MEMORANDUM

Project No. 220264-A

October 13, 2022

To: Edwin Lindo, Estelita's Library

cc: Ken Lederman, McCullough Hill Leary

From:

Ali Cochrane, LG
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State of Washington 346 Licensed Geologist

October 13, 2022

David A. Cook

Re: **On-Property Vapor Intrusion Evaluation**
Estelita's Library Proposed Redevelopment, 2901 17th Ave South, Seattle, WA

Aspect Consulting, LLC (Aspect) prepared this memorandum to present the results of subslab soil gas sampling and vapor intrusion evaluation of the existing building located at 2901 17th Avenue South in Seattle, Washington (the Subject Property; Figure 1). The Subject Property is under consideration for purchase by Estelita's Library, who plan to convert the vacant former automobile repair facility building into a community center.

Historical operation of the Subject Property for automobile repair and refueling has resulted in releases of petroleum to soil and groundwater, generally situated on the northern portion of the property where refueling occurred (the refueling underground storage tank [USTs] area) and below the western portion of the building where a waste oil UST has been closed in-place (the waste oil UST area; Figure 2). Areas of petroleum-contaminated soil and groundwater were confirmed below the western portion of the building, and north of the building at a distance of less than 30 feet, indicating a potential risk for vapor intrusion. Additional investigation activities by Aspect, including soil and groundwater sampling, are summarized in our "On-Property Groundwater Evaluation" memorandum dated July 7, 2022.

Vapor Intrusion Evaluation

The investigation described in this memorandum was designed to evaluate the vapor intrusion risk for the existing building and Estelita's Library's intended use of the building as a community

center. The investigation consisted of sampling soil gas from beneath the foundation slab at three locations distributed across the building.

The following sections describe the field and sampling activities, data results of the sampling, and our evaluation of the results.

Subslab Soil Gas Sampling

On June 21, 2022, three soil gas samples (SS-1 to SS-3; Figure 2) were obtained to assess concentrations of petroleum hydrocarbons and petroleum-associated volatile organic compounds (VOCs) in soil gas from contaminated soil and groundwater identified on the Subject Property. Sample locations were selected to situate one sample in each of the three main sections of the building, as follows:

- Sample SS-1 was situated in the western portion of the building, a former auto garage with an aboveground lift, and where the former waste oil UST remains closed-in-place beneath the floor near the northern building wall.
- Sample SS-2 was situated in the central portion of the building where two former auto repair bays are situated. The bays most recently used aboveground lifts; however, evidence of the earlier in-ground lifts was observed in the floor.
- Sample SS-3 was situated in the eastern portion of the building, which is a customer lobby/waiting area. During sampling, a subslab void space of about 6 inches was observed at this location only.

All sample locations were established with at least 5 feet distance from any observed cracks, punctures, suspect utilities, or in-ground lifts.

Temporary vapor sampling points were installed through the foundation slab in each location using a rotary hammer drill. Soil gas samples were collected using laboratory-supplied and individually certified evacuated 1-liter canisters fitted with 150-milliliters-per-minute (mL/min) flow controllers and dedicated sampling trains. Potential leaking of the sampling train was evaluated by performing a shut-in test prior to sampling and using a tracer gas shroud containing helium gas during sampling.

Subslab soil gas samples were submitted to Friedman and Bruya, Inc., of Seattle, Washington, for aromatic and aliphatic petroleum hydrocarbons (APH) using Massachusetts Department of Environmental Protection (MassDEP) Method APH, petroleum-target VOCs and chlorinated VOCs using EPA Method TO-15.

Analytical Results

In accordance with the Washington State Department of Ecology's (Ecology) *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Ecology, 2022[1]), chemical analytical results for soil gas samples were evaluated against the Model Toxics Control Act (MTCA) Method B Screening Levels for Subslab Soil Gas, using Ecology's generic

[1] Washington State Department of Ecology (Ecology), 2022, Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Publication No. 09-09-047, March 2022

screening levels for the unrestricted/residential scenario. The analytical data is presented in Table 1 and shown on Figure 2. The full laboratory report is included as Appendix A.

Of the analytes tested, petroleum hydrocarbons and six VOCs were detected in soil gas, as follows:

- Total petroleum hydrocarbons were detected in samples SS-1 at 770 micrograms per cubic meter (µg/m^3) and SS-2 at 3,360µg/m^3. The SS-2 concentration is **above** the unrestricted scenario screening level of 1,500 µg/m^3. The data was further compared to the screening level for the commercial scenario, calculated for a 50-hour work week, of 12,000 µg/m^3. The SS-2 concentration is **below** the commercial scenario screening level.
- Benzene, ethylbenzene, and total xylenes were detected in all three samples, with benzene ranging from 4.0 µg/m^3 in SS-2 to 5.6 µg/m^3 in SS-1, ethylbenzene ranging from 6.3 µg/m^3 in SS-3 to 7.3 µg/m^3 in both SS-1 and SS-2, and total xylenes ranging from 31.2 µg/m^3 to 40.0 µg/m^3. All concentrations are **below** the screening levels of 11 µg/m^3 for benzene, 15,000 µg/m^3 for ethylbenzene, and 1,500 µg/m^3 for total xylenes. These VOCs are common constituents of gasoline and other petroleum products.
- Hexane was detected in sample SS-1 at 19 µg/m^3, **below** the screening level of 11,000 µg/m^3. Hexane is a common gasoline constituent.
- 1,2-dichloroethane (EDC) was detected in sample SS-3 at 0.84 µg/m^3, **below** the screening level of 3.2 µg/m^3. EDC was historically used for auto industry degreasing/cleaning activities and as an additive in some leaded gasolines.
- Tetrachloroethene (PCE) was detected in samples SS-1 at 50 µg/m^3 and SS-2 at 190 µg/m^3, both **below** the screening level of 320 µg/m^3. PCE is a solvent that is commonly found in waste oil from auto industry degreasing/cleaning activities.

Findings and Evaluation

The MTCA Method B screening levels for subslab soil gas were developed by Ecology to evaluate whether concentrations of volatile contaminants below a building slab are high enough to potentially result in unacceptable indoor air levels that may pose a health risk to building occupants. Ecology has published a generic screening level for the unrestricted/residential scenario, which is conservative and applicable to all building uses. Less stringent screening levels for commercial scenario can be calculated, incorporating typical building occupancy for commercial and retail settings. For this study, data were evaluated against the unrestricted screening levels first as the most conservative evaluation. For one exceedance of the unrestricted screening levels (total petroleum hydrocarbons concentration in sample SS-2), the concentration was supplementally evaluated against a commercial screening level calculated for a 50-hour work week. Based on the intended use of the existing building as a community center, the commercial screening level is considered appropriate for use for this study and intended future use.

The results of this study identified volatile contaminants in subslab soil gas at concentrations **below** the screening levels, indicating that subsurface contamination is not significant enough to pose a threat to the indoor air quality of the overlying building for the intended use as a community center.

The presence of petroleum hydrocarbons and petroleum product constituents in subslab soil gas is attributed to the historical Subject Property use for automobile refueling and repair. The presence of

PCE in subslab soil gas is likely associated with the waste oil UST release to soil that remains in place below the building. The impacts shown in the soil gas data may be at least partially sourced from volatilization of contaminated soil and groundwater at the refueling USTs source area where high concentrations of gasoline-range petroleum hydrocarbons remain in place. The highest impacts in soil gas were observed in sample SS-2 collected in the central portion of the building where automobile repair activities have occurred and where in-ground hoists remain in-place. These data suggest that a localized area of petroleum release to soil beneath the central portion of the building may have occurred and remains beneath the slab. However, the lack of widespread high concentrations in soil gas that exceed the screening levels suggests that impacts by volatile constituents below the central portion of the building are likely limited in magnitude and extent.

Conclusion and Recommendation

The results of our subslab soil gas sampling and vapor intrusion evaluation indicate that the petroleum-contaminated soil and groundwater at the Subject Property is not resulting in a significant risk for vapor intrusion at the existing building for its intended future use. Vapor intrusion mitigation does not appear warranted prior to converting the building for use as a community center.

If the future use of the existing building were to change, such as to residential, we recommend re-evaluating the risk for vapor intrusion in the context of the new use. Further, if additional buildings are constructed elsewhere on the Subject Property in the future, we recommend conducting a similar vapor intrusion evaluation specific to the new buildings or structures because other sources of volatile contamination are present elsewhere on the Subject Property.

Because detections of petroleum hydrocarbon and solvent-related compounds were identified in uninvestigated areas beneath the building, particularly in areas where auto repair and in-ground lifts have occurred historically, we recommend conducting shallow soil sampling below the building prior to any future redevelopment. These data would be used to inform the environmental media and contaminated soil handling plan for construction, and to inform the cleanup design.

Limitations

Work for this project was performed for Estelita's Library (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Appendix B titled "Report Limitations and Guidelines for Use" for additional information governing the use of this report.

Attachments:
Table 1 – Subslab Soil Gas Analytical Data
Figure 1 – Vicinity Map
Figure 2 – Analytical Results for Soil Gas
Appendix A – Laboratory Report
Appendix B – Report Limitations and Guidelines for Use

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TABLE

Table 1. Subslab Soil Gas Analytical Data

Project No. 220264, Estelita's Library Proposed Redevelopment, Seattle, Washington

		Location	**SS-01**	**SS-02**	**SS-03**
		Date	**06/21/2022**	**06/21/2022**	**06/21/2022**
		Sample	**SS-01-062122**	**SS-02-062122**	**SS-03-062122**
Analyte	Unit	MTCA Method B Screening Level[1]			
Tracer Gas					
Helium	%		< 0.6 U	< 0.6 U	< 0.6 U
Air Petroleum Hydrocarbons (APH)					
C5 - C8 Aliphatic Hydrocarbons	µg/m^3		**660**	**800**	< 340 U
C9 - C12 Aliphatic Hydrocarbons	µg/m^3		< 110 U	**2500**	< 110 U
C9 - C10 Aromatic Hydrocarbons	µg/m^3		< 110 U	< 120 U	< 110 U
Total Petroleum Hydrocarbons[2]	µg/m^3	1,500 | 12,000	**827**	**3418**	**334**
Volatile Organic Compounds (VOCs)					
1,1,1-Trichloroethane	µg/m^3	76,000	< 2.5 U	< 2.7 U	< 2.5 U
1,1,2-Trichloroethane	µg/m^3	3	< 0.25 U	< 0.27 U	< 0.25 U
1,1-Dichloroethane	µg/m^3	52	< 1.9 U	< 2 U	< 1.8 U
1,1-Dichloroethene	µg/m^3	3,000	< 1.8 U	< 1.9 U	< 1.8 U
1.2-Dibromoethane (EDB)	µg/m^3		< 0.35 U	< 0.38 U	< 0.35 U
1,2-Dichloroethane (EDC)	µg/m^3	3.2	< 0.19 U	< 0.2 U	**0.84**
Benzene	µg/m^3	11	**5.6**	**4.0**	**4.3**
Chloroethane	µg/m^3	150,000	< 12 U	< 13 U	< 12 U
cis-1,2-Dichloroethene (cDCE)	µg/m^3		< 1.8 U	< 1.9 U	< 1.8 U
Ethylbenzene	µg/m^3	15,000	**7.3**	**7.3**	**6.3**
Hexane	µg/m^3	11,000	**19**	< 17 U	< 16 U
Methyl t-butyl ether (MTBE)	µg/m^3		< 33 U	< 35 U	< 32 U
Naphthalene	µg/m^3	2.5	< 1.2 U	< 1.3 U	< 1.2 U
Tetrachloroethene (PCE)	µg/m^3	320	**50**	**190**	< 31 U
Toluene	µg/m^3	76,000	< 87 U	< 92 U	< 85 U
Total Xylenes	µg/m^3	1,500	**35.9**	**40.0**	**31.2**
trans-1,2-Dichloroethene	µg/m^3	610	< 1.8 U	< 1.9 U	< 1.8 U
Trichloroethene (TCE)	µg/m^3	11	< 0.49 U	< 0.53 U	< 0.48 U
Vinyl Chloride	µg/m^3	9.5	< 1.2 U	< 1.3 U	< 1.2 U

Notes

1-Model Toxic Control Act (MTCA) Method B Subslab Soil Gas Screening Levels (SLs) for Unrestricted Use scenario. For Total Petroleum Hydrocarbons, the generic screening level for the unrestricted scenario (1500 ug/m^3) and the commercial scenario calculated for a 50-hour workweek (12000 ug/m^3) per Ecology Vapor Intrusion Guidance dated March 2022, are shown.

2-Total petroleum hydrocarbon concentration is the sum total of petroleum related VOCs (benzene, toluene, ethylbenzene, xylenes, and naphthalene) and APHs, one-half of the laboratory detection limit was used for non-detects (ND).

µg/m^3 = micrograms per cubic meter

U = analyte was not detected at or above the reported result

Bold results indicate analyte was detected

Blue shading indicates a detection that exceeds the Unrestricted SL

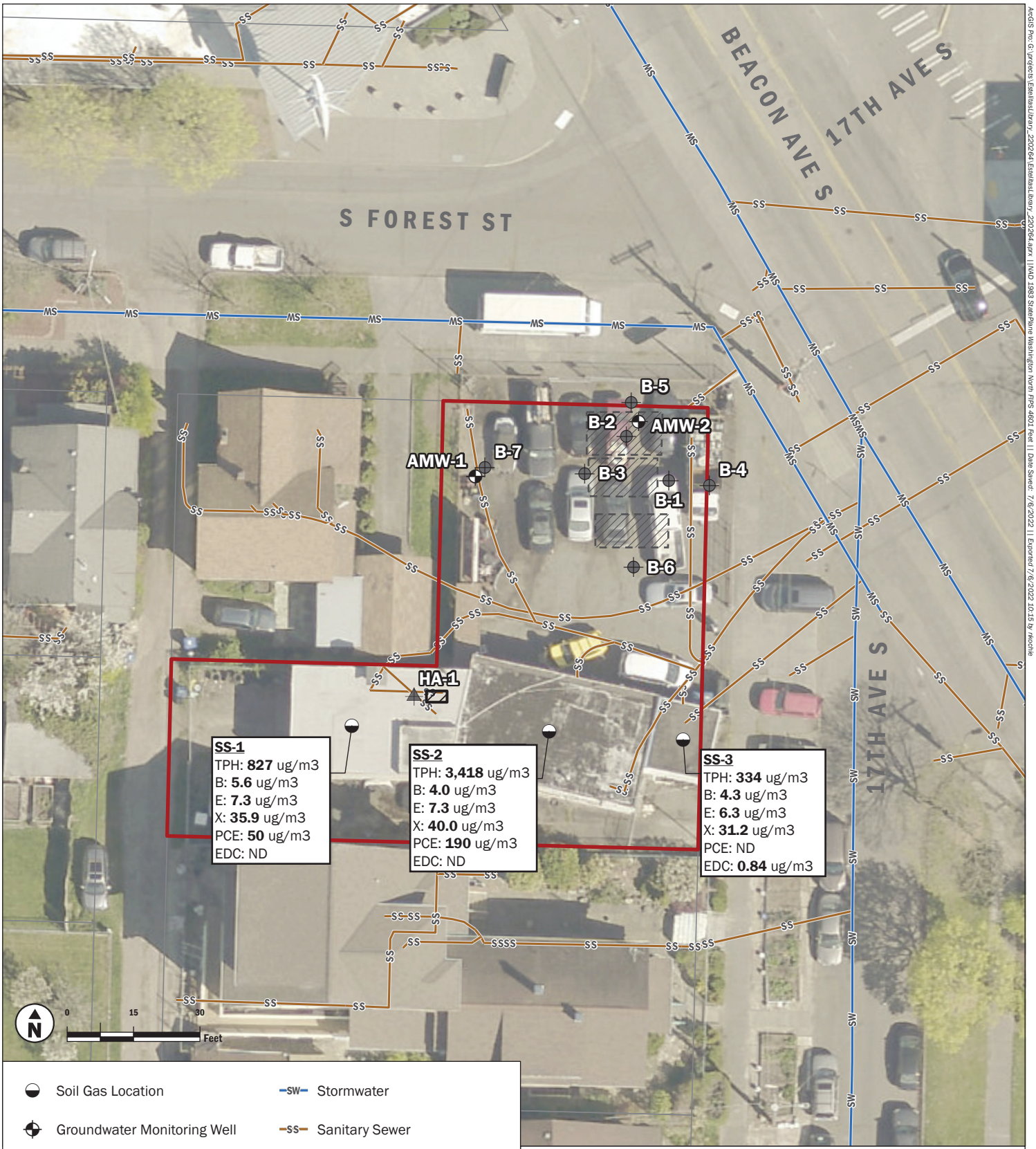
FIGURES

Site Vicinity Map

On-Property Vapor Intrusion Evaluation
Estelia's Library Proposed Redevelopment
2901 17th Ave S
Seattle, Washington

Aspect Consulting	JUN-2022	BY: ALC / NLK	FIGURE NO. 1
	PROJECT NO. 220264	REVISED BY: ---/---	

Data source credits: None || Basemap Service Layer Credits: City of Seattle, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, EPA, USDA, Esri, HERE, Garmin, USGS, EPA, Esri, HERE, Garmin, USGS, EPA, NPS



Soil Gas Location

Groundwater Monitoring Well

Historical Explorations

Soil Boring

Hand Auger

Closed-In-Place Waste Oil UST

Removed Former Refueling UST

Stormwater

Sanitary Sewer

Subject Property

King County Tax Parcel

Notes:
EDC = 1,2-Dichloroethane, Method B Screening Level (SL) is 3.2 ug/m3
TPH = Total Petroleum Hydrocarbons, Method B SL is 12,000 ug/m3
PCE = Tetrachloroethene, Method B SL is 320 ug/m3
B = Benzene, Method B SL is 11 ug/m3
E = Ethylbenzene, Method B SL is 15,000 ug/m3
X = Total Xylenes, Method B SL is 1,500 ug/m3
UST = Underground Storage Tank
ug/m3 = micrograms per cubic meter
***BOLD** indicates detection*

Analytical Soil Gas Data

On-Property Vapor Intrusion Evaluation
Estelita's Library Proposed Redevelopment
2901 17th Ave S
Seattle, Washington

Aspect Consulting	JUL-2022	BY: ALC / NLK	FIGURE NO. 2
	PROJECT NO. 220264	REVISED BY: HRC	

Data source credits: None | | Basemap Service Layer Credits: EagleView Technologies, Inc.

APPENDIX A

Laboratory Report

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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July 6, 2022

Hannah Cohen, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Ms Cohen:

Included are the additional results from the testing of material submitted on June 21, 2022 from the Estelita's Library 220264, F&BI 206367 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: Aspect Data
ASP0706R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 21, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Estelita's Library 220264, F&BI 206367 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
206367-01	SS-01-062122
206367-02	SS-02-062122
206367-03	SS-03-062122

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-01-062122	Client:	Aspect Consulting, LLC
Date Received:	06/21/22	Project:	Estelita's Library 220264, F&BI 206367
Date Collected:	06/20/22	Lab ID:	206367-01 1/4.6
Date Analyzed:	06/22/22	Data File:	062221.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.2	<0.46
Chloroethane	<12	<4.6
1,1-Dichloroethene	<1.8	<0.46
trans-1,2-Dichloroethene	<1.8	<0.46
Methyl t-butyl ether (MTBE)	<33	<9.2
1,1-Dichloroethane	<1.9	<0.46
cis-1,2-Dichloroethene	<1.8	<0.46
Hexane	19	5.3
1,2-Dichloroethane (EDC)	<0.19	<0.046
1,1,1-Trichloroethane	<2.5	<0.46
Benzene	5.6	1.7
Trichloroethene	<0.49	<0.092
Toluene	<87	<23
1,1,2-Trichloroethane	<0.25	<0.046
Tetrachloroethene	50	7.3
1,2-Dibromoethane (EDB)	<0.35	<0.046
Ethylbenzene	7.3	1.7
m,p-Xylene	27	6.3
o-Xylene	8.9	2.1
Naphthalene	<1.2	<0.23

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-02-062122	Client:	Aspect Consulting, LLC
Date Received:	06/21/22	Project:	Estelita's Library 220264, F&BI 206367
Date Collected:	06/20/22	Lab ID:	206367-02 1/4.9
Date Analyzed:	06/23/22	Data File:	062223.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	106	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.3	<0.49
Chloroethane	<13	<4.9
1,1-Dichloroethene	<1.9	<0.49
trans-1,2-Dichloroethene	<1.9	<0.49
Methyl t-butyl ether (MTBE)	<35	<9.8
1,1-Dichloroethane	<2	<0.49
cis-1,2-Dichloroethene	<1.9	<0.49
Hexane	<17	<4.9
1,2-Dichloroethane (EDC)	<0.2	<0.049
1,1,1-Trichloroethane	<2.7	<0.49
Benzene	4.0	1.3
Trichloroethene	<0.53	<0.098
Toluene	<92	<24
1,1,2-Trichloroethane	<0.27	<0.049
Tetrachloroethene	190	28
1,2-Dibromoethane (EDB)	<0.38	<0.049
Ethylbenzene	7.3	1.7
m,p-Xylene	29	6.6
o-Xylene	11	2.6
Naphthalene	<1.3	<0.24

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-03-062122	Client:	Aspect Consulting, LLC
Date Received:	06/21/22	Project:	Estelita's Library 220264, F&BI 206367
Date Collected:	06/20/22	Lab ID:	206367-03 1/4.5
Date Analyzed:	06/23/22	Data File:	062224.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.2	<0.45
Chloroethane	<12	<4.5
1,1-Dichloroethene	<1.8	<0.45
trans-1,2-Dichloroethene	<1.8	<0.45
Methyl t-butyl ether (MTBE)	<32	<9
1,1-Dichloroethane	<1.8	<0.45
cis-1,2-Dichloroethene	<1.8	<0.45
Hexane	<16	<4.5
1,2-Dichloroethane (EDC)	0.84	0.21
1,1,1-Trichloroethane	<2.5	<0.45
Benzene	4.3	1.3
Trichloroethene	<0.48	<0.09
Toluene	<85	<22
1,1,2-Trichloroethane	<0.25	<0.045
Tetrachloroethene	<31	<4.5
1,2-Dibromoethane (EDB)	<0.35	<0.045
Ethylbenzene	6.3	1.4
m,p-Xylene	23	5.4
o-Xylene	8.2	1.9
Naphthalene	<1.2	<0.22

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Estelita's Library 220264, F&BI 206367
Date Collected:	Not Applicable	Lab ID:	02-1438 MB
Date Analyzed:	06/22/22	Data File:	062211.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	83	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
Methyl t-butyl ether (MTBE)	<7.2	<2
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Hexane	<3.5	<1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<19	<5
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
1,2-Dibromoethane (EDB)	<0.077	<0.01
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

Date of Report: 07/06/22
Date Received: 06/21/22
Project: Estelita's Library 220264, F&BI 206367

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

Laboratory Code: 206367-01 1/4.6 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.2	<1.2	nm
Chloroethane	ug/m3	<12	<12	nm
1,1-Dichloroethene	ug/m3	<1.8	<1.8	nm
trans-1,2-Dichloroethene	ug/m3	<1.8	<1.8	nm
Methyl t-butyl ether (MTBE)	ug/m3	<33	<33	nm
1,1-Dichloroethane	ug/m3	<1.9	<1.9	nm
cis-1,2-Dichloroethene	ug/m3	<1.8	<1.8	nm
Hexane	ug/m3	19	19	0
1,2-Dichloroethane (EDC)	ug/m3	<0.19	<0.19	nm
1,1,1-Trichloroethane	ug/m3	<2.5	<2.5	nm
Benzene	ug/m3	5.6	5.7	2
Trichloroethene	ug/m3	<0.49	<0.49	nm
Toluene	ug/m3	<87	<87	nm
1,1,2-Trichloroethane	ug/m3	<0.25	<0.25	nm
Tetrachloroethene	ug/m3	50	52	4
1,2-Dibromoethane (EDB)	ug/m3	<0.35	<0.35	nm
Ethylbenzene	ug/m3	7.3	7.2	1
m,p-Xylene	ug/m3	27	27	0
o-Xylene	ug/m3	8.9	8.9	0
Naphthalene	ug/m3	<1.2	<1.2	nm

Date of Report: 07/06/22
Date Received: 06/21/22
Project: Estelita's Library 220264, F&BI 206367

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	98	70-130
Chloroethane	ug/m3	36	105	70-130
1,1-Dichloroethene	ug/m3	54	105	70-130
trans-1,2-Dichloroethene	ug/m3	54	101	70-130
Methyl t-butyl ether (MTBE)	ug/m3	49	90	70-130
1,1-Dichloroethane	ug/m3	55	101	70-130
cis-1,2-Dichloroethene	ug/m3	54	100	70-130
Hexane	ug/m3	48	85	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	102	70-130
1,1,1-Trichloroethane	ug/m3	74	104	70-130
Benzene	ug/m3	43	96	70-130
Trichloroethene	ug/m3	73	109	70-130
Toluene	ug/m3	51	102	70-130
1,1,2-Trichloroethane	ug/m3	74	113	70-130
Tetrachloroethene	ug/m3	92	121	70-130
1,2-Dibromoethane (EDB)	ug/m3	100	109	70-130
Ethylbenzene	ug/m3	59	94	70-130
m,p-Xylene	ug/m3	120	103	70-130
o-Xylene	ug/m3	59	105	70-130
Naphthalene	ug/m3	71	112	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.

206367

SAMPLE CHAIN OF CUSTODY

HE 6/21/22

Report To Hannah Cohen, Ali Cochrane

Company Aspect Consulting

Address 710 2nd Ave., Ste 550

City, State, ZIP Seattle, WA 98104

Phone _____ Email hcohen@aspectconsulting.com
acochrane@aspectconsulting.com

SAMPLERS (*signature*) B Cal

PROJECT NAME & ADDRESS: Estelita's Library

PO # 220264

NOTES:

INVOICE TO

Page # 1 of 1

TURNAROUND TIME
- ☐ Standard
- ☒ RUSH 5 Day

Rush charges authorized by: Hannah Cohen

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
SS-01-062122	01	3445	308	IA / (SG)	6/21/22	29	0945	5	0950			X	X	X		
SS-02-062122	02	3416	62	IA / (SG)	↓	30	1025	5	1030			↓	↓	↓		
SS-03-062122	03	8536	63	IA / (SG)	↓	30	1100	5	1105			↓	↓	↓		
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												Samples received at 22°C
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: B Cal	Baxter Call	Aspect	6/21/22	1245
Received by: MPham	My Linh Pham	FBI	6/21/22	1245
Relinquished by:				
Received by:				

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

APPENDIX B

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Phase I ESAs – Uncertainty Remains After Completion

Aspect has performed the services in general accordance with the scope and limitations of our Agreement and the current version of the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, ASTM E1527, and U.S. Environmental Protection Agency (EPA)'s Federal Standard 40 CFR Part 312 "Innocent Landowners, Standards for Conducting All Appropriate Inquiries".

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with subject property. Performance of an ESA study is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental conditions affecting the subject property. There is always a potential that areas with contamination that were not identified during this ESA exist at the subject property or in the study area. Further evaluation of such potential would require additional research, subsurface exploration, sampling and/or testing.

Historical Information Provided by Others

Aspect has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the subject property or adjacent properties. Aspect makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.

Exclusion of Mold, Fungus, Radon, Lead, and HBM

Aspect’s services do not include the investigation, detection, prevention or assessment of the presence of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detection, assessment, prevention or abatement of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Aspect’s services also do not include the investigation or assessment of hazardous building materials (HBM) such as asbestos, polychlorinated biphenyls (PCBs) in light ballasts, lead based paint, asbestos-containing building materials, urea-formaldehyde insulation in on-site structures or debris or any other HBMs. Aspect’s services do not include an evaluation of radon or lead in drinking water, unless specifically requested.