



SoundEarth Strategies, Inc.
2320 West Commodore Way, Suite 110
Seattle, Washington 98199

April 8, 2026

Sunny Becker
Washington State Department of Ecology
Toxics Cleanup Program
Northwest Regional Office
15700 Dayton Avenue North
Shoreline, Washington 98133

SUBJECT: 2023 VAPOR INTRUSION ASSESSMENT – JANKE BUILDING
Plastic Sales and Service Site
6870 Woodlawn Avenue Northeast, Seattle, Washington
Project Number: 0651-002

Dear Ms. Becker:

SoundEarth Strategies, Inc. (SoundEarth) is pleased to provide you with the results from the vapor intrusion assessment conducted at the Janke Building, located at 6869 Woodlawn Avenue Northeast in Seattle, Washington, in December 2023. The Janke Building is situated to the north of the Plastic Sales and Services Site (the Site), which encompasses the property located at 6870 Woodlawn Avenue Northeast and adjacent rights-of-way (ROWs). Groundwater beneath the ROWs adjacent to the Janke Building has been impacted by a release of chlorinated volatile organic compounds (CVOCs) originating at the Site. The purpose of the December 2023 vapor intrusion assessment conducted at the Janke Building was to evaluate whether CVOC vapors originating from groundwater adjacent to the Janke Building pose a risk to human health within the Janke Building through the vapor inhalation pathway. The December 2023 sampling event represents the first of three vapor intrusion assessments requested by the Washington State Department of Ecology (Ecology) for the Janke Building. The vapor intrusion assessment was performed in general accordance with Ecology's *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action*, dated October 2009 and finalized in March 2022 (Ecology's 2022 vapor intrusion guidance).

DECEMBER 2023 SAMPLING ACTIVITIES

The December 2023 vapor intrusion assessment included the collection of three indoor air samples, one outdoor ambient air sample, and two sub-slab soil gas samples from the Janke Building. The following sections summarize the vapor intrusion assessment activities completed at the Site during this sampling event.

Building Survey

Prior to collecting air quality samples, SoundEarth completed a building survey of the Janke Building to evaluate the potential presence of CVOC sources or materials that may contribute to background indoor air contamination. SoundEarth identified potential CVOC sources during the building survey and removed them to the extent feasible from the building at least 48 hours prior to sample collection.

Indoor Air, Ambient Air, and Sub-Slab Soil Gas Sampling

On December 4, 2023, SoundEarth collected three indoor air samples (IA01, IA02, and IA03), one outdoor ambient air sample (OA01), and two sub-slab soil gas samples (SS01 and SS02) at the Janke Building. Indoor air, outdoor ambient air, and sub-slab soil gas samples were collected using the procedures and methodologies described in SoundEarth's *Vapor Intrusion Assessment Sampling and Analysis Plan, Plastic Sales and Service Site, 6870 Woodlawn Avenue Northeast, Seattle, Washington*, dated August 15, 2023 (2023 Vapor Intrusion Assessment SAP). Sample locations are shown on Figures 1 and 2. Sub-slab soil gas, indoor air, and outdoor air sample results are presented in Tables 1 and 2.

Indoor air, outdoor ambient air, and sub-slab soil gas samples were submitted to Friedman and Bruya, Inc. (F&B) laboratory for analysis of CVOCs by US Environmental Protection Agency (EPA) Method TO-15. Sub-slab soil gas samples were also submitted to F&B for analysis of helium by Method ASTM D1946. Additionally, the three indoor samples, one outdoor air sample, and two sub-slab soil gas samples were submitted to Doug Hammond at the University of Southern California Dornsife for radon analysis by EPA Method Grab Sample/Scintillation Cell counting. Radon concentrations and attenuation calculations are presented in Table 3.

DECEMBER 2023 ANALYTICAL RESULTS

CVOCs, including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (DCE), and trans-1,2-DCE, were not detected at concentrations above laboratory reporting limits in either of the sub-slab soil gas samples collected during the vapor intrusion assessment. TCE was detected at concentrations below the Washington State Model Toxics Control Act (MTCA) Indoor Air Screening Levels for Commercial Workers in the three indoor air samples (IA01, IA02, and IA03; 0.22, 0.25, and 0.25 micrograms per cubic meter, respectively). TCE was not detected above laboratory reporting limits in the ambient air sample (OA01). PCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride were not detected at concentrations above laboratory reporting limits in any of the analyzed indoor or ambient air samples. Helium was not detected above laboratory reporting limits in either of the analyzed sub-slab soil gas samples, confirming the integrity of the sampling trains during the assessment.

Radon results were used to calculate site-specific sub-slab soil gas screening levels for the Janke Building that are protective of indoor air. The site-specific sub-slab soil gas concentrations were calculated using radon sample results from the indoor air and sub-slab soil gas samples at the two paired sub-slab soil gas and indoor air sample locations (IA01/SS01 and IA02/SS02). The site-specific sub-slab soil gas CVOC screening levels were determined following the procedures outlined in the 2023 Vapor Intrusion Assessment SAP, and Ecology's 2022 vapor intrusion guidance. Site-specific sub-slab soil gas CVOC screening levels for the Janke Building that are protective of indoor air are presented in Table 3.

Although sub-slab soil gas and indoor air concentrations did not exceed MTCA vapor intrusion screening levels for commercial land use during the December 2023 vapor intrusion assessment and the use of a site-specific attenuation factor is not necessary to achieve regulatory compliance at this time, the site-specific attenuation factor calculated based on detected radon concentrations in sub-slab soil gas and indoor air provides a valuable secondary line of evidence for future vapor intrusion studies at the Janke Building. Site-specific attenuation factors have recently been calculated using the same methodology and are considered acceptable for use by Ecology at other sites in Seattle, including the Avtech Corp Property (Voluntary Cleanup Program No. NW2739).

CONCLUSIONS

Based on the findings of the vapor intrusion assessment conducted at the Janke Building in December 2023, elevated concentrations of CVOCs in groundwater beneath the ROW adjacent to the Janke Building have not

April 8, 2026

resulted in elevated CVOC concentrations in sub-slab soil gas beneath the building and do not pose a risk to human health through the indoor air inhalation pathway at this time.

Please let us know if you have any questions.

Respectfully,

SoundEarth Strategies, Inc.



Clare Tochilin, LG
Senior Geologist



Tom Cammarata, LHG
Principal

Attachments: Figure 1, Sub-Slab Soil Gas Analytical Results – 2023 Janke Building Vapor Intrusion Assessment
Figure 2, Indoor Air Analytical Results – 2023 Janke Building Vapor Intrusion Assessment
Table 1, Summary of Sub-Slab Soil Gas Analytical Results
Table 2, Summary of Indoor Air Analytical Results
Table 3, Site-Specific Sub-Slab Soil Gas Screening Levels
Attachment A, Laboratory Reports
Friedman & Bruya #312050
Friedman & Bruya #312051

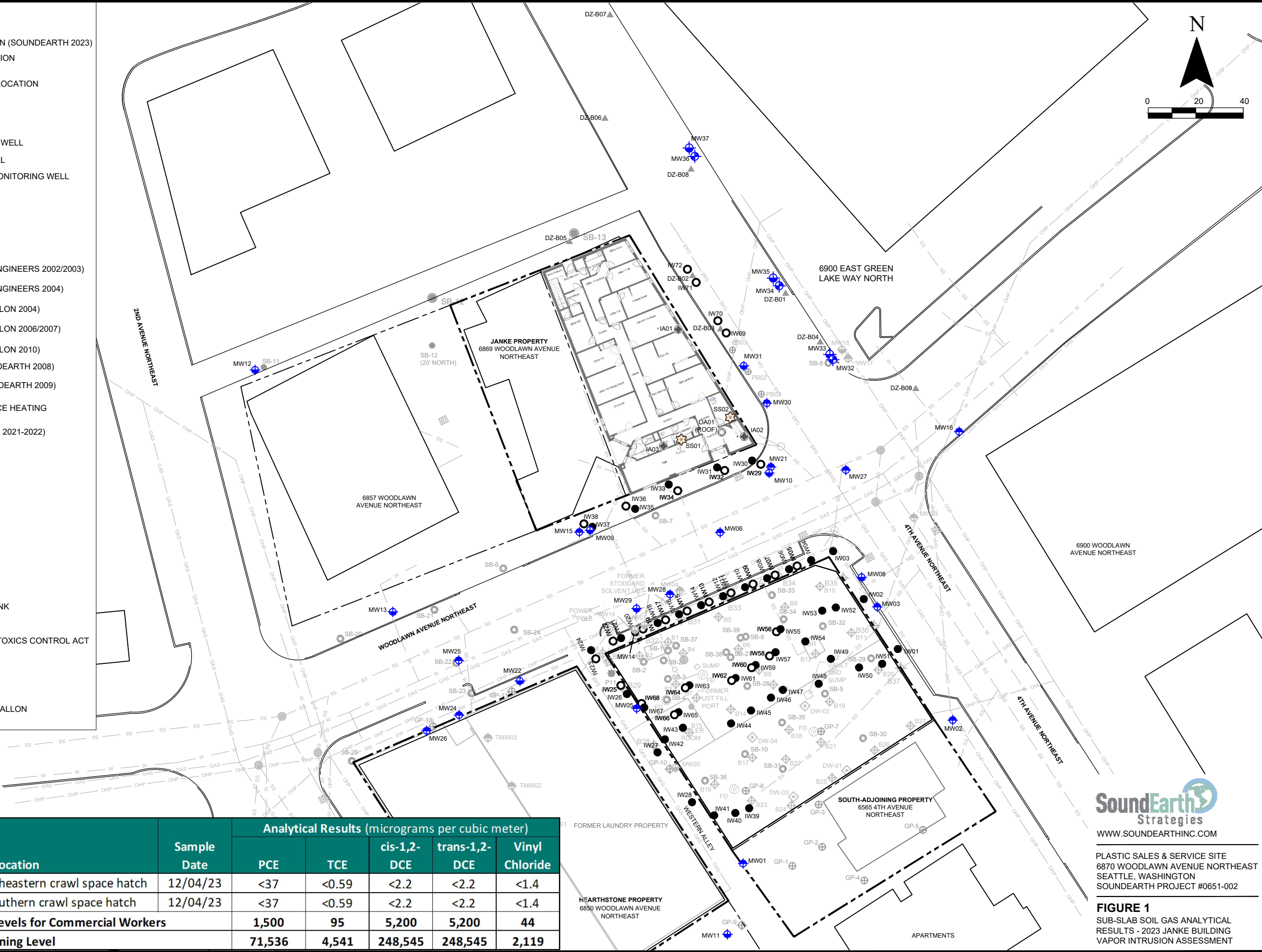
FIGURES

LEGEND

- INDOOR AIR SAMPLE LOCATION (SOUNDEARTH 2023)
- OUTDOOR AIR SAMPLE LOCATION (SOUNDEARTH 2023)
- SUB-SLAB SOIL GAS SAMPLE LOCATION (SOUNDEARTH 2023)
- CATCH BASIN
- MANHOLE
- SHALLOW-ZONE MONITORING WELL
- DEEP-ZONE MONITORING WELL
- INTERMEDIATE DEEP-ZONE MONITORING WELL
- DEEP DEWATERING WELL
- SHALLOW INJECTION WELL
- DEEP INJECTION WELL
- DECOMMISSIONED WELL
- DIRECT-PUSH BORING (GEOENGINEERS 2002/2003)
- DIRECT-PUSH BORING (GEOENGINEERS 2004)
- DIRECT-PUSH BORING (FARALLON 2004)
- DIRECT-PUSH BORING (FARALLON 2006/2007)
- DIRECT-PUSH BORING (FARALLON 2010)
- DIRECT-PUSH BORING (SOUNDEARTH 2008)
- HOLLOW-STEM AUGER (SOUNDEARTH 2009)
- POST-ELECTRICAL RESISTANCE HEATING BORING LOCATION
- SONIC BORING (SOUNDEARTH 2021-2022)
- STORMWATER LINE
- GAS LINE
- SANITARY SEWER LINE
- WATER LINE
- OVERHEAD POWER LINE
- PROPERTY BOUNDARY LINE
- PARCEL BOUNDARY
- FLOOR DRAIN
- UNDERGROUND STORAGE TANK
- DCE
DICHLOROETHENE
- MTCA
WASHINGTON STATE MODEL TOXICS CONTROL ACT
- PCE
TETRACHLOROETHENE
- TCE
TRICHLOROETHENE

- NOTES:
1. FIGURE DERIVED FROM BASEMAP BY FARALLON CONSULTING, 2010.

Sample Location ID	Location	Sample Date	Analytical Results (micrograms per cubic meter)				
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
SS01	Janke building - southeastern crawl space hatch	12/04/23	<37	<0.59	<2.2	<2.2	<1.4
SS02	Janke building - southern crawl space hatch	12/04/23	<37	<0.59	<2.2	<2.2	<1.4
MTCA Sub-Slab Soil Gas Screening Levels for Commercial Workers			1,500	95	5,200	5,200	44
Site-Specific Sub-Slab Soil Gas Screening Level			71,536	4,541	248,545	248,545	2,119



SoundEarth
Strategies

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PLASTIC SALES & SERVICE SITE
6870 WOODLAWN AVENUE NORTHEAST
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #0651-002

FIGURE 1
SUB-SLAB SOIL GAS ANALYTICAL
RESULTS - 2023 JANKE BUILDING
VAPOR INTRUSION ASSESSMENT

LEGEND

- INDOOR AIR SAMPLE LOCATION (SOUNDEARTH 2023)
- OUTDOOR AIR SAMPLE LOCATION (SOUNDEARTH 2023)
- SUB-SLAB SOIL GAS SAMPLE LOCATION (SOUNDEARTH 2023)
- CATCH BASIN
- MANHOLE
- SHALLOW-ZONE MONITORING WELL
- DEEP-ZONE MONITORING WELL
- INTERMEDIATE DEEP-ZONE MONITORING WELL
- DEEP DEWATERING WELL
- SHALLOW INJECTION WELL
- DEEP INJECTION WELL
- DECOMMISSIONED WELL
- DIRECT-PUSH BORING (GEOENGINEERS 2002/2003)
- DIRECT-PUSH BORING (GEOENGINEERS 2004)
- DIRECT-PUSH BORING (FARALLON 2004)
- DIRECT-PUSH BORING (FARALLON 2006/2007)
- DIRECT-PUSH BORING (FARALLON 2010)
- DIRECT-PUSH BORING (SOUNDEARTH 2008)
- HOLLOW-STEM AUGER (SOUNDEARTH 2009)
- POST-ELECTRICAL RESISTANCE HEATING BORING LOCATION
- SONIC BORING (SOUNDEARTH 2021-2022)
- STORMWATER LINE
- GAS LINE
- SANITARY SEWER LINE
- WATER LINE
- OVERHEAD POWER LINE
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- NOTES:
1.

FIGURE DERIVED FROM BASEMAP BY FARALLON CONSULTING, 2010.

Sample Location ID	Location	Sample Type	Sample Date	Analytical Results (micrograms per cubic meter)				
				PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
IA01	Northeastern portion of Janke building	Indoor Air	12/04/23	<6.8	0.22	<0.4	<0.4	<0.26
IA02	Southeastern corner of Janke building	Indoor Air	12/04/23	<6.8	0.25	<0.4	<0.4	<0.26
IA03	Southern portion of Janke building	Indoor Air	12/04/23	<6.8	0.25	<0.4	<0.4	<0.26
OA01	Southeastern corner of Janke building roof	Outdoor Air	12/04/23	<6.8	<0.11	<0.4	<0.4	<0.26
MTCA Indoor Air Screening Levels for Commercial Workers				44.9	2.85	156	156	1.33

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PLASTIC SALES & SERVICE SITE
6870 WOODLAWN AVENUE NORTHEAST
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #0651-002

FIGURE 2
INDOOR AIR ANALYTICAL RESULTS -
2023 JANKE BUILDING VAPOR
INTRUSION ASSESSMENT

TABLES



Table 1
Summary of Sub-Slab Soil Gas Analytical Results
Plastic Sales and Service Site (Janke Building)
6870 Woodlawn Avenue Northeast
Seattle, Washington

Sample Location ID	Sample ID	Location	Sampled By	Sample Date	Analytical Results ⁽¹⁾ (µg/m ³)				
					PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
SS01	SS01-20231204	Janke building - southeastern crawl space hatch	SoundEarth	12/04/23	< 37	< 0.59	< 2.2	< 2.2	< 1.4
SS02	SS02-20231204	Janke building - southern crawl space hatch			< 37	< 0.59	< 2.2	< 2.2	< 1.4
MTCA Sub-Slab Soil Gas Screening Levels for Commercial Workers					1,500 ⁽²⁾	95 ⁽²⁾	5,200 ⁽³⁾	5,200 ⁽³⁾	44 ⁽²⁾
Site-Specific Sub-Slab Soil Gas Screening Level ⁽⁴⁾					71,536	4,541	248,545	248,545	2,119

NOTES:

Chemical analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

⁽¹⁾Analyzed by EPA Method TO-15.

⁽²⁾Vapor Intrusion Screening Level for Commercial Worker, Soil Gas Screening Level, Cancer, CLARC database, CLARC Website <<https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>>.

⁽³⁾Vapor Intrusion Screening Level for Commercial Worker, Soil Gas Screening Level, Noncancer, CLARC database, CLARC Website <<https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>>.

⁽⁴⁾Site-specific sub-slab soil gas screening levels calculated using vapor attenuation factor of 0.0063, as determined based on the results of radon sampling of sub-slab soil gas and indoor air conducted concurrently with sampling for chlorinated volatile organic compounds.

µg/m³ = microgram per cubic meter

< = concentration not detected above the laboratory reporting limit

CLARC = Cleanup Levels and Risk Calculations

DCE = dichloroethene

EPA = US Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

PCE = tetrachloroethene

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethene



Table 2
Summary of Indoor Air Analytical Results
Plastic Sales and Service Site (Janke Building)
6870 Woodlawn Avenue Northeast
Seattle, Washington

Sample Location ID	Sample ID	Location	Sampled by	Sample Type	Sample Date	Analytical Results ⁽¹⁾ (µg/m ³)				
						PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
IA01	IA01-20231204	Northeastern portion of Janke building	SoundEarth	Indoor Air	12/04/23	<6.8	0.22	<0.4	<0.4	<0.26
IA02	IA02-20231204	Southeastern corner of Janke building		Indoor Air		<6.8	0.25	<0.4	<0.4	<0.26
IA03	IA03-20231204	Southern portion of Janke building		Indoor Air		<6.8	0.25	<0.4	<0.4	<0.26
OA01	OA01-20231204	Southeastern corner of Janke building roof		Outdoor Air		<6.8	<0.11	<0.4	<0.4	<0.26
MTCA Indoor Air Screening Levels for Commercial Workers						44.9 ⁽²⁾	2.85 ⁽²⁾	156 ⁽³⁾	156 ⁽³⁾	1.33 ⁽²⁾

NOTES:

Chemical analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

⁽¹⁾Analyzed by EPA Method TO-15.

⁽²⁾Vapor Intrusion Screening Level for Commercial Worker, Indoor Air Screening Level, Cancer, CLARC database, CLARC Website
<<https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>>.

⁽³⁾Vapor Intrusion Screening Level for Commercial Worker, Indoor Air Screening Level, Noncancer, CLARC database, CLARC Website
<<https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>>.

µg/m³ = microgram per cubic meter

< = concentration not detected above the laboratory reporting limit

CLARC = Cleanup Levels and Risk Calculations

DCE = dicholoroethene

EPA = US Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

PCE = tetrachloroethylene

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethene



Table 3
Site-Specific Sub-Slab Soil Gas Screening Levels
Plastic Sales and Service Site (Janke Building)
6870 Woodlawn Avenue Northeast
Seattle, Washington

Sample ID	Sample Date	Sample Type	Radon Conc. Indoor Air pCi/L (C _{building})	Radon Conc. Sub-Slab pCi/L (C _{sub-slab})	VAF (unit less)		Analyte of Interest	Indoor Air Cleanup Level (SL _{IA}) ⁽¹⁾ (ug/m ³)	Site Specific Sub-Slab Screening Level for the Protection of Indoor Level (SL _{SG}) Air (ug/m ³)
IA01R-20231204	12/4/2023	Indoor Air	0.20	--	--		PCE	44.9	71,536
SS01R-20231204	12/4/2023	Sub-Slab	--	194			TCE	2.85	4,541
IA02R-20231204	12/4/2023	Indoor Air	0.13	--	--		cis and trans-12-DCE	156	248,545
SS02R-20231204	12/4/2023	Sub-Slab	--	220					
Lowest Indoor Air Radon Conc./Average Sub-Slab Radon Conc.			0.13	207	0.00063		VC	1.33	2,119

$C_{building} = VAF * C_s$ $VAF = C_{building} / C_{sub-slab}$
 $C_{building}$ = radon concentration at ground level (i.e., the indoor air concentration)
 $C_{sub-slab}$ = radon concentration beneath the building (i.e., the sub-slab vapor concentration)
VAF = vapor attenuation factor (calculated above)
 $SL_{SG} = SL_{IA} / VAF$
 SL_{SG} = screening level in soil gas protective of indoor air, in mg/m3 (i.e., the site-specific MTCA Method B sub-slab soil gas screening
 SL_{IA} = acceptable indoor air screening level, in micrograms per cubic meter or µg/m3 (i.e., the current MTCA Method B indoor air cleanup level)
⁽¹⁾ Commercial indoor air cleanup level per CLARC

ATTACHMENT A
LABORATORY REPORTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

December 14, 2023

Tom Cammarata, Project Manager
SoundEarth Strategies
1011 SW Klickitat Way, Suite 104
Seattle, WA 98134

Dear Mr Cammarata:

Included are the results from the testing of material submitted on December 5, 2023 from the SOU_0651-002_ 20231205, F&BI 312050 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Clare Tochilin
SOU1214R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 5, 2023 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0651-002_ 20231205, F&BI 312050 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312050 -01	SS01-20231204
312050 -02	SS02-20231204

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS01-20231204	Client:	SoundEarth Strategies
Date Received:	12/05/23	Project:	SOU_0651-002_20231205
Date Collected:	12/04/23	Lab ID:	312050-01 1/5.5
Date Analyzed:	12/06/23	Data File:	120618.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.55
trans-1,2-Dichloroethene	<2.2	<0.55
cis-1,2-Dichloroethene	<2.2	<0.55
Trichloroethene	<0.59	<0.11
Tetrachloroethene	<37	<5.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS02-20231204	Client:	SoundEarth Strategies
Date Received:	12/05/23	Project:	SOU_0651-002_20231205
Date Collected:	12/04/23	Lab ID:	312050-02 1/5.5
Date Analyzed:	12/06/23	Data File:	120620.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.55
trans-1,2-Dichloroethene	<2.2	<0.55
cis-1,2-Dichloroethene	<2.2	<0.55
Trichloroethene	<0.59	<0.11
Tetrachloroethene	<37	<5.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0651-002_20231205
Date Collected:	Not Applicable	Lab ID:	03-2786 MB
Date Analyzed:	12/06/23	Data File:	120612.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	<0.11	<0.02
Tetrachloroethene	<6.8	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/23

Date Received: 12/05/23

Project: SOU_0651-002_ 20231205, F&BI 312050

Date Extracted: 12/14/23

Date Analyzed: 12/14/23

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

Results Reported as % Helium

Sample ID

Laboratory ID

Helium

SS01-20231204

312050-01

<0.6

SS02-20231204

312050-02

<0.6

Method Blank

03-2895 MB

<0.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/23

Date Received: 12/05/23

Project: SOU_0651-002_ 20231205, F&BI 312050

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

Laboratory Code: 312050-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.4	<1.4	nm
trans-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
cis-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
Trichloroethene	ug/m3	<0.59	<0.59	nm
Tetrachloroethene	ug/m3	<37	<37	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	117	70-130
trans-1,2-Dichloroethene	ug/m3	54	98	70-130
cis-1,2-Dichloroethene	ug/m3	54	94	70-130
Trichloroethene	ug/m3	73	119	70-130
Tetrachloroethene	ug/m3	92	117	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/23

Date Received: 12/05/23

Project: SOU_0651-002_ 20231205, F&BI 312050

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

Laboratory Code: 312050-02 (Duplicate)

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, 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 below the standard reporting limit. 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.

Page # 1 of 1

TURNAROUND TIME
Standard (2 Weeks)
RUSH
Rush charges authorized by: _____

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

[illegible]

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

December 11, 2023

Tom Cammarata, Project Manager
SoundEarth Strategies
1011 SW Klickitat Way, Suite 104
Seattle, WA 98134

Dear Mr Cammarata:

Included are the results from the testing of material submitted on December 5, 2023 from the SOU_0651-002_20231205, F&BI 312051 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Clare Tochilin
SOU1211R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 5, 2023 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_ 0651-002_ 20231205, F&BI 312051 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312051 -01	IA02-20231204
312051 -02	IA03-20231204
312051 -03	IA01-20231204
312051 -04	OA01-20231204

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA02-20231204	Client:	SoundEarth Strategies
Date Received:	12/05/23	Project:	SOU_0651-002_20231205
Date Collected:	12/04/23	Lab ID:	312051-01
Date Analyzed:	12/06/23	Data File:	120616.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

	Concentration	
Compounds:	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.25	0.046
Tetrachloroethene	<6.8	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA03-20231204	Client:	SoundEarth Strategies
Date Received:	12/05/23	Project:	SOU_0651-002_20231205
Date Collected:	12/04/23	Lab ID:	312051-02
Date Analyzed:	12/06/23	Data File:	120615.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.25	0.047
Tetrachloroethene	<6.8	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA01-20231204	Client:	SoundEarth Strategies
Date Received:	12/05/23	Project:	SOU_0651-002_20231205
Date Collected:	12/04/23	Lab ID:	312051-03
Date Analyzed:	12/06/23	Data File:	120614.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.22	0.041
Tetrachloroethene	<6.8	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	OA01-20231204	Client:	SoundEarth Strategies
Date Received:	12/05/23	Project:	SOU_0651-002_20231205
Date Collected:	12/04/23	Lab ID:	312051-04
Date Analyzed:	12/06/23	Data File:	120613.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	<0.11	<0.02
Tetrachloroethene	<6.8	<1

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ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0651-002_20231205
Date Collected:	Not Applicable	Lab ID:	03-2786 MB
Date Analyzed:	12/06/23	Data File:	120612.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	<0.11	<0.02
Tetrachloroethene	<6.8	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/11/23

Date Received: 12/05/23

Project: SOU_ 0651-002_ 20231205, F&BI 312051

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

Laboratory Code: 312050-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.4	<1.4	nm
trans-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
cis-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
Trichloroethene	ug/m3	<0.59	<0.59	nm
Tetrachloroethene	ug/m3	<37	<37	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	117	70-130
trans-1,2-Dichloroethene	ug/m3	54	98	70-130
cis-1,2-Dichloroethene	ug/m3	54	94	70-130
Trichloroethene	ug/m3	73	119	70-130
Tetrachloroethene	ug/m3	92	117	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, 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 below the standard reporting limit. 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.

Page # 1 of

Phone # 206-306-1900 Fax # 206-306-1907

Will call with instructions

ANALYSES REQUESTED										
Sample ID	Lab ID	Canister ID	Flow Controller ID	Date Sampled	Field Initial Pressure (Inches of Hg)	Field Initial Time	Field Final Pressure (Inches of Hg)	Field Final Time	PCE, TCE, cis- and trans-1,2-DCE, Vinyl Chloride	Notes
IA02-20231204	01	37214	15212	12/4/23	-28	0808	-5.5	1555	X	
IA03-20231204	02	20542	15215		-30	0853	-7	1658	X	
IA01-20231204	03	37203	06606		-30	0928	-8.5	1705	X	
OA01-20231204	04	40703	06603		-30	0934	-8	1710	X	
Samples received at 16:00 12/4/23										