBK)	2250	---	593	"	"	2370	ND	95	"	---	---	
Methyl tert-butyl ether (MTBE)	1290	---	59.3	"	"	1180	ND	109	"	---	---	
Methylene chloride	1280	---	296	"	"	"	ND	108	"	---	---	
Naphthalene	1200	---	119	"	"	"	ND	102	"	---	---	
n-Propylbenzene	1300	---	29.6	"	"	"	ND	110	"	---	---	
Styrene	1210	---	59.3	"	"	"	ND	102	"	---	---	
1,1,1,2-Tetrachloroethane	1150	---	29.6	"	"	"	ND	97	"	---	---	
1,1,2,2-Tetrachloroethane	1220	---	29.6	"	"	"	ND	103	"	---	---	
Tetrachloroethene (PCE)	1120	---	29.6	"	"	"	ND	94	"	---	---	
Toluene	1210	---	59.3	"	"	"	ND	103	"	---	---	
1,2,3-Trichlorobenzene	1140	---	296	"	"	"	ND	96	"	---	---	
1,2,4-Trichlorobenzene	1110	---	296	"	"	"	ND	94	"	---	---	
1,1,1-Trichloroethane	1350	---	29.6	"	"	"	ND	114	"	---	---	
1,1,2-Trichloroethane	1280	---	29.6	"	"	"	ND	108	"	---	---	
Trichloroethene (TCE)	1280	---	29.6	"	"	"	ND	108	"	---	---	
Trichlorofluoromethane	1080	---	119	"	"	"	ND	91	"	---	---	
1,2,3-Trichloropropane	1190	---	59.3	"	"	"	ND	100	"	---	---	
1,2,4-Trimethylbenzene	1290	---	59.3	"	"	"	ND	109	"	---	---	
1,3,5-Trimethylbenzene	1290	---	59.3	"	"	"	ND	109	"	---	---	
Vinyl chloride	1460	---	29.6	"	"	"	ND	123	"	---	---	
m,p-Xylene	2450	---	59.3	"	"	2370	ND	104	"	---	---	

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 240 N Broadway Ste 203  
 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

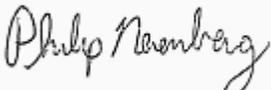
**Reported:**  
 12/05/14 10:29

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120090 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (4120090-MS1)</b>						Prepared: 12/02/14 18:25 Analyzed: 12/04/14 02:14					V-16, V-21	
<b>QC Source Sample: B-4(9-10) (A4K0747-17)</b>												
o-Xylene	1190	---	29.6	ug/kg dry	"	1180	ND	100	"	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>			<i>Recovery: 108 %</i>		<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>					
<i>1,4-Difluorobenzene (Surr)</i>			<i>109 %</i>		<i>70-130 %</i>		<i>"</i>					
<i>Toluene-d8 (Surr)</i>			<i>107 %</i>		<i>70-130 %</i>		<i>"</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>		<i>70-130 %</i>		<i>"</i>					

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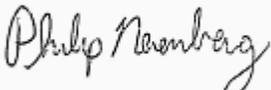
Reported:  
 12/05/14 10:29

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120027 - Total Solids (Dry Weight)</b>						<b>Soil</b>						
<b>Duplicate (4120027-DUP1)</b>						Prepared: 12/01/14 17:14 Analyzed: 12/02/14 09:00						
QC Source Sample: B-4(9-10) (A4K0747-17)												
EPA 8000C												
% Solids	85.2	---	1.00	% by Weight	1	---	85.0	---	---	0.2	20%	
<b>Duplicate (4120027-DUP2)</b>						Prepared: 12/01/14 17:14 Analyzed: 12/02/14 09:00						
QC Source Sample: Other (A4L0020-02)												
EPA 8000C												
% Solids	78.0	---	1.00	% by Weight	1	---	77.4	---	---	0.8	20%	
<b>Duplicate (4120027-DUP3)</b>						Prepared: 12/01/14 19:14 Analyzed: 12/02/14 09:00						
QC Source Sample: Other (A4L0028-02)												
EPA 8000C												
% Solids	74.6	---	1.00	% by Weight	1	---	74.9	---	---	0.4	20%	

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 Portland, OR 97227

Project: **Banner Furniture**  
 Project Number: 2030-01  
 Project Manager: Chris Rhea

Reported:  
 12/05/14 10:29

## SAMPLE PREPARATION INFORMATION

### Hydrocarbon Identification Screen by NWTPH-HCID

**Prep: NWTPH-HCID (Soil)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4110777</b>							
A4K0747-01	Soil	NWTPH-HCID	11/25/14 08:00	11/26/14 17:23	10.25g/10mL	10g/10mL	0.98
A4K0747-02	Soil	NWTPH-HCID	11/25/14 08:05	11/26/14 17:23	10.24g/10mL	10g/10mL	0.98
A4K0747-06	Soil	NWTPH-HCID	11/25/14 08:35	11/26/14 17:23	10.32g/10mL	10g/10mL	0.97
A4K0747-07	Soil	NWTPH-HCID	11/25/14 08:40	11/26/14 17:23	10.84g/10mL	10g/10mL	0.92
A4K0747-11	Soil	NWTPH-HCID	11/25/14 09:50	11/26/14 17:23	9.65g/10mL	10g/10mL	1.04
A4K0747-12	Soil	NWTPH-HCID	11/25/14 09:55	11/26/14 17:23	10.27g/10mL	10g/10mL	0.97
A4K0747-16	Soil	NWTPH-HCID	11/25/14 13:30	11/26/14 17:23	10.07g/10mL	10g/10mL	0.99
A4K0747-17	Soil	NWTPH-HCID	11/25/14 13:35	11/26/14 17:23	10.44g/10mL	10g/10mL	0.96

### Volatile Organic Compounds by EPA 8260B

**Prep: EPA 5035A**

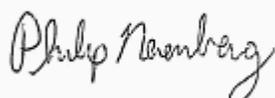
Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4120090</b>							
A4K0747-01	Soil	5035/8260B	11/25/14 08:00	12/02/14 18:25	11.69g/10mL	10g/10mL	0.86
A4K0747-02	Soil	5035/8260B	11/25/14 08:05	12/02/14 18:25	12.914g/10mL	10g/10mL	0.77
A4K0747-06	Soil	5035/8260B	11/25/14 08:35	12/02/14 18:25	12.003g/10mL	10g/10mL	0.83
A4K0747-07	Soil	5035/8260B	11/25/14 08:40	12/02/14 18:25	12.766g/10mL	10g/10mL	0.78
A4K0747-16	Soil	5035/8260B	11/25/14 13:30	12/02/14 18:25	11.852g/10mL	10g/10mL	0.84
A4K0747-17	Soil	5035/8260B	11/25/14 13:35	12/02/14 18:25	11.656g/10mL	10g/10mL	0.86

### Percent Dry Weight

**Prep: Total Solids (Dry Weight)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 4120027</b>							
A4K0747-01	Soil	EPA 8000C	11/25/14 08:00	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-02	Soil	EPA 8000C	11/25/14 08:05	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-06	Soil	EPA 8000C	11/25/14 08:35	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-07	Soil	EPA 8000C	11/25/14 08:40	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-11	Soil	EPA 8000C	11/25/14 09:50	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-12	Soil	EPA 8000C	11/25/14 09:55	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-16	Soil	EPA 8000C	11/25/14 13:30	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA
A4K0747-17	Soil	EPA 8000C	11/25/14 13:35	12/01/14 17:14	1N/A/1N/A	1N/A/1N/A	NA

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240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:29

## Notes and Definitions

### Qualifiers:

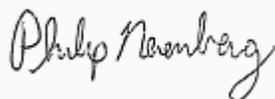
- V-15 Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.
- V-16 Sample aliquot was subsampled from the sample container in the laboratory. The subsampled aliquot was not preserved within 48 hours of sampling.
- V-21 Sample aliquot was subsampled from a sample container that had been previously opened and had sample removed for another analysis.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- \*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:29

**APEX LABS**      **CHAIN OF CUSTODY**      Lab # A-440747      coc L of 2

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: EES Environmental      Project Mgr: Chris Rhea      Project Name: Banner Furniture      Project # 2030-01  
 Address: 240 N Broadway, Ste 203, PDX      Phone: 503-847-2740      Fax:      Email: Chris@ees-environ.com  
 Shipped by: Roxanne Ruseell

Site Location:  OR       WA  
 Other: \_\_\_\_\_

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST	
						YES	NO
B-1(4-5)		11/25/14	0800	S	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B-1(9-10)			0805			<input type="checkbox"/>	<input type="checkbox"/>
B-1(14-15)			0810			<input type="checkbox"/>	<input type="checkbox"/>
B-1(19-20)			0815			<input type="checkbox"/>	<input type="checkbox"/>
B-1(24-25)			0820			<input type="checkbox"/>	<input type="checkbox"/>
B-2(4-5)			0835			<input type="checkbox"/>	<input type="checkbox"/>
B-2(9-10)			0840			<input type="checkbox"/>	<input type="checkbox"/>
B-2(14-15)			0845			<input type="checkbox"/>	<input type="checkbox"/>
B-2(19-20)			0850			<input type="checkbox"/>	<input type="checkbox"/>
B-2(24-25)			0855			<input type="checkbox"/>	<input type="checkbox"/>

Normal Turn Around Time (TAT) = 7-10 Business Days

TAT Requested (circle): 2 Day      1 Day      3 Day      4 DAY      5 DAY      Other: \_\_\_\_\_

SPECIAL INSTRUCTIONS:  
 - Invoicing sent to Mike O'Conner / AA1  
 - Mike @ daiconsulting.com  
 - CC EES and Mike on analytical results

RELINQUISHED BY: Roxanne Ruseell      Date: 11/26/14      Signature: \_\_\_\_\_      Date: \_\_\_\_\_  
 Printed Name: Roxanne Ruseell      Title: Sample Svc      Time: 12:17

RECEIVED BY: \_\_\_\_\_      Signature: \_\_\_\_\_      Date: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_      Title: \_\_\_\_\_      Time: \_\_\_\_\_

Company: EES      Company: Apex

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

EES Environmental Inc  
240 N Broadway Ste 203  
Portland, OR 97227

Project: **Banner Furniture**  
Project Number: 2030-01  
Project Manager: Chris Rhea

Reported:  
12/05/14 10:29

**APEX LABS**      **CHAIN OF CUSTODY**      Lab # A460747      coc 2 of 2

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: EES Environmental      Project Mgr: Chris Rhea      Project Name: Banner Furniture      Project # 2030-01  
 Address: 240 N Broadway Ste 203, PDX      Phone: 503-847-2740      Fax:      Email: Chris@ees-enviro.com  
 Sampled by: Roxanne Russell

SAMPLE ID	DATE	TIME	# OF CONTAINERS	ANALYSIS REQUEST		
				NWTR-HCID	NWTR-GS	NWTR-VOC
B-3(4-5)	11/26/10	0950	2	X		
B-3(9-10)	1000	0955		X		
B-3(14-15)	1005					
B-3(19-20)	1010					
B-3(24-25)	1330			X		
B-4(4-5)	1335			X		
B-4(9-10)	1340					
B-4(14-15)	1345					
B-4(19-20)	1360					

Site Location: OR      WA  
Other: \_\_\_\_\_

LAB ID # \_\_\_\_\_

Matrix: \_\_\_\_\_

Normal Turn Around Time (TAT) = 7-10 Business Days      YES      NO

TAT Requested (circle): 2 Day      3 Day      4 DAY      5 DAY      Other: \_\_\_\_\_

SPECIAL INSTRUCTIONS: \_\_\_\_\_

RECEIVED BY: \_\_\_\_\_      RECEIVED BY: \_\_\_\_\_  
 Signature: Roxanne Russell      Date: 12/5/14      Signature: \_\_\_\_\_      Date: \_\_\_\_\_  
 Printed Name: Roxanne Russell      Title: 1257      Printed Name: \_\_\_\_\_      Title: \_\_\_\_\_  
 Company: EES      Company: Apex

Apex Laboratories



Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

12/3/2014

Mr. Chris Rhea

EES Environmental Consulting, Inc.

240 N Broadway

Suite 203

Portland OR 97227

Project Name: Banner Furniture

Project #: 2030-01

Workorder #: 1411447A

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 11/26/2014 at Air Toxics Ltd.

The data and associated QC analyzed by 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: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner

Project Manager

**WORK ORDER #: 1411447A**

Work Order Summary

<b>CLIENT:</b>	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227	<b>BILL TO:</b>	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227
<b>PHONE:</b>	530-847-2740	<b>P.O. #</b>	
<b>FAX:</b>		<b>PROJECT #</b>	2030-01 Banner Furniture
<b>DATE RECEIVED:</b>	11/26/2014	<b>CONTACT:</b>	Kelly Buettner
<b>DATE COMPLETED:</b>	12/03/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SG-1	TO-15	3.1 "Hg	14.8 psi
02A	SG-2	TO-15	4.3 "Hg	14.9 psi
03A	SG-3	TO-15	5.1 "Hg	14.9 psi
04A	SG-4	TO-15	4.9 "Hg	14.9 psi
05A	SSV-1	TO-15	4.1 "Hg	14.9 psi
06A	SSV-2	TO-15	4.7 "Hg	14.9 psi
07A	SSV-3	TO-15	4.7 "Hg	14.9 psi
08A	Lab Blank	TO-15	NA	NA
09A	CCV	TO-15	NA	NA
10A	LCS	TO-15	NA	NA
10AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 12/03/14

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

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

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**  
**EPA Method TO-15**  
**EES Environmental Consulting, Inc.**  
**Workorder# 1411447A**

Seven 1 Liter Summa Canister samples were received on November 26, 2014. The laboratory performed analysis via 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.

**Receiving Notes**

The Chain of Custody contained incorrect method information. EATL proceeded with the analysis as per the original contract or verbal agreement.

**Analytical Notes**

Dilution was performed on sample SSV-3 due to the presence of high level target species.

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

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

**Client Sample ID: SG-1**

**Lab ID#: 1411447A-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	1.4	5.5	7.0
1,3-Butadiene	1.1	5.1	2.5	11
Ethanol	4.5	14	8.4	26
Acetone	11	18	27	44
Hexane	1.1	7.8	3.9	27
2-Butanone (Methyl Ethyl Ketone)	4.5	5.7	13	17
Benzene	1.1	2.4	3.6	7.6
Heptane	1.1	1.9	4.6	7.9
Trichloroethene	1.1	2.4	6.0	13
Toluene	1.1	4.7	4.2	18
Ethyl Benzene	1.1	1.6	4.9	6.9
m,p-Xylene	1.1	3.1	4.9	13
o-Xylene	1.1	1.5	4.9	6.6
4-Ethyltoluene	1.1	1.7	5.5	8.4
1,2,4-Trimethylbenzene	1.1	1.7	5.5	8.5

**Client Sample ID: SG-2**

**Lab ID#: 1411447A-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	1.2	5.5	2.6	12
Ethanol	4.7	5.5	8.8	10
Acetone	12	20	28	46
2-Butanone (Methyl Ethyl Ketone)	4.7	4.8	14	14
Benzene	1.2	2.0	3.8	6.3
Toluene	1.2	3.4	4.4	13
m,p-Xylene	1.2	1.7	5.1	7.6

**Client Sample ID: SG-3**

**Lab ID#: 1411447A-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	1.2	26	2.7	57

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

**Client Sample ID: SG-3**

**Lab ID#: 1411447A-03A**

Ethanol	4.9	5.8	9.2	11
Hexane	1.2	5.6	4.3	20
Cyclohexane	1.2	1.3	4.2	4.4
Benzene	1.2	7.7	3.9	25
Heptane	1.2	2.9	5.0	12
Toluene	1.2	7.5	4.6	28
Ethyl Benzene	1.2	1.4	5.3	5.9
m,p-Xylene	1.2	4.7	5.3	20
o-Xylene	1.2	2.0	5.3	8.5
4-Ethyltoluene	1.2	2.0	6.0	10
1,2,4-Trimethylbenzene	1.2	2.5	6.0	12

**Client Sample ID: SG-4**

**Lab ID#: 1411447A-04A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	1.2	22	2.7	48
Ethanol	4.8	4.9	9.1	9.3
Acetone	12	65	29	150
Hexane	1.2	6.1	4.2	21
2-Butanone (Methyl Ethyl Ketone)	4.8	18	14	53
Benzene	1.2	6.3	3.8	20
Heptane	1.2	5.2	4.9	21
Toluene	1.2	29	4.5	110
Ethyl Benzene	1.2	1.6	5.2	6.8
m,p-Xylene	1.2	4.8	5.2	21
o-Xylene	1.2	1.9	5.2	8.2
4-Ethyltoluene	1.2	1.5	5.9	7.3
1,2,4-Trimethylbenzene	1.2	1.7	5.9	8.2

**Client Sample ID: SSV-1**

**Lab ID#: 1411447A-05A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
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## Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: SSV-1**

**Lab ID#: 1411447A-05A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.7	9.5	8.8	18
Hexane	1.2	140	4.1	480
Toluene	1.2	3.9	4.4	15
m,p-Xylene	1.2	2.9	5.0	12
4-Ethyltoluene	1.2	1.5	5.7	7.2
1,2,4-Trimethylbenzene	1.2	1.9	5.7	9.4

**Client Sample ID: SSV-2**

**Lab ID#: 1411447A-06A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.8	60	9.0	110
Acetone	12	210	28	490
2-Propanol	4.8	18	12	44
Hexane	1.2	13	4.2	45
Toluene	1.2	2.5	4.5	9.5
m,p-Xylene	1.2	1.6	5.2	6.9

**Client Sample ID: SSV-3**

**Lab ID#: 1411447A-07A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Disulfide	19	19 J	59	58 J
Hexane	4.8	2000	17	6900
Heptane	4.8	9.7	20	40
Toluene	4.8	13	18	49
m,p-Xylene	4.8	11	21	47
4-Ethyltoluene	4.8	5.0	23	25



Air Toxics

Client Sample ID: SG-1

Lab ID#: 1411447A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120217	Date of Collection:	11/25/14 11:02:00 A
Dil. Factor:	2.24	Date of Analysis:	12/2/14 08:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	1.4	5.5	7.0
Freon 114	1.1	Not Detected	7.8	Not Detected
Chloromethane	11	Not Detected	23	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	5.1	2.5	11
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	4.5	Not Detected	12	Not Detected
Freon 11	1.1	Not Detected	6.3	Not Detected
Ethanol	4.5	14	8.4	26
Freon 113	1.1	Not Detected	8.6	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Acetone	11	18	27	44
2-Propanol	4.5	Not Detected	11	Not Detected
Carbon Disulfide	4.5	Not Detected	14	Not Detected
3-Chloropropene	4.5	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.0	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Hexane	1.1	7.8	3.9	27
1,1-Dichloroethane	1.1	Not Detected	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.5	5.7	13	17
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.3	Not Detected
Chloroform	1.1	Not Detected	5.5	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Cyclohexane	1.1	Not Detected	3.8	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.2	Not Detected
Benzene	1.1	2.4	3.6	7.6
1,2-Dichloroethane	1.1	Not Detected	4.5	Not Detected
Heptane	1.1	1.9	4.6	7.9
Trichloroethene	1.1	2.4	6.0	13
1,2-Dichloropropane	1.1	Not Detected	5.2	Not Detected
1,4-Dioxane	4.5	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.5	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.6	Not Detected
Toluene	1.1	4.7	4.2	18
trans-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Tetrachloroethene	1.1	Not Detected	7.6	Not Detected
2-Hexanone	4.5	Not Detected	18	Not Detected



Air Toxics

Client Sample ID: SG-1

Lab ID#: 1411447A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120217	Date of Collection:	11/25/14 11:02:00 A
Dil. Factor:	2.24	Date of Analysis:	12/2/14 08:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.1	Not Detected	9.5	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.6	Not Detected
Chlorobenzene	1.1	Not Detected	5.2	Not Detected
Ethyl Benzene	1.1	1.6	4.9	6.9
m,p-Xylene	1.1	3.1	4.9	13
o-Xylene	1.1	1.5	4.9	6.6
Styrene	1.1	Not Detected	4.8	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.5	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.7	Not Detected
Propylbenzene	1.1	Not Detected	5.5	Not Detected
4-Ethyltoluene	1.1	1.7	5.5	8.4
1,3,5-Trimethylbenzene	1.1	Not Detected	5.5	Not Detected
1,2,4-Trimethylbenzene	1.1	1.7	5.5	8.5
1,3-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.8	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,2,4-Trichlorobenzene	4.5	Not Detected	33	Not Detected
Hexachlorobutadiene	4.5	Not Detected	48	Not Detected
Naphthalene	4.5	Not Detected	23	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: SG-2

Lab ID#: 1411447A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120218	Date of Collection:	11/25/14 12:10:00 P
Dil. Factor:	2.35	Date of Analysis:	12/2/14 09:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.2	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	5.5	2.6	12
Bromomethane	12	Not Detected	46	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.6	Not Detected
Ethanol	4.7	5.5	8.8	10
Freon 113	1.2	Not Detected	9.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	20	28	46
2-Propanol	4.7	Not Detected	12	Not Detected
Carbon Disulfide	4.7	Not Detected	15	Not Detected
3-Chloropropene	4.7	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	4.8	14	14
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.5	Not Detected
Benzene	1.2	2.0	3.8	6.3
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.9	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	3.4	4.4	13
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	8.0	Not Detected
2-Hexanone	4.7	Not Detected	19	Not Detected



Air Toxics

Client Sample ID: SG-2

Lab ID#: 1411447A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120218	Date of Collection:	11/25/14 12:10:00 P
Dil. Factor:	2.35	Date of Analysis:	12/2/14 09:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	Not Detected	5.1	Not Detected
m,p-Xylene	1.2	1.7	5.1	7.6
o-Xylene	1.2	Not Detected	5.1	Not Detected
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.1	Not Detected
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.8	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.1	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.1	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.1	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.1	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	35	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected
Naphthalene	4.7	Not Detected	25	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: SG-3

Lab ID#: 1411447A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120219	Date of Collection:	11/25/14 12:42:00 P
Dil. Factor:	2.43	Date of Analysis:	12/2/14 09:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Freon 114	1.2	Not Detected	8.5	Not Detected
Chloromethane	12	Not Detected	25	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	26	2.7	57
Bromomethane	12	Not Detected	47	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	6.8	Not Detected
Ethanol	4.9	5.8	9.2	11
Freon 113	1.2	Not Detected	9.3	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	12	Not Detected	29	Not Detected
2-Propanol	4.9	Not Detected	12	Not Detected
Carbon Disulfide	4.9	Not Detected	15	Not Detected
3-Chloropropene	4.9	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.4	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	5.6	4.3	20
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	5.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Cyclohexane	1.2	1.3	4.2	4.4
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.7	Not Detected
Benzene	1.2	7.7	3.9	25
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Heptane	1.2	2.9	5.0	12
Trichloroethene	1.2	Not Detected	6.5	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.6	Not Detected
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Bromodichloromethane	1.2	Not Detected	8.1	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	7.5	4.6	28
trans-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	Not Detected	8.2	Not Detected
2-Hexanone	4.9	Not Detected	20	Not Detected



Client Sample ID: SG-3

Lab ID#: 1411447A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120219	Date of Collection:	11/25/14 12:42:00 P
Dil. Factor:	2.43	Date of Analysis:	12/2/14 09:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.3	Not Detected
Chlorobenzene	1.2	Not Detected	5.6	Not Detected
Ethyl Benzene	1.2	1.4	5.3	5.9
m,p-Xylene	1.2	4.7	5.3	20
o-Xylene	1.2	2.0	5.3	8.5
Styrene	1.2	Not Detected	5.2	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	6.0	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.3	Not Detected
Propylbenzene	1.2	Not Detected	6.0	Not Detected
4-Ethyltoluene	1.2	2.0	6.0	10
1,3,5-Trimethylbenzene	1.2	Not Detected	6.0	Not Detected
1,2,4-Trimethylbenzene	1.2	2.5	6.0	12
1,3-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.3	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,2,4-Trichlorobenzene	4.9	Not Detected	36	Not Detected
Hexachlorobutadiene	4.9	Not Detected	52	Not Detected
Naphthalene	4.9	Not Detected	25	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: SG-4

Lab ID#: 1411447A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120220	Date of Collection:	11/25/14 1:16:00 PM
Dil. Factor:	2.41	Date of Analysis:	12/2/14 11:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Freon 114	1.2	Not Detected	8.4	Not Detected
Chloromethane	12	Not Detected	25	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	22	2.7	48
Bromomethane	12	Not Detected	47	Not Detected
Chloroethane	4.8	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	6.8	Not Detected
Ethanol	4.8	4.9	9.1	9.3
Freon 113	1.2	Not Detected	9.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	12	65	29	150
2-Propanol	4.8	Not Detected	12	Not Detected
Carbon Disulfide	4.8	Not Detected	15	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	6.1	4.2	21
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	18	14	53
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	5.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Cyclohexane	1.2	Not Detected	4.1	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.6	Not Detected
Benzene	1.2	6.3	3.8	20
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Heptane	1.2	5.2	4.9	21
Trichloroethene	1.2	Not Detected	6.5	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.6	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.1	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	29	4.5	110
trans-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	Not Detected	8.2	Not Detected
2-Hexanone	4.8	Not Detected	20	Not Detected



Air Toxics

Client Sample ID: SG-4

Lab ID#: 1411447A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120220	Date of Collection:	11/25/14 1:16:00 PM
Dil. Factor:	2.41	Date of Analysis:	12/2/14 11:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.2	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	1.6	5.2	6.8
m,p-Xylene	1.2	4.8	5.2	21
o-Xylene	1.2	1.9	5.2	8.2
Styrene	1.2	Not Detected	5.1	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.9	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.3	Not Detected
Propylbenzene	1.2	Not Detected	5.9	Not Detected
4-Ethyltoluene	1.2	1.5	5.9	7.3
1,3,5-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,2,4-Trimethylbenzene	1.2	1.7	5.9	8.2
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	36	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected
Naphthalene	4.8	Not Detected	25	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: SSV-1

Lab ID#: 1411447A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120221	Date of Collection:	11/25/14 2:26:00 PM
Dil. Factor:	2.33	Date of Analysis:	12/2/14 11:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.7	9.5	8.8	18
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	Not Detected	28	Not Detected
2-Propanol	4.7	Not Detected	11	Not Detected
Carbon Disulfide	4.7	Not Detected	14	Not Detected
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	140	4.1	480
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	3.9	4.4	15
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
2-Hexanone	4.7	Not Detected	19	Not Detected



Air Toxics

Client Sample ID: SSV-1

Lab ID#: 1411447A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120221	Date of Collection:	11/25/14 2:26:00 PM
Dil. Factor:	2.33	Date of Analysis:	12/2/14 11:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	2.9	5.0	12
o-Xylene	1.2	Not Detected	5.0	Not Detected
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	1.5	5.7	7.2
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	1.9	5.7	9.4
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	34	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected
Naphthalene	4.7	Not Detected	24	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: SSV-2

Lab ID#: 1411447A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120222	Date of Collection:	11/25/14 2:49:00 PM
Dil. Factor:	2.39	Date of Analysis:	12/3/14 12:03 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.9	Not Detected
Freon 114	1.2	Not Detected	8.4	Not Detected
Chloromethane	12	Not Detected	25	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	46	Not Detected
Chloroethane	4.8	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	6.7	Not Detected
Ethanol	4.8	60	9.0	110
Freon 113	1.2	Not Detected	9.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Acetone	12	210	28	490
2-Propanol	4.8	18	12	44
Carbon Disulfide	4.8	Not Detected	15	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Hexane	1.2	13	4.2	45
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	Not Detected	5.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Cyclohexane	1.2	Not Detected	4.1	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.5	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.6	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.0	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	2.5	4.5	9.5
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	Not Detected	8.1	Not Detected
2-Hexanone	4.8	Not Detected	20	Not Detected



Air Toxics

Client Sample ID: SSV-2

Lab ID#: 1411447A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120222	Date of Collection:	11/25/14 2:49:00 PM
Dil. Factor:	2.39	Date of Analysis:	12/3/14 12:03 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.2	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
m,p-Xylene	1.2	1.6	5.2	6.9
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	Not Detected	5.1	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.9	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.2	Not Detected
Propylbenzene	1.2	Not Detected	5.9	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.9	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	35	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected
Naphthalene	4.8	Not Detected	25	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: SSV-3

Lab ID#: 1411447A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120223	Date of Collection:	11/25/14 3:24:00 PM
Dil. Factor:	9.55	Date of Analysis:	12/3/14 12:28 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	4.8	Not Detected	24	Not Detected
Freon 114	4.8	Not Detected	33	Not Detected
Chloromethane	48	Not Detected	99	Not Detected
Vinyl Chloride	4.8	Not Detected	12	Not Detected
1,3-Butadiene	4.8	Not Detected	10	Not Detected
Bromomethane	48	Not Detected	180	Not Detected
Chloroethane	19	Not Detected	50	Not Detected
Freon 11	4.8	Not Detected	27	Not Detected
Ethanol	19	Not Detected	36	Not Detected
Freon 113	4.8	Not Detected	36	Not Detected
1,1-Dichloroethene	4.8	Not Detected	19	Not Detected
Acetone	48	Not Detected	110	Not Detected
2-Propanol	19	Not Detected	47	Not Detected
Carbon Disulfide	19	19 J	59	58 J
3-Chloropropene	19	Not Detected	60	Not Detected
Methylene Chloride	48	Not Detected	160	Not Detected
Methyl tert-butyl ether	4.8	Not Detected	17	Not Detected
trans-1,2-Dichloroethene	4.8	Not Detected	19	Not Detected
Hexane	4.8	2000	17	6900
1,1-Dichloroethane	4.8	Not Detected	19	Not Detected
2-Butanone (Methyl Ethyl Ketone)	19	Not Detected	56	Not Detected
cis-1,2-Dichloroethene	4.8	Not Detected	19	Not Detected
Tetrahydrofuran	4.8	Not Detected	14	Not Detected
Chloroform	4.8	Not Detected	23	Not Detected
1,1,1-Trichloroethane	4.8	Not Detected	26	Not Detected
Cyclohexane	4.8	Not Detected	16	Not Detected
Carbon Tetrachloride	4.8	Not Detected	30	Not Detected
2,2,4-Trimethylpentane	4.8	Not Detected	22	Not Detected
Benzene	4.8	Not Detected	15	Not Detected
1,2-Dichloroethane	4.8	Not Detected	19	Not Detected
Heptane	4.8	9.7	20	40
Trichloroethene	4.8	Not Detected	26	Not Detected
1,2-Dichloropropane	4.8	Not Detected	22	Not Detected
1,4-Dioxane	19	Not Detected	69	Not Detected
Bromodichloromethane	4.8	Not Detected	32	Not Detected
cis-1,3-Dichloropropene	4.8	Not Detected	22	Not Detected
4-Methyl-2-pentanone	4.8	Not Detected	20	Not Detected
Toluene	4.8	13	18	49
trans-1,3-Dichloropropene	4.8	Not Detected	22	Not Detected
1,1,2-Trichloroethane	4.8	Not Detected	26	Not Detected
Tetrachloroethene	4.8	Not Detected	32	Not Detected
2-Hexanone	19	Not Detected	78	Not Detected



Air Toxics

Client Sample ID: SSV-3

Lab ID#: 1411447A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120223	Date of Collection:	11/25/14 3:24:00 PM
Dil. Factor:	9.55	Date of Analysis:	12/3/14 12:28 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	4.8	Not Detected	41	Not Detected
1,2-Dibromoethane (EDB)	4.8	Not Detected	37	Not Detected
Chlorobenzene	4.8	Not Detected	22	Not Detected
Ethyl Benzene	4.8	Not Detected	21	Not Detected
m,p-Xylene	4.8	11	21	47
o-Xylene	4.8	Not Detected	21	Not Detected
Styrene	4.8	Not Detected	20	Not Detected
Bromoform	4.8	Not Detected	49	Not Detected
Cumene	4.8	Not Detected	23	Not Detected
1,1,2,2-Tetrachloroethane	4.8	Not Detected	33	Not Detected
Propylbenzene	4.8	Not Detected	23	Not Detected
4-Ethyltoluene	4.8	5.0	23	25
1,3,5-Trimethylbenzene	4.8	Not Detected	23	Not Detected
1,2,4-Trimethylbenzene	4.8	Not Detected	23	Not Detected
1,3-Dichlorobenzene	4.8	Not Detected	29	Not Detected
1,4-Dichlorobenzene	4.8	Not Detected	29	Not Detected
alpha-Chlorotoluene	4.8	Not Detected	25	Not Detected
1,2-Dichlorobenzene	4.8	Not Detected	29	Not Detected
1,2,4-Trichlorobenzene	19	Not Detected	140	Not Detected
Hexachlorobutadiene	19	Not Detected	200	Not Detected
Naphthalene	19	Not Detected	100	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1411447A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120209	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/2/14 04:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



Client Sample ID: Lab Blank

Lab ID#: 1411447A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120209	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 04:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1411447A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120205	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 01:38 PM

Compound	%Recovery
Freon 12	96
Freon 114	95
Chloromethane	98
Vinyl Chloride	92
1,3-Butadiene	97
Bromomethane	96
Chloroethane	104
Freon 11	95
Ethanol	101
Freon 113	94
1,1-Dichloroethene	92
Acetone	101
2-Propanol	101
Carbon Disulfide	95
3-Chloropropene	102
Methylene Chloride	99
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	96
Hexane	100
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	94
Tetrahydrofuran	97
Chloroform	95
1,1,1-Trichloroethane	95
Cyclohexane	100
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	103
Benzene	96
1,2-Dichloroethane	93
Heptane	102
Trichloroethene	94
1,2-Dichloropropane	91
1,4-Dioxane	96
Bromodichloromethane	91
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	95
Toluene	97
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	93
Tetrachloroethene	95
2-Hexanone	96



Air Toxics

Client Sample ID: CCV

Lab ID#: 1411447A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120205	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 01:38 PM

Compound	%Recovery
Dibromochloromethane	95
1,2-Dibromoethane (EDB)	96
Chlorobenzene	95
Ethyl Benzene	98
m,p-Xylene	102
o-Xylene	101
Styrene	96
Bromoform	96
Cumene	102
1,1,2,2-Tetrachloroethane	95
Propylbenzene	97
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	94
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	92
Naphthalene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1411447A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 12:36 PM

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	97	70-130
Chloromethane	100	70-130
Vinyl Chloride	96	70-130
1,3-Butadiene	97	70-130
Bromomethane	96	70-130
Chloroethane	107	70-130
Freon 11	96	70-130
Ethanol	120	70-130
Freon 113	101	70-130
1,1-Dichloroethene	96	70-130
Acetone	90	70-130
2-Propanol	108	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	98	70-130
Methylene Chloride	103	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	91	70-130
Hexane	100	70-130
1,1-Dichloroethane	99	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
cis-1,2-Dichloroethene	96	70-130
Tetrahydrofuran	98	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	101	70-130
Carbon Tetrachloride	97	70-130
2,2,4-Trimethylpentane	103	70-130
Benzene	99	70-130
1,2-Dichloroethane	94	70-130
Heptane	102	70-130
Trichloroethene	97	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	101	70-130
Bromodichloromethane	93	70-130
cis-1,3-Dichloropropene	105	70-130
4-Methyl-2-pentanone	101	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	94	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	97	70-130
2-Hexanone	109	70-130

Client Sample ID: LCS

Lab ID#: 1411447A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 12:36 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	97	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	105	70-130
o-Xylene	103	70-130
Styrene	115	70-130
Bromoform	101	70-130
Cumene	106	70-130
1,1,2,2-Tetrachloroethane	97	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	106	70-130
1,3,5-Trimethylbenzene	121	70-130
1,2,4-Trimethylbenzene	112	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	106	70-130
alpha-Chlorotoluene	169 Q	70-130
1,2-Dichlorobenzene	107	70-130
1,2,4-Trichlorobenzene	142 Q	70-130
Hexachlorobutadiene	136 Q	70-130
Naphthalene	98	60-140

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1411447A-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 01:03 PM

Compound	%Recovery	Method Limits
Freon 12	103	70-130
Freon 114	99	70-130
Chloromethane	102	70-130
Vinyl Chloride	99	70-130
1,3-Butadiene	99	70-130
Bromomethane	98	70-130
Chloroethane	108	70-130
Freon 11	98	70-130
Ethanol	123	70-130
Freon 113	103	70-130
1,1-Dichloroethene	98	70-130
Acetone	95	70-130
2-Propanol	112	70-130
Carbon Disulfide	92	70-130
3-Chloropropene	101	70-130
Methylene Chloride	105	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	94	70-130
Hexane	103	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	103	70-130
cis-1,2-Dichloroethene	98	70-130
Tetrahydrofuran	100	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	99	70-130
2,2,4-Trimethylpentane	106	70-130
Benzene	99	70-130
1,2-Dichloroethane	94	70-130
Heptane	102	70-130
Trichloroethene	97	70-130
1,2-Dichloropropane	93	70-130
1,4-Dioxane	122	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	104	70-130
4-Methyl-2-pentanone	100	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	97	70-130
1,1,2-Trichloroethane	92	70-130
Tetrachloroethene	98	70-130
2-Hexanone	109	70-130

Client Sample ID: LCSD

Lab ID#: 1411447A-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3120204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 01:03 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	97	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	106	70-130
o-Xylene	103	70-130
Styrene	115	70-130
Bromoform	102	70-130
Cumene	106	70-130
1,1,2,2-Tetrachloroethane	97	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	122	70-130
1,2,4-Trimethylbenzene	111	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	170 Q	70-130
1,2-Dichlorobenzene	107	70-130
1,2,4-Trichlorobenzene	140 Q	70-130
Hexachlorobutadiene	135 Q	70-130
Naphthalene	98	60-140

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Sample Transportation Notice

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

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

Page 1 of 1

Project Manager Chris Rhea  
Collected by: (Print and Sign) Rayme Russell  
Company EES Environmental Email Chris@ees-environ.com  
Address 240 N Broadway St <sup>203</sup> Portland State ME Zip 97207  
Phone \_\_\_\_\_ Fax \_\_\_\_\_

Project Info:  
P.O. # \_\_\_\_\_  
Project # 2030-01  
Project Name Banner Furniture

Turn Around Time:  
 Normal  
 Rush  
specify \_\_\_\_\_  
Lab Use Only  
Pressurized by: \_\_\_\_\_  
Date: \_\_\_\_\_  
Pressurization Gas: \_\_\_\_\_  
N<sub>2</sub> He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum	
						Initial	Final (psf)
01A	SG-1	31783	11-25-14	1102	TO-15 Hi/Lo for <del>6</del> MS and Helium	30	6
02A	SG-2	37312		1210		30	6
03A	SG-3	33713		1242		30	6
04A	SG-4	34087		1316		30	6
05A	SSV-1	35618		1426		30	6
06A	SSV-2	37778		1449		30	6
07A	SSV-3	34637		1524		30	6

Relinquished by: (signature) Rayme Russell Date/Time 11-25-14 1630  
 Received by: (signature) Rayme Russell Date/Time 11/26/14 1005  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_

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

Shipper Name FEDEX Air Bill # \_\_\_\_\_ Temp (°C) NA Condition Good Custody Seals Intact? Yes No None Work Order # 1411447

12/3/2014

Mr. Chris Rhea  
EES Environmental Consulting, Inc.  
240 N Broadway  
Suite 203  
Portland OR 97227

Project Name: Banner Furniture  
Project #: 2030-01  
Workorder #: 1411447B

Dear Mr. Chris Rhea

The following report includes the data for the above referenced project for sample(s) received on 11/26/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 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: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**WORK ORDER #: 1411447B**

Work Order Summary

<b>CLIENT:</b>	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227	<b>BILL TO:</b>	Mr. Chris Rhea EES Environmental Consulting, Inc. 240 N Broadway Suite 203 Portland, OR 97227
<b>PHONE:</b>	530-847-2740	<b>P.O. #</b>	
<b>FAX:</b>		<b>PROJECT #</b>	2030-01 Banner Furniture
<b>DATE RECEIVED:</b>	11/26/2014	<b>CONTACT:</b>	Kelly Buettner
<b>DATE COMPLETED:</b>	12/03/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SG-1	Modified ASTM D-1946	3.1 "Hg	14.8 psi
02A	SG-2	Modified ASTM D-1946	4.3 "Hg	14.9 psi
03A	SG-3	Modified ASTM D-1946	5.1 "Hg	14.9 psi
04A	SG-4	Modified ASTM D-1946	4.9 "Hg	14.9 psi
05A	SSV-1	Modified ASTM D-1946	4.1 "Hg	14.9 psi
06A	SSV-2	Modified ASTM D-1946	4.7 "Hg	14.9 psi
07A	SSV-3	Modified ASTM D-1946	4.7 "Hg	14.9 psi
08A	Lab Blank	Modified ASTM D-1946	NA	NA
09A	LCS	Modified ASTM D-1946	NA	NA
09AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 12/03/14

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

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

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 ASTM D-1946**  
**EES Environmental Consulting, Inc.**  
**Workorder# 1411447B**

Seven 1 Liter Summa Canister samples were received on November 26, 2014. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

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>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 X$ 's the RL.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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**  
**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

**Client Sample ID: SG-1**

**Lab ID#: 1411447B-01A**

No Detections Were Found.

**Client Sample ID: SG-2**

**Lab ID#: 1411447B-02A**

No Detections Were Found.

**Client Sample ID: SG-3**

**Lab ID#: 1411447B-03A**

No Detections Were Found.

**Client Sample ID: SG-4**

**Lab ID#: 1411447B-04A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.12	28

**Client Sample ID: SSV-1**

**Lab ID#: 1411447B-05A**

No Detections Were Found.

**Client Sample ID: SSV-2**

**Lab ID#: 1411447B-06A**

No Detections Were Found.

**Client Sample ID: SSV-3**

**Lab ID#: 1411447B-07A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.12	12



Air Toxics

Client Sample ID: SG-1

Lab ID#: 1411447B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120204b	Date of Collection:	11/25/14 11:02:00 A
Dil. Factor:	2.23	Date of Analysis:	12/2/14 01:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SG-2

Lab ID#: 1411447B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120205b	Date of Collection:	11/25/14 12:10:00 P
Dil. Factor:	2.35	Date of Analysis:	12/2/14 02:16 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SG-3

Lab ID#: 1411447B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120206b	Date of Collection:	11/25/14 12:42:00 P
Dil. Factor:	2.43	Date of Analysis:	12/2/14 02:39 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SG-4

Lab ID#: 1411447B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120207b	Date of Collection:	11/25/14 1:16:00 PM
Dil. Factor:	2.41	Date of Analysis:	12/2/14 03:05 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.12	28

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SSV-1

Lab ID#: 1411447B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120208b	Date of Collection:	11/25/14 2:26:00 PM
Dil. Factor:	2.33	Date of Analysis:	12/2/14 03:28 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SSV-2

Lab ID#: 1411447B-06A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9120209b	Date of Collection:	11/25/14 2:49:00 PM
Dil. Factor:	2.39	Date of Analysis:	12/2/14 04:00 PM

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SSV-3

Lab ID#: 1411447B-07A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9120210b	Date of Collection:	11/25/14 3:24:00 PM
Dil. Factor:	2.39	Date of Analysis:	12/2/14 04:24 PM

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.12	12

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1411447B-08A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9120203b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/2/14 12:56 PM

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.050	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1411447B-09A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9120202b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/14 12:35 PM

Compound	%Recovery	Method Limits
Helium	92	85-115

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1411447B-09AA

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9120211b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/2/14 04:59 PM

Compound	%Recovery	Method Limits
Helium	92	85-115

Container Type: NA - Not Applicable



Air Toxics

Sample Transportation Notice

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

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

Page 1 of 1

Project Manager Chris Rhea  
Collected by: (Print and Sign) Rayme Russell  
Company EES Environmental Email Chris@ees-environ.com  
Address 240 N Broadway St <sup>203</sup> Portland State ME Zip 97207  
Phone \_\_\_\_\_ Fax \_\_\_\_\_

Project Info:  
P.O. # \_\_\_\_\_  
Project # 2030-01  
Project Name Banner Furniture

Turn Around Time:  
 Normal  
 Rush  
specify \_\_\_\_\_  
Lab Use Only  
Pressurized by: \_\_\_\_\_  
Date: \_\_\_\_\_  
Pressurization Gas: \_\_\_\_\_  
N<sub>2</sub> He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum	
						Initial	Final (psf)
01A	SG-1	31783	11-25-14	1102	TO-15 Hi/Lo for <del>6/MS</del> and Helium	30	6
02A	SG-2	37312		1210		30	6
03A	SG-3	33713		1242		30	6
04A	SG-4	34087		1316		30	6
05A	SSV-1	35618		1426		30	6
06A	SSV-2	37778		1449		30	6
07A	SSV-3	34637		1524		30	6

Relinquished by: (signature) Rayme Russell Date/Time 11-25-14 1630  
 Received by: (signature) Rayme Russell Date/Time 11/26/14 1005  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time \_\_\_\_\_

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

Shipper Name FEDEX Air Bill # \_\_\_\_\_ Temp (°C) NA Condition Good Custody Seals Intact? Yes No None Work Order # 1411447