



SoundEarth Strategies, Inc.  
2811 Fairview Avenue East, Suite 2000  
Seattle, Washington 98102

June 28, 2018

Mr. Paul Klansnic  
TB TS/RELP LLC  
2025 First Avenue, Suite 1212  
Seattle, Washington 98121

**SUBJECT: VAPOR INTRUSION ASSESSMENT REPORT**  
**Troy Laundry Property**  
**307 Fairview Avenue North**  
**Seattle, Washington**  
**Project Number: 0731-004-05**

Dear Mr. Klansnic:

SoundEarth Strategies, Inc. (SoundEarth) has prepared this report to present the results of the 2018 indoor air vapor intrusion assessment that was conducted at the Troy Laundry Property located at 307 Fairview Avenue North in Seattle, Washington (the Property; post-redevelopment Property address South Tower 300 Boren Avenue North and North Tower 399 Fairview Avenue North). The location of the Property is shown on Figure 1. The vapor intrusion assessment was performed in accordance with the Vapor Intrusion Assessment Work Plan (VI Work Plan; SoundEarth 2018). The Property is currently managed under the authority of Agreed Order No. DE 8996 between Touchstone SLU LLC and the Washington State Department of Ecology (Ecology).

The assessment was performed to evaluate the potential vapor intrusion pathway at the Property, and to assess whether the interim action goal for indoor air has been achieved. The goal for indoor air at the Property is for concentrations of chemicals of concern (COCs) to be below remediation levels at the point of compliance, as presented in the Interim Action Plan (IAP; SoundEarth 2013) that was previously reviewed and approved by Ecology. The engineering control components at the Property associated with the remediation levels includes a vapor barrier, capping (foundation slab), air exchange system in the parking garage levels, and positive pressure in the building elevator lobbies.

The points of compliance for indoor are the standard point of compliance per Chapter 173-340-750(6) of the Washington Administrative Code (WAC), which is ambient air throughout the Property. A detailed description of interim action work conducted between February 2014 and June 2015 is provided in the Interim Action Progress Report (SoundEarth 2016).

## **BACKGROUND**

Previous environmental investigations completed on the Property confirmed the presence of chlorinated volatile organic compounds (CVOCs), including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride in soil, as well as gasoline-range petroleum hydrocarbons

(GRPH), diesel-range petroleum hydrocarbons, and oil-range petroleum hydrocarbons in soil. Soil vapor and groundwater beneath the Property and beneath portions of the Boren Avenue North, and Thomas Street (the Site) also contain CVOCs above applicable cleanup levels. Additional background information and references are provided in the Draft Remedial Investigation Report (SoundEarth 2012a), Draft Feasibility Study (SoundEarth 2012b), and Draft Addendum—Supplemental Remedial Investigation Report (SoundEarth 2012c).

Between July 2014 and February 2015, as part of the interim action, the Property was excavated from lot-line to lot-line. Once soil was excavated, soil samples were collected to document that all soils exceeding MTCA Method A cleanup levels had been removed from within the boundaries of the Property.

As part of the vapor intrusion evaluation, Ecology requested that SoundEarth evaluate soil analytical results from the final extents of the remedial excavation to determine if residual COCs remain beyond the limits of the engineered shoring wall. A total of 178 soil samples were collected from the sidewalls and 20 soil samples were collected from the floor of the excavation:

- The analytical results from the floor of the excavation and the east and south sidewalls indicated that concentrations of all COCs were below interim action remediation levels for soil, including samples collected from beneath the elevator pit locations.
- Of 13 soil samples collected from the north sidewall of the excavation, analytical results for all COCs were below laboratory reporting limits except for a single sample at an approximate elevation of 32 feet North American Vertical Datum of 1988, which contained concentrations of GRPH above the interim action remediation level (Table 1).
- Of 125 soil samples collected from the west sidewall of the excavation, 6 samples contained concentrations of PCE and TCE above interim action remediation levels and 2 samples contained concentrations of GRPH above the interim action remediation level. Soil analytical data is presented in Table 1.

Following excavation activities, monitoring wells were installed to replace the wells that were decommissioned during the excavation, and a groundwater injection system was installed. The injection system is part of an in situ treatment system for contaminated groundwater using enhanced reductive dechlorination. In May 2015, April 2016, and June 2017, SoundEarth completed injection treatment events at the Property, in general accordance with the Engineering Design Report (EDR; SoundEarth 2014). The EDR was prepared to include details necessary to implement the IAP.

A quarterly groundwater monitoring program was initiated at the Site to evaluate the injection system progress and to provide additional data on the groundwater flow at the Site. Quarterly groundwater monitoring events have been conducted at the Property since 2015. Since 2015 and as of the 1st Quarter of 2018, concentrations of PCE and TCE in the groundwater at the Property have decreased to less than MTCA Method A groundwater cleanup levels, except for the concentration of PCE in the groundwater at monitoring well IW61 (located in the southeast corner of the Property), which exceeded the MTCA Method A cleanup level. Concentrations of cis-1,2-DCE and vinyl chloride in the groundwater at the Property have slightly increased as a result of enhanced reductive dichlorination of PCE and TCE.

## INDOOR AIR MONITORING EVENT

The scope of work for the vapor intrusion assessment, which was approved in advance by Ecology, included conducting a building survey and collecting indoor air samples and an outdoor background air sample. The scope of work was conducted in general accordance with Ecology's *DRAFT: Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* and VI Work Plan. The scope of work included the following work elements:

- Prior to collecting air quality samples, SoundEarth completed a building survey of the South Tower and parking garage to evaluate the potential volatile organic compound sources or materials that may contribute to background indoor air contamination.
- Eighteen indoor air samples (IA01 through IA16 and IA19 and IA20) and one outdoor air sample (OA01) were collected during the sampling event. The indoor air sample locations are shown on Figures 2 through 6 and are described below:
  - Seven indoor air samples were collected on the garage parking level P5 (Figure 2). The samples will be collected:
    - IA01, along the north wall of P5, adjacent to soil sample A18NSW.
    - IA02, the northern portion of P5, within the northern stairway.
    - IA03, along the west sidewall, adjacent to soil sample P1WSW and monitoring well MW19.
    - IA04, along the west sidewall, adjacent to soil sample V1SWS and monitoring well MW25.
    - IA05, located next to the elevator shaft, in the vicinity of MW24. The sample was collected during the weekday to simulate normal elevator function.
    - IA06, located in the elevator lobby, to assess intrusion to upper levels of the building.
    - IA07, located in the northwestern portion of P5, in the vicinity of monitoring well MW26.
  - Three indoor air samples (IA08 through IA10) were collected from garage parking level P4 along the western portion of the parking garage level (Figure 3).
  - Three indoor samples (IA11 through IA13) were collected from garage parking level P3. Two samples were collected along the western wall. One sample (IA13) was collected from the eastern portion of the parking garage level as an ambient background sample (Figure 4).
  - Three indoor air samples (IA14 through IA16) were collected from garage parking level P2 along the western portion of the parking garage level (Figure 5).
  - Two indoor air samples (IA19 through IA20) were collected from parking garage level P1 along the western portion of the parking garage level and the northern stairway (Figure 6). Two additional samples, IA17 and IA18 were proposed for garage parking level P1; however, during the building survey it was discovered that samples IA14 and IA15 and samples IA17 and IA18 were located on the ramps that service both the parking garage levels for P2 and P1, respectively. Therefore, samples IA17 and IA18 were not collected.

- One outdoor air sample (OA01) was collected from the exterior of the building. The sample was collected by the HVAC intake along the northern side of the building at sidewalk level (Figure 6).

Friedman & Bruya, Inc. of Seattle, Washington, provided the 6-liter, individually certified SUMMA canisters for the air samples. The SUMMA canisters for indoor air samples were fitted with individually certified flow controllers calibrated by the laboratory for an approximate 24-hour sample collection. The SUMMA canisters were placed at a height of approximately 6 feet to approximate a potential worker's breathing level. Indoor air sample IA05 was collected within the elevator shaft using a SUMMA canister.

A detailed discussion of the indoor air monitoring event is presented below.

### **Building Survey and Indoor Air Sampling Conditions**

On January 30, 2018, SoundEarth performed a site walk of the Property parking garage levels to review the proposed locations of the indoor air and outdoor air samples and perform a building survey. SoundEarth's observations included a review of current tenant operations in the parking garage levels P1 to P5; HVAC system; potential indoor air sources of contamination; and location of utilities (sewer, sumps, and cleanouts). SoundEarth did not observe any conditions outdoors, in the parking garage levels, or in the staircases between the parking garage levels that would suggest an intrinsic source for the CVOCs or Air Phase Hydrocarbons (APHs) at the proposed indoor air sampling locations. In addition, a volatile organic compound-free sealant (Safe Coat Caulking Compound) was used prior to sampling to seal 8 manhole covers on the P5 parking garage level. Prior to sealing the manhole covers, a handheld portable gas meter equipped with a photoionization detector (PID) was used to determine if volatile organic compounds were present in the manholes. All PID readings were zero. The manhole covers were then permanently sealed.

The HVAC system in the parking garage levels operated normally prior to and during sampling. The HVAC exhaust fans run continuously under normal operations. If necessary, carbon dioxide sensors in the parking garage levels modulate the exchange exhaust fans to maintain carbon monoxide levels to below acceptable levels. All cars were removed from the parking garage levels 26 hours prior to sampling.

A detailed account of observations<sup>1</sup> made during the building survey is included as Attachment A. Photographs of the building survey are included as Attachment B.

### **Sampling and Analysis**

On Sunday March 4, 2018, starting at 0220 hours (2:20 am) SoundEarth installed indoor air samples IA01 to IA04, IA06 to IA16, IA19, and IA20 in the P1 through P5 parking garage levels, and outdoor air sample OA01 on the north side of the Property on Harrison Street (Figures 2 through 6). Indoor air sample IA05 was installed in South Tower Parking Garage Elevator Shaft on March 7, 2019, at 0700 hours (7 am). Each air sample was taken with 6-liter SUMMA canisters. Each canister, except for IA05, was retrieved on Monday March 5 approximately 24 hours after installation. Canister IA05 was retrieved on March 8, approximately 24 hours after installation. The SUMMA canisters were fitted with individually certified

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<sup>1</sup> The ambient air temperature and the barometric pressure were not measured prior to or during sample collection, as such efforts were not required by Ecology pursuant to the VI Work Plan.

flow controllers calibrated by the laboratory for an approximate 24-hour sample collection. Sampling was conducted in accordance with the approved VI Work Plan.

Air samples were submitted to Friedman & Bruya, Inc. under standard chain-of-custody protocols for laboratory analysis. The air samples were analyzed for CVOCs (PCE, TCE, cis-1,2-DCE, trans-1,2-dichloroethene [trans-1,2-DCE], and vinyl chloride) and/or APHs by U.S. Environmental Protection Agency Method TO-15. Sample analysis was performed in accordance with the VI Work Plan.

## INDOOR AIR MONITORING RESULTS

Analytical results for the indoor and outdoor air samples collected as part of the indoor air monitoring event indicated the following:

- Concentrations of CVOCs and APHs in the indoor and outdoor air samples were less than the Washington State Model Toxics Control Act (MTCA) Modified Method B Indoor Air Commercial Land Use Cleanup Remediation Levels, and also below the more stringent MTCA Method B Indoor Air Cleanup Levels as presented in Table 1. Concentration of CVOCs were as follows:
  - Of the 15 indoor air samples collected, 13 did not contain concentrations of CVOCs above laboratory reporting limits.
  - Only two indoor air samples had concentrations of PCE above laboratory reporting limits: IA02 and IA20. Both concentrations of PCE are less than the MTCA Modified Method B Indoor Air Remediation Levels and also below the more stringent MTCA Method B Indoor Air Cleanup Level.
  - TCE concentrations were reported at 0.27 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and 0.34  $\mu\text{g}/\text{m}^3$  for indoor air samples IA02 and IA20, respectively.
  - cis-1,2-DCE and trans-1,2-DCE concentrations were not reported above their laboratory reporting limits of 0.2  $\mu\text{g}/\text{m}^3$ .
  - VC concentrations were not reported above the laboratory reporting limit of 0.13  $\mu\text{g}/\text{m}^3$ , except for indoor air sample IA20 which had a vinyl chloride concentration of 0.13  $\mu\text{g}/\text{m}^3$ .
- Concentrations of APHs in the indoor and outdoor air samples were less than the MTCA Modified Method B Indoor Air Remediation Levels, as presented in Table 2. Concentration of APH were as follows:
  - APH were detected in all the indoor and the outdoor air samples collected.
  - Concentrations of APH (EC5–8 aliphatics) were detected in the indoor and outdoor air samples above the laboratory reporting limits. Concentrations of EC5–8 aliphatics ranged from 49  $\mu\text{g}/\text{m}^3$  to 140  $\mu\text{g}/\text{m}^3$ . The highest concentration was detected indoor air sample IA13 collected on east wall of the P3 parking garage level.
  - Concentrations of APH (EC9–12 aliphatics) ranged in concentration less than the laboratory reporting limit of 35  $\mu\text{g}/\text{m}^3$  to 47  $\mu\text{g}/\text{m}^3$ . The highest concentration was detected indoor air sample IA20 collected on interior stairwell of the P1 parking garage level.
  - Concentrations of APH (EC9–10 aromatic) were not reported above the laboratory reporting limit of 0.25  $\mu\text{g}/\text{m}^3$ .

A copy of the laboratory analytical report is included as Attachment C.

## **DATA QUALITY CONTROL**

A data quality control assessment was conducted on field samples and laboratory analytical results. The purpose of the review was to ensure the sample results were useable and met the objectives of the project.

### **Field Quality Control**

A review of field notes showed that initial vacuum pressure in the Summa canisters ranged from 29 to 30 millimeters of mercury (mmHg). With the exception of sample IA05-20180307 (collected from the elevator pit), the final vacuum pressures measured at the time these samples were retrieved, for the samples ranged from 5 to 8 mmHg. Sample IA05-20180307 had a final vacuum pressure of 17.5 mmHg. Although the final vacuum pressure for sample IA05-20180307 was not optimal, the laboratory confirmed that the regulator on the Summa canister was working correctly with a sample rate of 3.5 millimeters/minute at the time the canister was delivered to SoundEarth and when the samples were returned to the laboratory for analysis. The anomalous final pressure readings may be attributed to pressure changes resulting from the elevator moving up and down the elevator shaft. The variable pressure in the shaft may have slowed the sampling rate during the 24-hour sampling period. However, according to the laboratory, there was sufficient sample volume in Summa canister placed in the elevator to achieve the desired detection limits for the CVOCs. Using the Ideal Gas law, it was determined that the Summa canister captured approximately 2.5 liters (6-liter Summa canister) over a 24-hour period. This volume is sufficient for a representative sample of air inside the elevator and provides a high level of certainty that the results are valid and useable.

The final vacuum pressure for Summa canister sample IA-14 was reported as 6.5 mmHg on the field notes, but as 0.5 mmHg on the laboratory chain of custody. The discrepancy between the chain of custody and field notes is attributable to poor penmanship when filling out the chain of custody.

### **Laboratory Quality Control**

Data validation was conducted on current laboratory reports provided for the air sampling event. Analytical results were evaluated for holding times, blank contamination, and accuracy and precision using quality control limits provided by the laboratory at the time an analysis was performed. Analytical results reviewed included PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and APHs for indoor and outdoor air samples.

Based on the data validation results for the laboratory reports, the analytical results are acceptable to meet the objectives of the indoor air quality evaluation.

## **CONCLUSIONS**

Concentration of CVOCs detected in the indoor air samples IA02 and IA20 were compared to MTCA Modified Method B Remediation Levels and the more stringent MTCA Method B Indoor Air Cleanup Levels, as shown in Table 1. The Modified Method B Remediation Levels for the vapor intrusion assessment conducted at the Property are based on a reasonable maximum exposure for a commercial scenario, which assumes an exposure frequency of 5 days per week 1 hour per day, for 52 weeks a year. The Modified Method B Indoor Air Remediation Levels were calculated for the Property based on a

commercial exposure scenario, in accordance with Ecology's 2009 (revised 2016) guidance document and the VI Work Plan. Acknowledging that the Property is operated as a commercial building, a residential exposure scenario is overly conservative.

The indoor air monitoring analytical results for 18 samples indicate that indoor air concentrations of CVOCs are less than laboratory reporting limits. Two indoor air samples had concentrations of CVOCs well below the Modified Method B Indoor Air Remediation Level. These samples, IA01 and IA20, were collected in the stair at the P1 and P5 parking garage levels, respectively. The MTCA Modified Method B Remediation Levels are presented on Tables 1 and 2.

Based on the results from the indoor air vapor assessment, the interim action goal for indoor air has been achieved and the following conclusions can be drawn:

- Concentrations of CVOCs in 16 of the 18 collected indoor air samples were less than the MTCA Method B cleanup level and Modified Method B Remediation Levels. These results show that indoor air quality in the parking levels, stairwell, and the elevator shaft is protective of human health for the inhalation exposure pathway.
- Concentrations of APHs in the 10 indoor air samples that were analyzed for APH were less than the MTCA Method B cleanup level and Modified Method B Remediation Levels. These results show that indoor air quality in parking levels, stairwells, and elevator shaft is protective of human health for the inhalation exposure pathway.
- CVOCs detected in the indoor air samples collected in the stairs at P1 and P6 parking garage levels did not likely originate from residual contamination in the soil adjacent to the property or from the groundwater beneath the property. The lines of evidence to support this conclusion are as follows:
  - Confirmation soil samples collected from the side wall of the remedial excavation adjacent to Harrison Street, next to the stairs, did not contain concentrations of CVOCs above laboratory reporting limits.
  - Concentrations of PCE and TCE in the groundwater at monitoring well IW04 (located proximal to the stairwell in the P5 parking garage level) have not contained concentrations of PCE above laboratory report limits, with exception of the concentration of TCE in June 2017, which slightly exceeded the laboratory reporting limit (<1 µg/L). The concentration of vinyl chloride in the groundwater sample collected from the monitoring well IW04 in March of 2018 (0.65 micrograms per liter [µg/L]) only slightly exceeded the Ecology Method B groundwater screening level for protection of indoor air (0.347 µg/L).
- According to the literature (Serlach et al. 2011), dry-cleaned clothes are common sources of solvents in houses and commercial facilities. Because there is no air exchange in the stairwells, it is possible solvents originating from cleaning products and dry-cleaned clothes are the sources of CVOCs detected in the stairwell at the P1 and P5 parking garage levels.
- The results from the vapor intrusion assessment confirm the effectiveness of the interim action cleanup action effort, and confirm that there are no impacts to indoor air quality on the Property. Furthermore, since the concentrations of CVOC and APHs are less than MTCA Method B cleanup



levels and Modified Method B Remediation Levels, no additional sampling is warranted nor is it required as part of the Ecology approved final VI Work Plan.

## CLOSING

SoundEarth appreciates the opportunity to work with you on this project. Please contact the undersigned at 206-306-1900 if you have any questions or require additional information.

Respectfully,

SoundEarth Strategies, Inc.



Thomas Cammarata, LG, LHG  
Senior Geochemist



John R. Funderburk, MSPH  
Principal

Attachments: Figure 1, Property Location Map  
Figure 2, Parking Garage Level P5 – Indoor Air Analytical Results for CVOCs and APHs  
Figure 3, Parking Garage Level P4 – Indoor Air Analytical Results for CVOCs and APHs  
Figure 4, Parking Garage Level P3 – Indoor Air Analytical Results for CVOCs and APHs  
Figure 5, Parking Garage Level P2 – Indoor Air Analytical Results for CVOCs and APHs  
Figure 6, Parking Garage Level P1 – Indoor Air Analytical Results for CVOCs and APHs  
Table 1, Summary of Indoor and Outdoor Air Analytical Results for CVOCs  
Table 2, Summary of Indoor and Outdoor Air Analytical Results for APHs  
A, Building Survey Form  
B, Photographs  
C, Laboratory Analytical Reports  
*Friedman & Bruya, Inc. #803059*  
*Friedman & Bruya, Inc. #803116*

## REFERENCES

- Serlach K., Gorka A., Dantzeler, A., and Roepe P. 2011. Quantification of Perchloroethylene Residues in Dry-Cleaned Fabrics, *Environmental and Toxicology*, 30: pp. 2481–2487. August 26.
- SoundEarth Strategies, Inc. (SoundEarth). 2012a. *Draft Remedial Investigation Report, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington*. May 2.
- \_\_\_\_\_. 2012b. *Draft Feasibility Study Report, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington*. August 9.



- \_\_\_\_\_. 2012c. *Draft Addendum—Supplemental Remedial Investigation Report, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington*. December 17.
- \_\_\_\_\_. 2013. *Interim Action Plan, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington*. August 21.
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- \_\_\_\_\_. 2018. *Vapor Intrusion Assessment Work Plan, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington*. January 25.
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TJC/JRF:dnm/slf

## FIGURES





3/20/2018  
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**LEGEND**

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- ◆ MONITORING WELL
- INJECTION WELL
- INDOOR AIR SAMPLING LOCATION
- ⊠ EXHAUST VENT

DCE DICHLOROETHENE  
PCE TETRACHLOROETHENE  
TCE TRICHLOROETHENE  
CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS  
APH AIR-PHASE PETROLEUM HYDROCARBONS  
- NOT ANALYZED  
< NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT  
**BOLD** DENOTES CONCENTRATIONS EXCEEDS LABORATORY DETECTION LIMIT

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA07	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA02	03/04/18	<b>6.2</b>	<b>0.27</b>	<0.2	<0.2	<0.13	<b>130</b>	<b>36</b>	<25

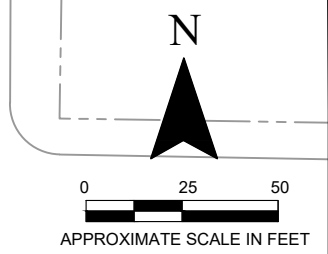
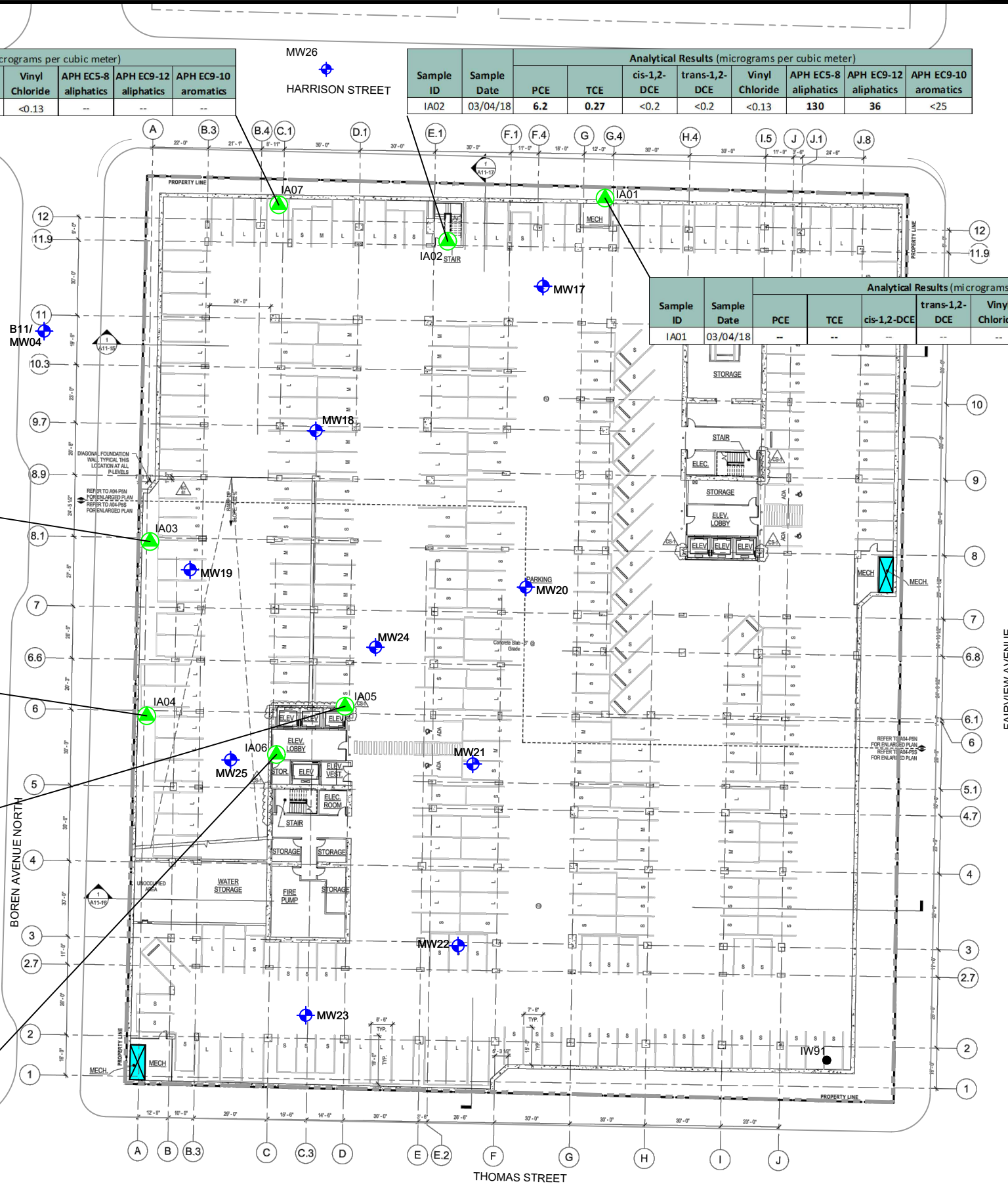
Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA01	03/04/18	--	--	--	--	--	<b>67</b>	<35	<25

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA03	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	<b>49</b>	<35	<25

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA04	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA05	03/07/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA06	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--



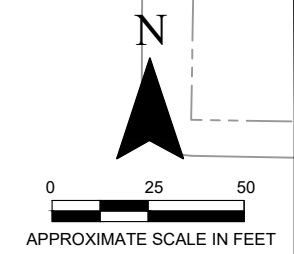
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www.SOUNDEARTHINC.COM

TROY LAUNDRY PROPERTY  
307 FAIRVIEW AVENUE NORTH  
SEATTLE, WASHINGTON  
SOUNDEARTH PROJECT #0731-004

**FIGURE 2**  
PARKING GARAGE LEVEL P5 -  
INDOOR AIR ANALYTICAL RESULTS  
FOR CVOCs AND APHs

**LEGEND**

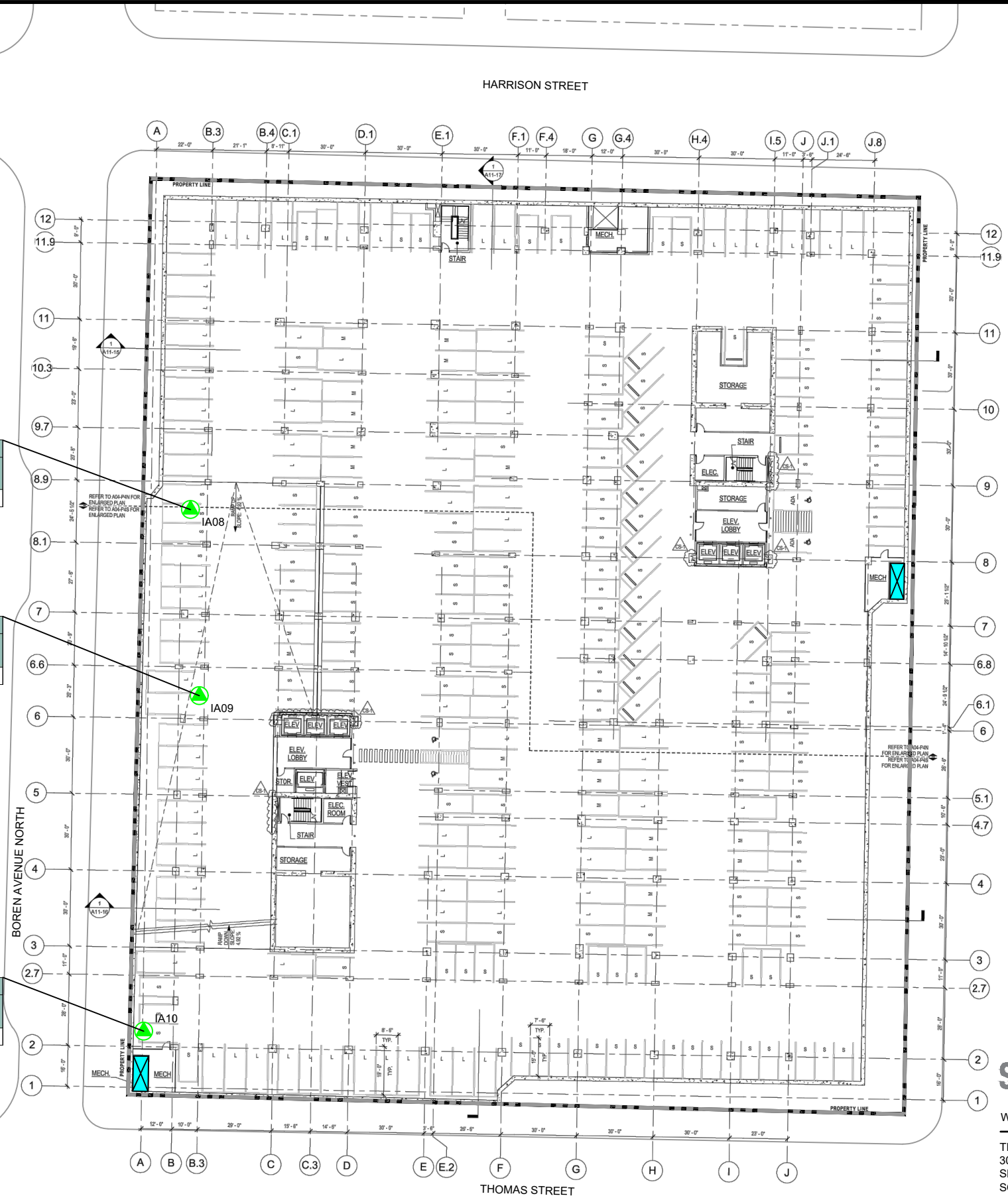
- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- INDOOR AIR SAMPLING LOCATION
- ✕ EXHAUST VENT
- DCE DICHLOROETHENE
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS
- APH AIR-PHASE PETROLEUM HYDROCARBONS
- NOT ANALYZED
- < NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
- BOLD** DENOTES CONCENTRATIONS EXCEEDS LABORATORY DETECTION LIMIT



Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA08	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	<b>69</b>	<35	<25

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA09	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA10	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--



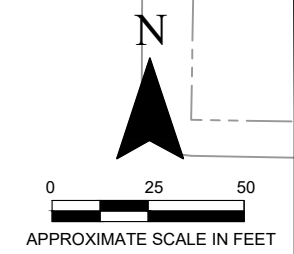
TROY LAUNDRY PROPERTY  
307 FAIRVIEW AVENUE NORTH  
SEATTLE, WASHINGTON  
SOUNDEARTH PROJECT #0731-004

**FIGURE 3**  
PARKING GARAGE LEVEL P4 -  
INDOOR AIR ANALYTICAL RESULTS  
FOR CVOCs AND APHS



**LEGEND**

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- INDOOR AIR SAMPLING LOCATION
- ▣ EXHAUST VENT
- DCE DICHLOROETHENE
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS
- APH AIR-PHASE PETROLEUM HYDROCARBONS
- NOT ANALYZED
- < NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
- BOLD** DENOTES CONCENTRATIONS EXCEEDS LABORATORY DETECTION LIMIT



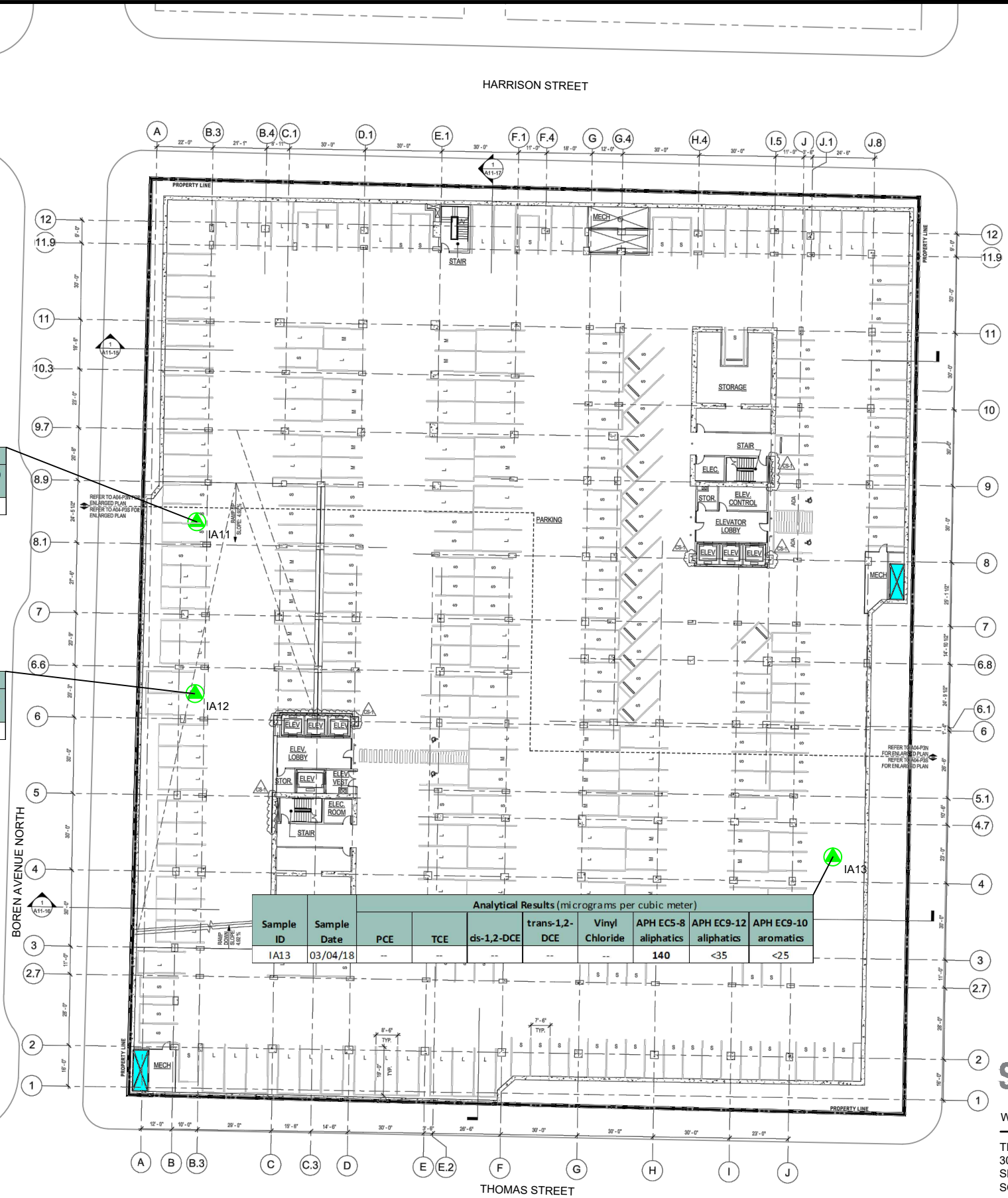
Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)								
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
IA11	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	<b>84</b>	<b>35</b>	<25	

BRAVEHORSE TAVERN

AMAZON BUILDING

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)								
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
IA12	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	-	-	-	

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)								
		PCE	TCE	ds-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
IA13	03/04/18	-	-	-	-	-	<b>140</b>	<35	<25	



TROY LAUNDRY PROPERTY  
307 FAIRVIEW AVENUE NORTH  
SEATTLE, WASHINGTON  
SOUNDEARTH PROJECT #0731-004

**FIGURE 4**  
PARKING GARAGE LEVEL P3 -  
INDOOR AIR ANALYTICAL RESULTS  
FOR CVOCs AND APHS

**LEGEND**

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- INDOOR AIR SAMPLING LOCATION
- ▣ EXHAUST VENT
- DCE DICHLOROETHENE
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS
- APH AIR-PHASE PETROLEUM HYDROCARBONS
- NOT ANALYZED
- < NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
- BOLD** DENOTES CONCENTRATIONS EXCEEDS LABORATORY DETECTION LIMIT

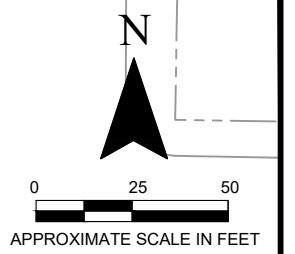
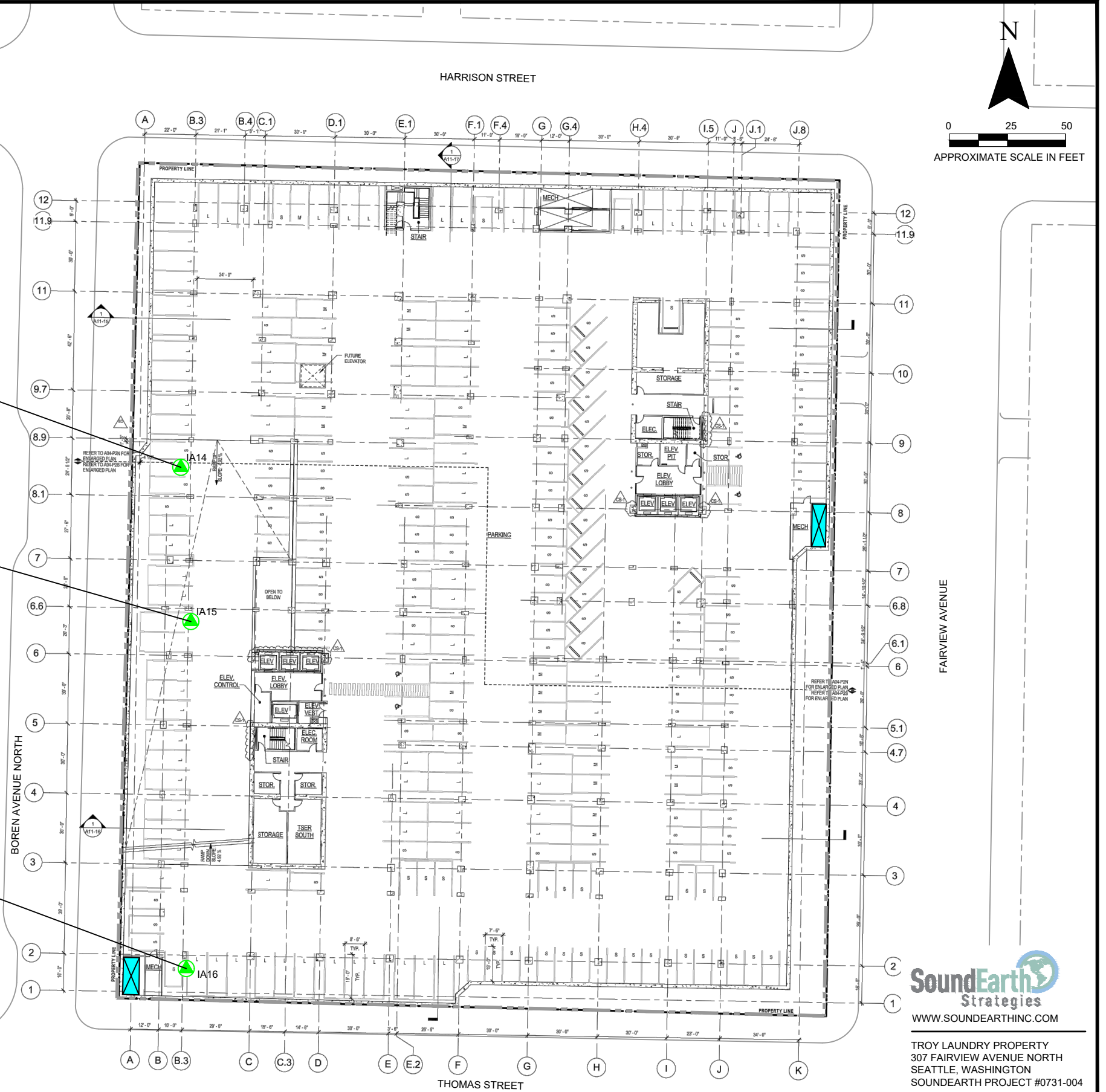
Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)								
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
IA14	03/04/18	--	--	--	--	--	<b>65</b>	<35	<25	

BRAVEHORSE TAVERN  
 AMAZON BUILDING

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)								
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
IA15	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	<b>62</b>	<35	<25	

SOUTH LAKE UNION HOTEL LLC

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)								
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
IA16	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--	



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TROY LAUNDRY PROPERTY  
 307 FAIRVIEW AVENUE NORTH  
 SEATTLE, WASHINGTON  
 SOUNDEARTH PROJECT #0731-004

**FIGURE 5**  
 PARKING GARAGE LEVEL P2 -  
 INDOOR AIR ANALYTICAL RESULTS  
 FOR CVOCs AND APHS



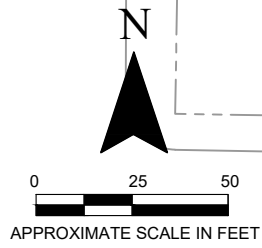
**LEGEND**

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- INDOOR AIR SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION
- ▢ EXHAUST VENT

DCE DICHOROETHENE  
PCE TETRACHOROETHENE  
TCE TRICHLOROETHENE  
CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS  
APH AIR-PHASE PETROLEUM HYDROCARBONS  
-- NOT ANALYZED  
< NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT  
**BOLD** DENOTES CONCENTRATIONS EXCEEDS LABORATORY DETECTION LIMIT

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA20	03/04/18	<b>2.4</b>	<b>0.34</b>	<0.2	<0.2	0.13	86	47	<25

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
OA01	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	54	<35	<25

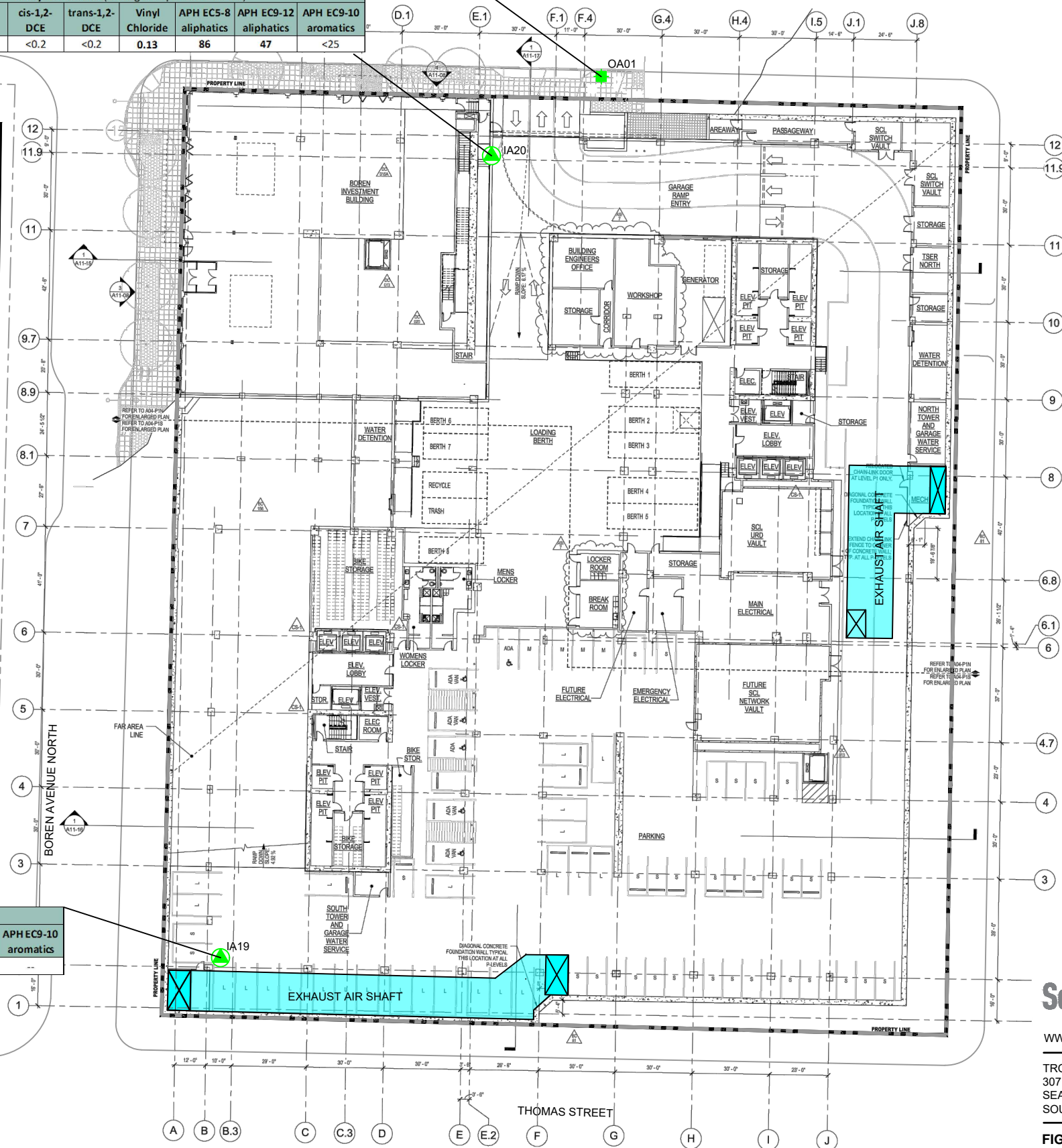


BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

Sample ID	Sample Date	Analytical Results (micrograms per cubic meter)							
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics
IA19	03/04/18	<1.7	<0.27	<0.2	<0.2	<0.13	--	--	--



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SEATTLE, WASHINGTON  
SOUNDEARTH PROJECT #0731-004

**FIGURE 6**  
PARKING GARAGE LEVEL P1 -  
INDOOR AIR ANALYTICAL RESULTS  
FOR CVOCs AND APHS

## **TABLES**



**Table 1**  
**Summary of Indoor and Outdoor Air Analytical Results for CVOCs**  
**Troy Laundry Property**  
**307 Fairview Avenue North**  
**Seattle, Washington**

Sample ID	Sample Name	Sample Location	Sampled By	Sample Type	Sample Date	Analytical Results <sup>(1)</sup> (µg/m <sup>3</sup> )					
						PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	
OA01	OA01-20180304	Outdoor - HVAC Intake	SoundEarth	Outdoor Air (24-hour)	03/04/18-03/05/18	<1.7	<0.27	<0.2	<0.2	<0.13	
IA01	IA01-20180304	P5 - North wall		Indoor Air (24-hour)		--	--	--	--	--	
IA02	IA02-20180304	P5 - Interior Stairway - North				<b>6.2</b>	<b>0.27</b>	<0.2	<0.2	<0.13	
IA03	IA03-20180304	P5 - West wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA04	IA04-20180304	P5 - West wall			<1.7	<0.27	<0.2	<0.2	<0.13		
IA05	IA05-20180307	P5 - South Tower Parking Elevator Shaft			03/07/18-03/08/18	<1.7	<0.27	<0.2	<0.2	<0.13	
IA06	IA06-20180304	P5- Elevator lobby				<1.7	<0.27	<0.2	<0.2	<0.13	
IA07	IA07-20180304	North wall			03/04/18-03/05/18	<1.7	<0.27	<0.2	<0.2	<0.13	
IA08	IA08-20180304	P4 - West wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA09	IA09-20180304	P4 - West wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA10	IA10-20180304	P4 - South wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA11	IA11-20180304	P3 - West wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA12	IA12-20180304	P3 - West wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA13	IA13-20180304	P3 - East wall				--	--	--	--	--	
IA14	IA14-20180304	P2 - West wall				--	--	--	--	--	
IA15	IA15-20180304	P2 - West wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA16	IA16-20180304	P2 - South wall				<1.7	<0.27	<0.2	<0.2	<0.13	
IA19	IA19-20180304	P1 - South wall		<1.7		<0.27	<0.2	<0.2	<0.13		
IA20	IA20-20180304	P1 - Interior Stairway - North		<b>2.4</b>		<b>0.34</b>	<0.2	<0.2	<b>0.13</b>		
<b>MTCA Method B Indoor Air Cleanup Levels</b>						<b>9.62<sup>(2)</sup></b>	<b>0.37<sup>(2)</sup></b>	<b>NE</b>	<b>NE</b>	<b>0.28<sup>(2)</sup></b>	
<b>Modified Method B Indoor Air Remediation Levels<sup>(3)</sup></b>						<b>323.08<sup>(3)</sup></b>	<b>20.49<sup>(3)</sup></b>	<b>NE</b>	<b>NE</b>	<b>9.55<sup>(3)</sup></b>	

**NOTES:**

**Bold** indicates concentration exceeds laboratory detection limits.

Sample analysis performed by Friedman & Bruya, Inc., Seattle, Washington.

<sup>(1)</sup>Analyzed by EPA Method Modified TO-15 SIM.

<sup>(2)</sup>MTCA Method B Indoor Air Cleanup Levels, Noncancer, DRAFT: Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, October 2009 and updated in February 2016.

<sup>(3)</sup>Modified Method B Indoor Air Remediation Levels, calculated from MTCA Equation 750-2 and assumes an exposure frequency of 5 days/week, 1 hour/day, and 52 weeks a year.

-- = not tested

< = not detected at a concentration exceeding the laboratory reporting limit

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

CVOC = chlorinated volatile organic compound

DCE = dichloroethene

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

NE = not established

PCE = tetrachloroethene

SIM = selected ion monitoring

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethene



**Table 2**  
**Summary of Indoor and Outdoor Air Analytical Results for APHs**  
**Troy Laundry Property**  
**307 Fairview Avenue North**  
**Seattle, Washington**

Sample ID	Sample Name	Sample Location	Sampled By	Sample Type	Sample Date	Analytical Results <sup>(1)</sup> (µg/m <sup>3</sup> )				
						APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics		
OA01	OA01-20180304	Outdoor - HVAC Intake	SoundEarth	Outdoor Air (24-hour)	03/04/18-03/05/18	<b>54</b>	<35	<25		
IA01	IA01-20180304	P5 - North wall		Indoor Air (24-hour)		<b>67</b>	<35	<25		
IA02	IA02-20180304	P5 - Interior Stairway - North				<b>130</b>	<b>36</b>	<25		
IA03	IA03-20180304	P5 - West wall				<b>49</b>	<35	<25		
IA04	IA04-20180304	P5 - West wall				--	--	--		
IA05	IA05-20180307	P5 - South Tower Parking Elevator Shaft			Indoor Air (24-hour)	03/07/18-03/08/18	--	--	--	
IA06	IA06-20180304	P5- Elevator lobby				--	--	--		
IA07	IA07-20180304	North wall				--	--	--		
IA08	IA08-20180304	P4 - West wall				<b>69</b>	<35	<25		
IA09	IA09-20180304	P4 - West wall				--	--	--		
IA10	IA10-20180304	P4 - South wall				--	--	--		
IA11	IA11-20180304	P3 - West wall				<b>84</b>	<b>35</b>	<25		
IA12	IA12-20180304	P3 - West wall				--	--	--		
IA13	IA13-20180304	P3 - East wall				<b>140</b>	<35	<25		
IA14	IA14-20180304	P2 - West wall				<b>65</b>	<35	<25		
IA15	IA15-20180304	P2 - West wall				<b>62</b>	<35	<25		
IA16	IA16-20180304	P2 - South wall				--	--	--		
IA19	IA19-20180304	P1 - South wall				--	--	--		
IA20	IA20-20180304	P1 - Interior Stairway - North				<b>86</b>	<b>47</b>	<25		
<b>MTCA Method B Indoor Air Cleanup Levels<sup>(2)</sup></b>						<b>2,700<sup>(2)</sup></b>	<b>140<sup>(2)</sup></b>	<b>180<sup>(2)</sup></b>		
<b>Modified Method B Indoor Remediation Levels<sup>(3)</sup></b>						<b>113,400<sup>(3)</sup></b>	<b>5,880<sup>(3)</sup></b>	<b>7,560<sup>(3)</sup></b>		

**NOTES:**

**Bold** indicates concentration exceeds laboratory detection limits.

Sample analysis performed by Friedman & Bruya, Inc., Seattle, Washington.

<sup>(1)</sup>Analyzed by Method MA-APH

<sup>(2)</sup>MTCA Method B Indoor Air Cleanup Levels, Noncancer, DRAFT: Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, October 2009 and updated in February 2016.

<sup>(3)</sup>Modified Method B Indoor Remediation Levels, calculated from MTCA Equation 750-2 and assumes an exposure frequency of 5 days/week, 1 hour/day, and 52 weeks a year.

-- = not tested

< = not detected at a concentration exceeding the laboratory reporting limit

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

APH = air-phase petroleum hydrocarbons

MTCA = Washington State Model Toxics Control Act

SoundEarth = SoundEarth Strategies, Inc.

**ATTACHMENT A  
BUILDING SURVEY FORM**



SoundEarth Strategies, Inc.  
 2811 Fairview Avenue East, Suite 2000  
 Seattle, Washington 98102

Client & Site Name/Number: <u>Troy Laundry</u>	SoundEarth Project Number: <u>0731-004</u>	Date: <u>1/30/18</u>
Site Address: <u>307 Fairview Ave N, Seattle, WA</u>	Purpose of Visit/Task #: <u>2018 Indoor Air</u>	Field Report Prepared by: <u>JME</u>

### Building Survey Form

Address: 307 Fairview Ave N, Seattle, WA

Tenant/Occupant Name: ~~Amazon~~ Amazon Phone: \_\_\_\_\_

Owner's Name: Touchstone Phone: 206-357-2305

Owner's Address: \* 2025 1<sup>st</sup> Ave Suite 1212 Seattle, WA 98121

Point of Contact: Paul Klavnic Phone: 206-357-2305

Contact Information: \_\_\_\_\_

Weather conditions at time of indoor air sampling event:

Sunny, cold

#### A. General Building Information

Attach plan view or sketch of building floor plan

Building Year Constructed: 2016

Building Type: Residential / Office / Commercial / Industrial / Government / School  
 Warehouse

Building Occupants: Adults \_\_\_\_\_ Children under 6 \_\_\_\_\_ Children 6-15 \_\_\_\_\_  
 Women Age 18-40 \_\_\_\_\_

Building Use: Office Building

Square Footage: ~17,000

Ceiling Height: 10'

Number of Stories: 20?

Number of Elevators: 2

General Description of Building Construction Materials:

Reinforced concrete

Foundation Type: Basement / Crawl Space / Slab

Foundation Materials: Poured Concrete / Cinder Blocks / Earthen / Wood Pilings /

Other (Specify \_\_\_\_\_ )

Foundation Wall Material: Poured Concrete / Cinder Blocks / Earthen / Wood / Stone

If there is a basement, please answer questions in Section B. If there is not a basement, skip to Section C.

**A. Subfloor / Basement Information**

Is the basement finished? Y / N

Does anyone live in the basement as a primary residence or use the basement daily? Y / N

Basement floor type: Dirt / Concrete / Other

(describe): PS parking

Is the basement generally: wet / dry / damp?

Is there a sump in the basement? Y / N

If yes, please describe the size, the construction, where it is, and whether or not there is a sump and how it is activated: Multiple Sumps for SW collection, conveyance

What was the PID reading on the air above the sump grate? 0.0

Does the basement have cracks? Y / N If yes, PID reading: \_\_\_\_\_

Drainage point in floor? Y / N If yes, PID reading: 0.0

Sump or sump pump? Y / N If yes, PID reading: 0.0

Pipes or utility conduits through floor or outside walls? Y / N If yes, PID reading: \_\_\_\_\_

Is the basement painted? Y / N

If yes, when \_\_\_\_\_ and with: latex / oil-based paint / stain ?

Does the basement have flooring over the foundation? Y / N

If yes, what type: tile / carpet / wood / pergo / other, specify \_\_\_\_\_

Was glue used for installing the flooring? Y / N

Is there new furniture in the basement? Y / N If yes, describe type and date received



Are there odors in the basement? Y /  N If yes, describe \_\_\_\_\_

**A. First Floor Information (Complete for each additional floor)**

What are the walls constructed of? \_\_\_\_\_ Cinder block / sheet rock / paneling / other, specify

Are the walls painted?  Y / N

If yes, when 2016 and with: latex / oil-based paint / stain

Is there flooring in the first floor? Y /  N

If yes, what type tile / carpet / wood / pergo / other, specify \_\_\_\_\_

Was glue used for installing the flooring? Y /  N

Is there new furniture on the first floor? Y /  N

If yes, describe type and date received \_\_\_\_\_

Are there pipes or utility conduits through the outside walls or floor? Y / N

If yes, PID reading \_\_\_\_\_

Are there odors on the first floor? If yes, describe \_\_\_\_\_

**E. Heating and Ventilation Systems:**

What type of heating system(s) are used in the building? (circle all that apply)

Heat Pump / Furnace Hot Air Radiation / Steam Radiation / Unvented Kerosene Heater  
Wood Stove / Electric Baseboard

Other, specify \_\_\_\_\_

What type of fuel(s) are used in the building? (circle all that apply):

Natural Gas /  Electric / Fuel Oil / Wood / Coal / Solar / Propane / Kerosene

Other, specify \_\_\_\_\_

What type of mechanical ventilation systems are present and/or currently operating in the building? (circle all that apply)

Mechanical Fans / Open Windows / Individual Air Conditioning Units / Kitchen Range Hood  
Bathroom Ventilation / Fan Air-to-Air Heat Exchanger

Other, specify \_\_\_\_\_

**F. Roof construction**

Is the roof pitched or flat? flat

Is there an attic? Y / N

If so, is it accessible? Y / N

If so, what is the height of the attic? \_\_\_\_\_

What is the roof comprised of?

Tar shingles / metal / rolled tar material / asphalt coating

other, specify Did not visit roof

Description of roof support system (trusses, beams, construction materials, etc.) :

**Diagram of Roof and Roof Supports**

**G. Building Use:**

Is there standing water in the building (historic or current)? Y / N

Is there water damage in the building (historic or current)? Y / N

Is there fire damage to the building? Y / N If yes, date \_\_\_\_\_

Are there pest control applications to the building? Y / N If yes, date \_\_\_\_\_

Is there a septic system? Y / N If yes, date of system \_\_\_\_\_

Do one or more smokers occupy this building on a regular basis? Y / N ?

Has anybody smoked in the building in the last 48 hours? Y / N ?

Does the building have an attached garage? Y / N

If so, is a car usually parked in the garage? Y / N

Do the occupants of the building frequently have their clothes dry-cleaned? Y / N ?

Was there recent remodeling or painting done in the building (within the past 6 months)? Y / N

Are there any pressed wood products in the building (e.g., hardwood plywood wall paneling, particleboard, fiberboard)? Y / N

Are there any new upholstery, drapes or other textiles in the building? Y / N

Has the building been treated with any insecticides/pesticides? Y / N

If so, what chemicals are used and how often are they applied? \_\_\_\_\_

Do any of the occupants apply pesticides/herbicides in the yard or garden? Y / N ?

If so, what chemicals are used and how often are they applied? \_\_\_\_\_

Type of ground cover (e.g., grass, pavement, etc.) outside the building: \_\_\_\_\_

Is there a well on the property? If so, what is it used for and where is it screened? yes

Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building?

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

**H. Potential Sources of Indoor Chemical Contaminants:**

Which of these items are present in the building? (Check all that apply)

Potential VOC Source	Location of Source	Removed 48 hours prior to sampling (Yes/No/NA)
Paints		
Gas-powered equipment		
Gasoline storage cans		
Cleaning solvents (thinner)		
Air fresheners		
Oven cleaners		
Carpet/upholstery cleaners		
Hairspray		
Nail polish/polish remover		
Bathroom cleaner		
Appliance cleaner		
Furniture/floor polish		
Moth balls		
Fuel tank		
Wood stove		
Fireplace		
Perfume/colognes		
Hobby supplies (e.g., solvents, paints, lacquers, glues, photographic darkroom chemicals)		
Scented trees, wreaths, potpourri, etc.		
Polish / wax		
Insecticide / pesticide		
Kerosene		
Gun cleaner stored in the building		
Building occupants using solvents at work		
Other	Oil stains on garage floor (from cars)	NO

--	--	--

**I. Other Potential Sources of Indoor or Outdoor Air Contamination**

Outside Sources of Contamination (check all that apply):

Garbage Dumpsters / Heavy Motor Traffic / Landing Dock in Use / Construction Activities  
Airport flight path / Railyard or railcar traffic

Nearby Industries, specify \_\_\_\_\_

UST/AST (gasoline/heating fuel/other, specify) \_\_\_\_\_

Is there a known spill or release outside or inside the building? If yes, was it:

Oil / Natural gas / Kerosene / Heating oil / Used vehicle oil / Solvents / Pesticide or insecticide  
other, describe \_\_\_\_\_

Describe any additional information about the release (amount, when it occurred, action taken to clean up, etc.): \_\_\_\_\_

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**Instructions for Occupants of Building Prior to Sampling Event**

**(to be followed starting at least 48 hours prior to and during the sampling event)**

- Do not open windows, fireplace openings or vents. ✓
- Do not keep doors open. ✓
- Do not operate ventilation fans or air conditioning. ✓
- Do not use air fresheners or odor eliminators. ✓
- Do not smoke inside. ✓
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater). ✓
- Do not use paints or varnishes. ✓
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, all-purpose cleaners, floor cleaners). ✓
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc. ✓
- Do not partake in indoor hobbies that use solvents. ✓
- Do not apply pesticides. ✓
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks). ✓
- Do not operate or store automobiles in an attached garage. ✓

Restrictions start: 3/2/18  
Sampling event starts: 3/4/18 ~ 0700  
Sampling and Restrictions end: 3/5/18 ~ 0200

Please call Joe at 206-778-6120 with any questions or concerns.

**ATTACHMENT B  
PHOTOGRAPHS**

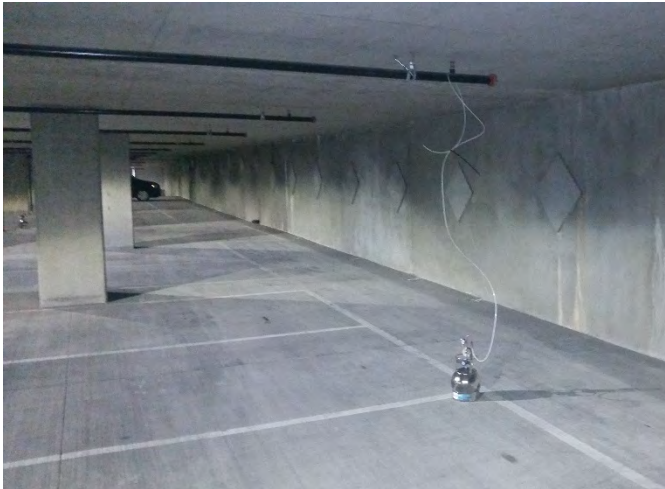




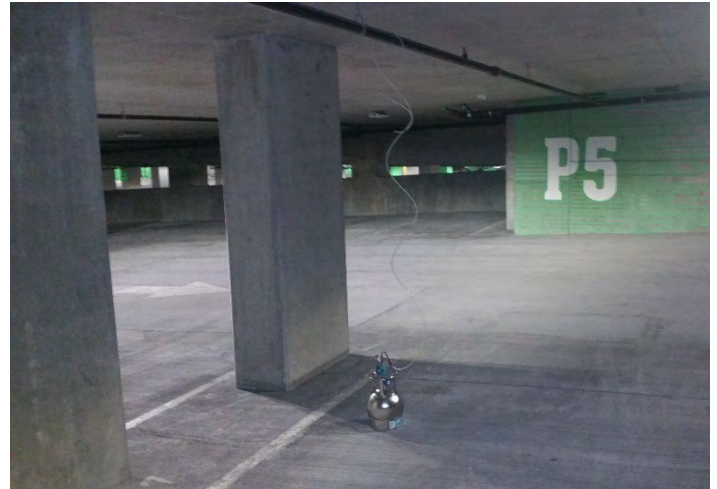
Photograph 1. Sample IA01-20180604, located on the P5 parking level.



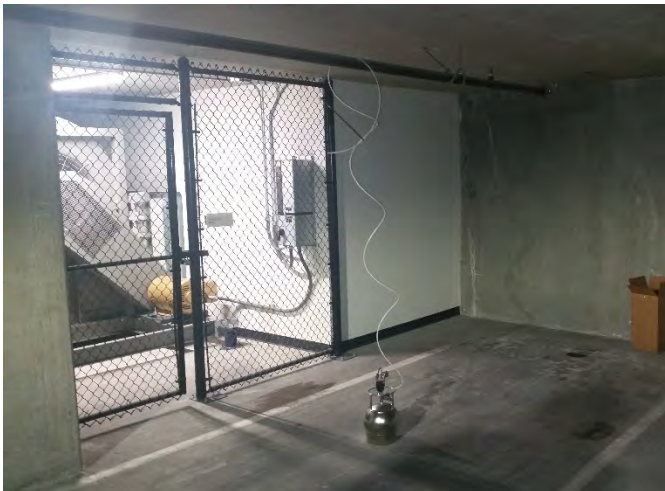
Photograph 2. Sample IA06-20180604, located in the P5 parking level west elevator lobby.



Photograph 3. Sample IA03-20180604, located on the P5 parking level.



Photograph 4. Sample IA04-20180604, located on the P5 parking level.



Photograph 5. Sample IA10-20180604, located on the P4 parking level.



Photograph 6. Sample IA07-20180604, located on the P5 parking level.





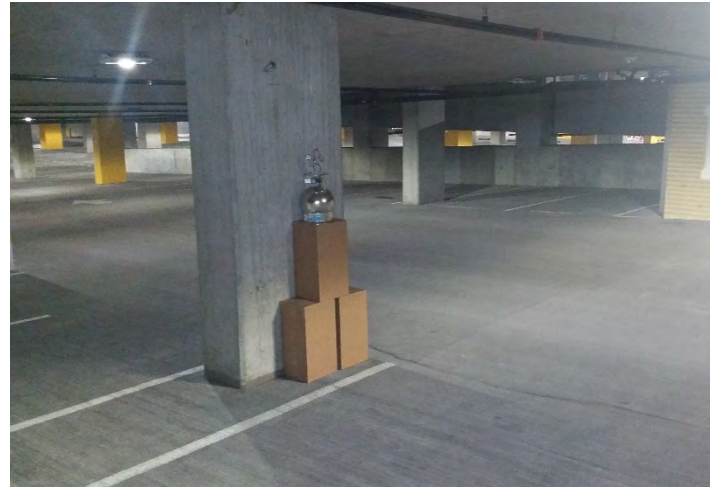
Photograph 7. Sample IA08-20180604, located on the P4 parking level.



Photograph 8. Sample IA09-20180604, located on the P4 parking level.



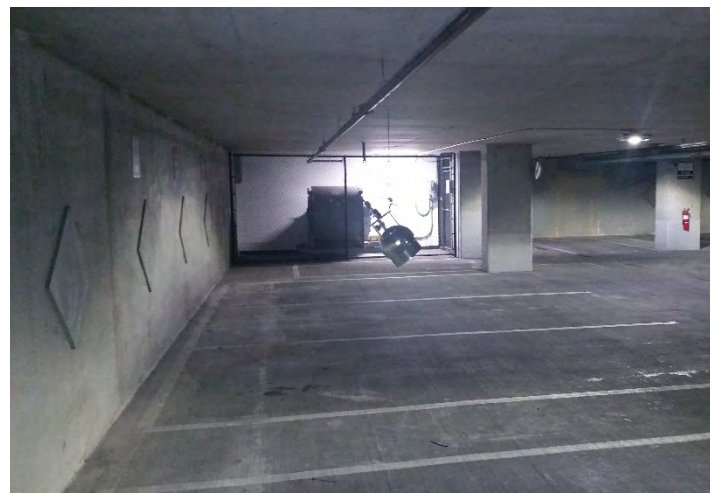
Photograph 9. Sample IA13-20180604, located on the P3 parking level.



Photograph 10. Sample IA12-20180604, located on the P3 parking level.

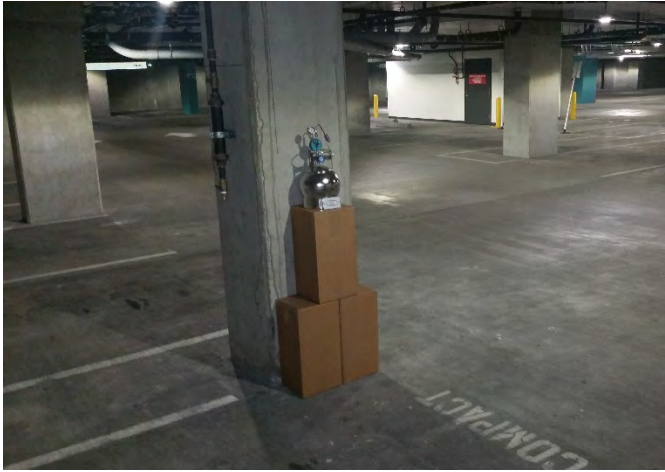


Photograph 11. Sample IA11-20180604, located on the P2 parking level.

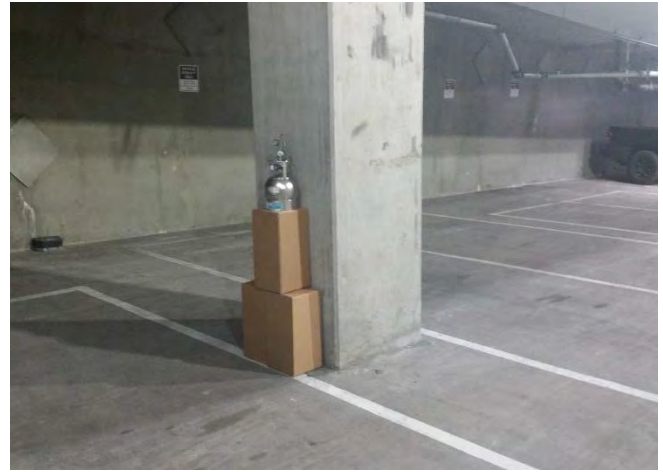


Photograph 12. Sample IA16-20180604, located on the P2 parking level.

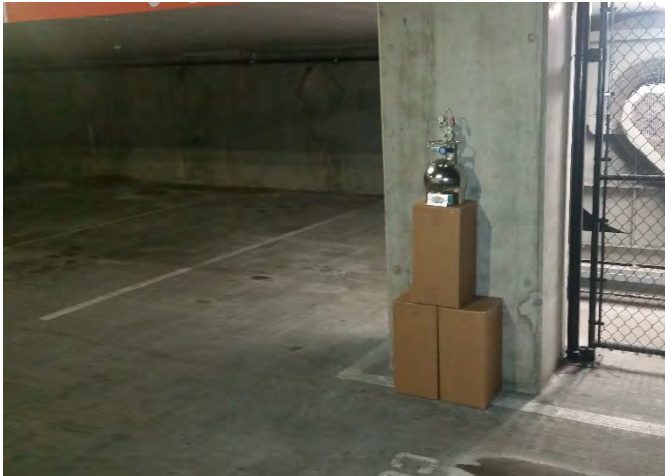




Photograph 13. Sample IA14-20180604, located on the P2 parking level.



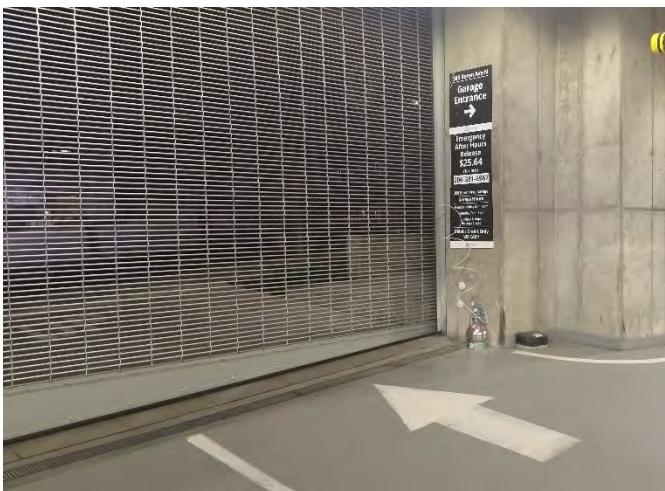
Photograph 14. Sample IA15-20180604, located on the P2 parking level.



Photograph 15. Sample IA19-20180604, located on the P1 parking level.



Photograph 16. Sample IA02-20180604, located on the P5 parking level.



Photograph 17. Sample OA01-20180604, located adjacent the HVAC exterior vent on the north side of the building.



Photograph 18. Sample IA05-20180604, located on the P5 parking level elevator pit.



Photograph 19. Sample IA20-20180604, located in the P1 parking level north stairwell.

**ATTACHMENT C**  
**LABORATORY ANALYTICAL REPORTS**

***Friedman & Bruya, Inc. #803059 amended***

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

March 13, 2018

Tom Cammarata, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

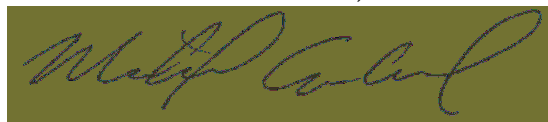
Dear Mr Cammarata:

Included is the amended report from the testing of material submitted on March 5, 2018 from the SOU\_0731-004-05\_ 20180305, F&BI 803059 project. The amended results for sample IA10-20180304 have been included. In addition, the reporting limits for sample IA20-20180304 have been amended to be consistent with the other samples.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Ethan Marks, Grayson Fish  
SOU0309R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
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Eric Young, B.S.

3012 16th Avenue West  
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March 9, 2018

Tom Cammarata, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Mr Cammarata:

Included are the results from the testing of material submitted on March 5, 2018 from the SOU\_0731-004-05\_ 20180305, F&BI 803059 project. There are 31 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A rectangular area containing a handwritten signature in dark ink on a light-colored background. The signature appears to be "Michael Erdahl".

Michael Erdahl  
Project Manager

Enclosures

c: Ethan Marks, Grayson Fish  
SOU0309R.DOC



# FRIEDMAN & BRUYA, INC.

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## ENVIRONMENTAL CHEMISTS

### CASE NARRATIVE

This case narrative encompasses samples received on March 5, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU\_0731-004-05\_20180305, F&BI 803059 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
803059 -01	IA01-20180304
803059 -02	IA02-20180304
803059 -03	IA03-20180304
803059 -04	IA04-20180304
803059 -05	IA06-20180304
803059 -06	IA07-20180304
803059 -07	IA08-20180304
803059 -08	IA09-20180304
803059 -09	IA10-20180304
803059 -10	IA11-20180304
803059 -11	IA12-20180304
803059 -12	IA13-20180304
803059 -13	IA14-20180304
803059 -14	IA15-20180304
803059 -15	IA16-20180304
803059 -16	IA19-20180304
803059 -17	IA20-20180304
803059 -18	OA01-20180304

Non-petroleum compounds were identified in the air phase hydrocarbon (APH) range EC5-8. The compounds were subtracted from the EC5-8 concentration per the MA-APH method.

All quality control requirements were acceptable.

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA01-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-01
Date Analyzed:	03/06/18	Data File:	030609.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91 ca	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	67
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA02-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-02
Date Analyzed:	03/06/18	Data File:	030610.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	92 ca	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	130
APH EC9-12 aliphatics	36
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA03-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-03
Date Analyzed:	03/06/18	Data File:	030611.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	49
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA08-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-07
Date Analyzed:	03/06/18	Data File:	030612.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	69
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA11-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-10
Date Analyzed:	03/06/18	Data File:	030613.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	84
APH EC9-12 aliphatics	35
APH EC9-10 aromatics	<25



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA13-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-12
Date Analyzed:	03/06/18	Data File:	030614.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	93 ca	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	140
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA14-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-13
Date Analyzed:	03/06/18	Data File:	030615.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	85 ca	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	65
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA15-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-14
Date Analyzed:	03/06/18	Data File:	030616.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	90 ca	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	62
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA20-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-17
Date Analyzed:	03/06/18	Data File:	030617.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	88 ca	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	86
APH EC9-12 aliphatics	47
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	OA01-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_20180305
Date Collected:	03/04/18	Lab ID:	803059-18
Date Analyzed:	03/06/18	Data File:	030618.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	54
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0731-004-05_20180305
Date Collected:	Not Applicable	Lab ID:	08-0484 mb
Date Analyzed:	03/06/18	Data File:	030608.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	95 ca	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA02-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-02 1/5
Date Analyzed:	03/07/18	Data File:	030713.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	86	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	0.27	0.050
Tetrachloroethene	6.2	0.92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA03-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-03 1/5
Date Analyzed:	03/07/18	Data File:	030714.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	86	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA04-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-04 1/5
Date Analyzed:	03/08/18	Data File:	030715.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA06-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-05 1/5
Date Analyzed:	03/08/18	Data File:	030716.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	84	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA07-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-06 1/5
Date Analyzed:	03/08/18	Data File:	030717.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	85	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA08-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-07 1/5
Date Analyzed:	03/08/18	Data File:	030718.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA09-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-08 1/5
Date Analyzed:	03/08/18	Data File:	030719.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	85	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA10-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-09 1/5
Date Analyzed:	03/12/18	Data File:	031207.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA11-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-10 1/5
Date Analyzed:	03/08/18	Data File:	030721.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	80	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA12-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-11 1/5
Date Analyzed:	03/08/18	Data File:	030722.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA15-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-14 1/5
Date Analyzed:	03/08/18	Data File:	030723.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA16-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-15 1/5
Date Analyzed:	03/08/18	Data File:	030724.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA19-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-16 1/5
Date Analyzed:	03/08/18	Data File:	030725.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA20-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-17 1/5
Date Analyzed:	03/08/18	Data File:	030808.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	0.13	0.050
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	0.34	0.064
Tetrachloroethene	2.4	0.36

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	OA01-20180304	Client:	SoundEarth Strategies
Date Received:	03/05/18	Project:	SOU_0731-004-05_ 20180305
Date Collected:	03/04/18	Lab ID:	803059-18 1/5
Date Analyzed:	03/08/18	Data File:	030727.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	77	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0731-004-05_ 20180305
Date Collected:	Not Applicable	Lab ID:	08-0490 mb
Date Analyzed:	03/07/18	Data File:	030707.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.026	<0.01
trans-1,2-Dichloroethene	<0.04	<0.01
cis-1,2-Dichloroethene	<0.04	<0.01
Trichloroethene	<0.054	<0.01
Tetrachloroethene	<0.34	<0.05

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

Date of Report: 03/09/18

Date Received: 03/05/18

Project: SOU\_0731-004-05\_ 20180305, F&BI 803059

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD APH**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	230	79	70-130
APH EC9-12 aliphatics	ug/m3	350	123	70-130
APH EC9-10 aromatics	ug/m3	251	121	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/09/18

Date Received: 03/05/18

Project: SOU\_0731-004-05\_ 20180305, F&BI 803059

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15 SIM**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ppbv	1	103	70-130
trans-1,2-Dichloroethene	ppbv	1	102	70-130
cis-1,2-Dichloroethene	ppbv	1	92	70-130
Trichloroethene	ppbv	1	106	70-130
Tetrachloroethene	ppbv	1	121	70-130



**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

803059

SAMPLE CHAIN OF CUSTODY

ME 03/05/18

Report To Tom C. Ethan M. Guffa E.

Company: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue East, Suite 2000

City, State, ZIP: Seattle, Washington 98102

Phone \_\_\_\_\_ Email \_\_\_\_\_

SAMPLERS (signature)	
PROJECT NAME Troy Laundry	PO # 0731-004-05
REMARKS cVOCs = PCE, TCE, cis-1,2-DCE, trans-1,2-dichloroethene, and vinyl chloride.	INVOICE TO

Page # 1 of 3

TURNAROUND TIME  
~~Standard~~  
RUSH 3 day

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
Dispose after 30 days  
Archive Samples  
Other \_\_\_\_\_

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	3/4/18 Field Initial Press. (Hg)	3/4/18 Field Initial Time	3/5/18 Field Final Press. (Hg)	3/5/18 Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	APHs	Notes
IA01-20180304	01	23235	05350	3/4/18	29	0220	8	0220				X	X=added by GCF 3/6/18
IA02-20180304	02	4088	05352		30	0223	8	0229			X	X	
IA03-20180304	03	23236	07851		29	0224	6	0238			X	X	
IA04-20180304	04	18570	06605		30	0225	7	0240			X		
IA06-20180304	05	23229	05353		30	0218	8.5	0235			X		
IA07-20180304	06	20556	05355		30	0221	7.5	0232			X		
IA08-20180304	07	20596	05356		30	0207	8	0240			X	X	
IA09-20180304	08	23230	06601		30	0228	8	0243			X		Samples received at <u>19</u> °C

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282  
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Eric Guffa	SoundEarth	3-5-18	0950
Received by:	Ethan Marks	SES	3-5-18	0950
Relinquished by:	Ethan Marks	SES	3-5-18	1150
Received by:	Eric Guffa	SEB	3/5/18	1150

803059

SAMPLE CHAIN OF CUSTODY

ME 03/05/18

Report To Tom C., Ethan M., Gary F.  
 Company: Sound Earth Strategies, Inc.  
 Address: 2811 Fairview Avenue East, Suite 2000  
 City, State, ZIP: Seattle, Washington 98102  
 Phone \_\_\_\_\_ Email \_\_\_\_\_

SAMPLERS (signature) [Signature]  
 PROJECT NAME: Troy Laundry PO #: 0731-004-05  
 REMARKS: cVOCs = PCE, TCE, cis-1,2-DCE, trans-1,2-dichloroethene, and vinyl chloride. INVOICE TO \_\_\_\_\_

Page # 2 of 3  
 TURNAROUND TIME  
~~Standard~~  
RUSH 3-day  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other \_\_\_\_\_

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	APHs	Notes
IA10-20180304	09	18562	08602	3/4/18	30	0226	6	0243			X		X = added by JCF 3/6/18
IA11-20180304	10	20544	05348		30	0223	8	0301			X	X	
IA12-20180304	11	18576	08183		30	0234	7.5	0303			X		
IA13-20180304	12	18578	08606		30	0230	8	0256				X	
IA14-20180304	13	20543	08609		30	0246	8.5	0317				X	
IA15-20180304	14	18563	07835		30	0247	7	0320			X	X	
IA16-20180304	15	23221	08181		30	0242	6.5	0306			X		
IA19-20180304	16	20545	07846		30	0248	5	0322			X		Samples received at 19 °C

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Gary F. B.</u>	<u>Sound Earth</u>	<u>3/5/18</u>	<u>0950</u>
Received by: <u>[Signature]</u>	<u>Ethan Marks</u>	<u>SES</u>	<u>"</u>	<u>0950</u>
Relinquished by: <u>[Signature]</u>	<u>Ethan Marks</u>	<u>SES</u>	<u>"</u>	<u>1150</u>
Received by: <u>[Signature]</u>	<u>Eric Clou</u>	<u>FEI</u>	<u>3/5/18</u>	<u>1150</u>



***Friedman & Bruya, Inc. #803116***

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

March 9, 2018

Tom Cammarata, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Mr Cammarata:

Included are the results from the testing of material submitted on March 8, 2018 from the SOU\_0731-004-05\_ 20180308, F&BI 803116 project. There are 5 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A handwritten signature in dark ink on a light-colored background, appearing to read "Michael Erdahl".

Michael Erdahl  
Project Manager

Enclosures

c: Grayson Fish, Ethan Marks  
SOU0309R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 8, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU\_0731-004-05\_ 20180308, F&BI 803116 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID  
803116 -01

SoundEarth Strategies  
IA05-20180307

All quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	IA05-20180307	Client:	SoundEarth Strategies
Date Received:	03/08/18	Project:	SOU_0731-004-05_ 20180308
Date Collected:	03/07/18	Lab ID:	803116-01 1/5
Date Analyzed:	03/08/18	Data File:	030731.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	91	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
trans-1,2-Dichloroethene	<0.2	<0.05
cis-1,2-Dichloroethene	<0.2	<0.05
Trichloroethene	<0.27	<0.05
Tetrachloroethene	<1.7	<0.25

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15 SIM

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0731-004-05_ 20180308
Date Collected:	Not Applicable	Lab ID:	08-0490 mb
Date Analyzed:	03/07/18	Data File:	030707.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.026	<0.01
trans-1,2-Dichloroethene	<0.04	<0.01
cis-1,2-Dichloroethene	<0.04	<0.01
Trichloroethene	<0.054	<0.01
Tetrachloroethene	<0.34	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/09/18

Date Received: 03/08/18

Project: SOU\_0731-004-05\_ 20180308, F&BI 803116

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15 SIM**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ppbv	1	103	70-130
trans-1,2-Dichloroethene	ppbv	1	102	70-130
cis-1,2-Dichloroethene	ppbv	1	92	70-130
Trichloroethene	ppbv	1	106	70-130
Tetrachloroethene	ppbv	1	121	70-130

# FRIEDMAN & BRUYA, INC.

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## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

803116

SAMPLE CHAIN OF CUSTODY

ME 03/08/18

Report To Tom C. Grayson F., Ethan M.

Company: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue East, Suite 2000

City, State, ZIP: Seattle, Washington 98102

Phone Email

SAMPLERS (signature) <i>[Signature]</i>	
PROJECT NAME Troy Laundry	PO # 0731-004-05
REMARKS cVOCs = PCE, TCE, cis-1,2-DCE, trans-1,2-dichloroethene, and vinyl chloride.	INVOICE TO

TURNAROUND TIME Standard RUSH 3-day Rush charges authorized by:
SAMPLE DISPOSAL Dispose after 30 days Archive Samples Other

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg) 3/7/10	Field Initial Time 4/7/10	Field Final Press. (Hg) 7/8/10	Field Final Time 7/8/10	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	Notes
FA05-20180307	01	18572	05353	3/7-3/8	30	0702	17.5	0712			X	
<del>Blanked out</del>												
3/8/17												
Samples received at 20 °C												

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <i>[Signature]</i>	Grayson F.	SoundEarth	3/8/10	0741
Received by: <i>[Signature]</i>	Ethan Pham	FLBS	3/8/18	0741
Relinquished by:				
Received by:				