July 24, 2025

David Unruh, LHG
VCP Coordinator
Washington State Department of Ecology
Toxics Cleanup Program, Northwest Region Office
PO Box 330316
Shoreline, WA 98133

Re: Focused Vapor Intrusion Assessment Letter
Snohomish Square Cleaners
1419 Avenue D and 13th Street Southeast
Snohomish, Washington 98290

Dear Mr. Unruh:

J.S. Held, LLC (J.S. Held) is pleased to present this letter documenting a Focused Vapor Intrusion (VI) Assessment conducted at the former Snohomish Square Cleaners located at Avenue D and 13th Street Southeast in Snohomish, Washington (subject property).

The opinions presented in this letter are provided to support the current property owner, Skotdal Enterprises, Inc. ("Client" or "Skotdal"), in their efforts to comply with the requirements of the Model Toxics Control Act (Revised Code of Washington [RCW] 70A.305) and its implementing regulations (Washington Administrative Code [WAC] 173-340, collectively "MTCA").

The subject property was historically operated as the Snohomish Square Cleaners (facility) beginning in the 1980s through the early 2000s. Several rounds of investigation at the subject property identified tetrachloroethene (PCE) impacted soil and groundwater. The source of the impacts was identified as the Snohomish Square Cleaners and extends from the facility to the "upper terrace" of the southern adjacent Snohomish County parcel.

As defined by Ecology, the "Site" is anywhere contamination has come to be located from the former Snohomish Square Cleaners source. In accordance with this definition, impacted properties have included the following:

- Subject property;
- Avenue D to the south-southwest; and
- Snohomish County parcel further south-southwest.

The Site is currently enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP). The VCP site ID is NW2740.

Background

On March 25, 2025, the Ecology issued a letter titled, *Request for Evaluation of Trichloroethene Risks at the Following Site* concerning the subject property. The letter identified the Site as being contaminated

with trichloroethene (TCE) in soil and groundwater and expressed concerns regarding the potential for vapor intrusion into nearby buildings. A copy of this letter is included as **Attachment A**.

J.S. Held provided a *Response to Ecology Letter*, dated April 24, 2025. The response provided a summary of the subject property's history of interim remedial actions conducted to date, including quarterly groundwater sampling, in-situ bioremediation treatments, and vapor intrusion studies. Copies of comprehensive groundwater data tables and air sampling data tables were also provided. The letter concluded with several key points, including but not limited to the following:

- Based on current zoning and land use as a commercial property, commercial worker sub-slab screening levels remain appropriate for the Site; and
- VI assessments previously performed at the Site are in compliance and protective of current cleanup standards and short-term TCE risks given current land uses.

A copy of this letter is included as **Attachment B**.

Ecology provided a response to J.S. Held's *Response to Ecology Letter* on May 8, 2025. Based on Ecology's review of the letter and data, Ecology concluded that "additional indoor air and soil vapor sampling is needed to fully evaluate the vapor intrusion (VI) exposure pathway at the Site." Ecology recommended collecting "vapor samples from buildings located within 100 feet of monitoring wells with concentrations of TCE exceeding the short-term action level for non-residential use." A copy of Ecology's response is included as **Attachment C**.

June 2025 VI Assessment

TCE concentrations at monitoring well MW-10 exceed the short-term action level for non-residential use (i.e., 31 micrograms per liter) and is located within 100 feet of on-property buildings. The objective of the assessment was to evaluate the VI pathway into buildings within 100 feet of MW-10 to determine whether TCE concentrations from vapor intrusion, if present, exceed short-term action levels. Subsurface sewer lines and utility corridors in the vicinity of MW-10 are present at the subject property and are capable of transporting site-related VOCs over extended distances. For this reason, buildings within 100 feet of these corridors were also evaluated. The following tenant spaces were sampled as part of this investigation:

- Enchanted Little Forest daycare center;
- The U.S. Postal Service building;
- Snohomish Dog Spaw;
- The UPS Store;
- El Paraiso Mexican Grill;
- Bliss Small Batch Creamery; and
- Key Bank.

Sub-slab soil gas sample locations are indicated on **Figure 1.**

Methodology

J.S. Held field personnel mobilized to the Site to conduct sub-slab soil gas sampling on June 3, 2025. Sub-slab soil gas samples were collected using dedicated vapor pins installed through the floor slab. Vapor pins were installed by drilling a 5/8-inch diameter hole through the concrete slab approximately 1 to 2-inches into the underlying soil. The vapor pin was installed into the drilled hole and appropriately sealed to evaluate representative soil vapor conditions and to prevent atmospheric intrusion.

The entirety of the sampling train was placed under a helium shroud with an in-series helium detector for leak detection. The shroud was filled with approximately 20 to 30% helium prior to conducting leak checks and proceeding with sampling. In addition to helium leak check, a shut-in test was performed to ensure tubing, valves, and sampling components were hermetically sealed. This was performed by applying a vacuum through the purge valve to the sampling train, closing off the purge valve, and observing that no loss of vacuum occurred for a period of at least 3 minutes. A photographic log documenting vapor pin installation and sampling is included in **Attachment D**.

Following leak and shut-in testing, sample tubing was purged by pulling approximately 3 to 5 purge volumes. Purged gas was again tested for helium and measured for volatiles using a photoionization detector (PID). Sub-slab samples were then collected using a 1-Liter summa canister fitted with 10-minute regulators. Samples were submitted to Friedman and Bruya, Inc. for the following analyses:

- TCE by Method Toxic Organics-15 (TO-15), and
- Helium by American Society for Testing and Materials (ASTM) Method D1946.

Results

A total of seven sub-slab samples were collected during the VI assessment and submitted for TCE and helium. Analytical results are described below:

- TCE was detected in three samples (VP-1, VP-6 and KB-VP2) at concentrations ranging from 2 to 24 micrograms per cubic meter (µg/m³), which were all well below and do not exceed the Non-Residential Short-Term VI Screening Level of 250 µg/m³.
- TCE was not detected in samples VP-2 through VP-5 at a concentration exceeding the laboratory reporting limit.
- The tracer compound, helium, was not detected in any of the seven samples at a concentration exceeding the laboratory reporting limit. This indicates a strong sub-slab soil gas sampling train with no atmospheric leakage.

A summary of sub-slab soil gas results is provided in **Table 1**. Sub-slab sample locations and results are presented on **Figure 1**. Copies of the laboratory analytical reports are provided in **Attachment E**.

Conclusions

The following conclusions are supported by the findings of the VI assessment detailed in this letter:

- No detections of TCE in any of the sub-slab soil gas samples exceed the applicable Non-Residential Short-Term VI Screening Levels or the more conservative Residential Short-Term VI Screening Levels.
- VI assessments performed at the Site are in compliance and protective of current screening standards and short-term TCE risks. Ecology's concerns with the presence of TCE in the indoor air have been abated and no additional sampling is required at this time.
- Skotdal will be preparing full MTCA-compliant Remedial Investigation and Feasibility Study (RI/FS) documents in 2026 in support of regulatory opinion.

The opinions presented herein are based on the currently obtainable information and are subject to change if additional information is provided.

Sincerely,

Austin York, L.G.
Project Geologist

Eric Koltes, L.G.
Principal Geologist

Cc: Craig Skotdal, craig@skotdal.com
Andrew Skotdal, andrew.skotdal@skotdal.com
Dave Graef, dave.graef@skotdal.com

Enclosures

Tables

Table 1	Sub-Slab Soil Gas Analytical Results

Figures

Figure 1	Sub-Slab Soil Gas Sampling Analytical Results

Attachments

Attachment A	Request for Evaluation of Trichloroethene Risks at the Following Site Letter (March 25, 2025)
Attachment B	Response to Ecology Letter (April 24, 2025)
Attachment C	Ecology Response Re: Evaluation of TCE Risks (May 8, 2025)
Attachment D	Photographic Log
Attachment E	Copies of Laboratory Analytical Reports

Table

Table 1
Sub-Slab Soil Gas Analytical Results
Snohomish Squate Cleaners
1419 Avenue D and 13th Street Southeast

Sample ID	Sample Date	Selected Volatile Compounds[a]
		TCE
VP-1	6/3/2025	**2.0**
VP-2	6/3/2025	<0.84
VP-3	6/3/2025	<0.59
VP-4	6/3/2025	<0.56
VP-5	6/4/2025	<0.85
VP-6	6/4/2025	**24**
KB-VP2	6/4/2025	**2.4**
Sub-Slab Soil Gas Screening Level (Residential)[b]		**11**
Residential Short-Term VI Screening Level for Sub-Slab Soil Gas[c]		**67**
Sub-Slab Soil Gas Screening Level (Commercial)[d]		**95**
Non-Residential Short-Term VI Screening Level for Sub-Slab Soil Gas[c]		**250**

Notes:

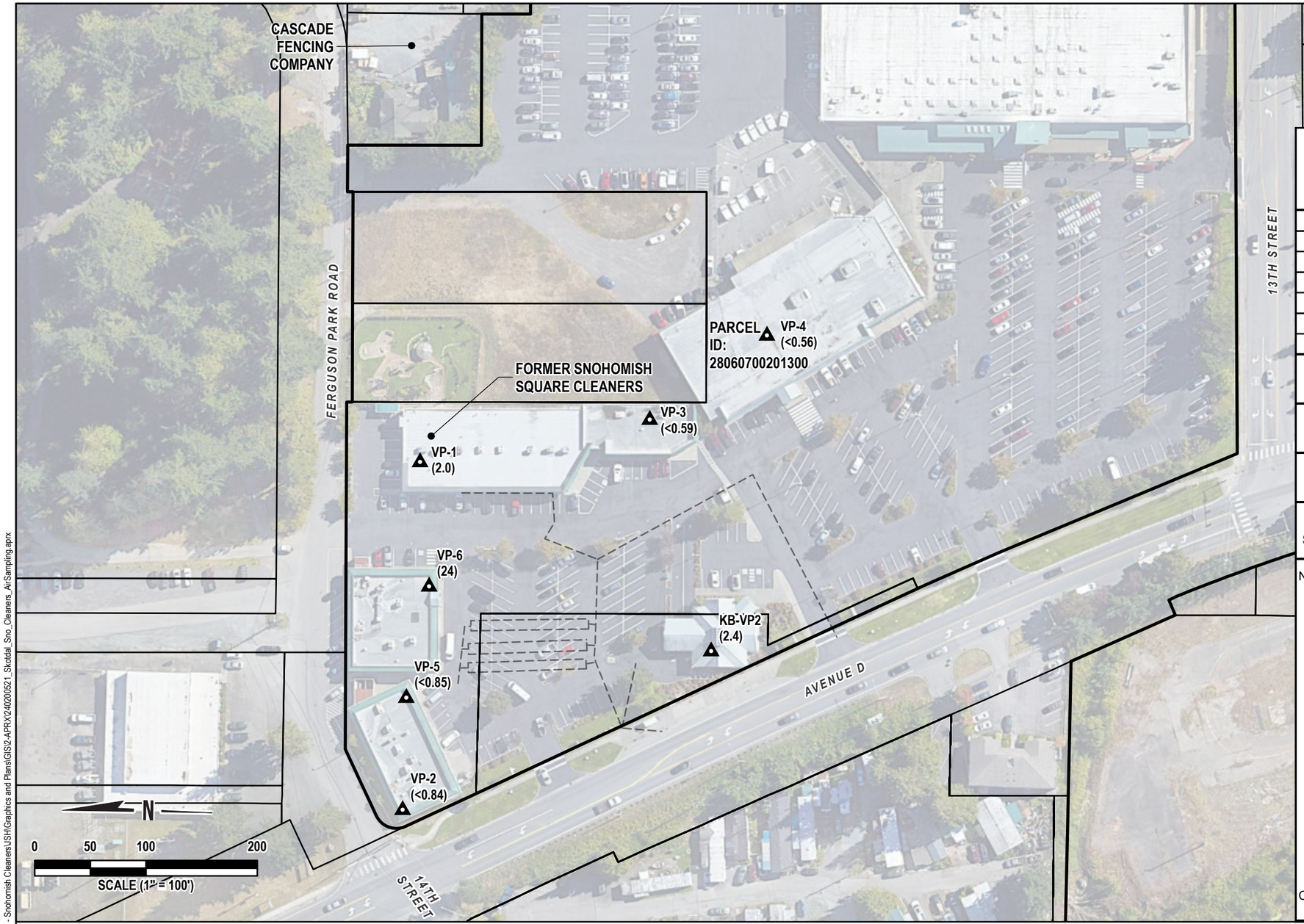
All results presented in micrograms per cubic meter (µg/m³).

Bold	Bold results indicates the analyte detected at a concentration greater than the laboratory reporting limit.
a	Analyzed by EPA Method TO-15.
b	MTCA Method B Soil Gas Screening Levels , Cleanup Levels and Risk Calculations (CLARC) guidance February 2025. Where levels based on carcinogenic and non-carcinogenic, the lower value is listed.
c	Short-Term TCE Subsurface Screening Levels, Guidance for Evaluating Vapor Intrusion in Washing State, March 2022. Where levels based on carcinogenic and non-carcinogenic, the lower value is listed.
d	VI Commercial Worker Screening Levels, Cleanup Levels and Risk Calculations (CLARC) guidance February 2025. Where levels based on carcinogenic and non-carcinogenic, the lower value is listed.
<	Indicates the analyte was not detected at a concentration greater than the listed laboratory reporting limit.

Compounds:

TCE	Trichloroethene

Figure



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VP-6	6/4/2025	**24**
KB-VP2	6/4/2025	**2.4**
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Sub-Slab Soil Gas Screening Level (Commercial) [d]		**95**
Non-Residential Short-Term VI Screening Level for Sub-Slab Soil Gas [c]		**250**

Notes:

All results presented in micrograms per meter cubed (µg/m³).

Bold	Bold results indicates the analyte detected at a concentration greater than the laboratory reporting limit.
	Shaded cells indicate that the compound was detected at a concentration greater than the Short-Term VI Screening Level
a	Analyzed by EPA Method TO-15.
b	MTCA Method B Soil Gas Screening Levels , Cleanup Levels and Risk Calculations (CLARC) guidance February 2025. Where levels based on carcinogenic and non-carcinogenic, the lower value is
c	Short-Term TCE Subsurface Screening Levels, Guidance for Evaluating Vapor Intrusion in Washing State, March 2022. Where levels based on carcinogenic and non-carcinogenic, the lower
d	VI Commercial Worker Screening Levels, Cleanup Levels and Risk Calculations (CLARC) guidance February 2025. Where levels based on carcinogenic and non-carcinogenic, the lower value is
<	Indicates the analyte was not detected at a concentration greater than the listed laboratory reporting limit.

Compounds:

TCE Trichloroethene

LEGEND

- SUB-SLAB SOIL GAS SAMPLING LOCATION WITH TRICHLOROETHENE (TCE) CONCENTRATION (6/3 & 6/4 2025)
- STORM DRAIN LINES
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- SURROUNDING PARCELS

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.

2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

JS|HELD
18372 REDMOND WAY • REDMOND, WA 98052
WWW. JSHELD.COM • (425) 380-2702

PREPARED FOR: SKOTDAL REAL ESTATE

ANNUAL GROUNDWATER MONITORING REPORT

DRAWN BY: VB | CHECKED BY: AY | DATE: 6/24/2025 | PROJECT NO. 240200521

FIGURE 1

SUB-SLAB SOIL GAS SAMPLING RESULTS

SNOHOMISH CLEANERS
1419 AVENUE D
SNOHOMISH, WASHINGTON

File: C:\Users\VincentBachmann\Box\240200521 Skotdal - Snohomish Cleaners\JSH\Graphics and Plans\GIS\2-APRX\240200521_Skotdal_Sno_Cleaners_AirSampling.aprx

Attachment A
Request for Evaluation of Trichloroethene Risks at the Following Site Letter (March 25, 2025)

Electronic Copy

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Region Office
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

March 25, 2025

Dave Graef
Skotdal Real Estate
1604 Hewitt Avenue, Suite 200
Everett, WA 98201
(dave.graef@skotdal.com)

Re: Request for Evaluation of Trichloroethene Risks at the following Site:

- **Site Name:** Skotdal Enterprises
- **Site Address:** 1419 Avenue D, Snohomish, WA 98290
- **Facility/Site No.:** 12775192
- **CSID No.**: 4313

Dear Dave Graef:

Our records indicate that this Site is contaminated with trichloroethene (TCE), and tetrachloroethene (PCE) that can break down into TCE. TCE is a toxic organic chemical that can volatilize from contaminated soil or groundwater and potentially enter nearby buildings as a vapor. The presence of TCE in indoor air can result in health impacts to building occupants, the most urgent of which are to pregnant women. U.S. EPA has concluded that brief exposures to TCE in air may affect women in the first trimester of pregnancy by increasing the risk of heart malformations to a developing fetus.[1]

Ecology's "*Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action, Appendix A: Vapor Intrusion Investigations and Short-term Trichloroethene TCE) Toxicity"* (attached) provides important information including indoor air action levels[2] (Appendix A – Table A1 and A2) as well as recommendations (Section A-4) for determining whether environmental contamination is causing elevated levels of TCE in indoor air.

[1] See U.S. EPA, August 2014, Office of Solid Waste and Emergency Response Memorandum: Compilation of Information Relating to Early/Interim Actions at Superfund Sites and the TCE IRIS Assessment.

[2] The short-term indoor air action levels are higher than Ecology's long-term indoor air cleanup levels.

Based on concentrations of TCE in soil and groundwater at this Site previously reported to Ecology, there is a possibility that concentrations of TCE in indoor air may exceed action levels. Further information and documents for the Skotdal Enterprises site can be found on the Site Webpage[3].

To protect human health, Ecology requests that:

1. Within 30 days from the date of this letter, you provide Ecology with any existing information regarding contamination at the site that you have not already submitted.
2. Within 60 days you perform a vapor intrusion investigation and submit the results of the work you performed to determine whether environmental contamination at the site has resulted in TCE concentrations from vapor intrusion above the short-term indoor air action levels. Include recommendations on what actions, if any, are necessary to reduce TCE concentrations to below the appropriate short-term indoor air action level.
    - Based on Ecology's knowledge of the location of TCE contamination at the Site, the buildings housing Enchanted Little Forest Daycare and El Paraiso Mexican Grill Snohomish should be included in the investigation.
    - Ecology recommends collecting indoor air samples from these locations as soon as possible to assess possibility for short-term risks to people working at these businesses.

Ecology's Next Steps

Depending on the site specific circumstances, Ecology may:

1. Continue to provide technical assistance as necessary for evaluating and/or remediating short-term TCE risks.
2. Notify appropriate local, state or Federal health agencies to discuss possible health risks and any necessary public notifications.
3. Identify potentially liable parties and require additional remedial action pursuant to RCW 70A.305, such as: a) issuing an enforcement order, b) pursuing an Ecology conducted cleanup with cost recovery, or c) seeking judicial review.
4. Pursue other options necessary to adequately clean up contamination at the site.

[3] https://apps.ecology.wa.gov/cleanupsearch/site/4313

Contact Information

Ecology is committed to working with you to accomplish the prompt and effective actions necessary at the Site. If you have any questions about this request, please contact me at 206-459-6287 or david.unruh@ecy.wa.gov.

Sincerely,

David Unruh, LHG
VCP Coordinator
Toxics Cleanup Program, NWRO

Enclosure: Vapor Intrusion Guidance, Appendix A

By certified mail: 9171 9690 0935 0214 2546 30

cc: Andrew Skotdal, Skotdal Real Estate (andrew.skotdal@skotdal.com)

Appendix A: Vapor Intrusion (VI) Investigations and Short-term Trichloroethene (TCE) Toxicity

A-1 Introduction

Appendix A provides recommendations for addressing the VI pathway at sites contaminated with TCE and discusses:

- Indoor air action levels that are protective of short-term exposures to TCE.
- Default (non-site-specific) subsurface VI screening levels that are protective of the short-term indoor air TCE action levels.
- Options for effectively and rapidly responding to those situations where TCE concentrations in indoor air from VI are above action levels.
- A goal to keep indoor air TCE concentrations from VI below short-term action levels.
- Public notification and other outreach-related tasks that responsible parties should perform when VI may be resulting in indoor air concentrations that exceed action levels.

Information in this Appendix assumes that Ecology is directly involved at the site. Section A-5.2 provides recommended steps that should be followed by the parties performing independent site investigation and cleanup.[108]

A-2 Background

In 2014, EPA concluded that short-term inhalation exposures to TCE in indoor air have the potential to cause serious heart defects in a developing fetus.[109] The damage can occur early in a pregnancy, possibly before the pregnancy is recognized. This Appendix focuses on issues that are specific to situations where short-term TCE exposures are occurring or likely to be occurring. These issues are:

[108] In later portions of Appendix A, we use the term "responsible party" to refer to the party who is conducting remedial actions at the site. In many cases, the responsible party will be a person meeting the statutory definition of a "potentially liable person" (see RCW 70A.305.040).

[109] (USEPA 2014) *Memorandum: Compilation of Information Relating to Early/Interim Actions at Superfund Sites and the TCE IRIS Assessment*.

1. **Response speed.** Actions to protect a fetus from unacceptable TCE exposures should occur as rapidly as possible after discovering the contamination, usually within days or weeks, depending on the likelihood and degree of potential exposure.

2. **Focus on women of childbearing age (which includes pregnant women).** The developing fetus is sensitive to the effects of short-term TCE exposure, and preventing harm to the fetus relies on reducing the mother's exposure.

3. **Public outreach.** Promptly contacting people who live and work near TCE contamination is crucial for three reasons: 1) to identify women of childbearing age; 2) to explain the potential health hazards to building occupants and, 3) if warranted by site-specific conditions, to obtain permission to access buildings for property-specific investigation and exposure-reduction activities. Whenever possible, outreach activities should be conducted in collaboration with public health departments.

This degree of urgency, and the need for more intensive outreach to specific individuals, is not typical at most MTCA sites. These three issues are further discussed in Sections A-4 through A-6.

A-3 VI screening and action levels for TCE

A-3.1 Indoor air action levels for TCE

A **screening level** is the concentration of a hazardous substance derived from standardized equations that if exceeded may result in indoor air concentrations above the applicable cleanup level. A **cleanup level is** the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions (WAC 173-340-200).[110] An **action level** is the concentration of a hazardous substance in indoor air that may pose short-term risks to potential receptors. Action levels are not MTCA Method B or C air cleanup levels.

Indoor air cleanup levels for TCE are provided in the CLARC Air data tables.[111] Cleanup levels are used during Tier 1 and Tier 2 evaluations to determine whether further sampling, interim actions, or cleanup actions are indicated. The concentrations for indoor air cleanup levels are the same as for standard cancer and non-cancer Method B and C air cleanup levels in CLARC's Air data tables.

Air cleanup levels for TCE are lower than indoor air action levels. Cleanup levels apply to long-term average air concentrations (over at least one year) for the entire population, all genders and ages. Short-term indoor air action levels, on the other hand, only apply to three-week average concentrations for women of childbearing age.

[110] https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340-200 (Definitions.)
[111] Cleanup Levels and Risk Calculation (CLARC). https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Contamination-clean-up-tools/CLARC/Data-tables

The average indoor air TCE concentration due to vapor intrusion over **any** three-week interval should not exceed the applicable action level.

VI indoor air cleanup levels for long-term TCE exposures, and action levels for short-term exposures to women of childbearing age, are provided in Tables A-1 and A-2 below. The table's indoor air cleanup and action levels are compared to average indoor air TCE concentrations that result solely from VI. In some cases, this means that contributions to indoor air measurements from non-VI sources, such as outdoor or indoor sources, will need to be distinguished from contributions due solely to subsurface sources.

The short-term action levels for TCE in Table A-2 are based on values recommended by EPA Region 10 (memorandum dated December 13, 2012) and EPA Region 9 (memorandum dated July 9, 2014).[112] The Region 10 memorandum from 2012 states that, pursuant to an IRIS toxicological review, exposure to TCE can cause fetal cardiac malformations during a 21-day gestation window. To protect against the possibility of this occurring, the average concentration of TCE in residential indoor air should not exceed 2.0 µg/m^3 during any consecutive 21-day period in a given year. For commercial / industrial settings, where receptors of concern are workers, indoor air TCE should not exceed 8 µg/m^3. The Region 9 memorandum identifies "accelerated" and "urgent response action levels" for residents and workers. The "accelerated" levels range from 2 to 8 µg/m^3; the "urgent" levels vary from 6 to 24 µg/m^3. The range of levels for both categories accounts for the varied lengths of time that receptors are expected to be exposed.

Table A-1: Vapor intrusion TCE Indoor Air **Cleanup Levels,** chronic (mean long-term air concentration for RME receptor)*

Level of Concern	Concentration (µg/m^3)	Risk Basis
Method B (unrestricted land use)	**0.37**	Cancer risk 1E-6
Method B (unrestricted land use)	**0.91**	Hazard quotient 1
Method C (industrial land use)	**6.3**	Cancer risk 1E-5
Method C (industrial land use)	**2.0**	Hazard quotient 1

* These values are available in CLARC (Ecology 2018a).

Table A-2: Vapor intrusion TCE Indoor Air **Action Levels**, short-term (maximum 3-week mean concentration for women of childbearing age)

Level of Concern	Concentration (µg/m^3)	Risk Basis
Unrestricted (residential) land use	**2.0**	Noncarcinogenic effect based on 24 hours/day, 7 days/week
Workplace scenario (commercial or industrial)	**7.5**	Noncarcinogenic effect based on 45-hour work week

[112] For the Region 9 and 10 memoranda, see Ecology's Vapor Intrusion webpage at https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Vapor-intrusion-overview

A number of other EPA Regions and states, including Massachusetts, New Jersey, New Hampshire, Minnesota, Ohio, Alaska, and Connecticut, have also adopted short-term TCE levels and recommended responses. The levels and response timeframes vary.

Consistent with guidance from EPA Region 10, TCE action levels in Table A-2 are intended to be compared to the highest measured (or estimated) VI-caused indoor air levels averaged over any 21-day period. It is unknown whether potential fetal health effects from an exposure to action level concentrations could occur over a period less than three weeks, or whether shorter periods would only be harmful if TCE concentrations were significantly higher than action levels.

Given this uncertainty, Ecology recommends that, if any 24-hour or 8-hour measurements of average indoor air TCE concentrations exceed Table A-2's action levels (for residents or workers, respectively), **take prompt action**. This could include either reducing those concentrations or reducing the degree to which women of childbearing age are exposed. Ecology will revisit this recommendation as more information becomes available about the health effects attributable to short-term TCE exposures.

Table A-2 provides short-term TCE indoor air action levels for residential land use and commercial/industrial workers.

- The residential concentration is intended to protect women of childbearing age who reside in the building and are continuously exposed to indoor air contaminated by VI.
- The commercial/industrial concentration is protective of women of childbearing age who work full-time shifts up to 45 hours per week.[113]
- However, other women of childbearing age who occupy a building where VI is occurring may also be receptors of concern. For example, building visitors, part-time workers, and students could also be potentially be exposed to contaminated indoor air over extended periods of time.

Use the short-term action levels in Table A-2 to determine whether prompt and protective measures like interim actions should be implemented (see WAC 173-340-430).[114] Remember that **action levels are not MTCA Method B or C air cleanup levels** and that the MTCA cleanup regulations require that cleanup levels be established for one of two specific land uses: *unrestricted* or *industrial* site use.

[113] This paragraph refers to the protection of the developing fetus. Exposures to TCE can also potentially affect the health of women themselves and this should be assessed using the indoor air cleanup levels in the CLARC data tables, not the short-term action levels.

[114] https://app.leg.wa.gov/wac/default.aspx?cite=173-340-430

A-3.2 VI short-term screening levels for TCE in groundwater and soil gas

CLARC's data tables also provide groundwater and soil gas screening levels that can be used to assess the potential for chronic exposure threats posed by a subsurface source.

CLARC's groundwater screening levels are intended to be protective of corresponding indoor air cleanup levels, and assume there will be 1,000-times attenuation between groundwater VOC concentrations (in equilibrium with vapor concentrations) and indoor air levels.

CLARC's sub-slab soil gas screening levels are also expected to be protective of indoor air cleanup levels. They assume there will be 33-times attenuation between soil gas VOC concentrations just below a building's slab and indoor air levels. (For further discussion on attenuation factors, see the note box following Table A-4.)

VI groundwater and sub-slab soil gas screening levels protective of short-term TCE indoor air action levels are presented in Tables A-3 and A-4 below. These screening levels embody the same attenuation assumptions used to calculate the chronic subsurface screening levels provided in CLARC (as discussed above). In summary:

- The short-term VI screening levels for groundwater and soil gas are higher than CLARC's VI TCE cleanup levels, which are calculated for chronic indoor exposures.
- For residential buildings, the short-term screening level for groundwater is about twice as high as CLARC's chronic-based non-carcinogenic screening level (8 µg/L versus 3.8 µg/L, respectively), and approximately five times higher than CLARC's carcinogenic screening level (8 µg/L versus 1.6 µg/L).
- Similarly, the short-term screening level for TCE in soil gas is about twice as high as CLARC's chronic-based non-carcinogenic sub-slab screening level (67 µg/m³ versus 31 µg/m³), and a little more than five times higher than CLARC's carcinogenic sub-slab screening level (67 µg/m³ versus 12 µg/m³).

Table A-3: Vapor intrusion subsurface screening levels for **groundwater** for short-term exposures to TCE

Short-term TCE Subsurface Screening Levels	Concentration	Basis
residential short-term VI screening level for groundwater	**8 µg/L**	• TCE as a non-carcinogen • receptor of concern: women of childbearing age • residential indoor scenarios
non-residential short-term VI screening level for groundwater	**31 µg/L**	• TCE as a non-carcinogen • receptor of concern: women of childbearing age • commercial/industrial workplace scenarios

Table A-4: Vapor intrusion subsurface screening levels for **soil gas** for short-term exposures to TCE

Short-term TCE Subsurface Screening Levels	Concentration	Basis
residential short-term VI screening level for sub-slab soil gas	**67 µg/m³**	• TCE as a non-carcinogen • receptor of concern: women of childbearing age • residential indoor scenarios
non-residential short-term VI screening level for sub-slab soil gas	**250 µg/m³**	• TCE as a non-carcinogen • receptor of concern: women of childbearing age • commercial/industrial workplace scenarios

Note: The 2009 Draft VI Guidance had differentiated between the amount of attenuation that should be assumed for soil gas VOC concentrations that are located immediately below the building (like sub-slab), versus those concentrations that are at significantly greater distances below ground surface (called "deep"). CLARC's VI data tables also make this distinction. "Deep" soil gas screening levels in CLARC assume 100-times attenuation between soil gas VOC concentrations and indoor air levels. This distinction was based on the approach set out in EPA's 2002 Vapor Intrusion guidance.

However, EPA's Technical guide for assessing and mitigating the vapor intrusion pathway from subsurface vapor sources to indoor air [115] (USEPA June 2015) does not recommend that soil gas levels be assumed to attenuate more than 33 times, regardless of depth. As a result, Ecology has now eliminated the use of deep soil gas VI screening levels.

A-4 VI Investigation

This section provides site investigation recommendations when short-term inhalation exposures to TCE from VI are a potential concern.

A-4.1 Identify any buildings where VI may result in indoor TCE concentrations above the short-term action level.

Note:

- **Section A-4.1's** discussion assumes that indoor air sampling for TCE has not been conducted.
- If indoor air has already been sampled, and indoor TCE concentrations due to VI exceed the applicable short-term action level, see the appropriate responses described in **Section A-5**.
- If indoor air was sampled and TCE concentration measurements were below the short-term action level, the VI assessment team should determine whether those measurements represent the highest 3-week average indoor TCE concentration. See **Section A-4.4** for additional discussion.

Determining which buildings are a potential concern is commonly accomplished by mapping site areas where TCE is, or may be, present in soils or shallow groundwater. Buildings above or close to these areas can then be identified. In parts of the site where soils are contaminated

[115] https://www.epa.gov/vaporintrusion/technical-guide-assessing-and-mitigating-vapor-intrusion-pathway-subsurface-vapor

with TCE, soil gas samples are typically collected and analyzed.[116] CLARC's VI soil gas screening levels the short-term soil gas screening levels in Tables A-2 and A3 can then be used to determine if VI could potentially result in indoor air cleanup level or action level exceedances (respectively) at nearby buildings.

Regardless of whether the potential subsurface VI source is contaminated soil or shallow groundwater, investigators can collect soil gas samples below or near a building and use the measured TCE levels to determine the potential for an indoor exceedance of indoor air cleanup levels and/or action levels. However, if TCE concentrations in shallow groundwater are above CLARC's VI screening levels, or if significant soil contamination or residual non-aqueous phase liquid (NAPL) is close to a building and likely to contain elevated TCE concentrations, investigators should not delay indoor air sampling (see Section A-4.3). When these conditions are present, the first indoor sampling event(s) should be a priority and performed immediately, without waiting for a preliminary soil gas investigation.[117]

In areas where soils are not contaminated and shallow groundwater is the only potential VI source, investigators can use groundwater VI screening levels in CLARC and short-term groundwater screening levels in Tables A-2 and A-3 to distinguish between buildings where VI could potentially result in exceedances of indoor air cleanup (chronic) or action (short-term) levels, and those where exceedances are highly unlikely.

In addition to the exceedance of subsurface VI screening levels, there may be other building- or site-specific reasons for suspecting that indoor air TCE concentrations could exceed the short-term action level. For instance, at some building locations, contaminated shallow groundwater may be the only potential VI source and TCE concentrations in this groundwater may be below the short-term screening level. However, the short-term groundwater screening levels assume a certain amount of attenuation and dilution of vapor-phase TCE between the groundwater surface and the indoor environment. While these are conservative assumptions for most buildings, they may not be if:

- There are preferential subsurface pathways that may result in higher soil gas VOC levels below the building than the short-term groundwater screening levels assume, or if

[116] *De minimis* levels of TCE in vadose zone soils (i.e., above the seasonal low water table) are unlikely to pose a VI threat. WAC 173-340-740(3)(b)(iii)(C)(III) defines such levels as concentrations no higher than concentrations "derived for protection of groundwater for drinking water beneficial use under WAC 173-340-747(4)." Concluding that TCE levels in soils are this low requires adequate characterization of vadose zone contamination.

[117] Ecology does not recommend that soil gas sampling be *initiated* at this point to determine if TCE concentrations exceed short-term soil gas screening levels. This is because it takes time to prepare (and approve) soil gas Sampling and Analysis Plans (SAPs); obtain access; schedule and mobilize the related work; and review the sampling results. Indoor air sampling should not be delayed while these activities are being performed. It is prudent to obtain soil gas data during or immediately following the first indoor air sampling event.

- There may be a higher soil gas flowrate into the building than the short-term groundwater and soil gas screening levels assume.[118]

A-4.2 Notify and involve Ecology

This Appendix presumes that Ecology will be involved throughout the VI evaluation process, including owner/tenant notifications, the initial building visit, indoor air sampling, data analysis, and post-sampling decision making described in the rest of this section and Sections A-5 and A-6. The recommended actions and decisions identified below are therefore intended for both the party conducting the remedial actions (the responsible party) and Ecology.[119] However, when responsible parties are acting independently and choose not to involve Ecology during some or all of these actions and decisions, they should complete the applicable and recommended steps themselves.

Regardless of whether Ecology oversees the site throughout the cleanup process, or whether another party independently conducts the remedial actions, the following should occur:

1. Ecology should be contacted as soon as the responsible party determines that women of childbearing age are current building occupants and indoor air sampling is needed to assess the potential for a short-term TCE action level exceedance (see Section A-4.3 below).

2. If an Ecology staff person has already been assigned to the site, this individual should be notified. Otherwise, the responsible party should contact their local Ecology regional office. They should not wait for Ecology's response before moving to the next steps of the investigation / response process. Find Ecology's contact information at https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue

[118] The short-term groundwater screening levels assume that vapor-phase TCE concentrations will attenuate by a factor of 1000 between soil gas levels immediately above and in equilibrium with contaminated groundwater and indoor air. This is generally a conservative assumption, but may over-predict the degree of subsurface attenuation in certain cases, such as sites with a shallow water table, or sites with subsurface conduits capable of transporting elevated soil gas levels to areas directly below the building with minimal attenuation.

The short-term soil gas screening levels assume that vapor-phase TCE concentrations will attenuate by a factor of at least 33 times between soil gas levels immediately below the building and indoor air. This is usually a conservative assumption, but less attenuation is possible if the building or its foundation allows soil gas to enter interior spaces relatively unimpeded. This can occur when slab or basement wall penetrations or large cracks provide preferential conduits for entry.

[119] As noted in Section 1.1, "PLP" in this Guidance broadly refers to the individual or party responsible for cleaning up the site. It is not intended to limit responsibility to only those who are designated as PLPs per RCW 70A.305.040. Instead, it is a general reference to the *responsible party.*

A-4.3 Prepare for indoor air sampling

As soon as one or more site buildings have been identified as a location where VI may potentially result in indoor air TCE concentrations above the short-term action level, investigators should quickly plan for the next steps of the evaluation, unless they confirm that women of childbearing age do not regularly occupy the buildings. At this point in the investigation, it is only *potentially possible* that indoor TCE concentrations actually exceed the action level, but several actions should occur without delay including:

1. **Contact building owner and/or tenant.** The owner/tenant of the building should be contacted to determine if women of childbearing age are current occupants, and to schedule a building and property visit. This initial contact should occur soon after the building has been identified as potentially at risk. The owner and tenant(s) of these buildings should be notified that there is the *possibility* that VI-caused indoor air TCE concentrations exceed the acceptable chronic and/or short-term screening/action levels.

2. **Schedule a building visit.** If women of childbearing age are current building occupants, a building visit should be scheduled as soon as possible. During this visit Ecology and the responsible party need to be prepared to discuss the potential TCE risk, explain next steps, and answer exposure-related and other questions.[120] If the responsible party does not own the building, they should also be prepared at this time to request building access for the purpose of collecting indoor air samples. Interactions with building owners and tenants preceding indoor air sampling are further discussed in Section A-6.0.

3. **Prepare and finalize a SAP.** Following the visit to the building and property, an indoor air Sampling and Analysis Plan (SAP) should be expeditiously prepared, reviewed, and finalized.[121] The SAP should identify the timeframes for gathering and reviewing the data. The SAP should also include a site/building-specific VI conceptual site model (CSM) that serves as the basis for selecting data quality objectives and sampling design. The VI CSM is a combination of information, assumptions, and hypotheses that investigators use to help evaluate the adequacy of available site-specific information, and guide the identification of critical data gaps. The VI CSM is discussed in Section 2.4 of this guidance and Section 5.4 of EPA's 2015 *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (USEPA June 2015).

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[120] Please see VI-related risk communications in Section A-6.1.

[121] This assumes that: a) an exceedance of the short-term TCE indoor air action level has not yet been measured, and b) the responsible party has decided not to pursue a "preemptive" response action. If an exceedance of the action level has already been measured, no additional pre-mitigation sampling may be needed. See Section A-5.0 for a description of appropriate response actions.

Preemptive mitigation is a term often used to describe VI mitigation efforts implemented without (or prior to) confirmation that VI-caused indoor air contamination exceeds acceptable levels. When preemptive mitigation has been chosen as the next step in Section A-4.3, indoor air sampling is not typically conducted until after mitigation has been implemented. Section 7.8 of EPA's OSWER VI guidance document (USEPA June 2015) provides additional information about preemptive mitigation.

- **Schedule indoor air sampling.** Immediately schedule the first indoor air sampling event as soon as the SAP is final. . It should not be delayed to coincide with more desirable seasonal or meteorological conditions.[122]

A-4.4 Determine if 3-week average indoor air TCE concentrations exceed the short-term action level.

For those buildings occupied by women of childbearing age, the VI investigation should provide sufficient information to determine whether 3-week average indoor air TCE concentrations ever exceed the short-term action level. A single indoor air sampling event may not provide sufficient evidence unless it coincides with a period when maximum VI impacts are occurring. This is because VI impacts can vary significantly over time, and because this variability cannot be easily predicted. As a result, it can be difficult to schedule an indoor sampling event that represents the highest 3-week average unless the sampling program is designed to intentionally create near-maximum VI conditions.[123] Unless the first sampling event finds TCE concentrations exceeding the short-term indoor air action level, the investigation will need multiple sampling events.

When the receptor of concern is a current occupant of the building, and air samples are being analyzed at an off-site laboratory, request expedited turnaround times. For at least the first sampling event, the goal should be to receive the laboratory's sampling data within three business days.

Immediately after the data have been received, share with members of the decision-making team including the Ecology site manager.[124] For at least the first indoor air sampling event, the goal should be to distribute the results to the decision-making team within seven days of sample collection. The objective of the decision-making team's review is to quickly determine if: 1) the relevant TCE short-term indoor air action levels listed in Table A-1 are being exceeded, and 2) VI is the likely cause.

The immediate review, and the decisions arising from that review, will not have the benefit of a sampling-data quality assessment or validation. These activities will typically occur later, when the results of the sampling event are being integrated into a VI evaluation report. It is possible that a later assessment of data quality will lead to a conclusion that VI is *not* causing short-term indoor air action level exceedances, and that the earlier determination was incorrect. However, if the receptors of concern are current occupants of the building, the importance of providing

[122] Additional sampling events may be necessary even if the measured indoor air concentrations were less than cleanup levels.

[123] Sections 4.5.1 and 4.10 of this Guidance provide additional direction for mechanically creating negative pressures within a building.

[124] If an Ecology site manager has not been assigned to the project, send the results to the designated Regional contact.

timely information to those receptors should outweigh the potential that the information provided might later need to be revised.

This section (A-4) is specifically devoted to recommendations related to the potential for *short-term* inhalation exposures to TCE. As discussed in Section A-3, CLARC's VI indoor air cleanup levels for TCE are lower concentrations than action levels established to be protective of short-term indoor exposures. This is because the indoor air cleanup levels in CLARC are based on chronic VI-caused exposures. Therefore, remedial actions such as VI mitigation may be needed to protect long-term indoor exposures, regardless of whether the short-term indoor air TCE action level is exceeded.

A-5 Responding to exceedances of the short-term TCE indoor air action level

If VI is causing an exceedance of the TCE short-term indoor air action level, *prompt* **action is needed.** Such actions should be taken in consultation with the building's owner (and tenant, if applicable). Protecting people inside affected buildings is a high priority and action should not be delayed. If follow-up indoor air or other sampling is scheduled before the selected action is fully implemented, this sampling needs to be conducted in a manner that does not interfere with efforts to quickly and effectively reduce indoor exposures to TCE.

A-5.1 Systems for mitigating vapor intrusion

VI *mitigation* generally refers to actions that reduce VI-caused indoor air contamination, and the focus is often on reducing the amount of contaminated soil gas entering the building.[125] Mitigation systems creating **depressurization** of the sub-slab zone or crawl space will often be the most effective approach for reducing VI impacts (until subsurface cleanup permanently remediates the source of elevated soil gas concentrations). However, these types of systems can take weeks to design, construct, and fully implement. Additional time is then needed to demonstrate that target VOC concentrations in indoor air have actually been achieved.

Active VI mitigation systems such as sub-slab and sub-membrane depressurization are often able to reduce VI-caused TCE indoor air contamination to concentrations below the short-term action levels. But before the mitigation system has been successfully implemented, TCE action levels can be exceeded. If a woman of childbearing age lives or works in an area of the building where elevated TCE concentrations are present and does not relocate, she will continue to be exposed. Mitigation should therefore be designed, constructed, and implemented as quickly as

[125] Subsurface *remediation*, on the other hand, includes cleanup actions designed to reduce soil gas VOC levels. Although these actions will also reduce VI-caused indoor air contamination, they are not typically referred to as VI "mitigation" unless they can be successfully implemented within a relatively short timeframe.

possible,[126] and other actions considered that would effectively reduce exposures during the interim.

A-5.2 EPA-recommended actions and MTCA cleanups

Prompt actions to reduce TCE exposures include the recommended responses described in EPA Region 9's 2014 TCE Memorandum[127] under two headings: "Implementation of early or interim measures to mitigate TCE inhalation exposure," and "Tiered response actions" (USEPA 2014a). Many of EPA's recommendations in these sections are appropriate guides for selecting proper response actions in Washington state. However, Ecology has clarified three of the Region 9 recommendations in terms of their applicability at MTCA cleanup sites:

1. EPA's recommendation to increase building pressurization/ventilation.

> **Ecology**: Positively pressurizing the building (with respect to the subsurface) can create a pressure barrier to advective flow of soil gas into the structure and mitigate VI impacts. However, it will not always be possible or sufficiently effective. Likewise, increasing ventilation can dilute VI impacts if the outdoor-to-indoor air exchange rate is increased. But it may not be practicable to increase the ventilation rate enough to reduce indoor air TCE below cleanup/action levels. Moreover, if the methods to increase the outdoor-to-indoor air exchange rate result in greater building depressurization, VI impacts may actually be exacerbated. Regardless, follow-up monitoring of indoor air quality should be performed to ensure TCE concentrations have been reduced to an acceptable level.

2. EPA's recommendation to seal potential conduits.

> **Ecology**: It is possible that a single foundation or building feature is primarily responsible for the degree of vapor intrusion, leading to short-term indoor air TCE action level exceedances. For instance, there could be an uncovered earthen floor in part of the building, an unsealed basement sump, a disconnected floor drain, or an unsealed utility line penetration at ground level or sub-grade. If the building has a crawl space, there could be unsealed first floor openings around pipes or wiring that run between the two levels. The crawl space could also be walled-in, preventing any significant sub-floor ventilation and dilution of soil gas emissions.
>
> Often, however, it won't be obvious where the most significant soil gas entry points are located. For this reason, consider using a portable field sampling device to identify these locations, and then subsequently implementing conduit-sealing measures to limit this influence.

[126] A qualified individual or firm should be identified early, which is often during the planning phase of the investigation.

[127] Available on Ecology's website at https://ecology.wa.gov/DOE/files/4f/4fb8c34a-f785-41f7-8dea-e2ee341a31a2.pdf

If a portable device isn't used, Ecology recommends promptly initiating sealing efforts that are:

a. Focused on any easily observable and obvious major routes by which soil gas is likely entering the building;
b. Only undertaken as the initial response if the sealing activity can be completed quickly; and
c. Promptly followed up with indoor air sampling to verify the sealing's effectiveness.

3. EPA's recommendation to respond differently, based on whether the "urgent" response action level has been exceeded.

Ecology: The EPA Region 9 Memorandum states that the response to exceeding an "accelerated" action level should be "completed and confirmed within a few weeks." If the higher "urgent" action level is also exceeded, the response time should be reduced to "a few days."

Ecology agrees that, all else being equal, there should be a greater sense of urgency when TCE concentrations are much higher than the short-term action level established for the site and building. It is also true that the types of responses likely to be effective will often partly depend on how high the indoor air TCE concentrations are. **But Ecology believes any exceedance of the short-term action level merits prompt action.**

This means that if VI is causing an exceedance of the TCE short-term indoor air action level, quickly consult with the building's owner (and if applicable, the tenant) and determine which action will be taken. The goal should be to reduce TCE exposures for women of childbearing age as soon as possible. This may require that a "stopgap" response be taken right away, while plans for long-term mitigation proceed on a parallel track. Stopgap responses include temporarily relocating the receptor, and/or installing effective indoor air treatment.

Carbon-based indoor air VOC treatment devices, sometimes referred to as air purification units (APUs) or "air cleaners," can be installed relatively quickly. These devices can be used for extended periods, but their typical VI application is temporary use. They are often operated only while a more permanent form of mitigation is being designed/constructed. As discussed in EPA's 2017 *Engineering Issue*[128] that describes these devices, indoor air treatment can be accomplished with portable air cleaning units or HVAC in-duct systems (USEPA 2017). The former usually employs a built-in air circulation fan and carbon sorbent bed.

[128] Engineering Issue (USEPA 2017) at https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NERL&dirEntryId=337835

Indoor air treatment devices may not always be able to quickly reduce TCE concentrations to acceptable levels. Regardless of which treatment device is selected, investigators cannot assume that the installed unit will *sustainably* reduce indoor air TCE to concentrations below the short-term action level. As noted in the 2017 *Engineering Issue*, this needs to be confirmed with air sampling.[129]

A-6 Working with people who are affected by vapor intrusion

This section discusses interactions with the owners and occupants of buildings where vapor intrusion is, or may be, contaminating indoor air with TCE.

In the simplest case, the building is a single-family residence owned by the occupants. The responsible party and Ecology are then interacting primarily with a head of household.

But the property where the building is located will not always be owned by the responsible party, and other scenarios will also be common, such as:

a. The building is a single-family residence where the owner resides elsewhere.
b. The building is occupied by a single business, which also owns the property.
c. The building is occupied by a single business, which does not own the property or building.
d. The building is occupied by multiple businesses, none or only one of which owns the property or building.

Throughout this Appendix, we've used the term "building owners/tenants" when referring to notifications, access requests, information sharing, and other interactions with the affected public. We use this term for simplicity, but recognize that owners are not always building occupants and receptors, and building occupants are not always owners or tenants. Women of childbearing age who occupy a building could be owners, tenants, employees or other workers, students, or visitors.

For communication purposes, it is helpful for the responsible party and Ecology to have no more than two designated "building contacts." Communications about scheduling building visits,

[129] In the EPA 2017 *Engineering Issue* discussion of treatment systems, Attachment A lists a large number of VOC air cleaners by brand name. In 2014, the California DTSC reported the use of Air Rhino and AirMedic Vocarb stand-alone air purifiers. The New Hampshire Department of Environmental Services and Massachusetts Department of Environmental Protection reported the use of portable Austin HealthMate units in 2015 and 2016, respectively. (See "TCE Vapor Intrusion Case Study" presented at the 2015 NEWMOA conference, http://www.newmoa.org/events/event.cfm?m=157 and the October 2016 Field Assessment and Support Team (FAST): "An Expedited Approach to the Investigation and Mitigation of the Vapor Intrusion Pathway").

Ecology does not endorse these particular products. We include these references here only to indicate that the products have been used in at least three states to reduce VI-caused indoor air contamination.

obtaining access, sharing sampling data and data evaluations, and consultations concerning any response actions, can then be limited to a small number of individuals (who may or may not be potential "receptors"). It will be incumbent upon these building contacts to not only disseminate the information they receive from the responsible party and Ecology to (other) building occupants who are potentially being exposed, but to relay those occupants' concerns and questions back to the decision makers.

A-6.1 Outreach before indoor air sampling

As discussed in Section A-4.1, any site building where VI may potentially result in indoor TCE concentrations above the short-term action level should be identified based on subsurface sampling and other site data. When women of childbearing age are occupants in these buildings, perform the planning, notification, and pre-sampling activities described in Section A-4.3. This includes visiting the building itself.

In addition to obtaining the building and receptor-behavior information usually needed to prepare a VI indoor air SAP, during building visits Ecology and the responsible party should:[130]

1. Verify whether women of childbearing age regularly occupy the building. If they do (especially for non-residential buildings), ascertain which areas these women spend most of their time, and the hours they are typically present in the building.

2. Determine if women of childbearing age may be occupants in the foreseeable future, even if they aren't currently present.

3. Discuss site contamination and how vapor intrusion can potentially contaminate indoor air; discuss next steps and the need for sampling access; and answer their questions.

During the building visit, Ecology and the responsible party will need to be prepared for questions the occupants may have regarding potential short- and long-term TCE health effects and how to reduce their exposures. Decisions should be made during the planning period (described in Section A-4.3) about how and when this information should be provided, and who should communicate it.

Pursuant to health-related VI questions, Ecology staff are expected to answer only the most basic health-related VI questions. Routinely refer the public to local health departments or their family physicians for answers to questions that require toxicological or medical expertise.

Washington's state and local health departments are generally more familiar with local communities and their concerns than Ecology site management staff. Health departments also have more expertise at conveying health-related information. If women of childbearing age are

[130] As noted in Section A-4.2, Appendix A assumes that Ecology will be involved throughout the VI evaluation process. When this is not the case, parties performing the site investigation and cleanup should independently complete the recommended steps outlined in this Appendix.

potentially exposed to site-related TCE contamination, it is recommended that site managers and the responsible party rapidly coordinate with state/local health departments. These agencies can better explain the potential health hazards to building occupants and/or help gain access to buildings for investigation and remediation if needed. If Ecology has assigned a Community Outreach and Environmental Education Specialist (COEES) to the site, the site manager should also confer with this individual during the pre-sampling period.[131]

Before any indoor air sampling can occur, the party performing that sampling need to obtain owner/tenant consent.[132] Typically during VI investigations, this consent is documented in an "access agreement," which usually specifies the conditions under which access is granted. Finalizing an access agreement can be a lengthy process. Sometimes it is difficult to make timely contact with the building owner or tenant. Sometimes the owner will elect to get the advice of legal counsel before entering into an agreement. There can be protracted negotiations regarding considerations such as access-related payment, or other site-specific issues. While securing access is normally the duty of the responsible party, Ecology may become involved with disputes or delays when the health threat relates to a short-term exposure to site contamination. The parties need to realize that Ecology will make best efforts, including – if needed – exercising its legal authorities, to ensure access agreements are finalized as soon as possible.

A-6.2 Outreach after indoor air sampling

Indoor air sampling results, together with other lines of evidence, should indicate whether VI is causing an exceedance of the TCE short-term indoor air action level. Once the indoor air sampling data have been received from the laboratory (assuming no "real time" sampling was performed), the responsible party and Ecology should: 1) discuss the results, 2) make a preliminary decision as to whether VI is likely to be resulting in a TCE short-term action level exceedance, 3) agree on next steps, then 4) contact the building owner/tenant.

As discussed in Section A-4.4, when women of childbearing age are current occupants of the building, this decision-making and outreach process should begin as soon as the data are initially received, without waiting for data quality assessment. In these cases, the goal should be to quickly determine the likelihood of a TCE short-term indoor air action level exceedance and then inform building owners/tenants of the sampling results. Unless owners, tenants, and other concerned building occupants would prefer to wait until the quality of sampling data has

[131] Ecology's COEESs are typically not assigned to independent cleanup sites or those in the Voluntary Cleanup Program (VCP). However, if a COEES has been assigned to a site where VI is causing or may potentially result in indoor TCE concentrations above the short-term action level, their assistance can improve communications with the owners, tenants, and occupants of the affected buildings, as well as other members of the concerned public.

[132] With limited exceptions, such as emergency situations.

been rigorously assessed and validated, they should be notified of sampling results soon after results arrive from the laboratory.[133]

The responsible party and/or Ecology should tell the building owner/tenant what the sampling results indicate and what the next steps should be. During this discussion, it is important to:

1. Explain how the conclusions were reached.
2. Differentiate between what is known (e.g., the results from this single sampling event), what was inferred from the information collected, and what is not known.
3. Urge the owner/tenant to share and explain these results – as well as plans for follow-up actions – with concerned building occupants. This includes all women of childbearing age who live or work in affected portions of the building.

Coordinating with the site's assigned COEES and state/local health departments is critical at this stage and can improve the effectiveness of these communications.

If sampling data indicate that VI is likely to be causing an exceedance of the TCE short-term indoor air action level, and if a woman of childbearing age is a building occupant, quickly determine the proper response in consultation with the building's owner (and tenant, if applicable). Section A-5.0 lists various response actions that may apply. The selected action will depend on a number of building-specific factors, such as how high the indoor air TCE concentrations appear to be, and the preferences of the building's owner/tenant and receptors of concern. Promptly reaching and carrying out a mutually acceptable decision may require the involvement of state/local health departments.

If measured levels of indoor air TCE are below the action level, however, the next step may simply be to schedule a re-sampling event for the future.[134]

[133] When the data are shared this quickly, the building occupants should be informed that implications of the sampling results could change after the data quality is evaluated. Also inform them that if the implications did change, the responsible party and/or Ecology would immediately notify the owner/tenant.

[134] Typically, a sampling report is prepared after the data have been quality assured and validated. A copy of the report, and a copy of any Ecology response letter(s), should be provided to the building owner/tenant.

Attachment B
Response to Ecology Letter (April 24, 2025)

April 24, 2025

David Unruh, LHG
VCP Coordinator
Washington State Department of Ecology
Toxics Cleanup Program, Northwest Region Office
PO Box 330316
Shoreline, WA 98133

Re: Response to Ecology Letter dated March 25, 2025
Snohomish Square Cleaners
1419 Avenue D and 13th Street Southeast
Snohomish, Washington 98290

Dear Mr. Unruh:

J.S. Held, LLC (J.S. Held) is pleased to submit this *Response to Ecology Letter* to the Washington State Department of Ecology's (Ecology) *Request for Evaluation of Trichloroethene Risks*, dated March 25, 2025, for the former Snohomish Square Cleaners located at Avenue D and 13th Street Southeast in Snohomish, Washington (subject property). The opinions presented in this letter are provided to support the current property owner, Skotdal Enterprises, Inc. ("Client" or "Skotdal") efforts to comply with the requirements of the Model Toxics Control Act (Revised Code of Washington [RCW] 70A.305) and its implementing regulations (Washington Administrative Code [WAC] 173-340, collectively "MTCA").

Description

The subject property is located in a commercially developed area in the City of Snohomish. The property is currently zoned for commercial development and contains multiple commercial buildings. The subject property is approximately 12 acres in size. The Snohomish Square Cleaners was located in the north-central building at the subject property. Dry-cleaning operations at the Snohomish Square Cleaners ceased in the early 2000s. The location of the Snohomish Square Cleaners and surrounding properties is depicted on **Figure 1A.**

Background

PCE impacts to soil and groundwater were first identified during a limited subsurface investigation performed by Golder Associates (Golder) in 2003. Follow up investigations performed by Golder and ERM West, Inc. (ERM) indicated that the source area of the PCE was located near a planter box in the northern portion of the subject property. Source removal was performed by ERM in 2006 to lessen continued impacts to groundwater.

PCE impacts to groundwater originating from the facility were also identified on the "upper terrace" of the southwestern adjacent Snohomish County parcel in 2010. This is documented in a *Phase II Environmental Site Assessment Data* letter report prepared by CDM Smith, dated August 30, 2010. The source of the impacts was identified as the Snohomish Square Cleaners. The "Site", as defined by MTCA,

includes portions of the subject property as well as the "upper terrace" of the downgradient Snohomish County-owned property (Snohomish property). The full extent of the groundwater plume prior to conducting interim remedial actions (IRAs) at the Site is depicted on **Figure 1A**.

The Site was enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) in April 2010. The VCP site ID is NW2740. Environmental Partners, Inc. (EPI) and TRC Environmental Corporation (TRC) performed several rounds of investigation at the Site.

In-situ Bioremediation Events

A total of eight separate injection events of *in-situ* treatments utilizing enhanced reductive dechlorination (ERD), which is a bioaugmentation remediation technology, have occurred at the Site. These events were conducted from 2016 through 2018 and 2021 and 2024. A total of 28,760 gallons of bioremediation media were injected into the 27 treatment wells during the eight injection events. The treatments were conducted to address groundwater impacted with PCE and other chlorinated volatile organic compounds (cVOCs) at the release area near the former planter box and throughout the Site-wide groundwater plume.

The full extent of the plume prior to *in-situ* treatments is depicted on **Figure 1A**. The current extent of the plume is depicted on **Figure 1B**, shows a significant reduction in plume size since the implementation of *in-situ* treatments.

Groundwater Sampling

Groundwater monitoring has been generally conducted on a quarterly basis at the Site from February 2016 through January 2025. The monitoring generally included one annual sampling event where all wells were sampled throughout the Site and three quarterly sampling events in which a limited select number of wells were sampled.

A total of 643 groundwater samples were collected at the site between February 2016 and January 2025. Each groundwater sample was submitted for analysis of cVOCs using U.S. Environmental Protection Agency (EPA) Method 8260C. Comprehensive groundwater data for the Site collected since 2016 and is included in the attached **Table 1**.

Groundwater analytical results from 2016 to 2025 indicate that the size of the groundwater plume and concentrations of PCE (the primary Site contaminant of concern [COC]) have been significantly reduced at the Site. The reduction is attributed to the ongoing IRAs (i.e. *in-situ* groundwater treatment) which have proven to be effective in improving groundwater conditions at the site.

The effectiveness of the ongoing IRAs is evidenced by the groundwater trend analysis below.

- The maximum PCE concentration detected at the Site pre-remediation was 414 ug/L, detected in 2007. Three other wells at the site exceeded 300 ug/L in this general timeframe. After source removal in 2006 and ERD *in-situ* treatments, the maximum PCE concentration at the Site in 2025

is 60 ug/L, which was only in one well (MW-20). The next highest concentration detected is 16 ug/L. The magnitude of impacted groundwater has been greatly reduced with the ongoing IRA's.

- In 2016, the size of the PCE plume totaled 99,400 ft^2. In 2025, the size of the PCE plume totaled 40,500 ft^2. The PCE plume has been reduced by a total of 59% since 2016.

- The average concentration of PCE in 2016 was 21 µg/L. The average concentration of PCE in 2025 was 5.1 µg/L. This is a 76% reduction of PCE concentrations at the site.

- The average concentration of TCE in 2016 was 3.58 µg/L. The average concentration of TCE in 2025 was 3.37 µg/L. TCE concentrations are relatively stable.

Vapor Intrusion Studies

Several vapor intrusion (VI) studies have been performed at the Site.

EPI Sub-Slab Soil Gas Sampling (2016)

In 2016, EPI performed a VI study that involved collecting sub-slab soil gas samples from six locations (VP1 through VP6). Samples were collected using dedicated vapor pins installed through the floor slab. Soil gas samples were submitted to for analysis of cVOCs using EPA Method TO-15. A map of EPI's sample locations corresponding to each sample listed in the provided table could not be located. However, **Figure 1A** indicates the general locations of the sub-slab soil gas samples as indicated by proposal documents provided by Skotdal.

A summary of sub-slab soil gas results is provided in **Table 2.** Analytical results indicated that sub-slab PCE and TCE soil gas concentrations were in compliance with MTCA Method B residential screening levels effective at the time of the study.

This sub slab soil gas data was reviewed with current regulations and all samples remain in compliance. Sample concentrations are below the MTCA Commercial Worker Sub-Slab Soil Gas Screening Level (Commercial Worker SL) for both PCE and TCE. The highest concentration of PCE detected was 86.8 micrograms per cubic meter (µg/m^3), well below the current Commercial Worker SL of 1,500 µg/m^3. Trichloroethylene (TCE) was detected in one sample, VP3, at a concentration of 11.6 µg/m^3, well below the current Commercial Worker SL of 95 µg/m^3.

J.S. Held reviewed Appendix A of the Washington State Department of Ecology *Vapor Intrusion Guidance* Publication No. 09-09-047. Accordingly, TCE concentrations at the Site are also in compliance with short term subsurface screening levels of 67 µg/m^3 for residential purposes and well below short term subsurface screening levels of 250 µg/m^3 for commercial purposes.

Copies of the original laboratory report for the 2016 sub slab soil gas sampling event is included in **Attachment A**.

AGI Environmental Survey (2019)

EPI performed a soil gas survey using Applied Geochemical Imaging, LLC (AGI) survey techniques in May 2019. The objective of the soil gas survey was to identify the location(s) where PCE and its breakdown products, TCE, cis-1,2-dichloroethene (cis-1,2 DCE) and vinyl chloride (VC) might be present in soil vapor around the sewer line in the vicinity of MW-15. Locations of accumulated vapors may be indicative of additional source material remaining in soils that was 'short circuiting' *in-situ* treatments.

The findings of the survey indicated impacts of PCE present southeast of MW-15. The highest concentration of PCE detected during the soil gas survey was located just outside the northeast corner of the existing Key Bank building.

A copy of the AGI soil gas survey is included in **Attachment B**.

TRC Key Bank Vapor Intrusion Assessment (2020)

TRC performed a Tier II Vapor Intrusion (VI) Assessment in January 2020 to assess the potential VI risk to the Key Bank building. A total of two sub-slab soil gas samples (KB-VP1 and KB-VP2) were collected within the Key Bank. Sub-slab soil gas samples were collected from dedicated vapor pins installed through the floor slab. Soil gas samples were submitted for analysis of cVOCs using EPA Method TO-15.

Analytical results indicated that PCE was detected in sample KB-VP2 at a concentration of 560 µg/m³, which at the time exceeded the MTCA Method B Sub-Slab Soil Screening Level of 320 µg/m³. PCE did not exceed the Commercial Worker SL of 1,500 µg/m³, however, at the time no commercial worker values had been established.

TCE was detected in sample KB-VP2 at a concentration of 6.9 µg/m³, which is below the MTCA Method B Sub-Slab Soil Gas Screening Level of 11 µg/m³ and the Commercial Worker SL of 96 µg/m³.

Based on the findings of the Tier II VI Assessment described above, TRC performed indoor air sampling to assess indoor air in interior of the Key Bank building. The indoor air sampling was performed to determine if VI was occurring in the interior of the Key Bank building.

TRC collected one background air sample (KB-BA-1) from the exterior of the Key Bank building and two indoor air samples (KB-IA-1 and KB-IA-2) from the interior of the Key Bank building.

COCs were not detected in either the background air sample or the two indoor air samples at a concentration exceeding the laboratory reporting limit. The findings of the indoor air sampling indicate the VI is not occurring in the interior of the Key Bank building.

A summary of sub-slab soil gas results is provided in **Table 3**. A summary of indoor air sampling results is provided in **Table 4**. Indoor air and sub-slab soil gas sample locations are indicated on **Figure 1B**.

Copies of the original laboratory report for sub-slab soil gas and indoor air samples are included in **Attachment A**.

Conclusions

The following conclusions are supported by the findings of several phases of soil, groundwater, and soil vapor investigations, *in situ* groundwater treatments, and ongoing groundwater monitoring:

- Given the current zoning and land uses as a commercial property, sub-slab screening levels for commercial works remain appropriate for the Site.
- VI pathways were effectively studied in March 2016. This study was conducted when plume concentrations for PCE and TCE are significantly higher than current concentrations. VI sampling results were all below current exposure risks for PCE and TCE in commercial use scenarios.
- VI pathways near the Key Bank were effectively studied in January and March 2020. The indoor air study did not detect any cVOCs in indoor air samples.
- VI assessments performed at the Site are in compliance and protective of current cleanup standards and short-term TCE risks given current land uses.
- Recent data indicates slight increases in the number of wells containing TCE, attributed to the active breakdown of PCE. However, average TCE concentrations remain similar to 2016 concentrations. We do not believe an additional VI assessment is necessary at this time, but we request Ecology to review the current groundwater data and provide their opinion.
- Skotdal will be preparing full MTCA-compliant Remedial Investigation and Feasibility Study (RI/FS) documents in 2026 in support of regulatory opinion.
- Skotdal is also aware that if land use changes, additional VI work may be necessary to comply with regulations.

The opinions presented herein are based on the currently obtainable information and are subject to change if additional information is provided.

Sincerely,

Eric Koltes

Austin York, L.G.
Project Geologist

Eric Koltes, L.G.
Principal Geologist

Cc: Craig Skotdal, craig@skotdal.com
Dave Graef, dave.graef@skotdal.com

Enclosures

Tables

Table 1 - Groundwater Analytical Data (µg/L)
Table 2 - Sub Slab Vapor Intrusion Analytical Results (2016)
Table 3 - Sub-Slab Soil Gas Analytical Results (2020)
Table 4 - Indoor Air Analytical Results (2020)

Figures

Figure 1A – Sitewide Groundwater Analytical Results for Historical Concentrations of PCE
Figure 1B - Sitewide Groundwater Analytical Results for PCE (January 2025)

Attachments

Attachment A – Sub-Slab and Air Data Analytical Reports
Attachment B – AGI Soil Gas Survey Report

Tables

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
MW-1	2/9/2016	6.68	**8.9**	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	8.96	**4.7**	<1	<1	<1	<0.2	--	--	--	--	--
	8/30/2016	11.17	**18**	<1	<1	<1	<0.2	--	--	--	--	--
	12/1/2016	6.32	**11**	<1	<1	<1	<0.2	--	--	--	--	--
	2/21/2017	6.18	**1.4**	<1	<1	<1	<0.2	--	--	--	--	--
	5/25/2017	7.73	**2.4**	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	10.54	**14**	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	10.25	**19**	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2018	6.06	**6.3**	<1	<1	<1	<0.2	--	--	--	--	--
	5/16/2018	7.71	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/22/2018	10.21	**7.0**	<1	<1	<1	<0.2	--	--	--	--	--
	12/5/2019	8.99	**1.4**	<1	<1	<1	<0.2	--	--	--	--	--
	12/16/2020	8.28	<1	<1	<1	<1	<0.2	--	--	--	--	--
	1/20/2022 lc	6.85	<1	<0.5	<1	<1	**0.018**	--	--	--	--	--
	7/20/2022	9.02	--	--	--	--	--	--	--	--	--	--
	10/19/2022	13.62	--	--	--	--	**--**	--	--	--	--	--
	1/25/2023	6.83	<1	<0.5	<1	<0.2	<0.02	--	--	--	--	--
	10/16/2023	10.46	--	--	--	--	--	--	--	--	--	--
	2/28/2024	7.66	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	1/15/2025	7.16	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
MW-2	2/9/2016	7.67	<1	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	11.02	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/29/2016	13.31	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/2/2016	7.12	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2017	6.89	<1	<1	<1	<1	<0.2	--	--	--	--	--
	5/30/2017	9.39	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	12.65	<1	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	11.44	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/19/2018	7.26	<1	<1	<1	<1	<0.2	**--**	--	--	--	--
	5/15/2018	9.73	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/22/2018	12.62	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/3/2019	11.24	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/15/2020	10.68	<1	<1	<1	<1	<0.2	--	--	--	--	--
	1/20/2022 lc	7.44	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/20/2022	NA	--	--	--	--	--	--	--	--	--	--
	10/19/2022	NA	--	--	--	--	--	--	--	--	--	--
	1/25/2023	NA	--	--	--	--	--	--	--	--	--	--
	10/16/2023	NA	--	--	--	--	--	--	--	--	--	--
	2/28/2024	9.58	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	1/16/2025	9.22	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
MW-3	2/9/2016	4.49	**12**	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	8.35	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/29/2016	10.82	<5	<5	<5	<5	<0.2 j	--	--	--	--	--
	12/2/2016	4.72	**2.0**	<1	<1	<1	<0.2	--	--	--	--	--
	2/21/2017	4.09	**4.2**	<1	**3.3**	<1	<0.2	--	--	--	--	--
	5/30/2017	6.37	**2.1**	<1	**9.4**	<1	<0.2	--	--	--	--	--
	8/8/2017	10.13	<1	<1	**16**	<1	<0.2	--	--	--	--	--
	11/21/2017	9.68	<1	<1	**5.6**	<1	<0.2	--	--	--	--	--
	2/21/2018	3.89	<1	<1	**6.9**	<1	<0.2	--	--	--	--	--
	5/16/2018	6.02	<1	<1	**7.4**	<1	<0.2	--	--	--	--	--
	8/22/2018	9.30	<1	<1	**7.8**	<1	<0.2	--	--	--	--	--
	12/4/2019	7.91	<1	<1	**3.4**	<1	<0.2	--	--	--	--	--
	12/15/2020	4.96	<1	<1	**1.5**	<1	<0.2	--	--	--	--	--
	1/20/2022	3.45	**3.4**	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/20/2022	7.92	--	--	**--**	--	--	--	--	--	--	--
	10/19/2022	10.90	**--**	--	--	--	--	--	--	--	--	--
	1/25/2023	4.87	**4.4**	<0.5	<1	<0.2	<0.02	--	--	--	--	--
	10/16/2023	NA	--	--	--	--	--	--	--	--	--	--
	2/28/2024	5.69	**3.3**	<0.5	<1	<1	<0.02	--	--	--	--	--
	1/15/2025	5.59	**6.1**	<0.5	<1	<1	<0.02	--	--	--	--	--

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
MW-4	2/12/2016	4.54	**26**	**1.1**	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**28**	<1	<1	<1	<0.2
	5/20/2016	8.93	**5.6**	<1	**1.3**	<1	<0.2	**1.6**	<1	<1	<1	<0.2
	8/30/2016	10.29	--	--	--	--	--	<1	<1	**4.7**	<1	**0.45**
	2/21/2017	4.58	--	--	--	--	--	**1.1**	<1	**22**	<1	**2.3**
	5/25/2017	5.98	--	--	--	--	--	<1	<1	**9.8**	<1	**2.1**
	8/8/2017	8.24	--	--	--	--	--	<1	<1	**6.2**	<1	**0.51**
	11/21/2017	8.17	--	--	--	--	--	<1	<1	**2.2**	<1	**0.24**
	2/19/2018	3.24	--	--	--	--	--	<1	<1	**1.4**	<1	<0.2
	5/15/2018	5.8	--	--	--	--	--	<1	**1.1**	**3.7**	<1	**0.45**
	8/22/2018	8.84	--	--	--	--	--	<1	<1	**2.6**	<1	**0.2**
	12/3/2019	7.69	--	--	--	--	--	<1	<1	**1.5**	<1	**0.36**
	12/15/2020	6.93	--	--	--	--	--	<1	<1	**2.0**	<1	**0.78**
	1/19/2022	3.6	--	--	--	--	--	<1	3.8	**4.9**	<1	**0.51**
	7/20/2022	7.44	--	--	--	--	--	--	--	**--**	--	--
	10/19/2022	10.58	--	--	--	--	--	--	**--**	**--**	--	--
	1/24/2023	4.79	--	--	--	--	--	**1.3**	**8.0**	**5.0**	<0.2	**0.78**
	10/16/2023	9.35	--	--	--	--	--	--	--	--	--	--
	2/26/2024	5.77	--	--	--	--	--	<1	**1.8**	**6.8**	<1	**1.1**
	1/14/2025	5.34	--	--	--	--	--	<1	**5.5**	**6.1**	<1	**0.76**
MW-6	2/11/2016	13.39	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/19/2016	14.63	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<0.2
	8/30/2016	16.21	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/2/2016	13.71	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/21/2017	13.18	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/25/2017	13.32	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/8/2017	NM	--	--	--	--	--	<1	<1	<1	<1	<0.2
	11/21/2017	16.42	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/19/2018	13.14	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/15/2018	13.48	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/21/2018	15.44	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/3/2019	15.03	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/15/2020	14.54	--	--	--	--	--	<1	<1	<1	<1	<0.2
	1/19/2022	13.01	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/20/2022	14.38	--	--	--	--	--	--	--	--	--	--
	10/19/2022	16.65	--	--	--	--	--	--	--	--	--	--
	1/24/2023	14.05	--	--	--	--	--	<1	<0.5	<1	<0.2	<0.02
	10/16/2023	16.54	--	--	--	--	--	--	--	--	--	--
	2/27/2024	13.94	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	1/14/2025	13.81	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
MW-7	2/9/2016	9.82	**4.8**	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	11.07	**25**	<1	<1	<1	<0.2	--	--	--	--	--
	8/30/2016	13.46	**16**	<1	<1	<1	<0.2	--	--	--	--	--
	12/1/2016	9.67	**4.5**	<1	<1	<1	<0.2	--	--	--	--	--
	2/21/2017	9.77	**8.0**	<1	<1	<1	<0.2	--	--	--	--	--
	5/25/2017	10.36	**11**	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	12.17	**15**	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	12.07	**20**	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2018	9.4	**1.3**	<1	<1	<1	<0.2	--	--	--	--	--
	5/16/2018	10.15	**9.7**	<1	<1	<1	<0.2	--	--	--	--	--
	8/23/2018	11.84	**19**	<1	<1	<1	<0.2	--	--	--	--	--
	12/5/2019	11.08	**21**	<1	<1	<1	<0.2	--	--	--	--	--
	12/16/2020	10.73	**13**	<1	<1	<1	<0.2	--	--	--	--	--
	1/21/2022 lc	9.65	**1.6**	<0.5	<1	<1	<0.02	--	--	--	--	--
	4/21/2022	10.52	**9.3**	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/21/2022	11.02	**7.2**	<0.5	<1	<1	<0.02	--	--	--	--	--
	10/21/2022	14.02	**7.6**	<0.5	<1	<1	<0.02	--	--	--	--	--
	1/25/2023	9.95	**2.8**	<0.5	<1	<0.2	<0.02	--	--	--	--	--
	1/25/2023 DUP-1		**2.3**	<0.5	<1	<0.2	<0.02	--	--	--	--	--
	4/28/2023	10.55	**10**	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/24/2023	11.95	**13**	**0.56**	<1	<1	<0.02	--	--	--	--	--
	10/17/2023	12.26	**14**	**0.59**	<1	<1	<0.02	--	--	--	--	--
	2/28/2024	10.32	**9.6**	<0.5	<1	<1	<0.02	--	--	--	--	--
	4/30/2024	10.62	**8.8**	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/26/2024	11.39	**11**	<0.5	<1	<1	<0.02	--	--	--	--	--
	10/23/2024	12.49	**8.30**	<0.5	<1	<1	<0.02	--	--	--	--	--
	1/15/2025	10.21	**9**	<0.5	<1	<1	<0.02	--	--	--	--	--

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Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
MW-8	2/9/2016	9.45	<1	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	11.03	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/29/2016	12.89	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/2/2016	9.54	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/21/2017	9.50	<1	<1	<1	<1	<0.2	--	--	--	--	--
	5/24/2017	10.21	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	12.29	<1	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	11.71	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2018	9.03	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/15/2018	10.09	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/22/2018	12.11	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/4/2019	11.13	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/15/2020	10.72	<1	<1	<1	<1	<0.2	--	--	--	--	--
	1/20/2022 lc	8.71	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/20/2022	10.98	--	--	--	--	--	--	--	--	--	--
	10/19/2022	13.55	--	--	--	--	--	--	--	--	--	--
	1/25/2023	9.50	<1	<0.5	<1	<0.2	<0.02	--	--	--	--	--
	10/16/2023	12.65	--	--	--	--	--	--	--	--	--	--
	2/28/2024	10.02	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	1/15/2025	9.71	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
MW-9	2/9/2016	6.00	**7.9**	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	9.27	**6.5**	<1	<1	<1	<0.2	--	--	--	--	--
	8/29/2016	11.78	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/2/2016	6.43	**9.0**	<1	<1	<1	<0.2	--	--	--	--	--
	2/21/2017	6.06	**8.0**	<1	<1	<1	<0.2	--	--	--	--	--
	5/25/2017	7.71	**5.4**	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	NM	<1	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	10.67	**1.3**	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2018	5.39	**7**	<1	<1	<1	<0.2	--	--	--	--	--
	5/15/2018	7.53	**5.7**	<1	<1	<1	<0.2	--	--	--	--	--
	8/22/2018	10.85	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/4/2019	9.44	**5.8**	<1	<1	<1	<0.2	--	--	--	--	--
	12/15/2020	8.79	**5.7**	<1	<1	<1	<0.2	--	--	--	--	--
	1/21/2022 lc	5.18	**5.5**	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/20/2022	9.27	--	--	--	--	--	--	--	--	--	--
	10/19/2022	12.53	--	--	--	--	--	--	--	--	--	--
	1/25/2023	6.52	**6.0**	<0.5	<1	<0.2	<0.02	--	--	--	--	--
	10/16/2023	11.59	--	--	--	--	--	--	--	--	--	--
	2/28/2024	7.49	**6.1**	**0.64**	**1.8**	<1	<0.02	--	--	--	--	--
	1/16/2025	7.1	**6.2**	<0.5	<1	<1	<0.02	--	--	--	--	--
MW-10	2/12/2016	4.02	**38**	**2.7**	**2.4**	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**38**	**1.8**	**1.5**	<1	<0.2
	5/19/2016	7.56	**7.0**	**73**	**5.5**	<1	<0.2	**10**	**12**	<1	<1	<0.2
	8/30/2016	10.08	--	--	--	--	--	**99 (97)**	**170 ve (170)**	**95 (97)**	**1.1** (<10)	<0.2 (<2)
	12/2/2016	4.19	--	--	--	--	--	**75**	**85**	**62**	<1	**6.4**
	2/21/2017	3.74	--	--	--	--	--	**5.2**	**1.2**	**15**	<1	**1.1**
	5/25/2017	5.80	--	--	--	--	--	**2.0**	**1.3**	**16**	<1	**3.2**
	8/8/2017	9.41	--	--	--	--	--	**22**	**60**	**19**	<1	**1.3**
	11/21/2017	9.03	--	--	--	--	--	**270**	**110**	**54**	<1	**6.4**
	2/19/2018	3.53	--	--	--	--	--	**33**	**20**	**14**	<1	**1.8**
	5/15/2018	5.65	--	--	--	--	--	**39**	**28**	**17**	<1	**1.9**
	8/22/2018	9.23	--	--	--	--	--	**23**	**11**	**9.1**	<1	**1.5**
	12/3/2019	7.75	--	--	--	--	--	**54**	**19**	**6.7**	<1	**0.21**
	12/15/2020	7.07	--	--	--	--	--	**75**	**39**	**14**	<1	**1.1**
	10/18/2021	9.78	--	--	--	--	--	**44**	**15**	**8**	<1	**0.52**
	1/19/2022	3.3	--	--	--	--	--	**9.1**	**17**	**14**	<1	**2.6**
	4/21/2022	6.15	--	--	--	--	--	**8.5**	**9.5**	**14**	<1	**1**
	7/20/2022	7.61	--	--	--	--	--	**11**	**13**	**17**	<1	**1.20**
	10/19/2022	10.77	--	--	--	--	--	**36**	**9.4**	**13**	<1	**1.80**
	1/24/2023	4.66	--	--	--	--	--	**16**	**7.2**	**6.6**	<0.2	**0.67**
	4/28/2023	6.33	--	--	--	--	--	**21**	**15**	**11**	<1	**0.91**
	7/24/2023	9.24	--	--	--	--	--	**120**	**73**	**120**	<1	**3.8**
	10/17/2023	9.70	--	--	--	--	--	**43**	**9.3**	**5.5**	<1	**0.18**
	2/26/2024	5.81	--	--	--	--	--	**25**	**15**	**11**	<1	**0.91**
	5/10/2024	6.8	**7.4**	**4.4**	**5.9**	<1	**0.45**	--	--	--	--	--
	7/25/2024	8.36	**10.0**	**4.8**	**9.0**	<1	**0.74**	--	--	--	--	--
	10/22/2024	9.93	--	--	--	--	--	**78**	**81**	**170**	1.1	**21**
	1/14/2025	5.28	--	--	--	--	--	**16**	**17**	**22**	<1	**2.2**

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
MW-11	2/12/2016	5.23	**48**	**2.5**	**1.2**	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**57**	**2.2**	**1.1**	<1	<0.2
	5/19/2016	7.55	**62**	**2.8**	**1.0**	<1	<0.2	**36**	**2.4**	**<1**	<1	<0.2
	8/30/2016	10.28	<1	<1	**30**	<1	**0.7**	<1	<1	**32**	<1	**1.1**
	12/2/2016	5.56	--	--	--	--	--	<1	**1.1**	**59**	<1	**5.7**
	2/21/2017	5.03	--	--	--	--	--	**2.7**	**8.0**	**25**	<1	**7.4**
	5/25/2017	6.36	--	--	--	--	--	<1	<1	**26**	<1	**4.1**
	8/8/2017	9.13	--	--	--	--	--	<1	<1	**3.6**	<1	**1.7**
	11/21/2017	NA	--	--	--	--	--	--	--	--	--	--
	2/19/2018	3.52	--	--	--	--	--	**1.6**	**1.2**	**1.3**	<1	**0.22**
	5/16/2018	5.81	<1	**9.5**	**13**	<1	**2.4**	--	--	--	--	--
	8/21/2018	8.40	--	--	--	--	--	<1	<1	**8.2**	<1	**1.3**
	12/3/2019	7.34	--	--	--	--	--	<1	**14**	**23**	<1	**3.6**
	12/15/2020	6.91	--	--	--	--	--	**8.4**	**19**	**11**	<1	**1.4**
	10/18/2021	8.89	--	--	--	--	--	<1	<0.5	**6.3**	<1	**3.8**
	1/19/2022	4.22	--	--	--	--	--	**10**	**8.1**	**3.4**	<1	**0.56**
	4/21/2022	6.16	--	--	--	--	--	**11**	**9.6**	**4.1**	<1	**0.4**
	7/20/2022	7.22	--	--	--	--	--	**13**	**11**	**7.1**	<1	**0.64**
	10/19/2022	9.9	--	--	--	--	--	<1	<0.5	**4.7**	<1	**3.5**
	1/24/2023	5.22	--	--	--	--	--	**11**	**9.1**	**6.0**	<0.02	**0.96**
	4/28/2023	6.37	--	--	--	--	--	**11**	**8.5**	**11**	<1	**0.64**
	7/24/2023	8.59	--	--	--	--	--	**1.0**	**1.7**	**6.9**	<1	**2.0**
	10/17/2023	8.98	--	--	--	--	--	<1	**0.76**	**6.8**	<1	**4.1**
	2/26/2024	5.75	--	--	--	--	--	**16**	**12**	**4.8**	<1	**0.36**
	5/10/2024	6.65	**11**	**9.4**	**6.4**	<1	**0.78**	--	--	--	--	--
	7/25/2024	7.75	<1	**1.8**	**6.7**	<1	**0.94**	--	--	--	--	--
	10/22/2024	9.11	--	--	--	--	--	<1	**0.5**	**5.1**	<1	**3.1**
	1/14/2025	5.58	--	--	--	--	--	**15**	**14**	**9.9**	<1	**1**
MW-12	2/12/2016	9.67	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/19/2016	11.09	**1.7**	<1	<1	<1	<0.2	**1.7**	<1	<1	<1	<0.2
	8/30/2016	13.34	--	--	--	--	--	**3.5**	<1	<1	<1	<0.2
	12/2/2016	9.51	--	--	--	--	--	**2.8**	<1	<1	<1	<0.2
	2/21/2017	9.46	--	--	--	--	--	**1.2**	<1	<1	<1	<0.2
	5/25/2017	10.05	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/8/2017	15.55	--	--	--	--	--	**2.5**	<1	<1	<1	<0.2
	11/21/2017	12.36	--	--	--	--	--	**3.8**	<1	<1	<1	<0.2
	2/19/2018	9.61	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/15/2018	10.05	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/21/2018	12.20	--	--	--	--	--	**2.4**	<1	<1	<1	<0.2
	12/3/2019	11.26	--	--	--	--	--	**4.1**	<1	<1	<1	<0.2
	12/15/2020	10.78	--	--	--	--	--	**3.0**	<1	<1	<1	<0.2
	1/19/2022	9.7	--	--	--	--	--	**1.1**	<0.5	<1	<1	<0.02
	7/20/2022	11.15	--	--	--	--	--	**--**	--	--	--	--
	10/20/2022	13.81	--	--	--	--	--	**5.6**	**7.7**	**9.8**	<1	**0.38**
	1/24/2023	9.82	--	--	--	--	--	**1.8**	<0.5	<1	<0.2	<0.02
	10/16/2023	13.11	--	--	--	--	--	--	--	--	--	--
	2/27/2024	9.99	--	--	--	--	--	**1.2**	<0.5	<1	<1	<0.02
	1/14/2025	9.97	--	--	--	--	--	**1.4**	<0.5	<1	<1	<0.02
MW-13	2/11/2016	18.09	**3.2**	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**3.3**	<1	<1	<1	<0.2
	5/20/2016	18.92	**2.6**	<1	<1	<1	<0.2	**1.5**	<1	<1	<1	<0.2
	8/30/2016	19.85	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/2/2016	18.10	--	--	--	--	--	**2.3**	<1	<1	<1	<0.2
	2/21/2017	18.02	--	--	--	--	--	**3.0**	<1	<1	<1	<0.2
	5/25/2017	18.38	--	--	--	--	--	**3.0**	<1	<1	<1	<0.2
	8/8/2017	19.66	**2.5**	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	19.78	**2.4**	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2018	17.95	--	--	--	--	--	**4.2**	<1	<1	<1	<0.2
	5/15/2018	18.46	--	--	--	--	--	**2.9**	<1	<1	<1	<0.2
	8/22/2018	19.37	--	--	--	--	--	**3.3**	<1	<1	<1	<0.2
	12/3/2019	19.30	--	--	--	--	--	**4.6**	<1	<1	<1	<0.2
	12/16/2020	18.90	--	--	--	--	--	**4.5**	<1	<1	<1	<0.2
	1/19/2022 ca lc	17.74	--	--	--	--	--	**3.7**	<0.5	<1	<1	<0.02
	7/20/2022	18.93	--	--	--	--	--	--	--	--	--	--
	10/19/2022	20.00	--	--	--	--	--	--	--	--	--	--
	1/24/2023	18.5	--	--	--	--	--	**3.1**	<0.5	<1	<0.2	<0.02
	10/16/2023	20.00	--	--	--	--	--	--	--	--	--	--
	2/27/2024	18.59	--	--	--	--	--	**3.3**	<0.5	<1	<1	<0.02
	1/14/2025	18.05	--	--	--	--	--	**4.1**	<0.5	<1	<1	<0.02

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
MW-14	2/11/2016	11.29	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<0.2
	2/29/2016	NA	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/19/2016	11.95	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<0.2
	8/30/2016	13.34	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/2/2016	11.14	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/21/2017	11.24	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/25/2017	11.64	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/8/2017	12.78	--	--	--	--	--	<1	<1	<1	<1	<0.2
	11/21/2017	12.21	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/19/2018	11.02	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/15/2018	11.51	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/22/2018	12.61	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/3/2019	12.00	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/15/2020	11.73	--	--	--	--	--	<1	<1	<1	<1	<0.2
	1/20/2022	11	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/20/2022	11.94	--	--	--	--	--	--	--	--	--	--
	10/19/2022	13.92	--	--	--	--	--	--	--	--	--	--
	1/24/2023	11.3	--	--	--	--	--	<1	<0.5	<1	<0.2	<0.02
	10/16/2023	12.87	--	--	--	--	--	--	--	--	--	--
	2/26/2024	11.49	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	1/14/2025	11.34	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
MW-15	5/17/2016	8.42	**140**	**2.8**	**1.1**	<1	<0.2	--	--	--	--	--
	8/30/2016	10.42	**94**	**2.3**	**1.5**	<1	<0.2	--	--	--	--	--
	12/1/2016	6.48	**190 ve (180)**	**3.4**	**1.2**	<1	<0.2	--	--	--	--	--
	2/21/2017	6.36	**140**	**2.6**	<1	<1	<0.2	--	--	--	--	--
	5/25/2017	7.51	**120**	**2.7**	**1.1**	<1	<0.2	--	--	--	--	--
	8/8/2017	12.50	**120**	**3.0**	**1.8**	<1	<0.2	--	--	--	--	--
	11/21/2017	9.47	**96**	**2.6**	**2.4**	<1	<0.2	--	--	--	--	--
	2/21/2018	6.16	**140**	**2.7**	<1	<1	<0.2	--	--	--	--	--
	5/16/2018	7.34	**110**	**2.5**	**1.2**	<1	<0.2	--	--	--	--	--
	8/23/2018	9.50	**110**	**2.7**	**1.2**	<1	<0.2	--	--	--	--	--
	8/23/18 DUP-2		**110**	**2.6**	**1.2**	<1	<0.2	--	--	--	--	--
	2/7/2019	8.99	**130**	**2.4**	<1	<1	<0.2	--	--	--	--	--
	12/4/2019	8.43	**150 ve (140)**	**3.3**	**1.3**	<1	<0.2	--	--	--	--	--
	12/4/2019 DUP-1		**150 ve (140)**	**3.4**	**1.2**	<1	<0.2	--	--	--	--	--
	2/6/2020	6.87	**110**	**1.7**	<1	<1	<0.2	--	--	--	--	--
	10/16/2023	Decommisioned	--	--	--	--	--	--	--	--	--	--
MW-16	6/27/2017	14.45	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	15.72	<1	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	15.36	--	--	--	--	--	--	--	--	--	--
	12/2/2019	14.19	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/15/2020	13.61	--	--	--	--	--	<1	<1	<1	<1	<0.2
	1/20/2022	NA	--	--	--	--	--	--	--	--	--	--
	7/20/2022	NA	--	--	--	--	--	--	--	--	--	--
	10/19/2022	NA	--	--	--	--	--	--	--	--	--	--
	1/25/2023	NA	--	--	--	--	--	--	--	--	--	--
	10/16/2023	NA	--	--	--	--	--	--	--	--	--	--
	2/28/2024	NA	--	--	--	--	--	--	--	--	--	--
	1/16/2025	12.05	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
MW-17	6/27/2017	22.15	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	18.54	<1	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	22.02	--	--	--	--	--	--	--	--	--	--
	2/19/2018	17.25	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/2/2019	19.30	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/15/2020	18.54	--	--	--	--	--	<1	<1	<1	<1	<0.2
	1/19/2022	16.58	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/20/2022	17.59	--	--	--	--	--	--	--	--	--	--
	10/19/2022	20.50	--	--	--	--	--	--	--	--	--	--
	1/24/2023	18.93	--	--	--	--	--	<1	<0.5	<1	<0.2	<0.02
	10/16/2023	20.12	--	--	--	--	--	--	--	--	--	--
	2/26/2024	18.27	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/22/2024	19.98	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	1/14/2025	18.31	--	--	--	--	--	<1	<0.5	<1	<1	<0.02

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
MW-18	6/27/2017	20.25	<1	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	19.20	<1	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	22.03	--	--	--	--	--	--	--	--	--	--
	2/19/2018	19.58	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/2/2019	21.24	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/15/2020	20.49	--	--	--	--	--	<1	<1	<1	<1	<0.2
	1/19/2022	18.59	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/20/2022	18.31	--	--	--	--	--	--	--	--	--	--
	10/19/2022	20.97	--	--	--	--	--	--	--	--	--	--
	1/24/2023	21.75	--	--	--	--	--	<1	<0.5	<1	<0.2	<0.02
	10/16/2023	21.89	--	--	--	--	--	--	--	--	--	--
	2/26/2024	20.20	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	1/14/2025	20.89	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
MW-19	2/6/2020	6.99	**84**	**1.5**	<1	<1	<0.2	--	--	--	--	--
	12/16/2020	9.69	**93**	**2.6**	**1.4**	<1	<0.2	--	--	--	--	--
	10/18/2021	11.39	--	--	--	--	--	**65**	**2**	<1	<1	<0.02
	1/19/2022	8.59	--	--	--	--	--	<1	**1.0**	**3.8**	<1	**3.7**
	4/21/2022	9.64	**16**	**5.9**	**8.6**	<1	**1.5**	--	--	--	--	--
	7/21/2022	10.32	**24**	**6.2**	**11**	<1	**2**	--	--	--	--	--
	10/21/2022	12.67	**8**	**7.7**	**21**	<1	**5**	--	--	--	--	--
	1/24/2023	8.69	--	--	--	--	--	**2.3**	**25**	**21**	<0.2	**3.2**
	4/28/2023	9.46	<1	**12**	**48**	<1	**6.1**	--	--	--	--	--
	4/28/2023 DUP-1		<1	**10**	**48**	<1	**6.3**	--	--	--	--	--
	7/25/2023	11.49	**6.1**	**3.0**	**34**	<1	**8.2**	--	--	--	--	--
	7/25/2023 DUP-1		**6.9**	**3.2**	**34**	<1	**8.3**	--	--	--	--	--
	10/17/2023	11.49	**8.5**	**5.5**	**24**	<1	**5.8**	--	--	--	--	--
	2/26/2024	9.34	--	--	--	--	--	**2.6**	**9**	**32**	<1	**7.2**
	4/30/2024	9.75	--	--	--	--	--	<1	**4.5**	**33**	<1	**7.2**
	7/24/2024	10.55	--	--	--	--	--	**20**	**5.9**	**8.4**	<1	**1**
	10/23/2024	11.78	**9.6**	**8.6**	**20**	<1	**4.9**	--	--	--	--	--
	1/14/2025	9.04	**--**	**--**	**--**	--	**--**	<1	**17**	**38**	<1	**5.3**
MW-20	2/6/2020	5.58	**56**	**2.8**	**4.0**	<1	<0.2	--	--	--	--	--
	12/16/2020	8.44	**56**	**5.9**	**7.3**	<1	**0.30**	--	--	--	--	--
	10/18/2021	10.04	**1.8**	**2.4**	**62**	<1	**4.2**	--	--	--	--	--
	1/19/2022	7.03	--	--	--	--	--	**5.4**	**7.2**	**24**	<1	**5.3**
	4/21/2022	8.14	--	--	--	--	--	**10**	**7.8**	**12**	<1	**1.6**
	7/20/2022	8.89	--	--	--	--	--	<1	**0.58**	**26**	<1	**3.1**
	10/20/2022	11.46	**17**	**16**	**17**	<1	**2.5**	--	--	--	--	--
	10/20/2022 DUP-1		**6**	**7**	**19**	<1	**4.6**	--	--	--	--	--
	1/24/2023	7.28	--	--	--	--	--	**19**	**17**	**12**	<0.2	**2.0**
	4/28/2023	8.02	--	--	--	--	--	<1	**12**	**25**	<1	**5.1**
	7/25/2023	10.08	**4.2**	**4.9**	**31**	<1	**4.1**	--	--	--	--	--
	10/17/2023	10.23	<1	**3.1**	**24**	<1	**5.6**	--	--	--	--	--
	10/17/2023 DUP-1		<1	**2.9**	**21**	<1	**4.7**	--	--	--	--	--
	2/26/2024	7.76	**10**	**15**	**18**	<1	**4.5**	--	--	--	--	--
	5/10/2024	8.29	**5.7**	**8.0**	**19**	<1	**3.8**	--	--	--	--	--
	7/25/2024	9.08	**1.1**	**4.2**	**23**	<1	**6.3**	--	--	--	--	--
	10/23/2024	10.65	**5.1**	**8.9**	**20**	<1	**4.8**	--	--	--	--	--
	1/14/2025	7.51	**--**	**--**	**--**	--	**--**	**60**	**24**	**15**	<1	**2.1**
MW-21	4/22/2020	9.00	<1	<1	<1	<1	<0.2	--	--	--	--	--
	12/16/2020	8.84	<1	<1	<1	<1	<0.2	--	--	--	--	--
	1/20/2022 ca lc	7.76	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/20/2022	9.56	--	--	--	--	--	--	--	--	--	--
	10/19/2022	10.95	--	--	--	--	--	--	--	--	--	--
	1/24/2023	7.92	--	--	--	--	--	<1	<0.5	<1	<0.2	**0.021**
	10/16/2023	9.88	--	--	--	--	--	--	--	--	--	--
	2/27/2024	8.38	--	--	--	--	--	<1	<0.5	<1	<0.2	**0.026**
	1/14/2025	8.31	--	--	--	--	--	<1	<0.5	**1.4**	<1	**0.025**
MW-22	4/22/2020	9.59	**26**	**1.3**	**1.1**	<1	<0.2	--	--	--	--	--
	12/16/2020	9.45	**25**	**1.1**	<1	<1	<0.2	--	--	--	--	--
	1/21/2022	8.64	--	--	--	--	--	**26**	**0.56**	<1	<1	<0.02
	4/21/2022	9.29	--	--	--	--	--	**7.3**	<0.5	<1	<1	<0.02
	7/20/2022	9.63	--	--	--	--	--	**7.9**	<0.5	2.4	<1	**0.2**
	10/19/2022	11.73	--	--	--	--	--	--	--	--	--	--
	1/24/2023	8.93	--	--	--	--	--	**7.4**	**3.5**	**2.9**	<0.2	**0.085**
	4/28/2023	9.30	--	--	--	--	--	**6.3**	**1.1**	**1.2**	<1	<0.02
	7/25/2023	11.02	**9.7**	**2.6**	**5.3**	<1	**0.16**	--	--	--	--	--
	10/16/2023	10.49	--	--	--	--	--	**12**	**3.2**	**9.5**	<1	**0.56**
	2/26/2024	9.11	--	--	--	--	--	**1.3**	**3.0**	**8.9**	<1	**0.025**
	4/30/2024	9.40	--	--	--	--	--	**4.0**	**1.2**	**2.0**	<1	**<0.02**
	7/24/2024	9.83	--	--	--	--	--	**5.6**	**2.7**	**4.6**	<1	<0.02
	10/22/2024	10.72	--	--	--	--	--	**5**	**3.9**	**5.9**	<1	**0.054**
	1/14/2025	9.04	--	--	--	--	--	**7.7**	**2**	**3.9**	<1	<0.02
MW-23	4/22/2020	8.63	**23**	**5.5**	**3.8**	<1	<0.2	--	--	--	--	--
	12/16/2020	8.54	**26**	**5.4**	**3.3**	<1	<0.2	--	--	--	--	--
	10/18/2021	9.86	--	--	--	--	--	**3.3**	<0.5	**37**	<1	**0.98**
	1/19/2022 lc	6.42	--	--	--	--	--	**1.9**	**6.7**	**9.2**	<1	**0.41**
	4/21/2022	8.00	**13**	**2.3**	**1.7**	<1	0.1	--	--	--	--	--
	7/21/2022	8.75	**10**	**2.6**	**3.8**	<1	**1.4**	--	--	--	--	--
	10/20/2022	11.24	--	--	--	--	--	<1	**3.7**	**12.0**	<1	**5.1**
	1/24/2023	7.38	--	--	--	--	--	**4.5**	**6.9**	**9.7**	<0.2	**2.6**
	4/28/2023	8.20	--	--	--	--	--	**9.8**	**27**	**29**	<1	**4.0**
	7/24/2023	9.86	--	--	--	--	--	**2.3**	**8.4**	**13**	<1	**1.7**
	10/16/2023	10.14	--	--	--	--	--	<1	**6.8**	**17**	<1	**2.3**
	2/26/2024	7.88	--	--	--	--	--	**3.8**	**24**	**27**	<1	**6.7**
	4/30/2024	8.40	--	--	--	--	--	<1	**21**	**38**	<1	**5.0**
	7/24/2024	9.13	--	**--**	**--**	--	**--**	<1	**3.6**	**47**	<1	**5.1**
	10/22/2024	10.25	--	**--**	**--**	--	**--**	**4.3**	**5.4**	**6**	<1	**0.19**
	1/14/2025	7.64	--	**--**	**--**	--	**--**	**11**	**18**	**31**	<1	**3.7**

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
GW-1	2/10/2016	1.64	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/18/2016	2.46	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<0.2
	8/30/2016	2.71	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/2/2016	2.08	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/21/2017	1.31	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/26/2017	1.30	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/8/2017	2.83	--	--	--	--	--	<1	<1	<1	<1	<0.2
	11/21/2017	1.64	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/16/2018	1.40	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/14/2018	1.91	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/22/2018	2.85	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/3/2019	2.09	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/15/2020	1.83	--	--	--	--	--	<1	<1	<1	<1	<0.2
	1/19/2022	1.32	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/20/2022	1.72	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/20/2022	3.82	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/19/2022	3.27	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	1/23/2023	1.49	--	--	--	--	--	<1	<0.5	<1	<0.2	<0.02
	4/27/2023	1.92	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/24/2023	2.96	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/16/2023	2.55	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	2/27/2024	1.61	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/30/2024	1.85	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/25/2024	4.19	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/22/2024	2.42	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	1/14/2025	1.22	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
GW-3	2/10/2016	3.13	**1.6**	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/18/2016	3.15	**2.0**	<1	<1	<1	<0.2	**1.6**	<1	<1	<1	<0.2
	8/30/2016	3.34	--	--	--	--	--	**2.4**	<1	<1	<1	<0.2
	12/2/2016	2.93	--	--	--	--	--	**1.2**	<1	<1	<1	<0.2
	2/21/2017	3.02	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/26/2017	3.17	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/8/2017	3.41	--	--	--	--	--	**2.9**	<1	<1	<1	<0.2
	11/21/2017	2.91	--	--	--	--	--	**1.3**	<1	<1	<1	<0.2
	2/16/2018	3.02	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/14/2018	3.12	--	--	--	--	--	**1.1**	<1	<1	<1	<0.2
	8/22/2018	3.22	--	--	--	--	--	**3.2**	<1	<1	<1	<0.2
	12/3/2019	3.05	--	--	--	--	--	**2.5**	<1	<1	<1	<0.2
	12/14/2020	2.88	--	--	--	--	--	**1.7**	<1	<1	<1	<0.2
	1/19/2022	2.82	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/21/2022	2.75	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/20/2022	3.50	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/19/2022	3.59	--	--	--	--	--	**2.2**	<0.5	<1	<1	<0.02
	1/23/2023	4.87						<1	<0.5	<1	<0.2	<0.02
	4/27/2023	2.74	--	--	--	--	--	**1.0**	<0.5	<1	<1	<0.02
	7/24/2023	3.15	--	--	--	--	--	**2.4**	<0.5	<1	<1	<0.02
	10/16/2023	2.84	--	--	--	--	--	**1.8**	<0.5	<1	<1	<0.02
	2/27/2024	2.60	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/30/2024	2.77	--	--	--	--	--	**1.1**	<0.5	<1	<1	<0.02
	7/25/2024	3.02	--	--	--	--	--	**1.6**	**0.57**	<1	<1	<0.02
	10/22/2024	2.77	--	--	--	--	--	**1.1**	**1.1**	<1	<1	<0.02
	1/14/2025	2.64	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
GW-4	2/10/2016	2.78	**4.8**	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	3.40	**9.6**	<1	<1	<1	<0.2	--	--	--	--	--
	8/29/2016	3.39	**11**	<1	<1	<1	<0.2	--	--	--	--	--
	12/2/2016	3.28	**5.7**	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2017	2.86	**4.5**	<1	<1	<1	<0.2	--	--	--	--	--
	5/26/2017	3.08	**4.1**	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	3.40	**10**	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	2.85	**6.8**	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2018	2.95	**3.5**	<1	<1	<1	<0.2	--	--	--	--	--
	5/16/2018	3.14	**5.0**	<1	<1	<1	<0.2	--	--	--	--	--
	8/23/2018	3.27	**10**	<1	<1	<1	<0.2	--	--	--	--	--
	12/3/2019	3.06	**5.5**	<1	<1	<1	<0.2	--	--	--	--	--
	12/16/2020	2.83	**3.6**	<1	<1	<1	<0.2	--	--	--	--	--
	1/19/2022	2.79	**2.6**	**0.51**	<1	<1	<0.02	--	--	--	--	--
	1/19/2022 DUP-01 lc	2.79	**2.4**	<0.5	<1	<1	<0.02	--	--	--	--	--
	4/20/2022	2.73	**3.3**	**0.51**	<1	<1	<0.02	--	--	--	--	--
	7/21/2022	2.71	**4.3**	**0.93**	<1	<1	<0.02	--	--	--	--	--
	10/20/2022	3.37	**3.7**	**0.80**	<1	<1	<0.02	--	--	--	--	--
	1/25/2023	2.66	**3.0**	**0.54**	<1	<0.2	<0.02	--	--	--	--	--
	4/27/2023	2.76	**3.9**	**0.58**	<1	<1	<0.02	--	--	--	--	--
	7/24/2023	3.01	**4.4**	**1.6**	<1	<1	<0.02	--	--	--	--	--
	10/16/2023	2.92	**3.2**	**1.6**	**1.2**	<1	<0.02	--	--	--	--	--
	2/27/2024	2.59	**2.6**	**0.66**	<1	<1	<0.02	--	--	--	--	--
	4/30/2024	2.80	**3.2**	**0.61**	<1	<1	<0.02	--	--	--	--	--
	7/25/2024	2.99	**3.0**	**1.9**	**2.6**	<1	**0.027**	--	--	--	--	--
	10/22/2024	2.81	**4.8**	**1.1**	**2.4**	<1	**0.029**	--	--	--	--	--
	1/14/2025	2.64	**--**	**--**	**--**	--	**--**	<1	**0.81**	**1.4**	<1	<0.02

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
GW-5	2/10/2016	4.60	**2.5**	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**2.5**	<1	<1	<1	<0.2
	5/18/2016	5.04	**3.1**	<1	<1	<1	<0.2	**1.8**	<1	<1	<1	<0.2
	8/30/2016	5.42	--	--	--	--	--	**2.9**	<1	<1	<1	<0.2
	12/2/2016	4.07	--	--	--	--	--	**3.9**	<1	<1	<1	<0.2
	2/21/2017	4.19	--	--	--	--	--	**2.5**	<1	<1	<1	<0.2
	5/26/2017	4.76	--	--	--	--	--	**2.3**	<1	<1	<1	<0.2
	8/8/2017	5.44	--	--	--	--	--	**3.2**	<1	<1	<1	<0.2
	11/21/2017	NA	--	--	--	--	--	--	--	--	--	--
	2/19/2018	4.38	--	--	--	--	--	**2.7**	<1	<1	<1	<0.2
	5/15/2018	4.76	--	--	--	--	--	**1.9**	<1	<1	<1	<0.2
	8/22/2018	5.15	--	--	--	--	--	**3.9**	<1	<1	<1	<0.2
	12/3/2019	4.63	--	--	--	--	--	**2.6**	<1	<1	<1	<0.2
	12/14/2020	4.81	--	--	--	--	--	**2.7**	<1	<1	<1	<0.2
	1/19/2022	3.30	--	--	--	--	--	**2.2**	**0.62**	<1	<1	**0.04**
	4/21/2022	4.64	--	--	--	--	--	**1.5**	<0.5	<1	<1	<0.02
	7/20/2022	5.24	--	--	--	--	--	**1.9**	0.51	<1	<1	<0.02
	10/19/2022	6.05	--	--	--	--	--	**3**	**0.59**	<1	<1	**0.027**
	1/23/2023	3.54	--	--	--	--	--	**1.9**	<0.5	<1	<0.2	<0.02
	4/27/2023	4.40	--	--	--	--	--	**1.8**	<0.5	<1	<1	<0.02
	7/24/2023	5.66	--	--	--	--	--	**2.0**	**0.50**	<1	<1	**0.022**
	10/16/2023	4.84	--	--	--	--	--	**2.6**	**0.67**	**1.1**	<1	**0.066**
	2/27/2024	4.57	--	--	--	--	--	**2.1**	<0.5	<1	<1	<0.02
	4/30/2024	5.00	--	--	--	--	--	**1.8**	<0.5	<1	<1	**0.027**
	7/25/2024	5.46	--	--	--	--	--	**2.2**	**0.63**	**1.1**	<1	**0.051**
	10/22/2024	5.51	--	--	--	--	--	**2.8**	<0.5	<1	<1	<0.02
	1/14/2025	4.51	--	--	--	--	--	**2.3**	<0.5	<1	<1	<0.02
GW-6	2/10/2016	3.92	**6.4**	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**6.1**	<1	<1	<1	<0.2
	5/18/2016	4.08	**6.6**	<1	<1	<1	<0.2	**5.1**	<1	<1	<1	<0.2
	8/30/2016	4.21	**7.3**	<1	<1	<1	<0.2	**7.0**	<1	<1	<1	<0.2
	12/2/2016	3.66	--	--	--	--	--	**8.6**	<1	<1	<1	<0.2
	2/21/2017	3.67	--	--	--	--	--	**6.0**	<1	<1	<1	<0.2
	5/26/2017	3.95	--	--	--	--	--	**5.6**	<1	<1	<1	<0.2
	8/8/2017	4.25	--	--	--	--	--	**9.2**	<1	<1	<1	<0.2
	11/21/2017	NA	--	--	--	--	--	--	--	--	--	--
	2/19/2018	3.79	--	--	--	--	--	**5.8**	<1	<1	<1	<0.2
	5/15/2018	3.98	--	--	--	--	--	**4.7**	<1	<1	<1	<0.2
	8/1/2018	4.11	--	--	--	--	--	**8.3**	<1	<1	<1	<0.2
	12/3/2019	3.94	--	--	--	--	--	**6.0**	<1	<1	<1	<0.2
	12/14/2020	3.84	--	--	--	--	--	**5.0**	<1	<1	<1	<0.2
	10/18/2021	2.56	--	--	--	--	--	**6.2**	**0.56**	<1	<1	<0.02
	1/19/2022	3.71	--	--	--	--	--	**2.4**	<0.5	<1	<1	<0.02
	4/21/2022	3.71	--	--	--	--	--	**2.4**	<0.5	<1	<1	<0.02
	4/21/2022 DUP-1	3.71	--	--	--	--	--	**2.9**	<0.5	<1	<1	<0.02
	7/20/2022	3.47	--	--	--	--	--	**4.2**	<0.5	<1	<1	<0.02
	10/19/2022	4.28	--	--	--	--	--	**5.7**	**0.63**	<1	<1	<0.02
	1/23/2023	3.97	--	--	--	--	--	**3.5**	<0.5	<1	<0.2	<0.02
	4/27/2023	3.67	--	--	--	--	--	**3.5**	<0.5	<1	<1	<0.02
	7/24/2023	4.02	--	--	--	--	--	**5.2**	**0.62**	<1	<1	<0.02
	10/16/2023	3.89	--	--	--	--	--	**5.9**	**0.77**	<1	<1	<0.02
	2/27/2024	3.57	--	--	--	--	--	**3.3**	<0.5	<1	<1	<0.02
	4/30/2024	3.75	--	--	--	--	--	**2.9**	<0.5	<1	<1	<0.02
	7/25/2024	3.97	--	--	--	--	--	**4.3**	**0.72**	<1	<1	<0.02
	10/22/2024	3.78	--	--	--	--	--	**4.8**	**0.89**	**1.7**	<1	**0.02**
	1/14/2025	3.63	--	--	--	--	--	**3.1**	<0.5	<1	<1	<0.02
GW-7	2/11/2016	2.67	**1.2**	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/20/2016	3.99	**2.0**	<1	<1	<1	<0.2	**1.1**	<1	<1	<1	<0.2
	8/30/2016	4.56	--	--	--	--	--	**1.1**	<1	<1	<1	<0.2
	12/2/2016	2.19	--	--	--	--	--	**1.1**	<1	<1	<1	<0.2
	2/21/2017	2.11	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/26/2017	3.26	--	--	--	--	--	**1.0**	<1	<1	<1	<0.2
	8/8/2017	4.53	--	--	--	--	--	**2.0**	<1	<1	<1	<0.2
	11/21/2017	3.15	--	--	--	--	--	**1.3**	<1	<1	<1	<0.2
	2/16/2018	2.30	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/14/2018	3.28	--	--	--	--	--	<1	<1	<1	<1	<0.2
	8/22/2018	4.26	--	--	--	--	--	**2.0**	<1	<1	<1	<0.2
	12/3/2019	3.62	--	--	--	--	--	**1.4**	<1	<1	<1	<0.2
	12/14/2020	3.35	--	--	--	--	--	**1.3**	<1	<1	<1	<0.2
	1/19/2022	2.00	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/20/2022	3.08	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/20/2022	3.65	--	--	--	--	--	1.3	<0.5	<1	<1	<0.02
	10/19/2022	4.6	--	--	--	--	--	**1.8**	<0.5	<1	<1	<0.02
	1/23/2023	2.29	--	--	--	--	--	<1	<0.5	<1	<0.2	<0.02
	4/27/2023	3.19	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/24/2023	4.29	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/16/2023	4.08	--	--	--	--	--	**1.6**	<0.5	<1	<1	<0.02
	2/27/2024	2.83	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/30/2024	3.39	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	7/25/2024	4.11	--	--	--	--	--	**1.4**	<0.5	<1	<1	<0.02
	10/22/2024	3.91	--	--	--	--	--	**1.7**	<0.5	<1	<1	<0.02
	1/14/2025	2.32	--	--	--	--	--	<1	<0.5	<1	<1	<0.02

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
GW-8	2/11/2016	2.39	**22**	<1	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**21**	<1	<1	<1	<0.2
	5/20/2016	3.04	**25**	<1	<1	<1	<0.2	**21**	<1	<1	<1	<0.2
	8/30/2016	3.57	--	--	--	--	--	**20**	<1	<1	<1	<0.2
	12/2/2016	2.50	--	--	--	--	--	**18**	<1	<1	<1	<0.2
	2/21/2017	2.07	--	--	--	--	--	**16**	<1	<1	<1	<0.2
	5/26/2017	2.71	--	--	--	--	--	**14**	<1	<1	<1	<0.2
	8/8/2017	3.55	--	--	--	--	--	**26**	<1	<1	<1	<0.2
	11/21/2017	2.51	--	--	--	--	--	**13**	<1	<1	<1	<0.2
	2/19/2018	2.21	--	--	--	--	--	**12**	<1	<1	<1	<0.2
	5/15/2018	2.75	--	--	--	--	--	**9**	<1	<1	<1	<0.2
	5/15/18 DUP-1		--	--	--	--	--	**9.2**	<1	<1	<1	<0.2
	8/22/2018	3.38	--	--	--	--	--	**17**	<1	<1	<1	<0.2
	12/3/2019	2.89	--	--	--	--	--	**8.6**	<1	<1	<1	<0.2
	12/14/2020	2.59	--	--	--	--	--	**14**	<1	<1	<1	<0.2
	10/18/2021	3.82	--	--	--	--	--	**11**	**1.1**	**3.9**	<1	**0.18**
	1/19/2022 lc	1.55	--	--	--	--	--	<1	<0.5	**12**	<1	**0.19**
	4/20/2022	2.21	--	--	--	--	--	**1.6**	<0.5	**13**	<1	**0.45**
	7/20/2022	2.77	--	--	--	--	--	<1	<0.5	**19**	<1	**0.29**
	10/19/2022	3.52	--	--	--	--	--	<1	<0.5	**20**	<1	**0.84**
	1/23/2023	1.83	--	--	--	--	--	<1	<0.5	**11**	<0.2	**0.52**
	4/27/2023	2.61	--	--	--	--	--	<1	<0.5	**11**	<1	**0.97**
	7/24/2023	3.51	--	--	--	--	--	<1	<0.5	**11**	<1	**2.2**
	10/16/2023	2.59	--	--	--	--	--	<1	<0.5	**6.9**	<1	**3.6**
	2/27/2024	1.99	--	--	--	--	--	<1	**2.7**	**8.0**	<1	**0.44**
	4/30/2024	2.55	--	--	--	--	--	<1	**1.1**	**8.7**	<1	**0.49**
	7/25/2024	4.33	--	--	--	--	--	<1	<0.5	**3.4**	<1	**0.84**
	10/22/2024	3.31	--	--	--	--	--	<1	<0.5	**3.2**	<1	**2.3**
	1/14/2025	3.02	--	--	--	--	--	<1	<0.5	**1**	<1	**1.7**
GW-9	2/11/2016	2.66	<1	<1	**1.7**	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	<1	<1	**1.3**	<1	<0.2
	5/20/2016	2.84	<1	<1	**1.7**	<1	<0.2	<1	<1	**1.4**	<1	<0.2
	8/30/2016	4.30	--	--	--	--	--	<1	<1	**1.1**	<1	<0.2
	12/2/2016	2.34	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/21/2017	4.53	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/26/2017	2.70	--	--	--	--	--	<1	<1	**1.1**	<1	<0.2
	8/8/2017	4.22	--	--	--	--	--	<1	<1	**1.4**	<1	<0.2
	11/21/2017	2.30	--	--	--	--	--	<1	<1	<1	<1	<0.2
	2/16/2018	2.09	--	--	--	--	--	<1	<1	<1	<1	<0.2
	5/14/2018	2.33	--	--	--	--	--	<1	<1	**1.1**	<1	<0.2
	8/22/2018	3.55	--	--	--	--	--	<1	<1	**1.2**	<1	<0.2
	12/3/2019	2.70	--	--	--	--	--	<1	<1	<1	<1	<0.2
	12/14/2020	2.63	--	--	--	--	--	<1	<1	<1	<1	<0.2
	1/19/2022	2.25	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/21/2022	2.42	--	--	--	--	--	<1	<0.5	<1	<1	**0.067**
	7/20/2022	3.11	--	--	--	--	--	<1	<0.5	**1.2**	<1	**0.1**
	10/19/2022	5.09	--	--	--	--	--	<1	<0.5	**1.4**	<1	**0.15**
	1/23/2023	2.34	--	--	--	--	--	<1	<0.5	<1	<0.2	<0.02
	4/27/2023	2.62	--	--	--	--	--	<1	<0.5	<1	<1	**0.02**
	7/24/2023	4.18	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/16/2023	3.04	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	2/27/2024	2.25	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	4/30/2024	3.11	--	--	--	--	--	<1	<0.5	<1	<1	**0.021**
	7/25/2024	3.71	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	10/22/2024	3.76	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
	1/14/2025	3.32	--	--	--	--	--	<1	<0.5	<1	<1	<0.02
GW-10	2/11/2016	21.39	**19**	**1.2**	<1	<1	<0.2	--	--	--	--	--
	2/29/2016	NA	--	--	--	--	--	**27**	**1.2**	<1	<1	<0.2
	5/20/2016	23.21	**8.5**	**1.3**	<1	<1	<0.2	**5.8**	**1.1**	<1	<1	<0.2
	8/30/2016	23.86	**19**	**1.3**	**2.7**	<1	<0.2	**18**	**1.1**	<1	<1	<0.2
	12/2/2016	20.94	--	--	--	--	--	**16**	**1.3**	**1.3**	<1	<0.2
	2/21/2017	20.89	--	--	--	--	--	<1	<1	**14**	<1	<0.2
	5/25/2017	22.07	--	--	--	--	--	**1.9**	<1	**18**	<1	<0.2
	8/8/2017	23.95	<1	<1	**22**	<1	**0.23**	--	--	--	--	--
	11/21/2017	22.79	--	--	--	--	--	<1	<1	**32**	<1	<0.2
	2/20/2018	21.07	--	--	--	--	--	**3.8**	<1	11	<1	<0.2
	5/15/2018	21.59	--	--	--	--	--	**4**	<1	**10**	<1	<0.2
	8/1/2018	22.61	--	--	--	--	--	<1	<1	**20**	<1	<0.2
	12/3/2019	22.45	--	--	--	--	--	**2.3**	<1	**13**	<1	<0.2
	12/15/2020	21.74	--	--	--	--	--	**3.8**	<1	**8.0**	<1	<0.2
	1/19/2022	20.32	--	--	--	--	--	**8.3**	**0.66**	<1	<1	<0.02
	4/21/2022	21.78	--	--	--	--	--	**9.5**	**0.53**	<1	<1	<0.02
	7/20/2022	22.23	--	--	--	--	--	**7.9**	**<0.5**	<1	<1	**0.1**
	10/20/2022	23.14	**11.0**	**1.1**	<1	<1	<0.02	--	--	--	--	--
	1/24/2023	20.79	--	--	--	--	--	**11**	<0.5	<1	<0.2	<0.02
	4/28/2023	21.85	--	--	--	--	--	**11**	**0.53**	<1	<1	<0.02
	7/24/2023	23.02	**11**	**0.94**	<1	<1	<0.02	--	--	--	--	--
	10/17/2023	23.00	**8.8**	**2.5**	**13**	<1	**0.064**	--	--	--	--	--
	2/27/2024	21.60	--	--	--	--	--	**9.4**	**0.8**	**3.1**	<1	<0.02
	4/30/2024	22.09	--	--	--	--	--	**6**	**0.79**	**3.6**	<1	<0.02
	7/26/2024	22.59	--	--	--	--	--	**3.2**	**1.1**	**6.6**	<1	<0.02
	10/22/2024	22.57	--	--	--	--	--	**3.6**	**0.79**	**4.7**	<1	<0.02
	1/14/2025	21.14	--	--	--	--	--	**6.2**	**0.6**	**5.9**	<1	**0.028**

Table 1
Groundwater Analytical Data (µg/L)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

			Detected VOCs[b]					Detected VOCs[c]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
MTCA Method A CUL[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2
Sample ID	Sample Date	Depth to Water (ft)										
GW-11	2/9/2016	18.52	**8.4**	<1	<1	<1	<0.2	--	--	--	--	--
	5/17/2016	19.92	**25**	<1	<1	<1	<0.2	--	--	--	--	--
	8/30/2016	20.68	**19**	<1	<1	<1	<0.2	--	--	--	--	--
	12/2/2016	18.54	<1	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2017	18.02	**4.7**	<1	<1	<1	<0.2	--	--	--	--	--
	5/24/2017	19.18	**15**	<1	<1	<1	<0.2	--	--	--	--	--
	8/8/2017	20.58	**19**	<1	<1	<1	<0.2	--	--	--	--	--
	11/21/2017	19.34	**21**	<1	<1	<1	<0.2	--	--	--	--	--
	2/20/2018	18.22	--	--	--	--	--	**2.1**	<1	<1	<1	<0.2
	5/16/2018	19.17	**17**	<1	<1	<1	<0.2	--	--	--	--	--
	8/23/2018	20.29	**19**	<1	<1	<1	<0.2	--	--	--	--	--
	8/23/18 DUP-1		**19**	<1	<1	<1	<0.2	--	--	--	--	--
	12/3/2019	19.43	**17**	<1	<1	<1	<0.2	--	--	--	--	--
	12/16/2020	19.12	**12**	<1	<1	<1	<0.2	--	--	--	--	--
	1/20/2022	18.01	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	4/21/2022	18.51	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/21/2022	19.48	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	10/19/2022	20.91	<1	<0.5	**3**	<1	**0.17**	--	--	--	--	--
	1/24/2023	17.8	<1	<0.5	<1	<0.2	<0.02	--	--	--	--	--
	4/28/2023	18.65	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	7/24/2023	20.39	<1	<0.5	<1	<1	**0.025**	--	--	--	--	--
	10/17/2023	20.00	<1	<0.5	**2.2**	<1	**0.069**	--	--	--	--	--
	2/28/2024	18.51	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
	4/30/2024	18.79	<1	<0.5	<1	<1	**0.02**	--	--	--	--	--
	7/25/2024	22.05	<1	<0.5	<1	<1	**0.28**	--	--	--	--	--
	10/23/2024	20.10	<1	<0.5	<1	<1	**0.33**	--	--	--	--	--
	1/15/2025	17.25	<1	<0.5	<1	<1	<0.02	--	--	--	--	--
MTCA Method A Groundwater Cleanup Level[d]			5	5	16[e]	160[e]	0.2	5	5	16[e]	160[e]	0.2

Notes:

All results presented in micrograms per liter (µg/L).

Bold	Bold results indicate that the compound was detected.
	Shaded cells indicate that the compound was detected at a concentration greater than the cleanup level.
<	Result is less than the laboratory method detection limit.
--	Not analyzed.
a	Analyzed by EPA Method 200.8.
b	Analyzed by EPA Method 8260.
c	Analyzed by EPA Method 8260; sampled with passive diffusion bag (PDB)
d	MTCA Method A Groundwater Cleanup Level from Table 720-1 in Washington Administration Code (WAC) Chapter 173-340-900.
e	MTCA Method B Groundwater Cleanup Level used, Cleanup Levels and Risk Calculations (CLARC) guidance.
()	Value from re-analyzed sample after ve J qualifiers were indicated during initial analysis.
NA	Well not accessible.
NM	Not measured.

Qualifiers:

ca	The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
j	The analyte concentration is reported below the lowest calibration standard. The value is reported as an estimate.
lc	The presence of the analyte is likely due to laboratory contamination.
ve	The analyte response exceeded the valid instrument calibration range. 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.

Compounds:

VOCs	Volatile organic compounds
PCE	Tetrachloroethene
TCE	Trichloroethene
DCE	Dichloroethylene

Table 2
Sub Slab Vapor Intrusion Analytical Results (2016)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

Sample ID	Sample Date	Selected Volatile Compounds[a]					
		PCE	TCE	1,1-DCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride
VP1	3/8/2016	**2.65**	<0.0914	<0.0357	<0.0793	<0.0238	<0.217
VP2	3/8/2016	**2.98**	<0.0914	<0.0357	<0.0793	<0.0238	<0.217
VP3	3/8/2016	**86.8**	**11.6**	<0.0357	<0.0793	<0.0238	<0.217
VP4	3/8/2016	**4.95**	<0.0914	<0.0357	<0.0793	<0.0238	<0.217
VP5	3/8/2016	**0.95**	<0.0914	<0.0357	<0.0793	<0.0238	<0.217
VP6	3/8/2016	**6.24**	<0.0914	<0.0357	<0.0793	<0.0238	<0.217
Commercial Worker Sub-Slab Soil Gas Screening Level[b]		**1,500**	**95**	**26,000**	**5,200**	**5,200**	**44**
Non-Residential Short-Term TCE Subsurface Screening Levels[c]		**NVE**	**250**	**NVE**	**NVE**	**NVE**	**NVE**

Notes:

All results presented in milligrams per kilogram (µg/m³).

Bold Bold results indicates the analyte detected at a concentration greater than the laboratory reporting limit.

Shaded cells indicate that the compound was detected at a concentration greater than the MTCA Commercial Worker Soil Gas Screening Level.

a Analyzed by EPA Method TO-15 (SIM).

b Model Toxics Control Act (MTCA) Commercial Worker Soil Gas Screening Levels, Cleanup Levels and Risk Calculations (CLARC) guidance, February 2024. Where levels based on carcinogenic and non-carcinogenic, the lower value is listed.

c Non-Residential Short-Term TCE Subsurface Screening Levels, Table A-4 of Ecology's Guidance for Evaluating Vapor Instrusion in Washington State, March 2022.

< Indicates the analyte was not detected at a concentration greater than the listed laboratory reporting limit.

NVE No value established.

Compounds:

PCE Tetrachloroethene

TCE Trichloroethene

DCE Dichloroethylene

Table 3
Sub-Slab Soil Gas Analytical Results (2020)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

Sample ID	Sample Date	Select VOCs[a]					Helium[b]
		PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl Chloride	
KB-VP1	1/29/2020	<68	<2.7	<4	<4	<2.6	<0.6
KB-VP2	1/29/2020	**560**	**6.9**	<7.9	<7.9	<5.1	<0.6
Commercial Worker Sub-Slab Soil Gas Screening Level[b]		**1,500**	**95**	**5,200**	**5,200**	**44**	**NVE**
Non-Residential Short-Term TCE Subsurface Screening Levels[d]		**NVE**	**250**	**NVE**	**NVE**	**NVE**	**NVE**

Notes:

Helium results presented as percent (%) Helieum, all other results presented in micrograms per cubic meter (µg/m3).

Bold	Bold results indicates the analyte detected at a concentration greater than the laboratory reporting limit.
	Shaded cells indicate that the compound was detected at a concentration greater than the cleanup level.
a	Analyzed by EPA Method TO-15.
b	Analyzed by EPA Method ASTM D1946.
c	Model Toxics Control Act (MTCA) Commercial Worker Soil Gas Screening Levels, Cleanup Levels and Risk Calculations (CLARC) guidance, February 2024. Where levels based on carcinogenic and non-carcinogenic, the lower value is listed.
d	Non-Residential Short-Term TCE Subsurface Screening Levels, Table A-4 of Ecology's Guidance for Evaluating Vapor Instrusion in Washington State, March 2022.
<	Indicates the analyte was not detected at a concentration greater than the listed laboratory reporting limit.
NVE	No Value Established in the Cleanup Levels and Risk Calculations (CLARC) database for this constituent.

Compounds:

VOCs	Volatile organic compounds
PCE	Tetrachloroethene
TCE	Trichloroethene
DCE	Dichloroethylene

Table 4
Indoor Air Analytical Results (2020)
Snohomish Square Cleaners
1419 Avenue D and 13th Street SE, Snohomish, Washington

Sample ID	Sample Date	Sample Location	Select VOCs[a]				
			PCE	TCE	cis-1,2 DCE	trans-1,2-DCE	Vinyl chloride
KB-BA-1	4/19/2020	Background	<6.8	<0.27	<0.4	<0.4	<0.26
KB-IA-1	4/19/2020	Indoor Air	<6.8	<0.27	<0.4	<0.4	<0.26
KB-IA-2	4/19/2020	Indoor Air	<6.8	<0.27	<0.4	<0.4	<0.26
Commercial Worker Indoor Air Cleanup Level[b]			**44.9**	**2.85**	**155.7**	**155.7**	**1.33**

Notes:
All results presented in micrograms/cubic meter (µg/m3).

a Collected by Method TO-15.

b Model Toxics Control Act (MTCA) Commercial Worker Indoor Air Screening Levels, Cleanup Levels and Risk Calculations (CLARC) guidance, February 2024. Where levels based on carcinogenic and non-carcinogenic, the lower value is listed.

< Indicates the analyte was not detected at a concentration greater than the listed laboratory reporting limit.

Compounds:

VOCs Volatile organic compounds
PCE Tetrachloroethene
TCE Trichloroethene
DCE Dichloroethylene

Figures

ORIGINAL PCE PLUME PRIOR TO TREATMENT (AS OF 2016)

CASCADE FENCING COMPANY

FERGUSON PARK ROAD

13TH STREET

AVENUE D

14TH STREET

PARCEL ID: 28060700201300

PARCEL ID: 28051200405400

FORMER SNOHOMISH SQUARE CLEANERS

MW-2 PCE:(ND) DATE:(8/05)

MW-3 PCE:(120) DATE:(8/05)

MW-10 PCE:(414) DATE:(5/07)

MW-9 PCE:(11) DATE:(8/04)

MW-4 PCE:(188) DATE:(5/07)

MW-11 PCE:(386) DATE:(5/07)

MW-1 PCE:(363) DATE:(8/05)

MW-12 PCE:(1.5) DATE:(1/20/15)

MW-6 PCE:(ND) DATE:(8/05)

MW-7 PCE:(88) DATE:(8/05)

MW-13 PCE:(3.6) DATE:(1/20/15)

GW-10 PCE:(41.6) DATE:(7/10)

GW-2 PCE:(ND) DATE:(9/09)

GW-1 PCE:(ND) DATE:(9/09)

GW-7 PCE:(2.4) DATE:(7/10)

MW-14 PCE:(<1) DATE:(1/20/15)

MW-8 PCE:(ND) DATE:(8/05)

GW-11 PCE:(40.9) DATE:(7/10)

GW-8 PCE:(51.2) DATE:(7/10)

GW-3 PCE:(3) DATE:(7/10)

GW-9 PCE:(3.3) DATE:(7/10)

GW-6 PCE:(16.6) DATE:(7/10)

GW-5 PCE:(7.1) DATE:(7/10)

400

300

200

100

50

5

N

0 50 100 200

SCALE (1" = 100')

LEGEND

- MONITORING WELL LOCATION WITH HISTORICAL PCE CONCENTRATION IN GROUNDWATER (MICROGRAMS PER LITER)
- INDICATES TETRACHLOROETHENE (PCE) IN GROUNDWATER EXCEEDS MTCA METHOD A CLEANUP LEVEL

PCE CONCENTRATIONS IN GROUNDWATER (HISTORICAL RESULTS IN MICROGRAMS PER LITER)

- ≥5.0 TO <50.0
- ≥50.0 TO <100.0
- ≥100.0 TO <200.0
- ≥200.0 TO <300.0
- ≥300.0 TO <400.0
- ≥400.0
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- SURROUNDING PARCELS
- INTERPOLATED PCE ISOCONTOUR, CONCENTRATION IN MICROGRAMS PER LITER
- SUB-SLAB SOIL GAS SAMPLE LOCATIONS (MARCH 2016)

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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PREPARED FOR: SKOTDAL REAL ESTATE

ANNUAL GROUNDWATER MONITORING REPORT

DRAWN BY: VB | CHECKED BY: AY | DATE: 4/17/2025 | PROJECT NO. 240200521

FIGURE 1A

SITEWIDE GROUNDWATER ANALYTICAL RESULTS FOR HISTORICAL CONCENTRATIONS OF TETRACHLOROETHENE (PCE)

SNOHOMISH CLEANERS
1419 AVENUE D
SNOHOMISH, WASHINGTON

File: C:\Users\VincentBachmann\Box\240200521 Skotdal - Snohomish Cleaners\USH\Graphics and Plans\GIS\2-APRX\240200521_Skotdal_Sno_Cleaners_Proposal_2025_Q2.aprx

JANUARY 2025

CASCADE FENCING COMPANY

FERGUSON PARK ROAD

13TH STREET

AVENUE D

14TH STREET

PARCEL ID: 28060700201300

PARCEL ID: 28051200405400

FORMER SNOHOMISH SQUARE CLEANERS

MW-17 PCE:(<1)
MW-16 PCE:(<1)
MW-2 PCE:(<1)
MW-3 PCE:(6.1)
MW-10 PCE:(16)
MW-9 PCE:(6.2)
MW-1 PCE:(<1)
MW-4 PCE:(<1)
MW-11 PCE:(15)
MW-20 PCE:(60)
MW-19 PCE:(<1)
MW-23 PCE:(11)
MW-22 PCE:(7.7)
KB-VP1
KB-IA1
KB-BA1
KB-VP2
KB-IA2
5:0
MW-14 PCE:(<1)
MW-8 PCE:(<1)
MW-21 PCE:(<1)
MW-12 PCE:(1.4)
MW-6 PCE:(<1)
MW-7 PCE:(9)
GW-10 PCE:(6.2)
MW-13 PCE:(4.1)
GW-1 PCE:(<1)
GW-7 PCE:(<1)
GW-8 PCE:(<1)
GW-11 PCE:(<1)
GW-3 PCE:(<1)
GW-4 PCE:(<1)
GW-9 PCE:(<1)
GW-6 PCE:(3.1)
GW-5 PCE:(2.3)

N

0 50 100 200

SCALE (1" = 100')

LEGEND

- MONITORING WELL LOCATION WITH PCE AND VC CONCENTRATIONS IN GROUNDWATER (JULY 2023)
- INDICATES TETRACHLOROETHENE (PCE) IN GROUNDWATER EXCEEDS MTCA METHOD A CLEANUP LEVEL
- PCE CONCENTRATIONS IN GROUNDWATER (HISTORICAL RESULTS IN MICROGRAMS PER LITER)
  - ≥5.0 TO <50.0
  - ≥50.0 TO <100.0
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- SURROUNDING PARCELS
- PCE ISOCONTOUR, CONCENTRATION IN MICROGRAMS PER LITER. DASHED WHERE INFERRED
- KB-VP1 — SUB-SLAB SOIL GAS SAMPLE LOCATIONS (MJANUARY 2020)
- KB-IA1 — INDOOR AIR SAMPLE LOCATIONS (JANUARY 2020)

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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PREPARED FOR: SKOTDAL REAL ESTATE

ANNUAL GROUNDWATER MONITORING REPORT

DRAWN BY: VB | CHECKED BY: AY | DATE: 4/17/2025 | PROJECT NO. 240200521

FIGURE 1B
SITEWIDE GROUNDWATER ANALYTICAL RESULTS FOR TETRACHLOROETHENE (JANUARY 2025)
SNOHOMISH CLEANERS
1419 AVENUE D
SNOHOMISH, WASHINGTON

File: C:\Users\VincentBachmann\Box\240200521 Skotdal - Snohomish Cleaners\JSH\Graphics and Plans\GIS\2-APRX\240200521_Skotdal_Sno_Cleaners_Proposal_2025_Q2.aprx

Attachment A – Sub-slab and Air Data Analytical Reports

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Environmental Partners, Inc.
Josh Bernthal
1180 NW Maple Street, Suite 310
Issaquah, WA 98027

RE: Skotdal Real Estate
Lab ID: 1603112

March 17, 2016

Attention Josh Bernthal:

Fremont Analytical, Inc. received 6 sample(s) on 3/9/2016 for the analyses presented in the following report.

Volatile Organic Compounds-EPA Method TO-15 (SIM)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President

Date: *03/17/2016*

CLIENT: Environmental Partners, Inc.
Project: Skotdal Real Estate
Lab Order: 1603112

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1603112-001	VP5	03/08/2016 8:10 AM	03/09/2016 2:45 PM
1603112-002	VP3	03/08/2016 8:17 AM	03/09/2016 2:45 PM
1603112-003	VP6	03/08/2016 8:21 AM	03/09/2016 2:45 PM
1603112-004	VP1	03/08/2016 8:02 AM	03/09/2016 2:45 PM
1603112-005	VP4	03/08/2016 8:07 AM	03/09/2016 2:45 PM
1603112-006	VP2	03/08/2016 8:14 AM	03/09/2016 2:45 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1603112**
Date: **3/17/2016**

CLIENT: Environmental Partners, Inc.
Project: Skotdal Real Estate

WorkOrder Narrative:
I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Standard temperature and pressure assumes 24.45 = (25C and 1 atm).

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Client: **Environmental Partners, Inc.**
WorkOrder: 1603112
Project: Skotdal Real Estate

Client Sample ID: VP5
Lab ID: 1603112-001A
Sample Type: Summa Canister

Date Sampled: 3/8/2016
Date Received: 3/9/2016

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Reporting Limit (ug/m³)	Qual	Method	Date/Analyst	
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	03/17/2016	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	03/17/2016	JY
Tetrachloroethene (PCE)	0.140	0.950	0.0500	0.339		EPA-TO-15SIM	03/17/2016	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	03/17/2016	JY
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		EPA-TO-15SIM	03/17/2016	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	03/17/2016	JY
Surr: 4-Bromofluorobenzene	105 %Rec	--	70-130	--		EPA-TO-15SIM	03/17/2016	JY

Client: **Environmental Partners, Inc.**
WorkOrder: 1603112
Project: Skotdal Real Estate

Client Sample ID: VP3
Lab ID: 1603112-002A
Sample Type: Summa Canister

Date Sampled: 3/8/2016
Date Received: 3/9/2016

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	**(ug/m³)**	**(ppbv)**	**(ug/m³)**				
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	03/16/2016	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	03/16/2016	JY
Tetrachloroethene (PCE)	12.8	86.8	0.800	5.43		EPA-TO-15SIM	03/16/2016	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	03/16/2016	JY
Trichloroethene (TCE)	2.16	11.6	0.0170	0.0914		EPA-TO-15SIM	03/16/2016	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	03/16/2016	JY
Surr: 4-Bromofluorobenzene	128 %Rec	--	70-130	--		EPA-TO-15SIM	03/16/2016	JY

Client: **Environmental Partners, Inc.**
WorkOrder: 1603112
Project: Skotdal Real Estate

Client Sample ID: VP6
Lab ID: 1603112-003A
Sample Type: Summa Canister

Date Sampled: 3/8/2016
Date Received: 3/9/2016

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	**(ug/m³)**	**(ppbv)**	**(ug/m³)**				
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	03/16/2016	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	03/16/2016	JY
Tetrachloroethene (PCE)	0.920	6.24	0.0500	0.339		EPA-TO-15SIM	03/16/2016	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	03/16/2016	JY
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		EPA-TO-15SIM	03/16/2016	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	03/16/2016	JY
Surr: 4-Bromofluorobenzene	127 %Rec	--	70-130	--		EPA-TO-15SIM	03/16/2016	JY

Client: **Environmental Partners, Inc.**
WorkOrder: 1603112
Project: Skotdal Real Estate

Client Sample ID: VP1
Lab ID: 1603112-004A
Sample Type: Summa Canister

Date Sampled: 3/8/2016
Date Received: 3/9/2016

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	**(ug/m³)**	**(ppbv)**	**(ug/m³)**				
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	03/16/2016	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	03/16/2016	JY
Tetrachloroethene (PCE)	0.390	2.65	0.0500	0.339		EPA-TO-15SIM	03/16/2016	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	03/16/2016	JY
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		EPA-TO-15SIM	03/16/2016	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	03/16/2016	JY
Surr: 4-Bromofluorobenzene	111 %Rec	--	70-130	--		EPA-TO-15SIM	03/16/2016	JY

Client: **Environmental Partners, Inc.**
WorkOrder: 1603112
Project: Skotdal Real Estate

Client Sample ID: VP4
Lab ID: 1603112-005A
Sample Type: Summa Canister

Date Sampled: 3/8/2016
Date Received: 3/9/2016

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	**(ug/m³)**	**(ppbv)**	**(ug/m³)**				
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	03/16/2016	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	03/16/2016	JY
Tetrachloroethene (PCE)	0.730	4.95	0.0500	0.339		EPA-TO-15SIM	03/16/2016	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	03/16/2016	JY
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		EPA-TO-15SIM	03/16/2016	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	03/16/2016	JY
Surr: 4-Bromofluorobenzene	120 %Rec	--	70-130	--		EPA-TO-15SIM	03/16/2016	JY

Client: **Environmental Partners, Inc.**
WorkOrder: 1603112
Project: Skotdal Real Estate

Client Sample ID: VP2
Lab ID: 1603112-006A
Sample Type: Summa Canister

Date Sampled: 3/8/2016
Date Received: 3/9/2016

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	**(ug/m³)**	**(ppbv)**	**(ug/m³)**				
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		EPA-TO-15SIM	03/16/2016	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		EPA-TO-15SIM	03/16/2016	JY
Tetrachloroethene (PCE)	0.440	2.98	0.0500	0.339		EPA-TO-15SIM	03/16/2016	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		EPA-TO-15SIM	03/16/2016	JY
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		EPA-TO-15SIM	03/16/2016	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		EPA-TO-15SIM	03/16/2016	JY
Surr: 4-Bromofluorobenzene	112 %Rec	--	70-130	--		EPA-TO-15SIM	03/16/2016	JY

Work Order: 1603112
CLIENT: Environmental Partners, Inc.
Project: Skotdal Real Estate

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **1603112-004AREP** SampType: **REP** Units: **ppbv** Prep Date: **3/16/2016** RunNo: **28278**
Client ID: **VP1** Batch ID: **R28278** Analysis Date: **3/16/2016** SeqNo: **531496**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0850						0		30	
1,1-Dichloroethene (DCE)	ND	0.00900						0		30	
trans-1,2-Dichloroethene	ND	0.00600						0		30	
cis-1,2-Dichloroethene	ND	0.0200						0		30	
Trichloroethene (TCE)	ND	0.0170						0		30	
Tetrachloroethene (PCE)	0.370	0.0500						0.3900	5.26	30	
Surr: 4-Bromofluorobenzene	12.6		10.00		126	70	130		0		

Sample ID **LCS-B-R28278** SampType: **LCS** Units: **ppbv** Prep Date: **3/17/2016** RunNo: **28278**
Client ID: **LCSW** Batch ID: **R28278** Analysis Date: **3/17/2016** SeqNo: **531501**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	2.33	0.0850	2.500	0	93.2	70	130				
1,1-Dichloroethene (DCE)	2.32	0.00900	2.500	0	92.8	70	130				
trans-1,2-Dichloroethene	2.33	0.00600	2.500	0	93.2	70	130				
cis-1,2-Dichloroethene	2.52	0.0200	2.500	0	101	70	130				
Trichloroethene (TCE)	2.59	0.0170	2.500	0	104	70	130				
Tetrachloroethene (PCE)	2.60	0.0500	2.500	0	104	70	130				
Surr: 4-Bromofluorobenzene	10.1		10.00		101	70	130				

Sample ID **MB-B-R28278** SampType: **MBLK** Units: **ppbv** Prep Date: **3/17/2016** RunNo: **28278**
Client ID: **MBLKW** Batch ID: **R28278** Analysis Date: **3/17/2016** SeqNo: **531503**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.0850									
1,1-Dichloroethene (DCE)	ND	0.00900									
trans-1,2-Dichloroethene	ND	0.00600									
cis-1,2-Dichloroethene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0170									
Tetrachloroethene (PCE)	ND	0.0500									

Work Order: 1603112
CLIENT: Environmental Partners, Inc.
Project: Skotdal Real Estate

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID	**MB-B-R28278**	SampType:	**MBLK**		Units:	**ppbv**	Prep Date:	**3/17/2016**		RunNo:	**28278**
Client ID:	**MBLKW**	Batch ID:	**R28278**				Analysis Date:	**3/17/2016**		SeqNo:	**531503**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.99		10.00		99.9	70	130				

Sample Log-In Check List

Client Name:	**EPI**	Work Order Number:	**1603112**
Logged by:	**Clare Griggs**	Date Received:	**3/9/2016 2:45:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Courier		

Log In

3.	Coolers are present?	Yes ☐	No ☑	NA ☐
		Air Samples		
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
7.	Were all items received at a temperature of >0°C to 10.0°C *	Yes ☐	No ☐	NA ☑
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☑	No ☐	NA ☐

Person Notified:	Josh Berthal	Date	3/9/2016
By Whom:	Clare Griggs	Via:	☐ eMail ☑ Phone ☐ Fax ☐ In Person
Regarding:	Confirming analysis and analyte list.		
Client Instructions:	3/10/2016: PCE & Breakdown by TO15 SIM		

19. Additional remarks:

Item Information

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont Analytical

Air Chain of Custody Record - Whole Air Sample

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (Internal): 1603112

Date: 3/8/16

Page: 1 of: 2

Client: Environmental Partners, Inc.
Address: 1180 NW Maple Street
City, State, Zip: Issaquah, WA
Telephone: 425-395-0010 Fax:

Project Name: SKotdal Real Estate
Project No: 69402 Collected by: J. Sherrod
Location: Snohomish, WA
Reports To (PM): joshb@epi-wa.com
Email (PM): Josh Bernthal

* Gas Matrix Codes: I = Indoor SS = Subslab L = Landfill SG = Soil Gas M = Plume Mapping Q = Fuel Gas Quality L = LEED (Consult Client Services)

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag 1V = 1 Liter Bottle Vac MC = 1 Liter MiniCan HP = High Pressure Cylinder HJ = Glass Headspace Jar

	Sample Name	Canister / Flow Reg Serial #	Sample Date & Time	Gas Matrix Code *	Anticipated Fill Time	Sample Volume	Container Type **	Internal: Evacuation Pressure (mtorr)	Internal: Pressure at Time of Pick-up (" Hg)	Internal: Equipment Certificaton Code	Field Initial Sample Pressure (" Hg)	Field Final Sample Pressure (" Hg)	Analysis Requested	Internal: Receipt Date	Internal: Final Pressure ("Hg)
1	VP5	17642	3/8/16	SS	8hr	6L	Summa	10 mtorr			-30	-3.5	cVOC's		-3
		FV3	0810					2/29/16 13:00			0810	1500	EPA-TO-15		
2	VP3	17646	3/8/16	SS	8hr	6L	Summa	10 mtorr			-28	-2	cVOC's		-1
		FR8-05	0817					2/29/16 13:00			0817	1350	EPA-TO-15		
3	VP6	12668	3/8/16	SS	8hr	6L	Summa	10 mtorr			-30	-4	cVOC's		-4
		FR8-08	0821					3/4/16 9:30			0821	1555	EPA-TO-15		
4	VP1	13968	3/8/16	SS	8hr	6L	Summa	10 mtorr			-30	-4	cVOC's		-1
		FR8-15	0802					3/4/16 9:30			0802	1557	EPA-TO-15		
5	VP4	13972	3/8/16	SS	8hr	6L	Summa	10 mtorr			-28	-6	cVOC's		-6
		FR8-16	0807					3/4/16 9:30			0807	1607	EPA-TO-15		

Rental Equipment (Circle all that apply): Manifold Mini-Pump Fittings Tedlar Bags Canisters Flow Controllers Helium Cylinder Flouridated Tubing Wrench

Condition:

Seals Intact: Y N N/A

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: Billed to SKotdal Real Estate

Relinquished x [signature] Date/Time 3/9/16 0700

Received x Rick-02 Date/Time 3-9-16 13:50

Relinquished x Rick-02 Date/Time 3-9-16 14:41

Received x [signature] Date/Time 03/09/16 1:41 PM

TAT -> (STD) Rush (specify)

Air Chain of Custody Record - Whole Air Sample

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): _____

Date: 3/8/16

Page: 2 of: 2

Client: Environmental Partners, Inc.
Address: 1180 NW Maple St
City, State, Zip: Issaquah, WA
Telephone: 425-395-0260 Fax: _____

Project Name: Skotdal Real Estate
Project No: 69402 Collected by: _____
Location: Snohomish, WA
Reports To (PM): Josh Benthal
Email (PM): joshb@epi-wa.com

* Gas Matrix Codes: I = Indoor SS = Subslab L = Landfill SG = Soil Gas M = Plume Mapping O = Fuel Gas Quality L = LEED (Consult Client Services)

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag BV = 1 Liter Bottle Vac MC = 1 Liter MiniCan HP = High Pressure Cylinder HJ = Glass Headspace Jar

	Sample Name	Canister / Flow Reg Serial #	Sample Date & Time	Gas Matrix Code *	Anticipated Fill Time	Sample Volume	Container Type **	Internal: Evacuation Pressure (mtorr)	Internal: Pressure at Time of Pick-up (" Hg)	Internal: Equipment Certification Code	Field Initial Sample Pressure (" Hg)	Field Final Sample Pressure (" Hg)	Analysis Requested	Internal: Receipt Date	Internal: Final Pressure ("Hg)
1	VP2	13975	~~3/7/16~~ 3/8/16	SS	8hr	6L	Summa	10 mtorr			-30	-7	cVOC's		-7
		FR8-18	0814					3/4/16 9:30			0814	1597	EPA-TO-15		
2															
3															
4															
5															

Rental Equipment (Circle all that apply): Manifold Mini-Pump Fittings Tedlar Bags Canisters Flow Controllers Helium Cylinder Flouridated Tubing Wrench

Condition: Seals intact: Y N N/A

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: Billed to Skotdal Real Estate

Relinquished	Date/Time	Received	Date/Time
x	3/7/16/07ao	Rick. BZ	3-9-16 13:50
x Rick. BZ	3-9-16 14:41	x	3/9/16 2:41PM

TAT --> STD Rush (specify)

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

February 12, 2020

Josh Bernthal, Project Manager
Environmental Partners, Inc.
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 015378, F&BI 001452

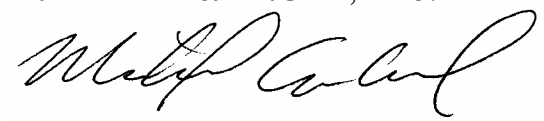
Dear Mr Bernthal:

Included are the results from the testing of material submitted on January 31, 2020 from the 015378, F&BI 001452 project. There are 8 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon
TRC0212R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 31, 2020 by Friedman & Bruya, Inc. from the Environmental Partners 015378, F&BI 001452 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Environmental Partners
001452-01	KB-VP1
001452-02	KB-VP2

All quality control requirements were acceptable.

Date of Report: 02/12/20
Date Received: 01/31/20
Project: 015378, F&BI 001452
Date Extracted: 01/31/20
Date Analyzed: 02/10/20

RESULTS FROM THE ANALYSIS OF AIR SAMPLES FOR HELIUM USING METHOD ASTM D1946

Results Reported as % Helium

Sample ID Laboratory ID	Helium
KB-VP1 001452-01	<0.6
KB-VP2 001452-02	<0.6
Method Blank	<0.6

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	KB-VP1	Client:	Environmental Partners
Date Received:	01/31/20	Project:	015378, F&BI 001452
Date Collected:	01/29/20	Lab ID:	001452-01 1/10
Date Analyzed:	02/07/20	Data File:	020633.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	78	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<2.6	<1
Chloroethane	<26	<10
1,1-Dichloroethene	<4	<1
trans-1,2-Dichloroethene	<4	<1
1,1-Dichloroethane	<4	<1
cis-1,2-Dichloroethene	<4	<1
1,2-Dichloroethane (EDC)	<0.4	<0.1
1,1,1-Trichloroethane	<5.5	<1
Trichloroethene	<2.7	<0.5
1,1,2-Trichloroethane	<1.1	<0.2
Tetrachloroethene	<68	<10

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	KB-VP2	Client:	Environmental Partners
Date Received:	01/31/20	Project:	015378, F&BI 001452
Date Collected:	01/29/20	Lab ID:	001452-02 1/20
Date Analyzed:	02/07/20	Data File:	020634.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<5.1	<2
Chloroethane	<53	<20
1,1-Dichloroethene	<7.9	<2
trans-1,2-Dichloroethene	<7.9	<2
1,1-Dichloroethane	<8.1	<2
cis-1,2-Dichloroethene	<7.9	<2
1,2-Dichloroethane (EDC)	<0.81	<0.2
1,1,1-Trichloroethane	<11	<2
Trichloroethene	6.9	1.3
1,1,2-Trichloroethane	<2.2	<0.4
Tetrachloroethene	560	82

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	015378, F&BI 001452
Date Collected:	Not Applicable	Lab ID:	00-0315 mb
Date Analyzed:	02/06/20	Data File:	020613.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.27	<0.05
1,1,2-Trichloroethane	<0.11	<0.02
Tetrachloroethene	<6.8	<1

Date of Report: 02/12/20
Date Received: 01/31/20
Project: 015378, F&BI 001452

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR HELIUM USING METHOD ASTM D1946

Laboratory Code: 001452-02 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	0.61	nm	0-20

Date of Report: 02/12/20
Date Received: 01/31/20
Project: 015378, F&BI 001452

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

Laboratory Code: 001422-07 1/4.1 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ppbv	<0.41	<0.41	nm
Chloroethane	ppbv	<4.1	<4.1	nm
1,1-Dichloroethene	ppbv	<0.41	<0.41	nm
trans-1,2-Dichloroethene	ppbv	<0.41	<0.41	nm
1,1-Dichloroethane	ppbv	<0.41	<0.41	nm
cis-1,2-Dichloroethene	ppbv	<0.41	<0.41	nm
1,2-Dichloroethane (EDC)	ppbv	<0.041	<0.041	nm
1,1,1-Trichloroethane	ppbv	<0.41	<0.41	nm
Trichloroethene	ppbv	<0.2	<0.2	nm
1,1,2-Trichloroethane	ppbv	<0.082	<0.082	nm
Tetrachloroethene	ppbv	<4.1	<4.1	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ppbv	5	80	70-130
Chloroethane	ppbv	5	83	70-130
1,1-Dichloroethene	ppbv	5	83	70-130
trans-1,2-Dichloroethene	ppbv	5	80	70-130
1,1-Dichloroethane	ppbv	5	78	70-130
cis-1,2-Dichloroethene	ppbv	5	81	70-130
1,2-Dichloroethane (EDC)	ppbv	5	80	70-130
1,1,1-Trichloroethane	ppbv	5	89	70-130
Trichloroethene	ppbv	5	81	70-130
1,1,2-Trichloroethane	ppbv	5	89	70-130
Tetrachloroethene	ppbv	5	87	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 analyte 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 due to sample matrix effects.

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.

SAMPLE CHAIN OF CUSTODY

001452 ME 01/31/20

Page # 1 of 1

Report To Josh Benthal / Joe Sherrod

Company TRC

Address 1180 NW Maple St

City, State, ZIP Issaquah, WA 98027

Phone _____ Email JBenthal@trcompanies.com

SAMPLERS (*signature*)	
PROJECT NAME & ADDRESS: 015378	PO #: 015378
NOTES:	INVOICE TO: TRC

TURNAROUND TIME
- [x] Standard
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Default: Clean after 3 days
- [ ] Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
KB-VP1	01	18572	00605	IA / (SG)	1/29/20	30	0850	11	1613			X		X		
KB-VP2	02	20541	07347	IA / (SG)	1/29/20	30	0858	9	1611			X		X		
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG						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:	Joe Sherrod	TRC	1/31/20	0630
Received by:	Michael Eacli	FIB	1	
Relinquished by:				
Received by:				

~~Samples received at~~ 3.0 °C (NP)

FORMS\COC\COCTO-15.DOC

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

May 5, 2020

Josh Bernthal, Project Manager
TRC Environmental
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 015378, F&BI 004220

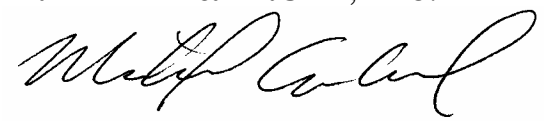
Dear Mr Bernthal:

Included are the results from the testing of material submitted on April 21, 2020 from the 015378, F&BI 004220 project. There are 7 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon
TRC0505R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 21, 2020 by Friedman & Bruya, Inc. from the Environmental Partners 015378, F&BI 004220 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Environmental Partners
004220 -01	KB-IA-1
004220 -02	KB-IA-2
004220 -03	KB-BA-1

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	KB-IA-1	Client:	Environmental Partners
Date Received:	04/21/20	Project:	015378, F&BI 004220
Date Collected:	04/19/20	Lab ID:	004220-01
Date Analyzed:	04/30/20	Data File:	042928.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.27	<0.05
1,1,2-Trichloroethane	<0.11	<0.02
Tetrachloroethene	<6.8	<1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	KB-IA-2	Client:	Environmental Partners
Date Received:	04/21/20	Project:	015378, F&BI 004220
Date Collected:	04/19/20	Lab ID:	004220-02
Date Analyzed:	04/30/20	Data File:	042929.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.27	<0.05
1,1,2-Trichloroethane	<0.11	<0.02
Tetrachloroethene	<6.8	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	KB-BA-1	Client:	Environmental Partners
Date Received:	04/21/20	Project:	015378, F&BI 004220
Date Collected:	04/19/20	Lab ID:	004220-03
Date Analyzed:	04/30/20	Data File:	042930.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.27	<0.05
1,1,2-Trichloroethane	<0.11	<0.02
Tetrachloroethene	<6.8	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Environmental Partners
Date Received:	Not Applicable	Project:	015378, F&BI 004220
Date Collected:	Not Applicable	Lab ID:	00-0948 mb
Date Analyzed:	04/30/20	Data File:	042921.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.27	<0.05
1,1,2-Trichloroethane	<0.11	<0.02
Tetrachloroethene	<6.8	<1

Date of Report: 05/05/20
Date Received: 04/21/20
Project: 015378, F&BI 004220

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

Laboratory Code: 004264-01 1/7.8 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<2	<2	nm
Chloroethane	ug/m3	<21	<21	nm
1,1-Dichloroethene	ug/m3	<3.1	<3.1	nm
trans-1,2-Dichloroethene	ug/m3	<3.1	<3.1	nm
1,1-Dichloroethane	ug/m3	<3.2	<3.2	nm
cis-1,2-Dichloroethene	ug/m3	<3.1	<3.1	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.32	<0.32	nm
1,1,1-Trichloroethane	ug/m3	<4.3	<4.3	nm
Trichloroethene	ug/m3	<2.1	<2.1	nm
1,1,2-Trichloroethane	ug/m3	<0.85	<0.85	nm
Tetrachloroethene	ug/m3	<53	<53	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	80	70-130
Chloroethane	ug/m3	36	84	70-130
1,1-Dichloroethene	ug/m3	54	96	70-130
trans-1,2-Dichloroethene	ug/m3	54	91	70-130
1,1-Dichloroethane	ug/m3	55	87	70-130
cis-1,2-Dichloroethene	ug/m3	54	95	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	98	70-130
1,1,1-Trichloroethane	ug/m3	74	96	70-130
Trichloroethene	ug/m3	73	81	70-130
1,1,2-Trichloroethane	ug/m3	74	79	70-130
Tetrachloroethene	ug/m3	92	85	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 analyte 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 due to sample matrix effects.

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.

004220

SAMPLE CHAIN OF CUSTODY

ME 04/21/20

Page # 1 of 1

Report To Josh Bernthal

Company TRC

Address 1180 NW Maple St

City, State, ZIP Issaquah, WA 98027

Phone _____ Email JBernthal@trccompanies.com

SAMPLERS (*signature*)

PROJECT NAME & ADDRESS: 015378 (TRC)

PO #

NOTES: 69402 (EPI)

INVOICE TO

TURNAROUND TIME
- [X] Standard
- [ ] RUSH _____
- Rush charges authorized by: _____

SAMPLE DISPOSAL
- [ ] Default: Clean after 3 days
- [ ] Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
KB-IA-1	01	18577	07854	(IA) / SG	4/19/20	29	0743	6	1543			X				
KB-IA-2	02	20555	07852	(IA) / SG	4/19/20	30	0749	7	1549			X				
KB-BA-1	03	23227	06607	(IA) / SG	4/19/20	30	0754	10	1554			X				
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												Samples received at 20 °C
				IA / SG												

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 Krueger	TRC	4/21/20	1059
Received by:	Nhan Phan	FEBT	4/21/20	1059
Relinquished by:				
Received by:				

FORMS\COC\COCTO-15.DOC

Attachment B – AGI Soil Gas Survey Report

AMPLIFIED GEOCHEMICAL IMAGING, LLC

Laboratory Report

Site: 69402.2 - Skotdal

Prepared for:

Environmental Partners, Inc.
1180 NW Maple Street
Suite 310
Issaquah, WA 98027
USA

Prepared on:
June 17, 2019

Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

69402.2 - Skotdal

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

Ray Fenstermacher, P.G.
Project Manager

Reviewed/approved by:

Dayna Cobb
Manager of Environmental Services

Analytical data approved by:

Dayna Cobb
Manager of Environmental Services

Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [√] fall within the scope of AGI's ISO 17025 accreditation.

Screening/Concentration Method

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

Note: Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

Media Sampled:	SOIL GAS
Chemist - sample analysis:	Ian McMullen
Chemist - data processor:	Ian McMullen
Chemist - data review:	Dayna Cobb

Method deviations: None

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Total Ion Chromatograms

Project Specific Comments

All samplers that were returned to the laboratory were analyzed including the trip blank 00803038. Sample 00803027 was observed to be damaged during the installation, and one of the two designated trip blanks was used to replace this sample. Another sample (00803021) was lost in the field .

Survey period [1]	Samplers were installed on May 16 and May 17, 2019. Samples were retrieved on May 24, 2019 for an exposure period of 7-8 days.	
Tamper seal intact:	Yes	
Date received:	5/31/19 10:47 am	By: Dayna Cobb
COC returned:	Yes	
Comments:	None	

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

General Comments

Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbers" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbers not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field . The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

General Comments

Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations (µg/L) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

Laboratory Sample Report

AGI Sample ID	Field ID	Sample Type
00803017	Location 5	FIELD_SAMPLE
00803018	Location 4	FIELD_SAMPLE
00803019	Location 17	FIELD_SAMPLE
00803020	Location 3	FIELD_SAMPLE
00803021	Location 2	LOST
00803022	Location 1	FIELD_SAMPLE
00803023	Location 6	FIELD_SAMPLE
00803024	Location 15	FIELD_SAMPLE
00803025	Location 13	FIELD_SAMPLE
00803026	Location 14	FIELD_SAMPLE
00803027	Damaged	LOST
00803028	Location 9	FIELD_SAMPLE
00803029	Location 10	FIELD_SAMPLE
00803030	Location 16	FIELD_SAMPLE
00803031	Location 8	FIELD_SAMPLE
00803032	Location 18	FIELD_SAMPLE
00803033	Location 7	FIELD_SAMPLE
00803034	Location 11	FIELD_SAMPLE
00803035	Location 20	FIELD_SAMPLE
00803036	Location 19	FIELD_SAMPLE
00803037	Location 12	FIELD_SAMPLE
00803038	Trip Blank	TRIP_BLANK

Total # Field Samples: 19
Total # Trip Blanks: 1
Total # Lost: 2
Total # Unused: 0

AMPLIFIED GEOCHEMICAL IMAGING LLC

210 Executive Drive
Newark, Delaware 19702 USA
ph: +1-302-266-2428
www.agisurveys.net

AGI Universal Passive Sampler Chain of Custody
Soil gas and/or Air Sampling

Production Order #: 02112

Customer Name: Environmental Partners, Inc

Address: 1180 NW Maple Street
Suite 310
Issaquah, WA 98027
USA

Site Name: 69402.2 - Skotdal

Site Address: Avenue D and 13th St SE
Snohomish, WA

Project Manager: Josh Bernthal

Serial # of Samplers Shipped
00803017 - 00803038

# of Samplers for Installation: 20
Total Samplers Shipped: 22 Pieces
Total Samplers Received: 22 Pieces
Total Samplers Installed: 20 Pieces

# of Trip Blanks: 2 Pieces

Serial # of Trip Blanks (Client Decides)

00803038	* One of the samplers was damaged in the field, so 2nd blank replaced the sampler.

Insertion Rods

Tips Shipped: 1

Rod Bodies Shipped: 4

Prepared By: Ian McMullen

Verified By: [signature]

Installation Method: ~~(Circle those that apply)~~
Slide Hammer (Hammer Drill) Auger
Other

Installation Performed By:
Name: Nate Dorfner
Company: Environmental Partners, Inc.

Retrieval Performed By:
Name: Nate Dorfner
Company: Environmental Partners, Inc.

Installation Start Date / Time: 5/16/19 7:45 AM
Installation Complete Date / Time: 5/17/19 11:00 AM

Retrieval Start Date / Time: 5/24/19 7:35 AM
Retrieval Complete Date / Time: 5/24/19 10:06 AM

Total Samplers Retrieved: 19
Total Samplers Lost In Field: 1
Total Unused Samplers Returned: N/A

Insertion Rod Sections Returned: 5

Relinquished By: [signature] Date/Time: 5/14/19
Company: AGI 11:00am

Received By: Nate Dorfner Date/Time: 5/15/19
Company: EPI 2:00 PM

Relinquished By: Nate Dorfner Date/Time: 5/28/19
Company: EPI 6:45 PM

Received By: [signature] Date/Time: 5/31/19
Company: AGI 10:47 am

AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1
Newark, DE USA 19702-3335
ph: 302-266-2428

AGI Project No. 02112
Site Name: 69402.2 - Skotdal
Site Location: Avenue D & 13th Avenue SE, Snohomish, WA 98290

AGI Soil Gas Sampling
Installation & Retrieval Log

Company Name: Environmental Partners, Inc
Location: Issaquah, WA 98027
Samples collected by: Nate Dorfner

*** Optional or as needed**

SAMPLER SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO		
							EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS?	ODOR ?	WATER IN INSTALLATION HOLE?
00803017	Location 5	FIELD_SAMPLE	5/16/19 9:45	5/24/19 9:05		beneath asphalt parking lot	No		
00803018	Location 4	FIELD_SAMPLE	5/16/19 9:05	5/24/19 8:10		beneath asphalt parking lot	No	No	No
00803019	Location 17	FIELD_SAMPLE	5/16/19 8:50	5/24/19 7:50		beneath asphalt parking lot	No	No	No
00803020	Location 3	FIELD_SAMPLE	5/16/19 8:30	5/24/19 8:00		beneath asphalt parking lot	No	No	No
00803021	Location 2	FIELD_SAMPLE	5/16/19 8:05		Cork/sampler removed prior to retrieval	beneath asphalt parking lot	No	No	No
00803022	Location 1	FIELD_SAMPLE	5/16/19 7:52	5/24/19 8:17		beneath asphalt parking lot	No	No	No
00803023	Location 6	FIELD_SAMPLE	5/16/19 10:00	5/24/19 8:58		beneath asphalt parking lot	No	No	No
00803024	Location 15	FIELD_SAMPLE	5/16/19 10:25	5/24/19 9:32		beneath asphalt parking lot	No	No	No
00803025	Location 13	FIELD_SAMPLE	5/16/19 10:45	5/24/19 9:18		beneath asphalt parking lot	No	No	No
00803026	Location 14	FIELD_SAMPLE	5/16/19 10:55	5/24/19 9:24		beneath asphalt parking lot	No	No	No
00803027	N/A	FIELD_SAMPLE			Sampler broke in field, so Sampler Serial No. 00803037 replaced it.	beneath asphalt parking lot	No	No	No
00803028	Location 9	FIELD_SAMPLE	5/16/19 11:35	5/24/19 9:50		beneath asphalt parking lot	No	No	No
00803029	Location 10	FIELD_SAMPLE	5/16/19 11:55	5/24/19 10:06		beneath asphalt parking lot	No	No	No
00803030	Location 16	FIELD_SAMPLE	5/16/19 12:10	5/24/19 9:40		beneath asphalt parking lot	No	No	No
00803031	Location 8	FIELD_SAMPLE	5/16/19 12:25	5/24/19 10:01		beneath asphalt parking lot	No	No	No
00803032	Location 18	FIELD_SAMPLE	5/16/19 12:50	5/24/19 9:56		beneath asphalt parking lot	No	No	No
00803033	Location 7	FIELD_SAMPLE	5/17/19 9:10	5/24/19 8:40		beneath asphalt parking lot	No	No	No
00803034	Location 11	FIELD_SAMPLE	5/17/19 9:25	5/24/19 8:48		beneath asphalt parking lot	No	No	No
00803035	Location 20	FIELD_SAMPLE	5/17/19 9:45	5/24/19 8:33		beneath asphalt parking lot	No	No	No
00803036	Location 19	FIELD_SAMPLE	5/17/19 10:00	5/24/19 8:53		beneath asphalt parking lot	No	No	No
00803037	Location 12	TRIP_BLANK	5/17/19 10:20	5/24/19 9:11		beneath asphalt parking lot	No	No	No
00803038	Location	TRIP_BLANK							

SPG-FCD-8929 Soil Gas R6

AMPLI
GEOC
I MAG

AGI Soil Gas Sampling
Installation & Retrieval Log

*** Optional or as needed**

	AT MINIMUM PROVIDE SOIL TYPE						
SAMPLER SERIAL NO.	SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)	PROJECTED COORDINATES X (EASTING)	PROJECTED COORDINATES Y (NORTHING)	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
00803017	SAND						
00803018	SAND						
00803019	SAND						
00803020	SAND						
00803021	SAND						
00803022	SAND						
00803023	SAND						
00803024	SAND						
00803025	SAND						
00803026	SAND						
00803027	SAND						
00803028	SAND						
00803029	SAND						
00803030	SAND						
00803031	SAND						
00803032	SAND						
00803033	SAND						
00803034	SAND						
00803035	SAND						
00803036	SAND						
00803037	SAND						
00803038							

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
ENVOIRONMENTAL PARTNERS, ISSAQUAH, WA
AGI TARGET COMPOUNDS
69402.2 - SKOTDAL
ORDER #02112

DATAFILE	FIELD	DATE/ TIME													
NAME	ID	ANALYZED	DF	TPH, ug	VC, ug	MTBE, ug	11DCE, ug	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug	12DCA, ug	BENZ, ug	CCl4, ug
RL=				0.50	0.20	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
803017	Location 5	6/14/2019	1	6.54	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803018	Location 4	6/14/2019	1	8.98	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02
803019	Location 17	6/14/2019	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803020	Location 3	6/14/2019	1	42.4	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02
803022	Location 1	6/14/2019	1	14.7	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02
803023	Location 6	6/14/2019	1	1.73	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803024	Location 15	6/14/2019	1	10.0	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02
803025	Location 13	6/14/2019	1	4.98	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803026	Location 14	6/14/2019	1	2.59	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803028	Location 9	6/14/2019	1	6.28	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803029	Location 10	6/14/2019	1	34.2	<0.20	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	0.03	<0.02
803030	Location 16	6/14/2019	1	15.7	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803031	Location 8	6/14/2019	1	21.1	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803032	Location 18	6/14/2019	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803033	Location 7	6/14/2019	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803034	Location 11	6/14/2019	1	4.13	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803035	Location 20	6/14/2019	1	1.75	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803036	Location 19	6/14/2019	1	1.22	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803037	Location 12	6/14/2019	1	1.36	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803038	Trip Blank	6/14/2019	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-1	Method Blank	6/14/2019	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
ENVOIRONMENTAL PARTNERS, ISSAQUAH, WA
AGI TARGET COMPOUNDS
69402.2 - SKOTDAL
ORDER #02112

DATAFILE														
NAME	TCE, ug	112TCA, ug	TOL, ug	OCT, ug	PCE, ug	ClBENZ, ug	1112TetCA, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug	1122TetCA, ug	135TMB, ug	124TMB, ug	13DCB, ug
RL=	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
803017	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	0.18	0.76	0.37	<0.02	<0.02	<0.02	<0.02
803018	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	0.06	0.28	0.13	<0.02	<0.02	<0.02	<0.02
803019	<0.02	<0.02	<0.02	<0.02	2.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.29	1.22	0.53	<0.02	<0.02	<0.02	<0.02
803022	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	0.20	0.66	0.36	<0.02	<0.02	<0.02	<0.02
803023	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.12	0.05	<0.02	<0.02	<0.02	<0.02
803024	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.18	0.09	<0.02	<0.02	<0.02	<0.02
803025	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	0.03	0.18	0.07	<0.02	<0.02	<0.02	<0.02
803026	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803028	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	0.12	0.55	0.24	<0.02	<0.02	<0.02	<0.02
803029	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02	0.35	1.46	0.77	<0.02	<0.02	<0.02	<0.02
803030	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	0.55	2.41	1.17	<0.02	<0.02	<0.02	<0.02
803031	<0.02	<0.02	<0.02	0.05	0.45	<0.02	<0.02	0.36	1.44	0.94	<0.02	<0.02	0.02	<0.02
803032	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803033	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803034	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.08	0.53	0.23	<0.02	<0.02	<0.02	<0.02
803035	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803036	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
803037	<0.02	0.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.03	<0.02	<0.02	<0.02	<0.02
803038	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
ENVOIRONMENTAL PARTNERS, ISSAQUAH, WA
AGI TARGET COMPOUNDS
69402.2 - SKOTDAL
ORDER #02112

DATAFILE										
NAME	14DCB, ug	12DCB, ug	UNDEC, ug	NAPH, ug	TRIDEC, ug	2MeNAPH, ug	Acenaphthylene, ug	PENTADEC, ug	Acenaphthene, ug	Fluorene, ug
RL=	0.02	0.02	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
803017	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	0.20
803018	<0.02	<0.02	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803019	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803020	<0.02	<0.02	0.08	1.17	<0.05	0.95	<0.05	<0.05	4.00	1.97
803022	<0.02	<0.02	0.13	0.14	<0.05	0.15	<0.05	<0.05	1.20	0.46
803023	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803024	<0.02	<0.02	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07
803025	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803026	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.06
803028	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803029	<0.02	<0.02	0.34	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803030	<0.02	<0.02	0.12	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803031	<0.02	<0.02	0.24	0.52	<0.05	<0.05	<0.05	<0.05	0.07	<0.05
803032	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803033	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803034	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803035	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803036	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	0.12
803037	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
803038	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BLK-1	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

KEY TO DATA TABLE

UNITS

µg	micrograms, relative mass value
µg/m^3	micrograms per cubic meter; estimated soil gas concentration
µg/L	micrograms per Liter; calculated water concentration

DATA QUALIFIERS

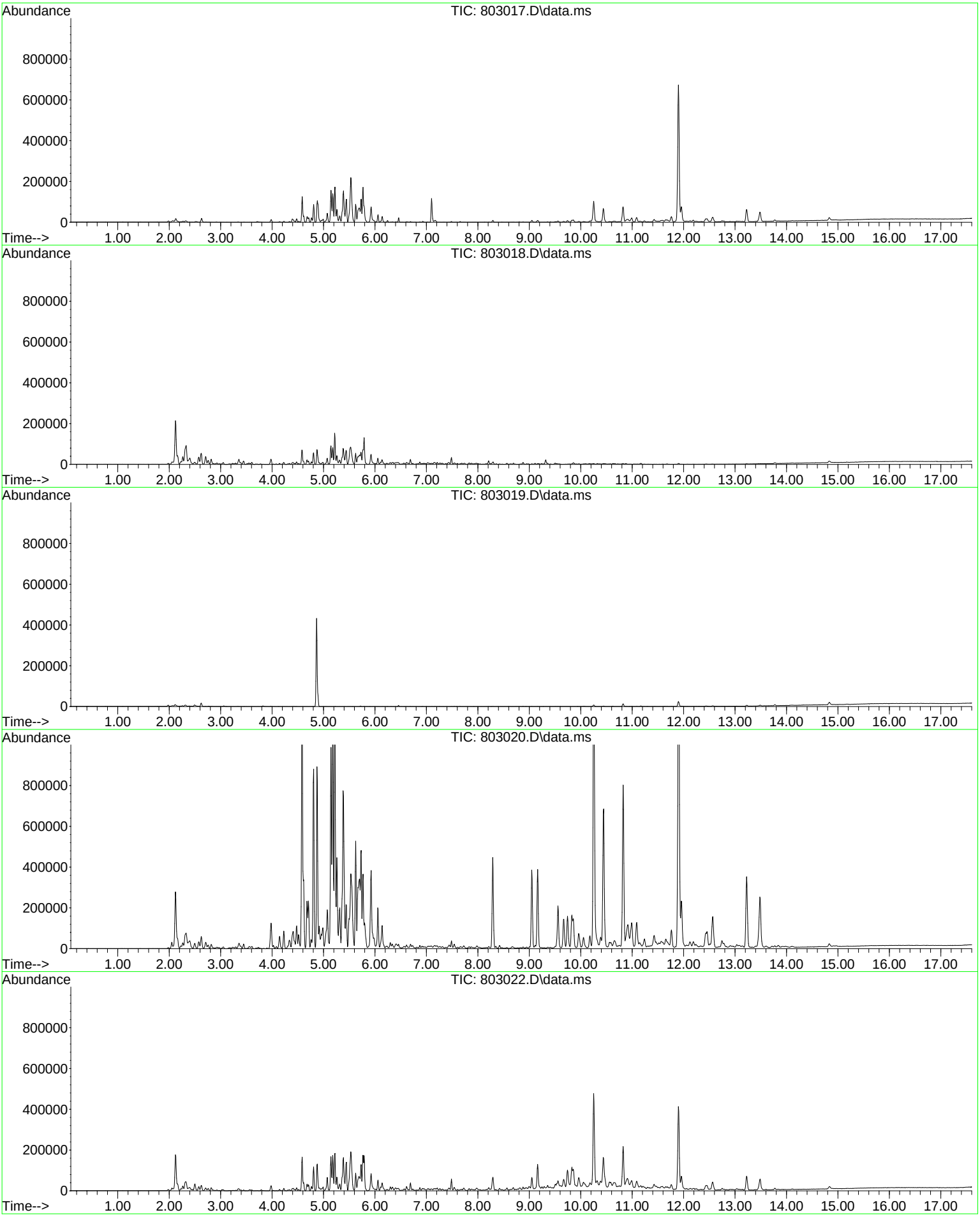
>	greater than; value exceeds calibration range, estimated value
<	less than; compound value is below the LOD and RL
J	mass value below LOQ or RL, but above LOD, estimated mass value
E	mass value exceeds upper calibration level, estimated mass value
Q	one or more quality control parameters failed for the compound

ABBREVIATIONS

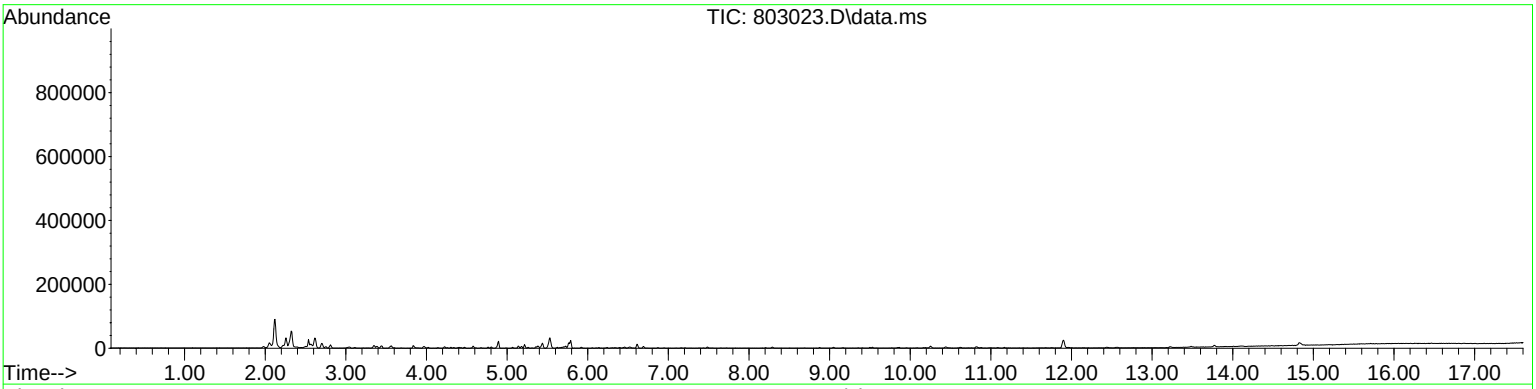
AVG RL	average reporting limit; calculated based on individual field sample RLs
LOD	limit of detection
LOQ	limit of quantification
MDL	method detection limit
RL	reporting limit

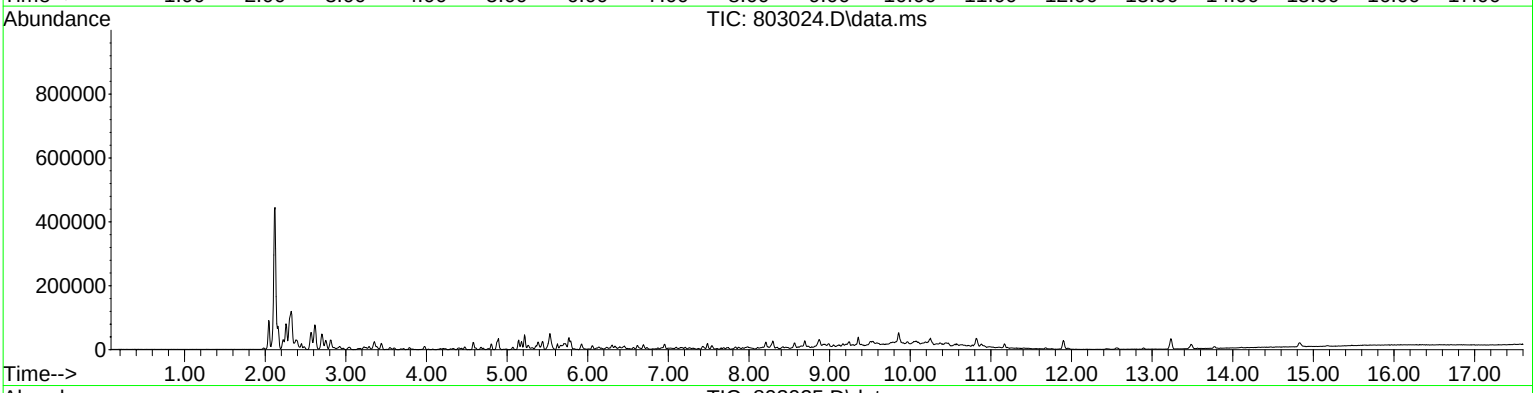
1112TetCA	1,1,1,2-tetrachloroethane
111TCA	1,1,1-trichloroethane
1122TetCA	1,1,2,2-tetrachloroethane
112TCA	1,1,2-trichloroethane
11DCA	1,1-dichloroethane
11DCE	1,1-dichloroethene
124TMB	1,2,4-trimethylbenzene
12DCA	1,2-dichloroethane
12DCB	1,2-dichlorobenzene
135TMB	1,3,5-trimethylbenzene
13DCB	1,3-dichlorobenzene
14DCB	1,4-dichlorobenzene
2MeNAPH	2-methyl naphthalene
BENZ	benzene
BTEX	combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics)
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
c12DCE	cis-1,2-dichloroethene
CCl4	carbon tetrachloride
CHC13	chloroform
ClBENZ	chlorobenzene
ct12DCE	cis- & trans-1,2-dichloroethene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
MTBE	methyl t-butyl ether
NAPH	naphthalene
OCT	octane
oXYL	o-xylene
PCE	tetrachloroethene
PENTADEC	pentadecane
SSRPH	Stoddard solvent range petroleum hydrocarbons
t12DCE	trans-1,2-dichloroethene
TCE	trichloroethene
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
TOL	toluene
TPH	total petroleum hydrocarbons
TRIDEC	tridecane
UNDEC	undecane
VC	vinyl chloride

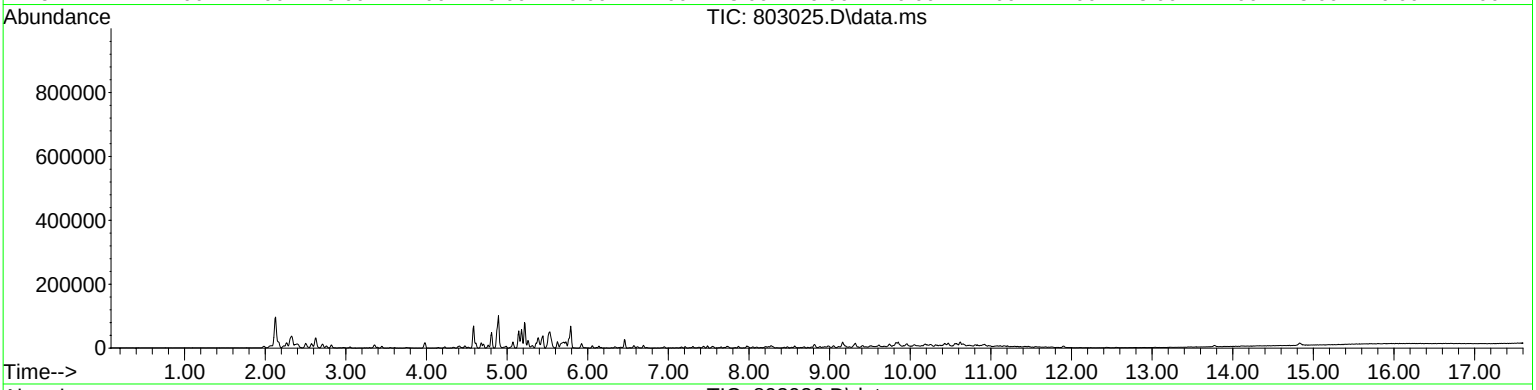
TICs-02112
In Numerical Order

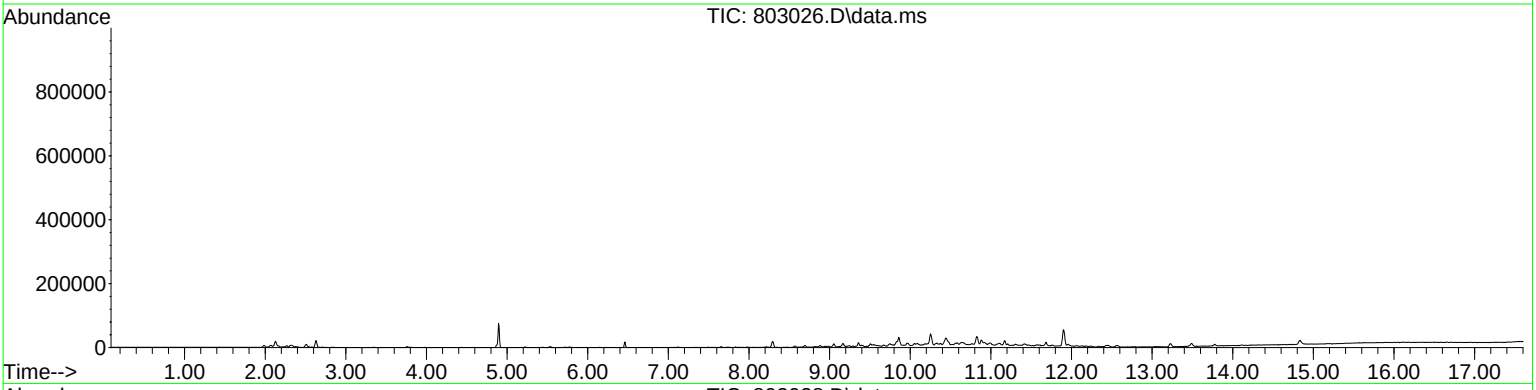


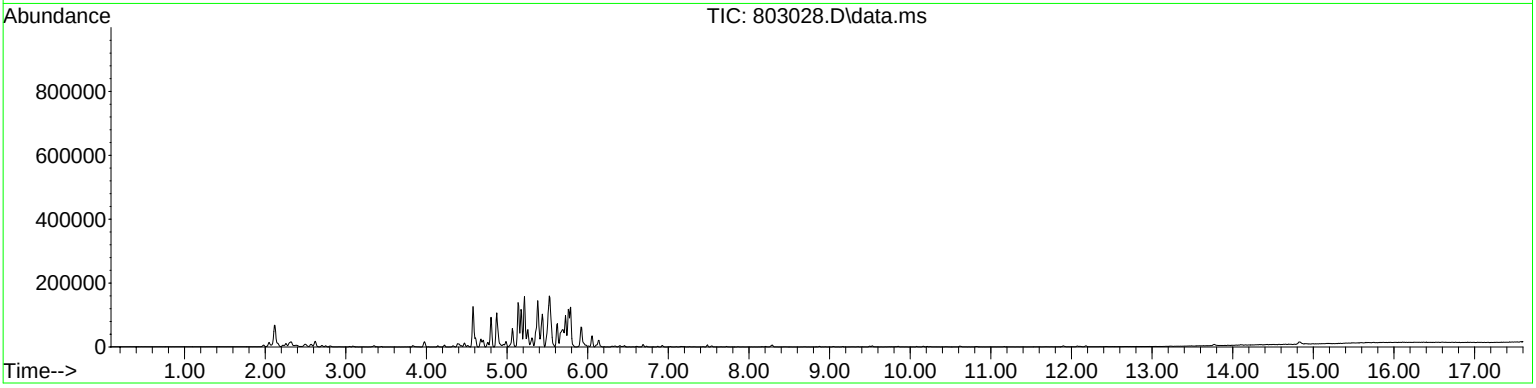
TICs-02112
In Numerical Order



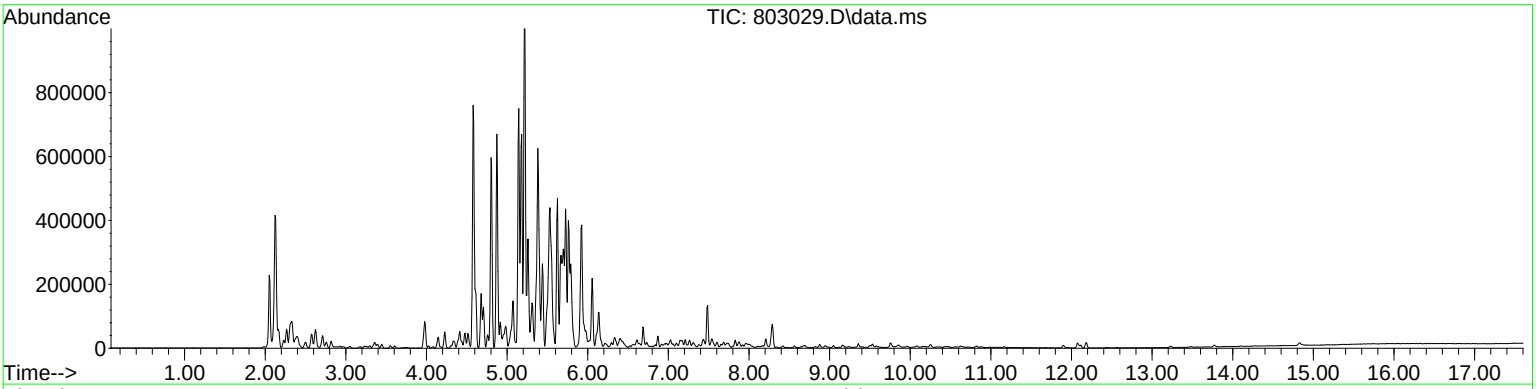


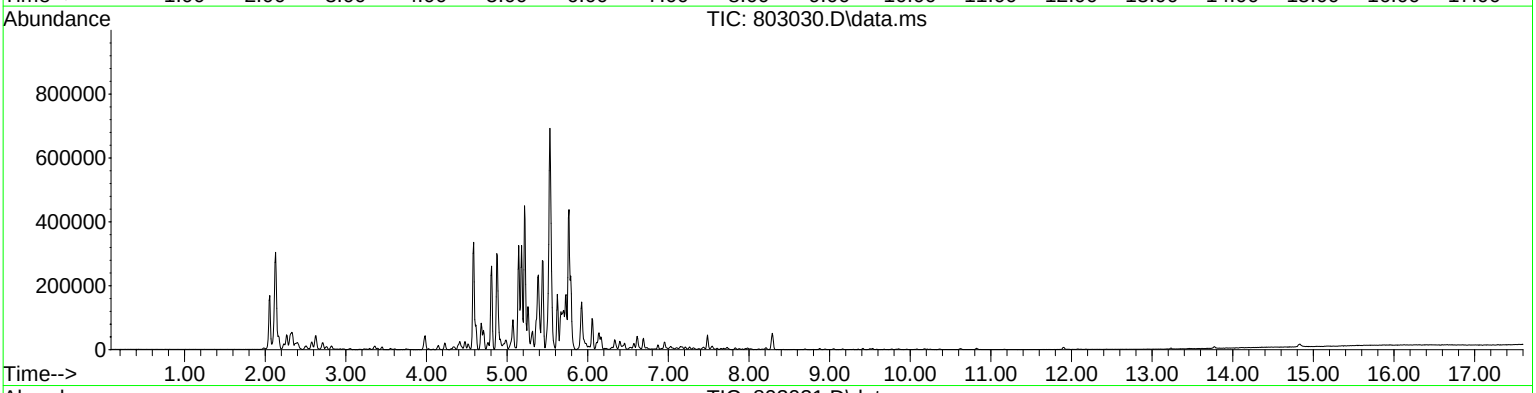


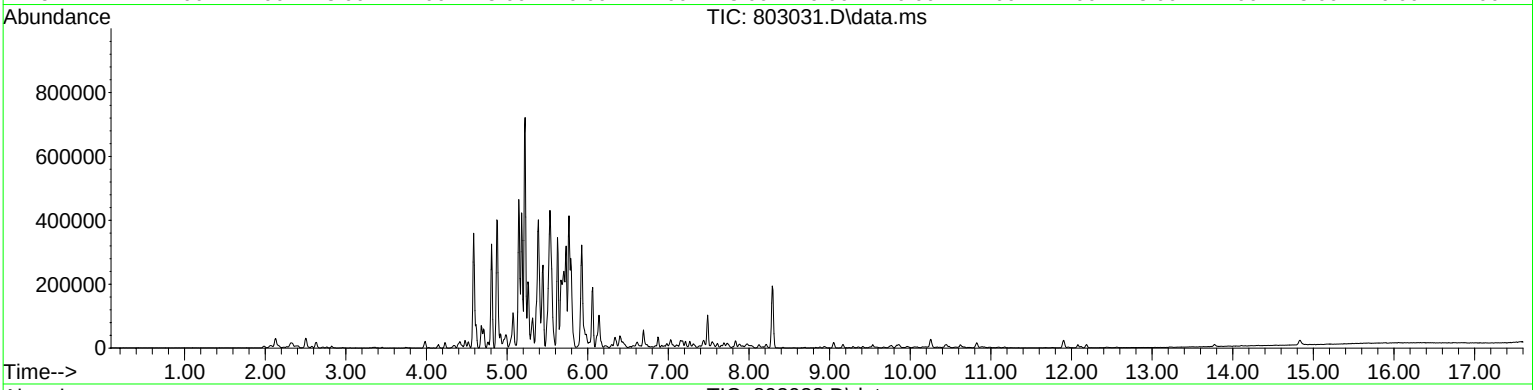


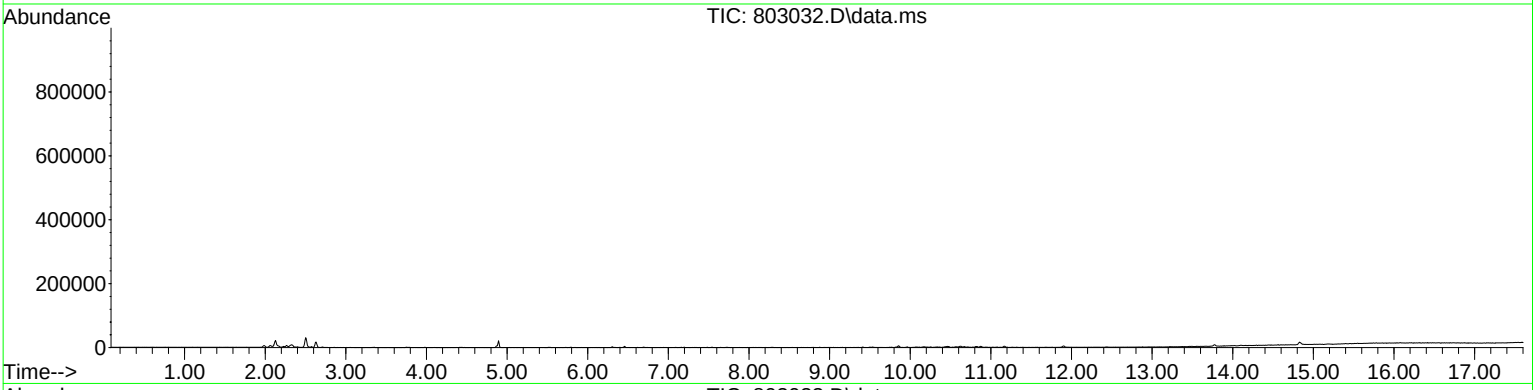


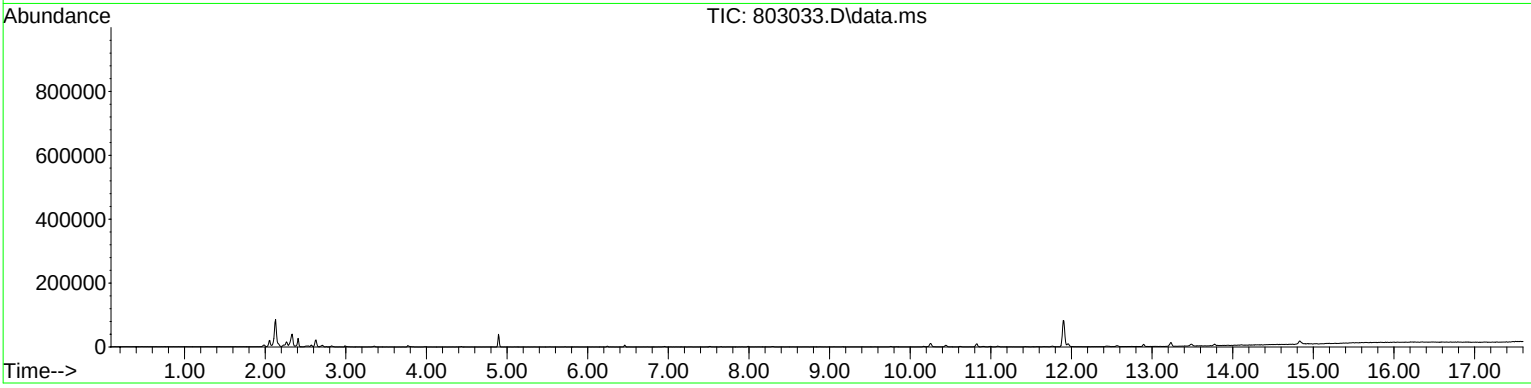
TICs-02112
In Numerical Order



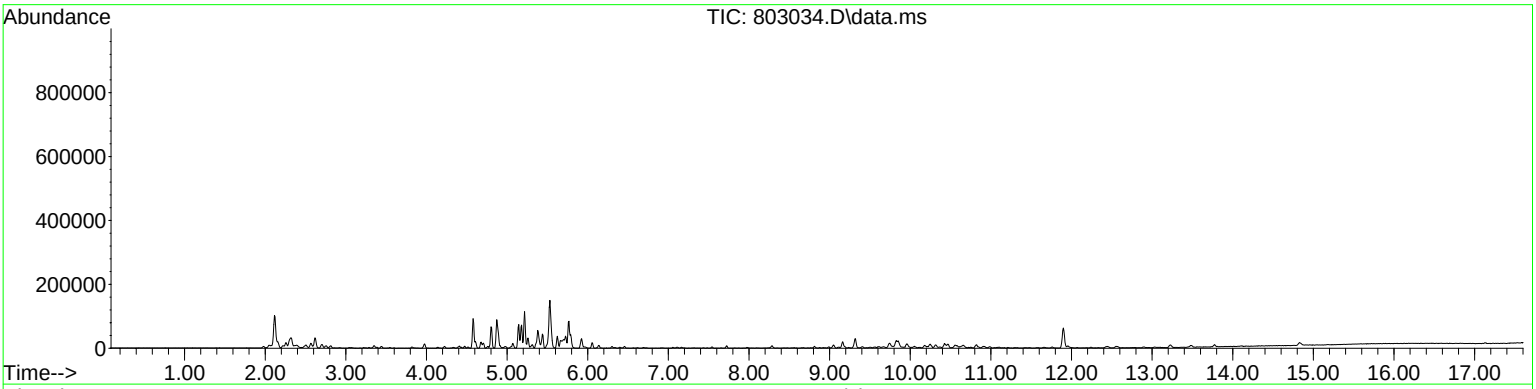


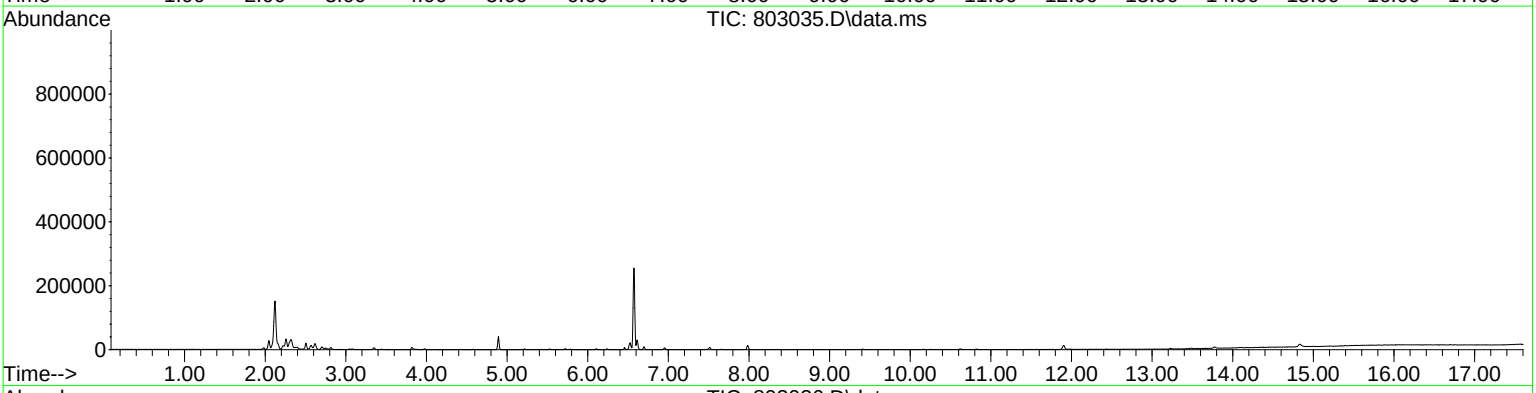


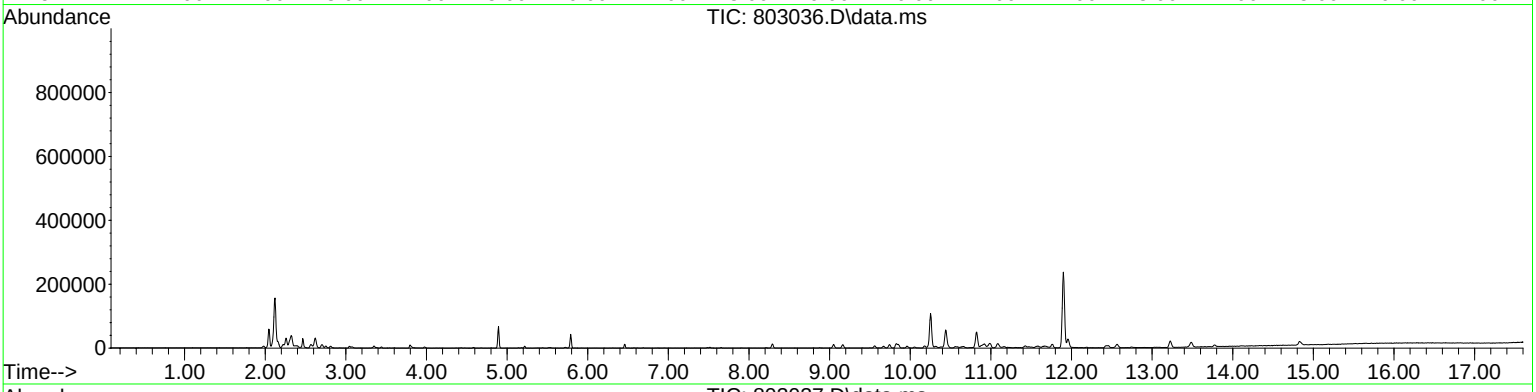


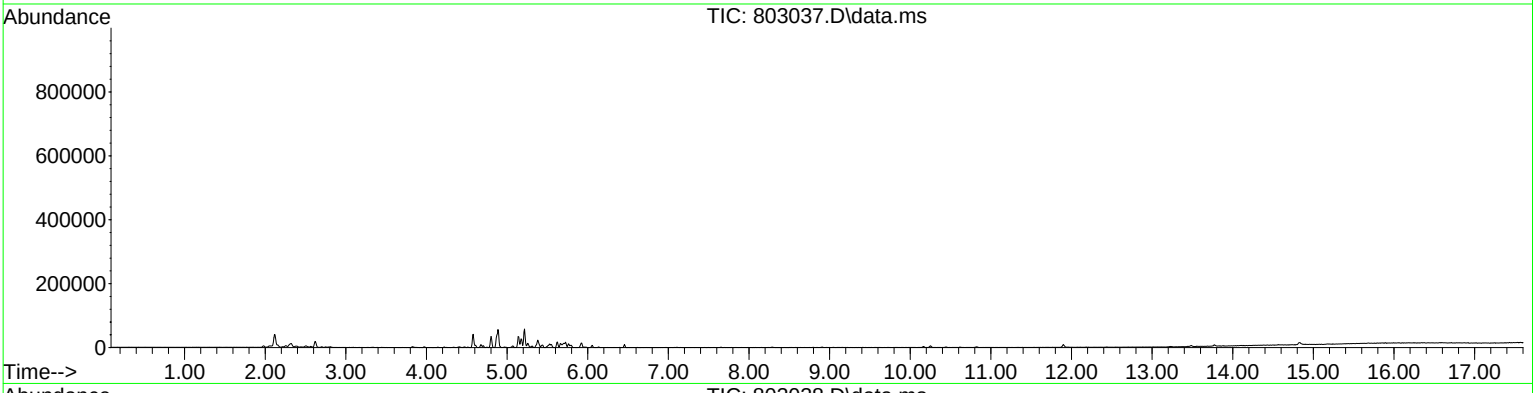


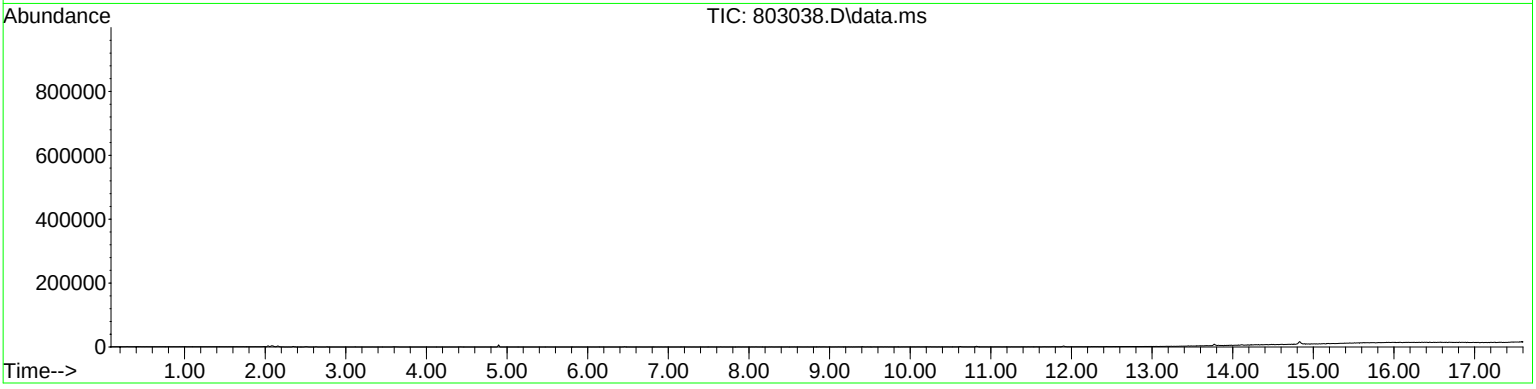
TICs-02112
In Numerical Order











Delaware Office and AGI Laboratory:
210 Executive Drive, Suite 1
Newark, Delaware 19702-3335 USA
Phone: +1-302-266-2428
Fax: +1-302-266-2429

German Sales Office:
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Alte Landstrasse 23,
85521 Ottobrunn GERMANY
Phone: +49 89 6387927-12
Fax: +49 89 6387927-10

Corporate Office:
7112 W. Jefferson Avenue, Suite 106
Lakewood, CO 80235 USA
Phone: +1-303-988-1968
Fax: +1-303-986-2898

www.agisurveys.net

AMPLIFIED GEOCHEMICAL IMAGING, LLC

Mapping Report

Site: 69402.2 - Skotdal

Prepared for:

Environmental Partners, Inc.
1180 NW Maple Street
Suite 310
Issaquah, WA 98027
USA

Prepared on:

September 16, 2019

Project Summary

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

69402.2 - Skotdal

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described for the requested organic compounds, and reporting of the data. A Laboratory Report was issued previously which summarized the field sampling and analytical procedures, and contained the sample results.

Normally, the maps are scaled to print on a page size of 11 x 17 inches; other sizes are available upon request. General and project specific comments on the contouring and mapping can be found on the next page.

Maps prepared by:

Ray Fenstermacher, P.G.
Project Manager

Maps reviewed/approved by:

Scott Kirlin
Inside Sales/Assistant Project Manager

General Comments

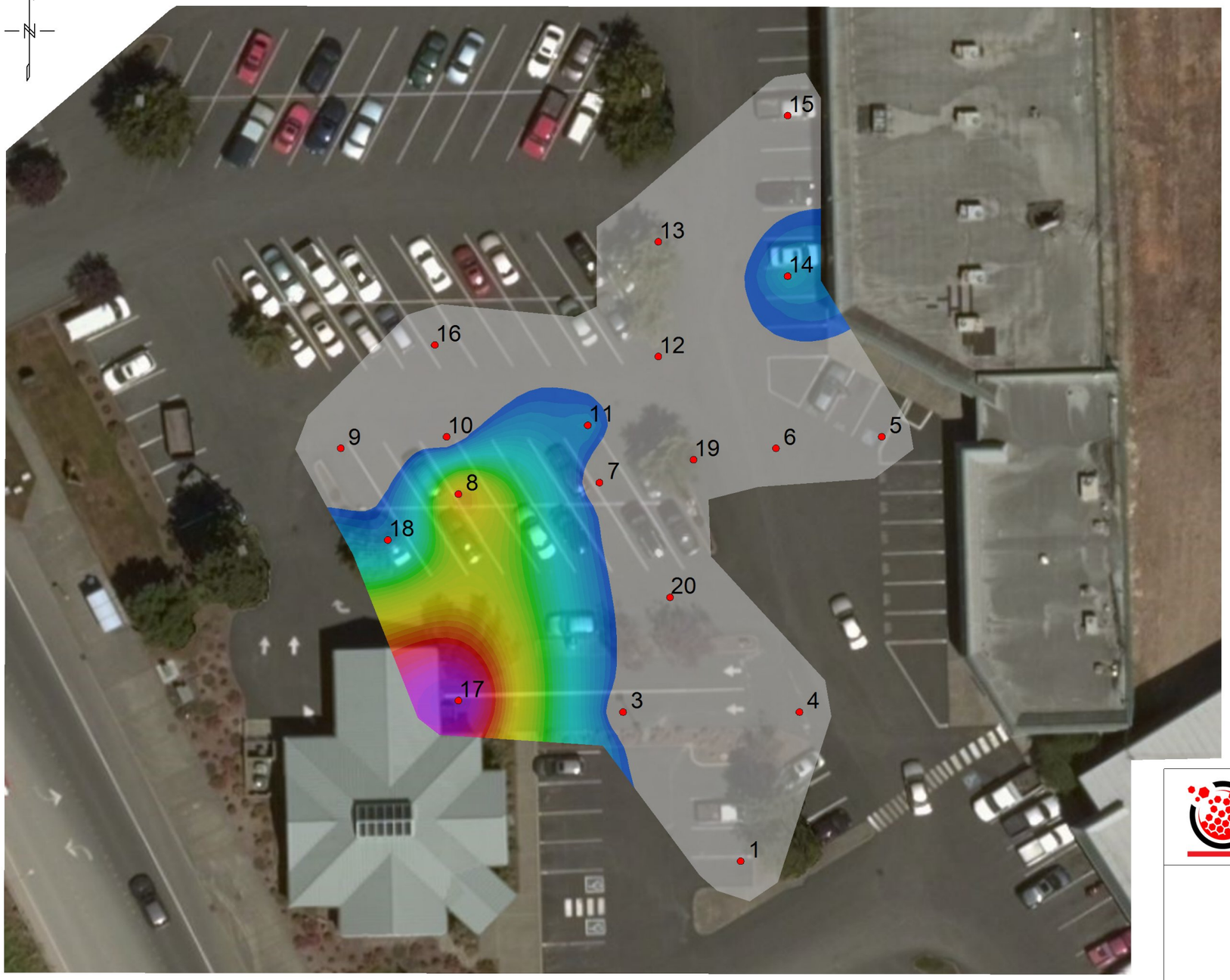
A minimum curvature algorithm was used to interpolate the data from the sample locations to a regularly-spaced grid. The resulting surface is considered to be the smoothest possible surface that will fit the observed values at each sample location (i.e., data honoring). The interpolation is performed in log space, with grid cell sizes approximately one-tenth the average distance between sample locations. For example, when AGI Universal Samplers are placed about 50 feet apart, the grid cell size is set to five feet.

Where observations trend from lower to higher values, and moving towards the edge of the area sampled, the contour surface will continue to rise (showing warmer colors) as no additional data exist to constrain the interpolation. Where observations trend from high to low, towards the edge of the area sampled, the opposite is true.

Contour minimums and maximums used in the color interval assignment are established based on the QA blank levels (trip and method blanks), method detection limits, and maximum values observed. The minimum contour level (gray color) is established using the maximum QA blank level or method detection limit, whichever is greater, per compound or groups of compounds . The maximum contour level is set at the maximum value observed, per compound or groups of compounds. Contour interval assignments can be modified at the client's request.

Project Specific Comments

None.



2.130
1.687
1.336
1.058
0.837
0.663
0.525
0.416
0.329
0.261
0.206
0.163
0.129
0.102
0.081
0.064
0.051
0.040
0.032
0.025
0.020

PCE
[µg]

Scale 1:400

5 0 5 10 15 20 25

(meters)

WGS 84 / UTM zone 10N

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210 EXECUTIVE DRIVE, SUITE 1
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WWW.AGISURVEYS.NET

Environmental Partners, Inc.
69402.2 - Skotdal
Tetrachloroethene

DATE DRAWN: Aug 20, 2019	**DRAWN BY: RF**	**ORIG. CAD: Google Earth image**
REV. DATE:	**REV. #:**	**PROJECT NUMBER: 02112**

0.030
0.029
0.029
0.028
0.028
0.027
0.027
0.026
0.026
0.025
0.024
0.024
0.024
0.023
0.023
0.022
0.022
0.021
0.021
0.020
0.020

cis-1,2-DCE
[µg]

Scale 1:400

5 0 5 10 15 20 25
(meters)
WGS 84 / UTM zone 10N

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210 EXECUTIVE DRIVE, SUITE 1
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Environmental Partners, Inc.
69402.2 - Skotdal
cis-1,2-Dichloroethene

DATE DRAWN: Aug 20, 2019	**DRAWN BY: RF**	**ORIG. CAD: Google Earth image**
REV. DATE:	**REV. #:**	**PROJECT NUMBER: 02112**

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German Sales Office:
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Phone: +1-303-988-1968
Fax: +1-303-986-2898

www.agisurveys.net

Attachment C
Ecology Response Re: Evaluation of TCE Risks (May 8, 2025)

Electronic Copy

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Region Office
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

May 8, 2025

Dave Graef
1604 Hewitt Avenue
Suite 200
Everett, WA 98201
(dave.graef@skotdal.com)

Re: Evaluation of Trichloroethene Risks at the following Site:

- **Site Name:** Skotdal Enterprises
- **Site Address:** 1419 Avenue D, Snohomish, WA 98290
- **Facility Site No.:** 12775192
- **CSID No.:** 4313

Dear Dave Graef:

Ecology appreciates your responsiveness to our request for information at the Skotdal Enterprises facility (Site) in Snohomish, Washington. We received your letter *Response to Ecology Letter dated March 25, 2025* (*March 2025 Response*) on April 24, 2025. Based on our review of data collected to date, additional indoor air and soil vapor sampling is needed to fully evaluate the vapor intrusion (VI) exposure pathway at the Site. We base this request on the following:

- **Groundwater Concentrations**
  Groundwater monitoring data included in the *March 2025 Response* indicate that trichloroethene (TCE) remains above the short-term action level for non-residential use (31 µg/L) at MW-10 within the last year. Monitoring well MW-10 is located immediately northwest of the daycare facility that occupies the former dry cleaner location.
- **Previous Indoor Air and Sub-Slab Soil Vapor Samples**
  Soil vapor samples were collected in the vicinity of the former dry cleaner in 2016. Your letter indicates that the precise location of sub-slab soil vapor sampling points was unavailable, and the locations displayed on Figure 1A represent “general locations” of samples. It is unclear if sub-slab soil vapor samples were located in the historical dry cleaner.

Based on the concentrations of TCE in groundwater and inconclusive soil vapor sampling data, additional evaluation of the VI pathway is needed at the Site. Ecology recommends collecting indoor air and sub-slab soil vapor samples from buildings located within 100 feet of monitoring wells with concentrations of TCE exceeding the short-term action level for non-residential use[1]. Additionally, any buildings located along preferential pathways such as sewer lines or utility corridors should be assessed for VI risk.

Ecology is available to provide you with additional technical assistance through the Voluntary Cleanup Program (VCP)[2]. You may request advisory opinions from the VCP regarding the sufficiency of your cleanup actions including the necessary measures to adequately characterize VI risks at the Site. If you have questions about the VCP, please feel free to contact David Unruh at vcp-nwro@ecy.wa.gov or by phone at 206-459-6287.

Sincerely,

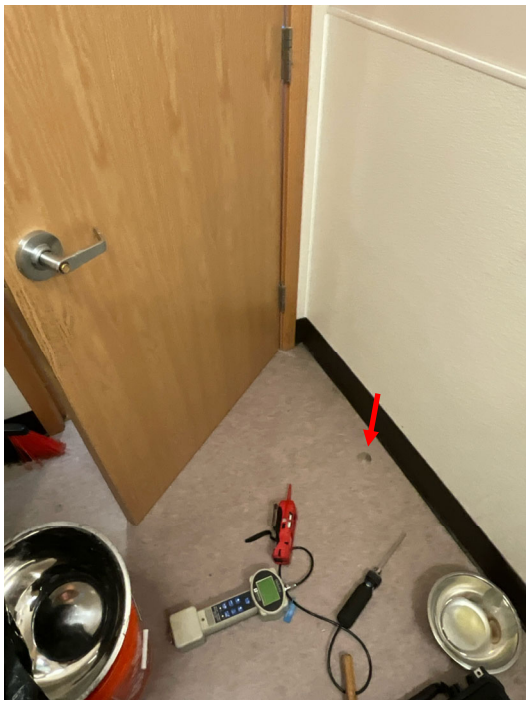
Nick Treat
VCP Unit Supervisor
Toxics Cleanup Program, Northwest Region Office

cc: Craig Skotdal, Skotdal Enterprises (craig@skotdal.com)
Eric Koltes, JS Held (eric.koltes@jsheld.com)
Elmer Diaz, Washington State Department of Health (elmer.diaz@doh.wa.gov)
Lenford O'Garro, Washington State Department of Health (lenford.ogarro@doh.wa.gov)

[1] *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action*, Chapter 2.3
[2] https://ecology.wa.gov/spills-cleanup/contamination-cleanup/voluntary-cleanup-program

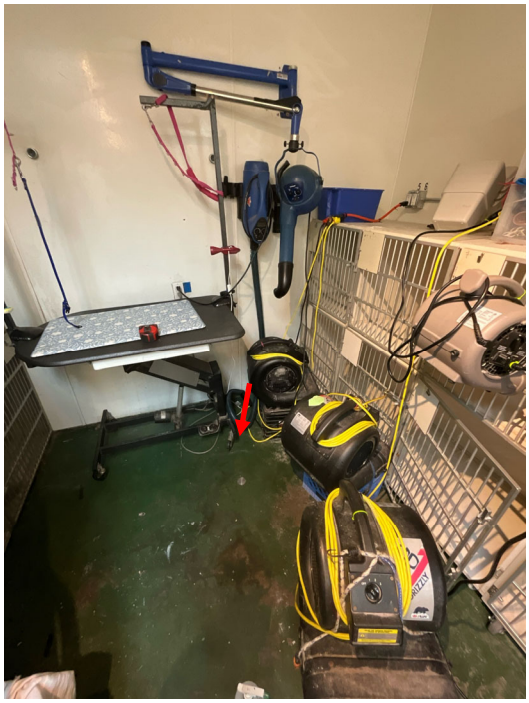
Attachment D
Photographic Log

SITE PHOTOGRAPHS



Photograph No. 01: View of newly installed vapor pin VP-1, located inside of the ELF Daycare building.

Photograph No. 02: View of existing vapor pin VP-2, under helium shroud, located inside of the Bliss Small Batch Creamery building.



Photograph No. 03: View of newly installed vapor pin VP-3, located inside of the Snohomish Dog Spaw building

Photograph No. 04: View of newly installed vapor pin,VP-4, located inside of the U.S. Post Office building

Photograph No. 05: View of newly installed vapor pin VP-5, located inside of The UPS Store building.

Photograph No. 06: View of newly installed vapor pin VP-6, under helium shroud, located inside of El Paraiso Mexican Grill building.

Photograph No. 07: View of existing vapor pin KB-VP2, located inside of the Key Bank building.

Photograph No. 08: Zoomed view of a vapor pin completed with flush, stainless steel covering following sample collection.

Attachment E
Laboratory Analytical Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

June 18, 2025

Eric Koltes, Project Manager
JS Held
18372 Redmond-Fall City Road
Redmond, WA 98052

RE: Skotdal Snohomish Cleaners 2402 00521, F&BI 506064

Dear Mr Koltes:

Included are the results from the testing of material submitted on June 4, 2025 from the Skotdal Snohomish Cleaners 2402 00521, F&BI 506064 project. There are 13 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Nate Hinsperger, Austin York, Kodee Soetamin
JSH0618R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 4, 2025 by Friedman & Bruya, Inc. from the JS Held Skotdal Snohomish Cleaners 2402 00521, F&BI 506064 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	JS Held
506064-01	VP-1
506064-02	VP-2
506064-03	VP-3
506064-04	VP-4
506064-05	VP-5
506064-06	VP-6
506064-07	KB-VP2

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-1	Client:	JS Held
Date Received:	06/04/25	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	06/03/25	Lab ID:	506064-01 1/5.7
Date Analyzed:	06/05/25	Data File:	060423.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	2.0	0.37

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-2	Client:	JS Held
Date Received:	06/04/25	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	06/03/25	Lab ID:	506064-02 1/7.8
Date Analyzed:	06/04/25	Data File:	060421.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	<0.84	<0.16

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-3	Client:	JS Held
Date Received:	06/04/25	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	06/03/25	Lab ID:	506064-03 1/5.5
Date Analyzed:	06/04/25	Data File:	060419.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	<0.59	<0.11

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-4	Client:	JS Held
Date Received:	06/04/25	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	06/03/25	Lab ID:	506064-04 1/5.2
Date Analyzed:	06/04/25	Data File:	060420.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	<0.56	<0.1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-5	Client:	JS Held
Date Received:	06/04/25	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	06/04/25	Lab ID:	506064-05 1/7.9
Date Analyzed:	06/04/25	Data File:	060422.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	<0.85	<0.16

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-6	Client:	JS Held
Date Received:	06/04/25	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	06/04/25	Lab ID:	506064-06 1/8.5
Date Analyzed:	06/05/25	Data File:	060424.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	24	4.4

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	KB-VP2	Client:	JS Held
Date Received:	06/04/25	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	06/04/25	Lab ID:	506064-07 1/8.1
Date Analyzed:	06/05/25	Data File:	060425.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	2.4	0.45

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	JS Held
Date Received:	Not Applicable	Project:	Skotdal Snohomish Cleaners 2402 00521
Date Collected:	Not Applicable	Lab ID:	05-1320 mb
Date Analyzed:	06/04/25	Data File:	060412.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Trichloroethene	<0.11	<0.02

Date of Report: 06/18/25
Date Received: 06/04/25
Project: Skotdal Snohomish Cleaners 2402 00521, F&BI 506064
Date Extracted: 06/16/25
Date Analyzed: 06/16/25

RESULTS FROM THE ANALYSIS OF AIR SAMPLES FOR HELIUM USING METHOD ASTM D1946

Results Reported as % Helium

Sample ID Laboratory ID	Helium
VP-1 506064-01	<0.6
VP-2 506064-02	<0.6
VP-3 506064-03	<0.6
VP-4 506064-04	<0.6
VP-5 506064-05	<0.6
VP-6 506064-06	<0.6
KB-VP2 506064-07	<0.6
Method Blank 05-1438 MB	<0.6

Date of Report: 06/18/25
Date Received: 06/04/25
Project: Skotdal Snohomish Cleaners 2402 00521, F&BI 506064

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

Laboratory Code: 506072-02 1/8.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 25)
Trichloroethene	ug/m3	<0.89	<0.89	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Trichloroethene	ug/m3	73	114	70-130

Date of Report: 06/18/25
Date Received: 06/04/25
Project: Skotdal Snohomish Cleaners 2402 00521, F&BI 506064

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR HELIUM USING METHOD ASTM D1946

Laboratory Code: 506064-07 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

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, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. 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 analyte 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 due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. 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.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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.

(NP) ~~506004~~ 506064

SAMPLE CHAIN OF CUSTODY

06/04/25

Report To JSH: Eric Kolkes

Company JS Held

Address 18372 Redmond Way

City, State, ZIP Redmond, WA 98052

Phone 425-550-8888 Email Eric.Kolkes@JSHeld.com CC: Austin York, Nate Hinsperger, Kodee Soetamin

SAMPLERS (*signature*)

PROJECT NAME & ADDRESS: Skotdal Snohomish Cleaners 2402 00521

PO #

NOTES:

INVOICE TO: JSH

TURNAROUND TIME
- ☑ Standard
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- Default: Clean following final report delivery
- Hold (Fee may apply):

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium	TCE	Notes
VP-1	01	2433	304	IA / (SG)	6-3-25	29	1109	5	1109					+	X	
VP-2	02	9986	224	IA / (SG)	6-3-25	28	1201	5	1207					X	X	
VP-3	03	11571	92	IA / (SG)	6-3-25	30	1326	5	1331					X	X	
VP-4	04	~~79~~ AY 2347	54	IA / (SG)	6-3-25	30	1413	5	1418					X	X	
VP-5	05	3249	05	IA / (SG)	6-4-25	30	0932	5	0937					X	X	
VP-6	06	4179	242	IA / (SG)	6-4-25	28	0915	5	0920					X	X	
KB-VP2	07	3230	73	IA / (SG)	6-4-25	30	1008	5	1013					X	X	
				IA / SG												

Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108
Ph. (206) 285-8282
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FORMS\COC\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	KODEE SOETAMIN	JS HELD	06/04/25	1220
Received by: HONG	HONG NGUYEN	FBI	6/4/25	to 1220
Relinquished by:				
Received by:		Samples received at 20 °C		

SAMPLE CONDITION UPON RECEIPT CHECKLIST

HN

PROJECT # 506064 CLIENT JS Held INITIALS/ DATE: HN 6/4/25

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature 20 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☐ YES ☒ NO

How did samples arrive?
☒ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: NP 6/4
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0>1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☑ Yes	☐ No	☐ Not on COC/label
# of Containers	☑ Yes	☐ No	
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☐ NA ☐ YES ☑ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet