February 7, 2023

Jaebadiah Gardner
GardnerGlobal, Inc
1409 Post Alley
Seattle, WA 98109

Re: Indoor Air Sampling and Vapor Intrusion Assessment
Skyway Towncenter Redevelopment, Renton Ave S, Skyway, Washington
Project No. 200552

Dear Mr. Gardner:

Aspect Consulting, LLC (Aspect) has prepared this letter presenting the results of an indoor air quality and vapor intrusion evaluation completed at the Skyway Towncenter Redevelopment Site. The Site is located at 12600 Renton Avenue South (referred to as the South Parcel) and 12536 Renton Avenue South (referred to as the North Parcel) in Skyway, Washington. Collectively, the North and South Parcels are referred to herein as the Subject Property (Figure 1).

This report presents a Tier II Vapor Intrusion Evaluation conducted for two existing buildings:

1) A multi-tenant commercial retail building on the North Parcel (12536 Renton Avenue South, consisting of a vacant mini-mart, nail salon, meeting center, and tool repair shop)

2) A church/warehouse building on the South Parcel (12600 Renton Avenue South, split into two spaces used as a church and Grocery storage warehouse)

This study was completed in accordance with Ecology's *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* dated March 2022. This work was conducted based on the results of a Tier I Vapor Intrusion Assessment and subslab soil gas sampling completed for the same buildings in December 2021 and August 2022, summarized in the Phase II Reports conducted for both properties (Aspect, 2022a and Aspect, 2022b respectively). The Tier I study results prompted the need to progress to this Tier II Evaluation.

1.0 Executive Summary

Aspect is in the process of completing environmental investigation services on behalf of GardnerGlobal, who is considering redevelopment of the Subject Property as mixed use retail, market rate, and affordable housing. To date, property acquisition due diligence and environmental investigation services have included Phase I and II Environmental Site Assessments (ESA) for both the North and South Parcels. Solvent-contaminated groundwater was identified near buildings on both the North and South Parcels resulting from release(s) from a historical dry cleaner that operated on the North Parcel (Former Dy Cleaners Space). As part of the Phase II ESAs, subslab soil gas samples were obtained from beneath each tenant space of both buildings and a Tier I Vapor Intrusion Screening was conducted. The Tier I Screening indicated that vapor intrusion may result

in unacceptable concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) in indoor air at three of the seven existing tenant spaces at the Subject Property as follows:

1) The Former Mini-Mart located in the southern portion of the North Parcel building, where the dry cleaners operated historically (referred to as the Former Dry Cleaners Space);

2) The Holy Temple Evangelistic Center located in the western half of the South Parcel Building (referred to as the Church Tenant Space); and,

3) The grocery storage warehouse located in the eastern half of the South Parcel Building (referred to as the Warehouse Tenant Space).

It is important to note that the Tier I study results do not require mitigation, but instead are a trigger per Ecology Guidance requiring additional evaluation (i.e., a Tier II Vapor Intrusion Evaluation).

In October 2022, Aspect conducted a Tier II Vapor Intrusion Assessment, consisting of indoor and ambient air samples obtained during a period of falling barometric pressure conditions that are considered to represent a 'worst-case' scenario for vapor intrusion at the Subject Property.

The results of the vapor intrusion evaluation indicate that although dry cleaning solvents are present in soil gas beneath the buildings, vapor intrusion into the buildings and tenant spaces is not resulting in unacceptable concentrations of PCE or TCE in indoor air under current building uses. Therefore, immediate action is not needed for any of the spaces, however special monitoring and management procedures are needed, particularly if use changes. The basis for this is as follows:

- **Vacant Mini Mart/Former Dry Cleaner Space—**concentrations of PCE and TCE exceed indoor air cleanup levels in this space in the two samples collected; however, the space is currently vacant with no incoming new tenant. Prior to any future occupancy, additional sampling and mitigation is necessary for this space.

- **Church Tenant Space—**concentrations of PCE and TCE do not exceed indoor air cleanup levels for unrestricted use in the two samples collected. In order to monitor this situation until cleanup occurs or use changes, additional sampling and testing on at least a twice per year basis is recommended to verify these conditions remain the same during different seasons and weather conditions (i.e., summer/winter and rising/falling barometric pressure).

- **Warehouse Tenant Space—**concentrations of PCE exceed the indoor air cleanup levels for unrestricted use in one of the two samples collected, but are below the indoor air cleanup levels for commercial use. Because this space is in use commercially, and we understand is not regularly or consistently occupied by workers, no immediate mitigation appears warranted. If children or women of childbearing age occupy this space, or use changes, additional sampling and testing will be needed prior to these use changes. Continued evaluation is recommended, similar to that recommended for the Church tenant space (i.e., sampling and testing at least twice per year).

As indicated in the individual tenant space descriptions, if there are significant changes in use of any spaces, additional evaluation is needed. For future buildings constructed during redevelopment,

the vapor intrusion exposure pathway will be evaluated during the Remedial Investigation and Feasibility Study phase of the project.

2.0 Vapor Intrusion Assessment

The following sections present the vapor intrusion evaluation at this Site. The first sections summarize Tier I Vapor Intrusion Screening that was conducted on behalf of Gardner Global Inc (GGI) as part of the Phase II ESA for all buildings located at the Subject Property. The subsequent sections describe the Tier II assessment, including field activities, sample results, and data evaluation.

2.1 Summary of the Tier I Vapor Intrusion Screening

This section provides a recap of the Tier I Vapor Intrusion Screening that was conducted on behalf of GardnerGlobal Inc (GGI) as part of the Phase II ESA for the two buildings located at the Subject Property (North and South Parcels). Refer to Aspect's Phase II ESA reports for the North Parcel and the South Parcel dated April 12, 2022 and August 29, 2022 respectively for additional detail.

2.1.1 Tier I Subslab Soil Gas Sampling

Between December 10, 2021, and January 4, 2022, five soil gas samples were obtained from below the foundation slabs of the existing building on the North Parcel, including the Former Dry Cleaner Space (SS-1 to SS-5; Figure 2). On August 15, 2022, five additional soil gas samples were obtained from below the foundation slab of the existing South Parcel building, including the Church Tenant Space and Warehouse Tenant Space (SS-06 to SS-10; Figure 2). The soil gas samples were obtained in areas beneath the building floor slabs and interspersed between areas of potential preferential utility pathways beneath those buildings. Temporary, one-time, vapor extraction points were installed through the slab in each location using a rotary hammer drill. Soil vapor samples were collected using laboratory supplied and individually certified evacuated 1-liter canisters fitted with 150-milliliter-per-minute (mL/min) flow controls and dedicated sampling trains. Potential leaking of the sampling train was evaluated by performing a shut-in test prior to sampling and utilizing a tracer gas shroud containing helium gas during sampling. Helium was not detected by the laboratory, indicating sufficient seals between the vapor ports, slab, and sampling train connections. Samples were transferred under appropriate chain-of-custody documentation to Friedman and Bruya, Inc., of Seattle, Washington, for analysis of chlorinated solvents using Environmental Protection Agency (EPA) Method TO-15.

2.1.2 Analytical Results and Evaluation

In accordance with Ecology's *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Ecology, 2022), chemical analytical results for the 10 soil gas samples (SS-1 to SS-10) were evaluated against the MTCA Method B Unrestricted Use Screening Levels for Subslab Soil Gas. The analytical soil gas results identified at concentrations at or above MTCA Screening Levels are summarized on Table 1 and shown graphically on Figure 2. Refer to laboratory reports included as Appendix A for the full list of analytes detected and laboratory reporting limits.

Several VOCs (less than 10) were detected in 6 of the 10 soil gas samples. Detected concentrations exceeded the MTCA Method B Screening Levels in 5 of the 10 soil gas samples, as follows:

- PCE concentrations exceeded the screening level of 320 µg/m³ in SS-01 (Former Dry Cleaner Tenant Space), SS-06, SS-07, and SS-08 (Church Tenant Space), and from SS-10 (Warehouse Tenant Space). These concentrations range from 600 µg/m³ to 5,900 µg/m³.
- TCE concentrations exceeded the screening level of 11 µg/m³ in SS-01 (Former Dry Cleaner Tenant Space), SS-06 (Church Tenant Space), and from SS-10 (Warehouse Tenant Space). These concentrations range from 21 µg/m³ to 27 µg/m³

The Tier I Vapor Intrusion Screening indicates that a potential for vapor intrusion to result in unacceptable concentrations of PCE and TCE in indoor air at select areas of the Former Dry Cleaner Tenant Space, Church Tenant Space, and Warehouse Tenant Space. Based on these data, a Tier II Vapor Intrusion assessment, consisting of indoor air sampling, was conducted in accordance with Ecology's guidance documents (Ecology, 2019 and 2022).

2.2 Tier II Vapor Intrusion Assessment

A Tier II Vapor Intrusion Assessment was conducted for the former Dry Cleaner Tenant Space, Church Tenant Space, and Warehouse Tenant Space, in accordance with Ecology's guidance document (Ecology, 2022), with the goal of determining what impact vapor intrusion is having on indoor air in the vicinity of subslab soil gas samples that showed analytes at concentrations above the MTCA Method B Screening Levels. The Tier II Assessment included a building inspection and site reconnaissance to support development of a Site Conceptual Model and sampling indoor air and ambient air in outdoor locations to provide background air data.

2.2.1 Site Conceptual Model

On October 12, 2022, Aspect conducted a building inspection and site reconnaissance of the Former Mini-Mart, Church, and Grocery Storage Warehouse to obtain information for developing the Site Conceptual Model and selecting sampling locations for indoor air samples and ambient background air samples. The purpose of the Site Conceptual Model is to provide a conceptual understanding of the potential for indoor exposures to contaminants based on the sources of contamination, the transport media, and likely intrusion routes. A summary of the Site Conceptual Model, including limitations on suitability of building areas for sampling, is provided in this section.

2.2.2 Geology and Hydrogeology

Soils observed during subsurface investigations consist primarily of 4 to 12 feet of fill soil, except for the eastern edge of the Subject Property where only native soil (no fill) was encountered. The fill layer consists of brown sand with varying amounts of silt and gravel. The underlying native soils observed included dense to very dense glacial till, consisting of interbedded sands and silts with varying amounts of gravel. In deeper explorations located on the eastern portion of the Subject Property, an 8-foot layer of soft silt was encountered at 20 to 25 feet below ground surface (bgs). The soft silt layer was not encountered in deeper borings on the south and west portion of the Subject Property, but was encountered in deeper borings advanced on the northwest-adjoining properties at similar depths (Aspect, 2022b).

Groundwater in shallow wells has been encountered between 4.25 to 14.99 feet bgs and between elevations 407.84 to 421.02 feet (NAVD88[1]). Groundwater in deeper wells has been encountered

[1] All elevations reported in feet relative to North American Vertical Datum of 1988.

between 7.43 to 37.89 feet bgs and between elevations 409.91 to 421.02 feet (NAVD88) Overall, groundwater flow direction at the shallowest groundwater horizon varies from toward the southwest near the southern boundary of the Subject Property, radially toward the north-northeast near the intersection of Renton Avenue South and 75th Avenue South.

2.2.3 Nature and Extent of Known Contamination

Environmental investigations have identified chlorinated solvent contamination in shallow groundwater beneath the southeast corner of the North Parcel building, where the dry cleaning equipment operated, extending to the north, west, and south to beneath the north portion of the Church and Warehouse Tenant Spaces of the South Parcel building. The source of the groundwater plume is releases of dry cleaning solvents from the former dry cleaner that operated in the North Parcel building. Shallow borings advanced through the basement floor of the Warehouse Tenant Space have identified PCE and TCE in soil concentrations above MTCA Method A Cleanup Levels for Soil. Contaminated soil has not been identified in the southern portion of the South Parcel building; however, limited investigation has occurred in this area to date.

2.2.4 North Parcel Building and Former Dry Cleaner Tenant Space

2.2.4.1 Building Description and Occupancy

The North Parcel Building is a slab on grade commercial building constructed in 1960, and includes a nail salon, tool shop, community meeting space, and a former Mini-Mart store (the Former Dry-Cleaner Space). The Former Dry Cleaner Tenant Space is located in the southern portion of the North Parcel Building and includes a former retail front retail area, a kitchen, walk-in freezer, a small office, and a storage room. The space is currently vacant, and all exterior doors remain closed according to information provided to us by users. The Former Dry Cleaner Space HVAC system was off and not operating at the time of the building inspection, because the space is vacant.

2.2.4.2 Known and Suspected Indoor Contaminant Sources

During the building inspection, numerous labeled and unlabeled containers of cleaners, degreasers, and fuels were observed throughout the Former Dry Cleaner Tenant Space.

2.2.4.3 Potential Intrusion Pathways

During the building inspection a floor drain was observed in the kitchen area and a floor opening and a pipe were observed near the southwest side of the space, which may have been a former drain or hookup for the dry cleaner equipment. A sewer utility line and trench has also been identified to cross under the building from the northwest area of the building to the southeast. Some minor cracks were also observed in the exposed floor slab in the eastern portion of the Former Dry Cleaner Tenant Space.

2.2.5 South Parcel Building

2.2.5.1 Building Description and Occupancy

The South Parcel Building, constructed in 1955, is bisected into two separate spaces accessible only from exterior doors. The two spaces have varying finishes and uses:

- **Church Tenant Space.** The western half of the building has operated as a Church since 2016 and includes a kitchen area, a small office, main event area, and storage rooms. The space is finished with drywall and tile and carpet flooring. The Church Tenant Space is occupied by church members at varying times and days throughout the week for events and meetings, but does not have staff on site for typical business hours.

- **Warehouse Tenant Space.** The eastern half of the building currently operates as a grocery storage and distribution warehouse including an office, storage rooms, the main warehouse area, and access to the basement that underlies the north portion of both the Church Tenant Space and the Warehouse Tenant Space. The space is generally unfinished, with bare concrete floors. The Warehouse Tenant Space is generally occupied by employees between normal business hours of 9am and 5pm. Both spaces are outfitted with electric heaters and exterior doors are opened or loosely closed at various times throughout the day.

2.2.5.2 Known and Suspected Indoor Contaminant Sources

During the building inspection, suspected potential sources of PCE and TCE were observed throughout both the South Parcel Building spaces, including cleaners and degreasers in the Church Tenant Space. Potential sources of contaminants in the Warehouse Tenant Space included labeled and unlabeled containers of paints, cleaners, degreasers, and fuels including motor oil and oil filters in opened oil pans, and empty motor oil, gasoline, and paint thinner storage containers.

2.2.5.3 Potential Intrusion Pathways

No potential intrusion pathways were observed in the Church Tenant Space. During the building inspection a sump was observed in the basement of the Warehouse Tenant Space. Cracks were observed in the exposed concrete floor throughout.

2.3 Indoor and Ambient Air Sampling

Based on the Site Conceptual Model and observations from building inspection, two areas within each of the Former Dry Cleaner Space, Church Tenant Space, and Warehouse Tenant Space were selected for sampling indoor air.

On October 17, 2022, a total of six indoor air samples (IA-01 to IA-06, Figure 3) were obtained from the selected sampling locations and two ambient air samples were obtained from locations east of the North Parcel building and the South Parcel building to provide background data (AA-01 and AA-02; Figure 3). The specific sampling locations were selected to represent 'worst-case' exposure conditions for employees, as follows:

- IA-01 was located in the north end of the warehouse tenant space, near the staircase to the basement where soil data showed exceedances of PCE below the basement floor slab.
- IA-02 was located in the center of the warehouse tenant space, where soil gas sample SS-10 showed exceedances of PCE and TCE in soil gas below the building floor slab.
- IA-03 was located in the customer area of the former dry cleaners space.
- IA-04 was located in the east portion of the former dry-cleaners space, where the dry cleaning equipment operated and where soil gas sample SS-01 showed exceedances of PCE and TCE in the soil gas below the building floor slab.
- IA-05 was located in the center of the Church space, where soil gas sample SS-07 showed exceedances of PCE in the soil gas below the building slab.
- IA-06 was located in the north portion of the Church space, where soil gas sample SS-06 showed exceedances of PCE and TCE in the soil gas below the building floor slab.

Air samples were collected using laboratory-supplied and individually certified evacuated 1-liter canisters fitted with flow controllers set to 8-hour sampling intervals. Samples were obtained over an 8-hour period, during the times of highest occupancy. Samples were transferred under appropriate chain-of-custody documentation to Friedman and Bruya, Inc., of Seattle, Washington, for analysis of PCE and its breakdown products via EPA Method TO-15.

On the sampling date, weather conditions were partly sunny with temperatures between 52 to 66 degrees Fahrenheit and wind speed less than 10 miles per hour generally from the south – southeast direction. The overall barometric pressure trend for the day of the sampling event was falling, ranging from 30.10 inches mercury (in-Hg) at the start of sampling to 30.08 in-Hg at the end of sampling on November 17, 2022[2].

2.3.1 Analytical Results and Evaluation

In accordance with Ecology's guidance document (Ecology, 2022), chemical analytical results for air samples were evaluated against the MTCA Method B Indoor Air Cleanup Levels for the unrestricted use scenario and also for the commercial exposure scenario due to the varying uses of the buildings. The analytical air results and the two cleanup level scenarios are summarized in Table 2 and shown graphically on Figure 3. Refer to the laboratory report included in Appendix A for the full list of analytes detected and laboratory reporting limits.

At least one of PCE and/or its breakdown products were detected above laboratory reporting limits in all six indoor air samples. Of these, PCE and TCE were detected at concentrations that exceed the MTCA cleanup levels for unrestricted or commercial use, as follows (Figure 3):

- PCE concentrations exceeded the unrestricted cleanup level of 9.6 ug/m3 in sample IA-02 (12 ug/m3) collected in the Food Storage Warehouse Space.
- PCE concentrations exceeded the unrestricted cleanup level of 9.6 ug/m3 and the commercial cleanup level of 40 ug/m3 in IA-03 (83 ug/m3) and IA-04 (120 ug/m3) collected in the Former, and now vacant, Dry Cleaner Space.
- TCE concentration exceeded the unrestricted cleanup level of 0.33 ug/m3 in sample IA-02 (0.40 ug/m3) collected in the Food Storage Warehouse Space. This is below the commercial cleanup level of 2.6 ug/m3.

Remaining detections of PCE and its breakdown products in other samples were below the residential and commercial cleanup levels. There were no VOC detections in either of the two ambient air samples, AA-01 and AA-02 (Figure 3).

3.0 Conclusions

To evaluate the potential for vapor intrusion to result in unacceptable concentrations of PCE and TCE in indoor air, a Tier II Vapor Intrusion Evaluation was conducted, consisting of indoor and

[2] When barometric pressure is high, outside air has the potential to infiltrate the vadose zone or building interiors, potentially reducing contaminant concentrations in shallow soil gas or indoor air through dilution. In order to minimize this effect, soil gas sampling and indoor air sampling should be performed during periods when barometric pressure is and has been decreasing.

ambient air samples obtained during a period of falling barometric pressure conditions that are considered to represent a 'worst-case' scenario for vapor intrusion at the Site.

The results of the vapor intrusion evaluation indicate that although dry cleaning solvents are present in soil gas beneath the buildings, vapor intrusion into the buildings and tenant spaces is not resulting in unacceptable concentrations of PCE or TCE in indoor air under current building uses. Therefore, immediate action is not needed for any of the spaces, however special monitoring and management procedures are needed, particularly if use changes. The basis for this is as follows:

- **Vacant Mini Mart/Former Dry Cleaner Space—**concentrations of PCE and TCE exceed indoor air cleanup levels in this space in the two samples collected; however, the space is currently vacant with no incoming new tenant. Prior to any future occupancy, additional sampling and mitigation is necessary for this space.

- **Church Tenant Space—**concentrations of PCE and TCE do not exceed indoor air cleanup levels for unrestricted use in the two samples collected. In order to monitor this situation until cleanup occurs or use changes, additional sampling and testing on at least a twice per year basis is recommended to verify these conditions remain the same during different seasons and weather conditions (i.e., summer/winter and rising/falling barometric pressure).

- **Warehouse Tenant Space—**concentrations of PCE exceed the indoor air cleanup levels for unrestricted use in one of the two samples collected but are below the indoor air cleanup levels for commercial use. Because this space is in use commercially, and we understand is not regularly or consistently occupied by workers, no immediate mitigation appears warranted. If children or women of childbearing age occupy this space, or use changes, additional sampling and testing will be needed prior to these use changes. Continued evaluation is recommended, similar to that recommended for the Church tenant space (i.e., sampling and testing at least twice per year).

The conclusions presented in this section are based on a single sampling event and the recommendations were developed according to the current uses and occupancy rates of each of the spaces evaluated. If there are significant changes in use of any spaces evaluated during this study, additional evaluation would be needed and is recommended. For future buildings constructed during redevelopment, the vapor intrusion exposure pathway will be evaluated during the Remedial Investigation and Feasibility Study phase of the project.

References

Aspect Consulting, LLC (Aspect), 2022a, Phase II Environmental Site Assessment Report, Skyway Towncenter, 12540 Renton Avenue North, Skyway, Washington, April 12, 2022.

Aspect Consulting, LLC (Aspect), 2022b, Phase II Environmental Site Assessment Report, Skyway Towncenter, 12600 Renton Avenue South & 12540 Renton Avenue South, Skyway, Washington, August 29, 2022.

Washington State Department of Ecology (Ecology), 2019, Vapor Intrusion (VI) Investigations and Short-term Trichloroethene (TCE) Toxicity, Implementation Memorandum No. 22, October 1, 2019.

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, dated March 2022.

Limitations

Work for this project was performed for the GardnerGlobal, Inc. (Client), and this letter 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 letter does not represent a legal opinion. No other warranty, expressed or implied, is made.

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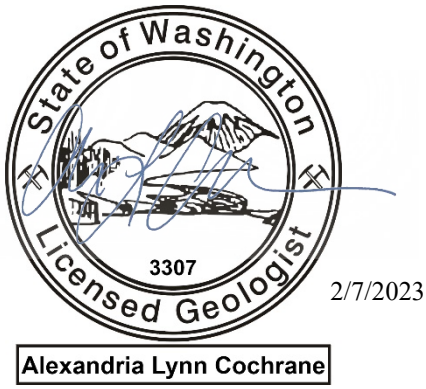
Sincerely,

Aspect consulting, LLC



2/7/2023

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Attachments:
Table 1 – Soil Gas Quality Results
Table 2 – Indoor Air Quality Data
Figure 1 – Vicinity Map
Figure 2 – Soil Gas Results
Figure 3 – Indoor Air Sampling
Appendix A – Laboratory Reports

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TABLES

Table 1. Soil Gas Quality Results

Project No. 200552, Skyway Town Center Redevelopment, Renton Ave S, Seattle, Washington

			Location	SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08	SS09	SS10
			Date	12/10/2021	12/10/2021	12/10/2021	01/04/2022	01/04/2022	08/15/2022	08/15/2022	08/15/2022	08/15/2022	08/15/2022
			Sample	SS-1	SS-2	SS-3	SS-4	SS-5	SS-06	SS-07	SS-08	SS-09	SS-10
Analyte	Unit	**MTCA Method B Screening Levels for Subslab Soil Gas**		Former Mini-Mart (Cleaners) southeast side	Former Mini-Mart (Cleaners) southwest side	Former Mini-Mart (Cleaners) center area	Former Mini-Mart northest side	Former Mini-Mart northwest side	Church north side	Church center area	Church south side	Food Storage Warehouse south end	Food Storage Warehouse north end
Tracer Gas													
Helium	%			< 0.6 U	< 0.6 U	< 0.6 U	**1.1**	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U
VOCs													
1,1-Dichloroethene	ug/m3	3000		< 15 U	< 2.9 U	< 3.3 U	< 1.9 U	< 2 U	< 7.9 U	< 3.8 U	< 4.4 U	< 3.7 U	< 7.1 U
1,2-Dibromoethane (EDB)	ug/m3	0.14		--	--	--	--	--	< 1.5 U	< 0.73 U	< 0.85 U	< 0.71 U	< 1.4 U
1,2-Dichloroethane (EDC)	ug/m3	3.2		< 1.5 U	< 0.3 U	< 0.34 U	< 0.2 U	< 0.21 U	< 0.81 U	< 0.38 U	< 0.45 U	< 0.38 U	< 0.73 U
Acetone	ug/m3			--	--	--	--	--	**470**	**1000 E**	**340**	**640 E**	< 86 U
cis-1,2-Dichloroethene (cDCE)	ug/m3			< 15 U	< 2.9 U	< 3.3 U	< 1.9 U	< 2 U	< 7.9 U	< 3.8 U	< 4.4 U	< 3.7 U	< 7.1 U
Dichlorodifluoromethane	ug/m3	1500		--	--	--	--	--	< 20 U	**13**	**11**	< 9.2 U	< 18 U
Ethanol	ug/m3			--	--	--	--	--	**170 J**	**91 J**	< 83 UJ	< 70 UJ	< 140 UJ
m,p-Xylenes	ug/m3			--	--	--	--	--	**23**	**13**	< 9.6 U	**11**	< 16 U
Methyl tert-butyl ether (MTBE)	ug/m3	320		--	--	--	--	--	< 140 U	< 69 U	< 79 U	< 67 U	< 130 U
Naphthalene	ug/m3	2.5		--	--	--	--	--	< 5.2 UJ	< 2.5 UJ	< 2.9 UJ	< 2.4 U	< 4.7 UJ
o-Xylene	ug/m3			--	--	--	--	--	**8.7**	**9.7**	**9.3**	**6.7**	< 7.8 U
Naphthalene	ug/m3	2.5		--	--	--	--	--	< 5.2 UJ	< 2.5 UJ	< 2.9 UJ	< 2.4 U	< 4.7 UJ
Tetrachloroethene (PCE)	ug/m3	320		**5900 E**	< 50 U	< 57 U	< 33 U	< 35 U	**3500 E**	**2300 E**	**600**	< 63 U	**3400 E**
Tetrahydrofuran	ug/m3	30000		--	--	--	--	--	**21 J**	**21 J**	**26 J**	**19 J**	**15 J**
trans-1,2-Dichloroethene	ug/m3	610		< 15 U	< 2.9 U	< 3.3 U	< 1.9 U	< 2 U	< 7.9 U	< 3.8 U	< 4.4 U	< 3.7 U	< 7.1 U
Trichloroethene (TCE)	ug/m3	11		**21**	< 0.8 U	< 0.9 U	< 0.53 U	< 0.55 U	**27**	**7.5**	**6.2**	**4.7**	**18**
Trichlorofluoromethane	ug/m3	11000		--	--	--	--	--	< 45 U	**24**	**37**	< 21 U	< 40 U
Vinyl Chloride	ug/m3	9.5		< 9.5 U	< 1.9 U	< 2.1 U	< 1.3 U	< 1.3 U	< 5.1 U	< 2.4 U	< 2.8 U	< 2.4 U	< 4.6 U

Bold - Detected
Blue Shaded - Detected result or nondetected RL exceeded screening level.
U - Analyte not detected at or above Reporting Limit (RL) shown.
E - Result exceeded calibration range. Result usable for qualitative analysis of analyte presence, but numeric value should not be included in quantitative analysis.
ug/m3 - micrograms per cubic meter
MTCA - Model Toxics Control Act

Table 2. Indoor Air Quality Data

Project No. 200552-A-003, Skyway Towncenter, Skyway, Washington

			Location	AA-01	AA-02	IA-01	IA-02	IA-05	IA-06	IA-03	IA-04
			Date	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022
			Sample	AA-01-101722	AA-02-101722	IA-01-101722	IA-02-101722	IA-05-101722	IA-06-101722	IA-03-101722	IA-04-101722
Analyte	MTCA Method B Indoor Air Cleanup Level - Unrestricted Use Scenario	MTCA Method B Indoor Air Cleanup Level - Commercial Use Scenario (50 hour week)		Ambient/ Outdoor	Ambient/ Outdoor	Food Storage Warehouse north end	Food Storage Warehouse center area	Church north side	Church center area	Former Mini-Mart (Cleaners) west side	Former Mini-Mart (Cleaners) east side
VOCs											
1,1-Dichloroethene	91	700		< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U
cis-1,2-Dichloroethene (cDCE)				< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U
Tetrachloroethene (PCE)	9.6	40		< 6.8 U	< 6.8 U	**9.5**	**12**	< 6.8 U	< 6.8 U	**83**	**120 E**
trans-1,2-Dichloroethene	18	140		< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U	< 0.4 U
Trichloroethene (TCE)	0.33	2.6		< 0.11 U	< 0.11 U	**0.32**	**0.4**	**0.16**	**0.13**	**0.21**	**0.26**
Vinyl Chloride	0.28	1.2		< 0.26 U	< 0.26 U	< 0.26 U	< 0.26 U	< 0.26 U	< 0.26 U	< 0.26 U	< 0.26 U

Bold - detected

Blue Shaded - Detected result exceeded MTCA Method B Indoor Air Cleanup Level for Unrestricted Use

Red Text - Detected result exceeded MTCA Method B Indoor Air Cleanup Level for Commercial Exposure (50 hour work week)

U - Analyte not detected at or above Reporting Limit (RL) shown

E - Result exceeded calibration range. Result usable for qualitative analysis of analyte presence, but numeric value should not be included in quantitative analysis.

MTCA - Model Toxics Control Act

Reported in micrograms per cubic meter (ug/m3)

FIGURES

Vicinity Map

Skyway Towncenter Redevelopment
Renton Ave S
Skyway, Washington

Aspect CONSULTING	AUG-2022	BY: MLK / NLK	FIGURE NO. 1
	PROJECT NO. 200552	REVISED BY: ---	

Basemap Layer Credits || Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

GIS Path: G:\projects\Skyway\RTOredevelopment_200552\Delivered\ESA Phase II\Thai Parcels\01 Vicinity Map.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 8/24/2022 || User: nkochie || Print Date: 8/24/2022

75TH AVE S

76TH AVE S

S 126TH ST

RENTON AVE S

Former Gasoline Station Structure (1956 to mid-1970s)

Estimated Area of Dump Truck Parking and Alleged Repair, 2009 to 2017

Former Dry Cleaner Equipment Area (1960 to early 2000s)

Former Shaw Drugs Cleaners, 1955-1996

SS-05
PCE: < 35 U ug/m^3
TCE: < 0.55 U ug/m^3

SS-04
PCE: < 33 U ug/m^3
TCE: < 0.53 U ug/m^3

SS-03
PCE: < 57 U ug/m^3
TCE: < 0.9 U ug/m^3

SS-02
PCE: < 50 U ug/m^3
TCE: < 0.8 U ug/m^3

SS-01
PCE: 5900 ug/m^3
TCE: 21 ug/m^3

SS-10
PCE: 3400 E ug/m^3
TCE: 18 ug/m^3

SS-06
PCE: 3500 E ug/m^3
TCE: 27 ug/m^3

SS-07
PCE: 2300 E ug/m^3
TCE: 7.5 ug/m^3

SS-08
PCE: 600 ug/m^3
TCE: 6.2 ug/m^3

SS-09
PCE: < 63 U ug/m^3
TCE: 4.7 ug/m^3

7812801987

7812801986
12400 76th AVE S

0231000012
12536 RENTON AVE S

0231000011
12600 RENTON AVE S

0231000020
12417 76TH AVE S

0231000022
12608 RENTON AVE S

0231000014
12616 RENTON AVE S

0232000053
12603 RENTON AVE S

0 50 100
Feet

August 15, 2022 Exploration
- Subslab Soil Gas Sample

December 10, 2021 and January 4, 2022 Exploration
- Subslab Soil Gas Sample
- Subject Property
- Skyway Towncenter Redevelopment
- Sewer Cleanout
- Natural Gas
- Sewer
- Water
- GPR Anomaly
- Historical Feature
- King County Tax Parcel

SS-01
PCE: 5900 ug/m^3
TCE: 21 ug/m^3
← Sample ID
← Result

Notes:
PCE = Tetrachloroethene
TCE = Trichloroethene
ug/m^3 = micrograms per cubic meter
Results in red exceed the screening level. Results in yellow are detected below the screening level. Non-detects are shown in green.

Soil Gas Results

Skyway Towncenter Redevelopment
Renton Ave S
Skyway, Washington

Aspect Consulting	JAN-2023	BY: DRB / NLK	FIGURE NO. 2
	PROJECT NO. 200552	REVISED BY: ---	

Basemap Layer Credits || BaseMaps/KingCo_Aerial_2019: EagleView Technologies, Inc.

75TH AVE S

76TH AVE S

S 126TH ST

RENTON AVE S

Former Gasoline Station Structure (1956 to mid-1970s)

Estimated Area of Dump Truck Parking and Alleged Repair, 2009 to 2017

7812801987

7812801986
12400 76th AVE S

0231000012
12536 RENTON AVE S

Mini-Mart Tenant Space (former dry cleaner)

Freezer

Storage

Kitchen

Staircase

Bathroom

0231000011
12600 RENTON AVE S

Church Tenant Space

Storage Rooms

Grocery Storage Warehouse Tenant Space

0231000020
12417 76TH AVE S

0231000022
12608 RENTON AVE S

0231000014
12616 RENTON AVE S

Former Shaw Drugs Cleaners, 1955-1996

0232000053
12603 RENTON AVE S

SS-02
SS-03
SS-04
SS-05
SS-06
SS-07
SS-08
SS-09
SS-10

IA-04
PCE: 120 E ug/m^3
TCE: 0.26 ug/m^3

AA-02
PCE: < 6.8 U ug/m^3
TCE: < 0.11 U ug/m^3

IA-01
PCE: 9.5 ug/m^3
TCE: 0.32 ug/m^3

IA-02
PCE: 12 ug/m^3
TCE: 0.4 ug/m^3

IA-03
PCE: 83 ug/m^3
TCE: 0.21 ug/m^3

IA-06
PCE: < 6.8 U ug/m^3
TCE: 0.13 ug/m^3

IA-05
PCE: < 6.8 U ug/m^3
TCE: 0.16 ug/m^3

AA-01
PCE: < 6.8 U ug/m^3
TCE: < 0.11 U ug/m^3

0 50 100
Feet

IA-04
PCE: 120 E ug/m^3
TCE: 0.26 ug/m^3
← Sample ID
← Result

Notes:
1. Results compared against Unrestricted Cleanup Levels.
2. Detected concentrations of PCE and TCE in air samples IA-01, IA-02, IA-05, and IA--06 are below the Commercial Cleanup Levels.
PCE = Tetrachloroethene
TCE = Trichloroethene
ug/m^3 = micrograms per cubic meter

October 17, 2022 Exploration
- Indoor Air Sample
- Ambient Air Sample

August 15, 2022 Exploration
- Subslab Soil Gas Sample

December 10, 2021 and January 4, 2022 Exploration
- Subslab Soil Gas Sample

- VOCs detected at concentrations above MTCA Method B Cleanup levels
- VOCs detected at concentrations below MTCA Method B Cleanup levels
- VOCs not detected
- Sewer Cleanout
- Natural Gas
- Sewer
- Water
- GPR Anomaly
- Subject Property
- Skyway Towncenter Redevelopment
- Historical Feature
- King County Tax Parcel

Indoor Air Sampling

Skyway Towncenter Redevelopment
Renton Ave S
Skyway, Washington

Aspect Consulting	JAN-2023	BY: DRB / NLK	FIGURE NO. 3
	PROJECT NO. 200552	REVISED BY: ---	

APPENDIX 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.

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

January 24, 2022

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

Dear Ms Cochrane:

Included are the results from the testing of material submitted on January 5, 2022 from the Skyway Project 12536 Renton Ave S. Skyway, WA 200552, F&BI 201026 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
ASP0124R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 5, 2022 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Skyway Project 12536 Renton Ave S Skyway, Wa 200552, F&BI 201026 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
201026 -01	SS-4
201026 -02	SS-5

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-4	Client:	Aspect Consulting, LLC
Date Received:	01/05/22	Project:	Skyway Project 200552, F&BI 201026
Date Collected:	01/04/22	Lab ID:	201026-01 1/4.9
Date Analyzed:	01/11/22	Data File:	011022.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	<1.3	<0.49
Chloroethane	<13	<4.9
1,1-Dichloroethene	<1.9	<0.49
trans-1,2-Dichloroethene	<1.9	<0.49
1,1-Dichloroethane	<2	<0.49
cis-1,2-Dichloroethene	<1.9	<0.49
1,2-Dichloroethane (EDC)	<0.2	<0.049
1,1,1-Trichloroethane	<2.7	<0.49
Trichloroethene	<0.53	<0.098
1,1,2-Trichloroethane	<0.27	<0.049
Tetrachloroethene	<33	<4.9

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-5	Client:	Aspect Consulting, LLC
Date Received:	01/05/22	Project:	Skyway Project 200552, F&BI 201026
Date Collected:	01/04/22	Lab ID:	201026-02 1/5.1
Date Analyzed:	01/11/22	Data File:	011023.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	<1.3	<0.51
Chloroethane	<13	<5.1
1,1-Dichloroethene	<2	<0.51
trans-1,2-Dichloroethene	<2	<0.51
1,1-Dichloroethane	<2.1	<0.51
cis-1,2-Dichloroethene	<2	<0.51
1,2-Dichloroethane (EDC)	<0.21	<0.051
1,1,1-Trichloroethane	<2.8	<0.51
Trichloroethene	<0.55	<0.1
1,1,2-Trichloroethane	<0.28	<0.051
Tetrachloroethene	<35	<5.1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Skyway Project 200552, F&BI 201026
Date Collected:	Not Applicable	Lab ID:	02-0008 MB
Date Analyzed:	01/10/22	Data File:	011010.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	<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	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Date of Report: 01/24/22
Date Received: 01/05/22
Project: Skyway Project 12536 Renton Ave S. Skyway, WA 200552, F&BI 201026
Date Extracted: 01/21/22
Date Analyzed: 01/21/22

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

Results Reported as % Helium

Sample ID Laboratory ID	Helium
SS-4 201026-01	1.1
SS-5 201026-02	<0.6
Method Blank 02-0197 MB	<0.6

Date of Report: 01/24/22
Date Received: 01/05/22
Project: Skyway Project 12536 Renton Ave S. Skyway, WA 200552, F&BI 201026

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

Laboratory Code: 201007-03 1/5.7 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.5	<1.5	nm
Chloroethane	ug/m3	<15	<15	nm
1,1-Dichloroethene	ug/m3	<2.3	<2.3	nm
trans-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
1,1-Dichloroethane	ug/m3	<2.3	<2.3	nm
cis-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.23	<0.23	nm
1,1,1-Trichloroethane	ug/m3	<3.1	<3.1	nm
Trichloroethene	ug/m3	<0.61	<0.61	nm
1,1,2-Trichloroethane	ug/m3	<0.31	<0.31	nm
Tetrachloroethene	ug/m3	<39	<39	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	91	70-130
Chloroethane	ug/m3	36	93	70-130
1,1-Dichloroethene	ug/m3	54	97	70-130
trans-1,2-Dichloroethene	ug/m3	54	98	70-130
1,1-Dichloroethane	ug/m3	55	92	70-130
cis-1,2-Dichloroethene	ug/m3	54	97	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	95	70-130
1,1,1-Trichloroethane	ug/m3	74	100	70-130
Trichloroethene	ug/m3	73	96	70-130
1,1,2-Trichloroethane	ug/m3	74	100	70-130
Tetrachloroethene	ug/m3	92	109	70-130

Date of Report: 01/24/22
Date Received: 01/05/22
Project: Skyway Project 12536 Renton Ave S. Skyway, WA 200552, F&BI 201026

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

Laboratory Code: 201026-01 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	1.1	1.0	10	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. 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

201026 01-05-22

Report to Ali-cochran

Company ASPECT

Address

City, State, ZIP

Phone Email acochran@aspect consulting.com

SAMPLERS (signature)

PROJECT NAME & ADDRESS: Skyway Project, 12536 Renton Ave S. Skyway, WA

PO # 200552

NOTES:

INVOICE TO

Page # 1 of 1

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

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

SAMPLE INFORMATION

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	ANALYSIS REQUESTED: TO15 Full Scan	TO16 BTEXN	TO16 cVOCs	APH	Helium	@	Notes
SS-4	01	3258	222	IA / (SG)	1/4/21	-30	1308	-1	1317			x		x		
SS-5	02	3483	40	IA / (SG)	1	-30	1416	-2	1428			x		x		
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	B. Dilley	ASPECT	1/4/21	1533
Received by:	Anna W Bruya	FRB	1/5/21	0915
Relinquished by:				
Received by:		Samples received at 17 °C		

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

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

January 4, 2022

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

Dear Ms Cochrane:

Included are the results from the testing of material submitted on December 14, 2021 from the Skyway Project 12536 Renton Ave S 200552, F&BI 112281 project. There are 10 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
ASP0104R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 14, 2021 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Skyway Project 12536 Renton Ave S 200552 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
112281 -01	SS-1
112281 -02	SS-2
112281 -03	SS-3

The tetrachloroethene concentration in sample SS-1 exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-1	Client:	Aspect Consulting, LLC
Date Received:	12/14/21	Project:	200552, F&BI 112281
Date Collected:	12/10/21	Lab ID:	112281-01 1/37
Date Analyzed:	12/29/21	Data File:	122831.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	VM

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<9.5	<3.7
Chloroethane	<98	<37
1,1-Dichloroethene	<15	<3.7
trans-1,2-Dichloroethene	<15	<3.7
1,1-Dichloroethane	<15	<3.7
cis-1,2-Dichloroethene	<15	<3.7
1,2-Dichloroethane (EDC)	<1.5	<0.37
1,1,1-Trichloroethane	<20	<3.7
Trichloroethene	21	3.8
1,1,2-Trichloroethane	<2	<0.37
Tetrachloroethene	5,900 ve	870 ve

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-2	Client:	Aspect Consulting, LLC
Date Received:	12/14/21	Project:	200552, F&BI 112281
Date Collected:	12/10/21	Lab ID:	112281-02 1/7.4
Date Analyzed:	12/29/21	Data File:	122829.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	VM

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.9	<0.74
Chloroethane	<20	<7.4
1,1-Dichloroethene	<2.9	<0.74
trans-1,2-Dichloroethene	<2.9	<0.74
1,1-Dichloroethane	<3	<0.74
cis-1,2-Dichloroethene	<2.9	<0.74
1,2-Dichloroethane (EDC)	<0.3	<0.074
1,1,1-Trichloroethane	<4	<0.74
Trichloroethene	<0.8	<0.15
1,1,2-Trichloroethane	<0.4	<0.074
Tetrachloroethene	<50	<7.4

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-3	Client:	Aspect Consulting, LLC
Date Received:	12/14/21	Project:	200552, F&BI 112281
Date Collected:	12/10/21	Lab ID:	112281-03 1/8.4
Date Analyzed:	12/29/21	Data File:	122830.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	VM

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<2.1	<0.84
Chloroethane	<22	<8.4
1,1-Dichloroethene	<3.3	<0.84
trans-1,2-Dichloroethene	<3.3	<0.84
1,1-Dichloroethane	<3.4	<0.84
cis-1,2-Dichloroethene	<3.3	<0.84
1,2-Dichloroethane (EDC)	<0.34	<0.084
1,1,1-Trichloroethane	<4.6	<0.84
Trichloroethene	<0.9	<0.17
1,1,2-Trichloroethane	<0.46	<0.084
Tetrachloroethene	<57	<8.4

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	200552, F&BI 112281
Date Collected:	Not Applicable	Lab ID:	01-2855 MB
Date Analyzed:	12/28/21	Data File:	122810.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	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	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Date of Report: 01/04/22
Date Received: 12/14/21
Project: Skyway Project 12536 Renton Ave S 200552, F&BI 112281
Date Extracted: 12/30/21
Date Analyzed: 12/30/21

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

Results Reported as % Helium

Sample ID Laboratory ID	Helium
SS-1 112281-01	<0.6
SS-2 112281-02	<0.6
SS-3 112281-03	<0.6
Method Blank 01-2953 MB	<0.6

Date of Report: 01/04/22
Date Received: 12/14/21
Project: Skyway Project 12536 Renton Ave S 200552, F&BI 112281

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

Laboratory Code: 112287-01 1/18 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<4.6	<4.6	nm
Chloroethane	ug/m3	<47	<47	nm
1,1-Dichloroethene	ug/m3	<7.1	<7.1	nm
trans-1,2-Dichloroethene	ug/m3	<7.1	<7.1	nm
1,1-Dichloroethane	ug/m3	<7.3	<7.3	nm
cis-1,2-Dichloroethene	ug/m3	51	50	2
1,2-Dichloroethane (EDC)	ug/m3	3.2	3.4	6
1,1,1-Trichloroethane	ug/m3	<9.8	<9.8	nm
Trichloroethene	ug/m3	76	68	11
1,1,2-Trichloroethane	ug/m3	<0.98	<0.98	nm
Tetrachloroethene	ug/m3	350	310	12

Date of Report: 01/04/22
Date Received: 12/14/21
Project: Skyway Project 12536 Renton Ave S 200552, F&BI 112281

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	103	70-130
Chloroethane	ug/m3	36	93	70-130
1,1-Dichloroethene	ug/m3	54	95	70-130
trans-1,2-Dichloroethene	ug/m3	54	99	70-130
1,1-Dichloroethane	ug/m3	55	99	70-130
cis-1,2-Dichloroethene	ug/m3	54	99	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	101	70-130
1,1,1-Trichloroethane	ug/m3	74	99	70-130
Trichloroethene	ug/m3	73	87	70-130
1,1,2-Trichloroethane	ug/m3	74	84	70-130
Tetrachloroethene	ug/m3	92	92	70-130

Date of Report: 01/04/22
Date Received: 12/14/21
Project: Skyway Project 12536 Renton Ave S 200552, F&BI 112281

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

Laboratory Code: 112483-01 (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. 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.

Report To Ali Cochran 112281

Company Aspect

Address

City, State, ZIP

Phone Email Acochran@aspectconsulting.com

ME 12-14-21

SAMPLERS (signature)

PROJECT NAME & ADDRESS	PO#
Skyway Project 12536 Rainier	200552
NOTES:	INVOICE TO

Page # of

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

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

SAMPLE INFORMATION

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-1	01	3256	231	IA / (SG)	12/10/21	-30	1050	0	1058			X		X		
SS-2	02	2433	230	IA / (SG)			1128	0	1138			X		X		
SS-3	03	3470	224	IA / (SG)			1203	-2	1210			X		X		
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Samples received at 16 °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:	Rebecca Dilba	Aspect	12/10/21	1700
Received by:	Liz Webber-Bruya	F&B	12/14/21	1551
Relinquished by:				
Received by:				

FORMS\COC\COCTO-15.DOC

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.

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

October 28, 2022

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

Dear Ms Cochrane:

Included are the results from the testing of material submitted on October 17, 2022 from the Skyway Redevelopment 200552, F&BI 210238 project. There are 12 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
ASP1028R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 17, 2022 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Skyway Redevelopment 200552, F&BI 210238 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
210238 -01	IA-01-101722
210238 -02	IA-02-101722
210238 -03	IA-03-101722
210238 -04	IA-04-101722
210238 -05	IA-05-101722
210238 -06	IA-06-101722
210238 -07	AA-01-101722
210238 -08	AA-02-101722

The tetrachloroethene concentration in sample IA-04-101722 exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA-01-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-01
Date Analyzed:	10/24/22	Data File:	102411.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	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.32	0.059
Tetrachloroethene	9.5	1.4

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA-02-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-02
Date Analyzed:	10/24/22	Data File:	102412.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.40	0.074
Tetrachloroethene	12	1.8

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA-03-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-03
Date Analyzed:	10/24/22	Data File:	102413.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.21	0.040
Tetrachloroethene	83	12

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA-04-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-04
Date Analyzed:	10/24/22	Data File:	102414.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.26	0.048
Tetrachloroethene	120 ve	17 ve

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA-05-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-05
Date Analyzed:	10/24/22	Data File:	102415.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	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.16	0.030
Tetrachloroethene	<6.8	<1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA-06-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-06
Date Analyzed:	10/24/22	Data File:	102416.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Trichloroethene	0.13	0.024
Tetrachloroethene	<6.8	<1

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	AA-01-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-07
Date Analyzed:	10/25/22	Data File:	102417.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
1,1-Dichloroethene	<0.4	<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

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	AA-02-101722	Client:	Aspect Consulting, LLC
Date Received:	10/17/22	Project:	Skyway Redevelopment 200552
Date Collected:	10/17/22	Lab ID:	210238-08
Date Analyzed:	10/25/22	Data File:	102418.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
1,1-Dichloroethene	<0.4	<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

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Skyway Redevelopment 200552
Date Collected:	Not Applicable	Lab ID:	02-2495 MB
Date Analyzed:	10/24/22	Data File:	102410.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
1,1-Dichloroethene	<0.4	<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

Date of Report: 10/28/22
Date Received: 10/17/22
Project: Skyway Redevelopment 200552, F&BI 210238

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

Laboratory Code: 210318-03 1/5.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.4	<1.4	nm
1,1-Dichloroethene	ug/m3	<2.1	<2.1	nm
trans-1,2-Dichloroethene	ug/m3	<2.1	<2.1	nm
cis-1,2-Dichloroethene	ug/m3	<2.1	<2.1	nm
Trichloroethene	ug/m3	<0.57	<0.57	nm
Tetrachloroethene	ug/m3	<36	<36	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	103	70-130
1,1-Dichloroethene	ug/m3	54	100	70-130
trans-1,2-Dichloroethene	ug/m3	54	104	70-130
cis-1,2-Dichloroethene	ug/m3	54	101	70-130
Trichloroethene	ug/m3	73	99	70-130
Tetrachloroethene	ug/m3	92	109	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.

210238

SAMPLE CHAIN OF CUSTODY

10/17/22

Page # 1 of 1

Report To Ali Cochrane

Company Aspect Consulting

Address 710 2nd Ave #550

City, State, ZIP Seattle, WA, 98115

Phone 316.617.0499 Email acochrane@aspectconsulting.com

SAMPLERS (signature) Alastair Courtney

PROJECT NAME & ADDRESS: Skyway Redevelopment

PO #: 200552

NOTES:

INVOICE TO

TURNAROUND TIME
- [x] 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	TO15 cVOCs	APH	Helium	PCE, TCE, by TO-15	1,2-DCE Trans 1,2 DCE & 1,1 DCE by TO-15 + vinyl chloride per AC update ME Notes
IA-01-101722	01	20556	05353	(IA) / SG	10/17/22	26	0713	5	1427						X	X
IA-02-101722	02	20545	07846	(IA) / SG		30	0714	6.8	1526							
IA-03-101722	03	18576	05347	(IA) / SG		30	0732	5.2	1533							
IA-04-101722	04	37203	06683	(IA) / SG		29	0733	5	1516							
IA-05-101722	05	37235	07852	(IA) / SG		27	~~0826~~ 1003	8	1626							
IA-06-101722	06	40707	06605	(IA) / SG		30	1005	10	1627							
AA-01-101722	07	40708	07850	(IA) / SG		29	0756	8	1604							
AA-02-101722	08	40706	07051	(IA) / SG		30	0809	6	1609							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Alastair Courtney	Alastair Courtney	Aspect Consulting	10/17/22	18:17
Received by:	BISRAT TADESSE	FSI	10/17/22	18:17
Relinquished by:				
Received by:				

Samples received at 2 °C

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

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.

3012 16th Avenue West
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fbi@isomedia.com
www.friedmanandbruya.com

August 23, 2022

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

Dear Ms Cochrane:

Included are the results from the testing of material submitted on August 15, 2022 from the Skyway Redevelopment 200552, F&BI 208223 project. There are 14 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
ASP0823R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 15, 2022 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Skyway Redevelopment 200552, F&BI 208223 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
208223 -01	SS-06
208223 -02	SS-07
208223 -03	SS-08
208223 -04	SS-09
208223 -05	SS-10

Samples SS-06 and SS-10 were sent to Fremont Analytical for methane analysis. The report will be forwarded upon receipt.

The TO-15 calibration standard failed the acceptance criteria for several analytes. The data were flagged accordingly.

The concentration of several analytes exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-06	Client:	Aspect Consulting, LLC
Date Received:	08/15/22	Project:	Skyway Redevelopment 200552
Date Collected:	08/15/22	Lab ID:	208223-01 1/20
Date Analyzed:	08/19/22	Data File:	081832.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	74	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<24 ca	<14 ca	1,2-Dichloropropane	<4.6	<1
Dichlorodifluoromethane	<20	<4	1,4-Dioxane	<7.2	<2
Chloromethane	<74	<36	2,2,4-Trimethylpentane	<93	<20
F-114	<42	<6	Methyl methacrylate	<82	<20
Vinyl chloride	<5.1	<2	Heptane	<82	<20
1,3-Butadiene	<0.88	<0.4	Bromodichloromethane	<1.3	<0.2
Butane	<95 ca	<40 ca	Trichloroethene	27	5.0
Bromomethane	<78	<20	cis-1,3-Dichloropropene	<18	<4
Chloroethane	<53	<20	4-Methyl-2-pentanone	<82	<20
Vinyl bromide	<8.7	<2	trans-1,3-Dichloropropene	<9.1	<2
Ethanol	170 ca	88 ca	Toluene	<380	<100
Acrolein	<2.3 ca	<1 ca	1,1,2-Trichloroethane	<1.1	<0.2
Pentane	<120 ca	<40 ca	2-Hexanone	<82	<20
Trichlorofluoromethane	<45	<8	Tetrachloroethene	3,500 ve	520 ve
Acetone	470	200	Dibromochloromethane	<1.7	<0.2
2-Propanol	<170 ca	<70 ca	1,2-Dibromoethane (EDB)	<1.5	<0.2
1,1-Dichloroethene	<7.9	<2	Chlorobenzene	<9.2	<2
trans-1,2-Dichloroethene	<7.9	<2	Ethylbenzene	<8.7	<2
Methylene chloride	<690	<200	1,1,2,2-Tetrachloroethane	<2.7	<0.4
t-Butyl alcohol (TBA)	<240	<80	Nonane	<100 ca	<20 ca
3-Chloropropene	<63 ca	<20 ca	Isopropylbenzene	<200	<40
CFC-113	<15	<2	2-Chlorotoluene	<100	<20
Carbon disulfide	<120	<40	Propylbenzene	<98	<20
Methyl t-butyl ether (MTBE)	<140	<40	4-Ethyltoluene	<98	<20
Vinyl acetate	<140 ca	<40 ca	m,p-Xylene	23	5.3
1,1-Dichloroethane	<8.1	<2	o-Xylene	8.7	2.0
cis-1,2-Dichloroethene	<7.9	<2	Styrene	<17	<4
Hexane	<70 ca	<20 ca	Bromoform	<41	<4
Chloroform	<0.98	<0.2	Benzyl chloride	<1	<0.2
Ethyl acetate	<140 ca	<40 ca	1,3,5-Trimethylbenzene	<98	<20
Tetrahydrofuran	21 ca	7.2 ca	1,2,4-Trimethylbenzene	<98	<20
2-Butanone (MEK)	<120	<40	1,3-Dichlorobenzene	<12	<2
1,2-Dichloroethane (EDC)	<0.81	<0.2	1,4-Dichlorobenzene	<4.6	<0.76
1,1,1-Trichloroethane	<11	<2	1,2-Dichlorobenzene	<12	<2
Carbon tetrachloride	<6.3	<1	1,2,4-Trichlorobenzene	<15	<2
Benzene	8.2	2.6	Naphthalene	<2.4 j	<0.45 j
Cyclohexane	<140 ca	<40 ca	Hexachlorobutadiene	<4.3	<0.4

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-07	Client:	Aspect Consulting, LLC
Date Received:	08/15/22	Project:	Skyway Redevelopment 200552
Date Collected:	08/15/22	Lab ID:	208223-02 1/9.5
Date Analyzed:	08/19/22	Data File:	081830.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<11 ca	<6.6 ca	1,2-Dichloropropane	<2.2	<0.47
Dichlorodifluoromethane	13	2.7	1,4-Dioxane	<3.4	<0.95
Chloromethane	<35	<17	2,2,4-Trimethylpentane	<44	<9.5
F-114	<20	<2.8	Methyl methacrylate	<39	<9.5
Vinyl chloride	<2.4	<0.95	Heptane	<39	<9.5
1,3-Butadiene	<0.42	<0.19	Bromodichloromethane	<0.64	<0.095
Butane	<45 ca	<19 ca	Trichloroethene	7.5	1.4
Bromomethane	<37	<9.5	cis-1,3-Dichloropropene	<8.6	<1.9
Chloroethane	<25	<9.5	4-Methyl-2-pentanone	<39	<9.5
Vinyl bromide	<4.2	<0.95	trans-1,3-Dichloropropene	<4.3	<0.95
Ethanol	91 ca	48 ca	Toluene	<180	<47
Acrolein	<1.1 ca	<0.47 ca	1,1,2-Trichloroethane	<0.52	<0.095
Pentane	<56 ca	<19 ca	2-Hexanone	<39	<9.5
Trichlorofluoromethane	24	4.3	Tetrachloroethene	2,300 ve	340 ve
Acetone	1,000 ve	430 ve	Dibromochloromethane	<0.81	<0.095
2-Propanol	<82 ca	<33 ca	1,2-Dibromoethane (EDB)	<0.73	<0.095
1,1-Dichloroethene	<3.8	<0.95	Chlorobenzene	<4.4	<0.95
trans-1,2-Dichloroethene	<3.8	<0.95	Ethylbenzene	4.2	0.97
Methylene chloride	<330	<95	1,1,2,2-Tetrachloroethane	<1.3	<0.19
t-Butyl alcohol (TBA)	<120	<38	Nonane	<50 ca	<9.5 ca
3-Chloropropene	<30 ca	<9.5 ca	Isopropylbenzene	<93	<19
CFC-113	<7.3	<0.95	2-Chlorotoluene	<49	<9.5
Carbon disulfide	<59	<19	Propylbenzene	<47	<9.5
Methyl t-butyl ether (MTBE)	<69	<19	4-Ethyltoluene	<47	<9.5
Vinyl acetate	<67 ca	<19 ca	m,p-Xylene	13	3.1
1,1-Dichloroethane	<3.8	<0.95	o-Xylene	9.7	2.2
cis-1,2-Dichloroethene	<3.8	<0.95	Styrene	<8.1	<1.9
Hexane	<33 ca	<9.5 ca	Bromoform	<20	<1.9
Chloroform	<0.46	<0.095	Benzyl chloride	<0.49	<0.095
Ethyl acetate	<68 ca	<19 ca	1,3,5-Trimethylbenzene	<47	<9.5
Tetrahydrofuran	21 ca	7.1 ca	1,2,4-Trimethylbenzene	<47	<9.5
2-Butanone (MEK)	<56	<19	1,3-Dichlorobenzene	<5.7	<0.95
1,2-Dichloroethane (EDC)	<0.38	<0.095	1,4-Dichlorobenzene	<2.2	<0.36
1,1,1-Trichloroethane	<5.2	<0.95	1,2-Dichlorobenzene	<5.7	<0.95
Carbon tetrachloride	<3	<0.47	1,2,4-Trichlorobenzene	<7.1	<0.95
Benzene	4.8	1.5	Naphthalene	<2.4 j	<0.45 j
Cyclohexane	<65 ca	<19 ca	Hexachlorobutadiene	<2	<0.19

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-08	Client:	Aspect Consulting, LLC
Date Received:	08/15/22	Project:	Skyway Redevelopment 200552
Date Collected:	08/15/22	Lab ID:	208223-03 1/11
Date Analyzed:	08/19/22	Data File:	081829.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	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<13 ca	<7.7 ca	1,2-Dichloropropane	<2.5	<0.55
Dichlorodifluoromethane	11	2.3	1,4-Dioxane	<4	<1.1
Chloromethane	<41	<20	2,2,4-Trimethylpentane	<51	<11
F-114	<23	<3.3	Methyl methacrylate	<45	<11
Vinyl chloride	<2.8	<1.1	Heptane	<45	<11
1,3-Butadiene	<0.49	<0.22	Bromodichloromethane	<0.74	<0.11
Butane	<52 ca	<22 ca	Trichloroethene	6.2	1.2
Bromomethane	<43	<11	cis-1,3-Dichloropropene	<10	<2.2
Chloroethane	<29	<11	4-Methyl-2-pentanone	<45	<11
Vinyl bromide	<4.8	<1.1	trans-1,3-Dichloropropene	<5	<1.1
Ethanol	<83 ca	<44 ca	Toluene	<210	<55
Acrolein	<1.3 ca	<0.55 ca	1,1,2-Trichloroethane	<0.6	<0.11
Pentane	<65 ca	<22 ca	2-Hexanone	<45	<11
Trichlorofluoromethane	37	6.5	Tetrachloroethene	600	89
Acetone	340	140	Dibromochloromethane	<0.94	<0.11
2-Propanol	<95 ca	<38 ca	1,2-Dibromoethane (EDB)	<0.85	<0.11
1,1-Dichloroethene	<4.4	<1.1	Chlorobenzene	<5.1	<1.1
trans-1,2-Dichloroethene	<4.4	<1.1	Ethylbenzene	<4.8	<1.1
Methylene chloride	<380	<110	1,1,2,2-Tetrachloroethane	<1.5	<0.22
t-Butyl alcohol (TBA)	<130	<44	Nonane	<58 ca	<11 ca
3-Chloropropene	<34 ca	<11 ca	Isopropylbenzene	<110	<22
CFC-113	<8.4	<1.1	2-Chlorotoluene	<57	<11
Carbon disulfide	<69	<22	Propylbenzene	<54	<11
Methyl t-butyl ether (MTBE)	<79	<22	4-Ethyltoluene	<54	<11
Vinyl acetate	<77 ca	<22 ca	m,p-Xylene	<9.6	<2.2
1,1-Dichloroethane	<4.5	<1.1	o-Xylene	9.3	2.1
cis-1,2-Dichloroethene	<4.4	<1.1	Styrene	<9.4	<2.2
Hexane	<39 ca	<11 ca	Bromoform	<23	<2.2
Chloroform	<0.54	<0.11	Benzyl chloride	<0.57	<0.11
Ethyl acetate	<79 ca	<22 ca	1,3,5-Trimethylbenzene	<54	<11
Tetrahydrofuran	26 ca	8.7 ca	1,2,4-Trimethylbenzene	<54	<11
2-Butanone (MEK)	<65	<22	1,3-Dichlorobenzene	<6.6	<1.1
1,2-Dichloroethane (EDC)	<0.45	<0.11	1,4-Dichlorobenzene	<2.5	<0.42
1,1,1-Trichloroethane	<6	<1.1	1,2-Dichlorobenzene	<6.6	<1.1
Carbon tetrachloride	<3.5	<0.55	1,2,4-Trichlorobenzene	<8.2	<1.1
Benzene	11	3.3	Naphthalene	<2.4 j	<0.45 j
Cyclohexane	<76 ca	<22 ca	Hexachlorobutadiene	<2.3	<0.22

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-09	Client:	Aspect Consulting, LLC
Date Received:	08/15/22	Project:	Skyway Redevelopment 200552
Date Collected:	08/15/22	Lab ID:	208223-04 1/9.3
Date Analyzed:	08/19/22	Data File:	081828.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<11 ca	<6.5 ca	1,2-Dichloropropane	<2.1	<0.46
Dichlorodifluoromethane	<9.2	<1.9	1,4-Dioxane	<3.4	<0.93
Chloromethane	<35	<17	2,2,4-Trimethylpentane	<43	<9.3
F-114	<20	<2.8	Methyl methacrylate	<38	<9.3
Vinyl chloride	<2.4	<0.93	Heptane	<38	<9.3
1,3-Butadiene	<0.41	<0.19	Bromodichloromethane	<0.62	<0.093
Butane	<44 ca	<19 ca	Trichloroethene	4.7	0.87
Bromomethane	<36	<9.3	cis-1,3-Dichloropropene	<8.4	<1.9
Chloroethane	<25	<9.3	4-Methyl-2-pentanone	<38	<9.3
Vinyl bromide	<4.1	<0.93	trans-1,3-Dichloropropene	<4.2	<0.93
Ethanol	<70 ca	<37 ca	Toluene	<180	<46
Acrolein	<1.1 ca	<0.46 ca	1,1,2-Trichloroethane	<0.51	<0.093
Pentane	<55 ca	<19 ca	2-Hexanone	<38	<9.3
Trichlorofluoromethane	<21	<3.7	Tetrachloroethene	<63	<9.3
Acetone	640 ve	270 ve	Dibromochloromethane	<0.79	<0.093
2-Propanol	<80 ca	<33 ca	1,2-Dibromoethane (EDB)	<0.71	<0.093
1,1-Dichloroethene	<3.7	<0.93	Chlorobenzene	<4.3	<0.93
trans-1,2-Dichloroethene	<3.7	<0.93	Ethylbenzene	8.4	1.9
Methylene chloride	<320	<93	1,1,2,2-Tetrachloroethane	<1.3	<0.19
t-Butyl alcohol (TBA)	<110	<37	Nonane	<49 ca	<9.3 ca
3-Chloropropene	<29 ca	<9.3 ca	Isopropylbenzene	<91	<19
CFC-113	<7.1	<0.93	2-Chlorotoluene	<48	<9.3
Carbon disulfide	<58	<19	Propylbenzene	<46	<9.3
Methyl t-butyl ether (MTBE)	<67	<19	4-Ethyltoluene	<46	<9.3
Vinyl acetate	<65 ca	<19 ca	m,p-Xylene	11	2.6
1,1-Dichloroethane	<3.8	<0.93	o-Xylene	6.7	1.5
cis-1,2-Dichloroethene	<3.7	<0.93	Styrene	<7.9	<1.9
Hexane	<33 ca	<9.3 ca	Bromoform	<19	<1.9
Chloroform	<0.45	<0.093	Benzyl chloride	<0.48	<0.093
Ethyl acetate	<67 ca	<19 ca	1,3,5-Trimethylbenzene	<46	<9.3
Tetrahydrofuran	19 ca	6.3 ca	1,2,4-Trimethylbenzene	<46	<9.3
2-Butanone (MEK)	<55	<19	1,3-Dichlorobenzene	<5.6	<0.93
1,2-Dichloroethane (EDC)	<0.38	<0.093	1,4-Dichlorobenzene	<2.1	<0.35
1,1,1-Trichloroethane	<5.1	<0.93	1,2-Dichlorobenzene	<5.6	<0.93
Carbon tetrachloride	<2.9	<0.46	1,2,4-Trichlorobenzene	<6.9	<0.93
Benzene	<3	<0.93	Naphthalene	<2.4	<0.46
Cyclohexane	<64 ca	<19 ca	Hexachlorobutadiene	<2	<0.19

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SS-10	Client:	Aspect Consulting, LLC
Date Received:	08/15/22	Project:	Skyway Redevelopment 200552
Date Collected:	08/15/22	Lab ID:	208223-05 1/18
Date Analyzed:	08/19/22	Data File:	081831.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	76	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<22 ca	<13 ca	1,2-Dichloropropane	<4.2	<0.9
Dichlorodifluoromethane	<18	<3.6	1,4-Dioxane	<6.5	<1.8
Chloromethane	<67	<32	2,2,4-Trimethylpentane	<84	<18
F-114	<38	<5.4	Methyl methacrylate	<74	<18
Vinyl chloride	<4.6	<1.8	Heptane	<74	<18
1,3-Butadiene	<0.8	<0.36	Bromodichloromethane	<1.2	<0.18
Butane	<86 ca	<36 ca	Trichloroethene	18	3.3
Bromomethane	<70	<18	cis-1,3-Dichloropropene	<16	<3.6
Chloroethane	<47	<18	4-Methyl-2-pentanone	<74	<18
Vinyl bromide	<7.9	<1.8	trans-1,3-Dichloropropene	<8.2	<1.8
Ethanol	<140 ca	<72 ca	Toluene	<340	<90
Acrolein	<2.1 ca	<0.9 ca	1,1,2-Trichloroethane	<0.98	<0.18
Pentane	<110 ca	<36 ca	2-Hexanone	<74	<18
Trichlorofluoromethane	<40	<7.2	Tetrachloroethene	3,400 ve	500 ve
Acetone	<86	<36	Dibromochloromethane	<1.5	<0.18
2-Propanol	<150 ca	<63 ca	1,2-Dibromoethane (EDB)	<1.4	<0.18
1,1-Dichloroethene	<7.1	<1.8	Chlorobenzene	<8.3	<1.8
trans-1,2-Dichloroethene	<7.1	<1.8	Ethylbenzene	<7.8	<1.8
Methylene chloride	<630	<180	1,1,2,2-Tetrachloroethane	<2.5	<0.36
t-Butyl alcohol (TBA)	<220	<72	Nonane	<94 ca	<18 ca
3-Chloropropene	<56 ca	<18 ca	Isopropylbenzene	<180	<36
CFC-113	<14	<1.8	2-Chlorotoluene	<93	<18
Carbon disulfide	<110	<36	Propylbenzene	<88	<18
Methyl t-butyl ether (MTBE)	<130	<36	4-Ethyltoluene	<88	<18
Vinyl acetate	<130 ca	<36 ca	m,p-Xylene	<16	<3.6
1,1-Dichloroethane	<7.3	<1.8	o-Xylene	<7.8	<1.8
cis-1,2-Dichloroethene	<7.1	<1.8	Styrene	<15	<3.6
Hexane	<63 ca	<18 ca	Bromoform	<37	<3.6
Chloroform	<0.88	<0.18	Benzyl chloride	<0.93	<0.18
Ethyl acetate	<130 ca	<36 ca	1,3,5-Trimethylbenzene	<88	<18
Tetrahydrofuran	15 ca	5.2 ca	1,2,4-Trimethylbenzene	<88	<18
2-Butanone (MEK)	<110	<36	1,3-Dichlorobenzene	<11	<1.8
1,2-Dichloroethane (EDC)	<0.73	<0.18	1,4-Dichlorobenzene	<4.1	<0.68
1,1,1-Trichloroethane	<9.8	<1.8	1,2-Dichlorobenzene	<11	<1.8
Carbon tetrachloride	<5.7	<0.9	1,2,4-Trichlorobenzene	<13	<1.8
Benzene	<5.8	<1.8	Naphthalene	<2.4 j	<0.45 j
Cyclohexane	<120 ca	<36 ca	Hexachlorobutadiene	<3.8	<0.36

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Skyway Redevelopment 200552
Date Collected:	Not Applicable	Lab ID:	02-1930 MB
Date Analyzed:	08/18/22	Data File:	081813.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<1.2 ca	<0.7 ca	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	<0.99	<0.2	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<2.1	<0.3	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8 ca	<2 ca	Trichloroethene	<0.11	<0.02
Bromomethane	<3.9	<1	cis-1,3-Dichloropropene	<0.91	<0.2
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5 ca	<4 ca	Toluene	<19	<5
Acrolein	<0.11 ca	<0.05 ca	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<5.9 ca	<2 ca	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	<4.8	<2	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6 ca	<3.5 ca	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	<35	<10	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2 ca	<1 ca
3-Chloropropene	<3.1 ca	<1 ca	Isopropylbenzene	<9.8	<2
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<4.9	<1
Methyl t-butyl ether (MTBE)	<7.2	<2	4-Ethyltoluene	<4.9	<1
Vinyl acetate	<7 ca	<2 ca	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5 ca	<1 ca	Bromoform	<2.1	<0.2
Chloroform	<0.049	<0.01	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2 ca	<2 ca	1,3,5-Trimethylbenzene	<4.9	<1
Tetrahydrofuran	<0.59 ca	<0.2 ca	1,2,4-Trimethylbenzene	<4.9	<1
2-Butanone (MEK)	<5.9	<2	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	<0.31	<0.05	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.1 j	<0.02 j
Cyclohexane	<6.9 ca	<2 ca	Hexachlorobutadiene	<0.21	<0.02

Date of Report: 08/23/22
Date Received: 08/15/22
Project: Skyway Redevelopment 200552, F&BI 208223
Date Extracted: 08/22/22
Date Analyzed: 08/22/22

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

Results Reported as % Helium

Sample ID Laboratory ID	Helium
SS-06 208223-01	<0.6
SS-07 208223-02	<0.6
SS-08 208223-03	<0.6
SS-09 208223-04	<0.6
SS-10 208223-05	<0.6
Method Blank 02-2021 MB	<0.6

Date of Report: 08/23/22
Date Received: 08/15/22
Project: Skyway Redevelopment 200552, F&BI 208223

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

Laboratory Code: 208244-01 1/5.9 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Propene	ug/m3	35	35	0
Dichlorodifluoromethane	ug/m3	<5.8	<5.8	nm
Chloromethane	ug/m3	<22	<22	nm
F-114	ug/m3	<12	<12	nm
Vinyl chloride	ug/m3	<1.5	<1.5	nm
1,3-Butadiene	ug/m3	<0.26	<0.26	nm
Butane	ug/m3	<28	<28	nm
Bromomethane	ug/m3	<23	<23	nm
Chloroethane	ug/m3	<16	<16	nm
Vinyl bromide	ug/m3	<2.6	<2.6	nm
Ethanol	ug/m3	<44	<44	nm
Acrolein	ug/m3	2.4	2.6	8
Pentane	ug/m3	<35	<35	nm
Trichlorofluoromethane	ug/m3	<13	<13	nm
Acetone	ug/m3	66	66	0
2-Propanol	ug/m3	<51	<51	nm
1,1-Dichloroethene	ug/m3	<2.3	<2.3	nm
trans-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
Methylene chloride	ug/m3	<200	<200	nm
t-Butyl alcohol (TBA)	ug/m3	<72	<72	nm
3-Chloropropene	ug/m3	<18	<18	nm
CFC-113	ug/m3	<4.5	<4.5	nm
Carbon disulfide	ug/m3	<37	<37	nm
Methyl t-butyl ether (MTBE)	ug/m3	<43	<43	nm
Vinyl acetate	ug/m3	<42	<42	nm
1,1-Dichloroethane	ug/m3	<2.4	<2.4	nm
cis-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
Hexane	ug/m3	<21	<21	nm
Chloroform	ug/m3	0.98	0.95	3
Ethyl acetate	ug/m3	<43	<43	nm
Tetrahydrofuran	ug/m3	<3.5	<3.5	nm
2-Butanone (MEK)	ug/m3	<35	<35	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.24	<0.24	nm
1,1,1-Trichloroethane	ug/m3	<3.2	<3.2	nm
Carbon tetrachloride	ug/m3	<1.9	<1.9	nm
Benzene	ug/m3	2.1	2.1	0
Cyclohexane	ug/m3	<41	<41	nm
1,2-Dichloropropane	ug/m3	<1.4	<1.4	nm
1,4-Dioxane	ug/m3	<2.1	<2.1	nm
2,2,4-Trimethylpentane	ug/m3	<28	<28	nm

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

Laboratory Code: 208244-01 1/5.9 (Duplicate) (continued)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Methyl methacrylate	ug/m3	<24	<24	nm
Heptane	ug/m3	<24	<24	nm
Bromodichloromethane	ug/m3	<0.4	<0.4	nm
Trichloroethene	ug/m3	<0.63	<0.63	nm
cis-1,3-Dichloropropene	ug/m3	<5.4	<5.4	nm
4-Methyl-2-pentanone	ug/m3	<24	<24	nm
trans-1,3-Dichloropropene	ug/m3	<2.7	<2.7	nm
Toluene	ug/m3	<110	<110	nm
1,1,2-Trichloroethane	ug/m3	<0.32	<0.32	nm
2-Hexanone	ug/m3	<24	<24	nm
Tetrachloroethene	ug/m3	55	55	0
Dibromochloromethane	ug/m3	<0.5	<0.5	nm
1,2-Dibromoethane (EDB)	ug/m3	<0.45	<0.45	nm
Chlorobenzene	ug/m3	<2.7	<2.7	nm
Ethylbenzene	ug/m3	<2.6	<2.6	nm
1,1,2,2-Tetrachloroethane	ug/m3	<0.81	<0.81	nm
Nonane	ug/m3	<31	<31	nm
Isopropylbenzene	ug/m3	<58	<58	nm
2-Chlorotoluene	ug/m3	<31	<31	nm
Propylbenzene	ug/m3	<29	<29	nm
4-Ethyltoluene	ug/m3	<29	<29	nm
m,p-Xylene	ug/m3	5.6	5.7	2
o-Xylene	ug/m3	<2.6	<2.6	nm
Styrene	ug/m3	<5	<5	nm
Bromoform	ug/m3	<12	<12	nm
Benzyl chloride	ug/m3	<0.31	<0.31	nm
1,3,5-Trimethylbenzene	ug/m3	<29	<29	nm
1,2,4-Trimethylbenzene	ug/m3	<29	<29	nm
1,3-Dichlorobenzene	ug/m3	5.2	5.2	0
1,4-Dichlorobenzene	ug/m3	<1.3	<1.3	nm
1,2-Dichlorobenzene	ug/m3	<3.5	<3.5	nm
1,2,4-Trichlorobenzene	ug/m3	<4.4	<4.4	nm
Naphthalene	ug/m3	<1.5	<1.5	nm
Hexachlorobutadiene	ug/m3	<1.3	<1.3	nm

Date of Report: 08/23/22
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Project: Skyway Redevelopment 200552, F&BI 208223

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
Propene	ug/m3	23	66 vo	70-130
Dichlorodifluoromethane	ug/m3	67	95	70-130
Chloromethane	ug/m3	28	95	70-130
F-114	ug/m3	94	88	70-130
Vinyl chloride	ug/m3	35	75	70-130
1,3-Butadiene	ug/m3	30	70	70-130
Butane	ug/m3	32	59 vo	70-130
Bromomethane	ug/m3	52	103	70-130
Chloroethane	ug/m3	36	99	70-130
Vinyl bromide	ug/m3	59	101	70-130
Ethanol	ug/m3	25	67 vo	70-130
Acrolein	ug/m3	31	67 vo	70-130
Pentane	ug/m3	40	63 vo	70-130
Trichlorofluoromethane	ug/m3	76	96	70-130
Acetone	ug/m3	32	79	70-130
2-Propanol	ug/m3	33	66 vo	70-130
1,1-Dichloroethene	ug/m3	54	93	70-130
trans-1,2-Dichloroethene	ug/m3	54	88	70-130
Methylene chloride	ug/m3	94	91	70-130
t-Butyl alcohol (TBA)	ug/m3	41	71	70-130
3-Chloropropene	ug/m3	42	62 vo	70-130
CFC-113	ug/m3	100	103	70-130
Carbon disulfide	ug/m3	42	85	70-130
Methyl t-butyl ether (MTBE)	ug/m3	49	74	70-130
Vinyl acetate	ug/m3	48	58 vo	70-130
1,1-Dichloroethane	ug/m3	55	84	70-130
cis-1,2-Dichloroethene	ug/m3	54	86	70-130
Hexane	ug/m3	48	65 vo	70-130
Chloroform	ug/m3	66	90	70-130
Ethyl acetate	ug/m3	49	68 vo	70-130
Tetrahydrofuran	ug/m3	40	63 vo	70-130
2-Butanone (MEK)	ug/m3	40	76	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	82	70-130
1,1,1-Trichloroethane	ug/m3	74	95	70-130
Carbon tetrachloride	ug/m3	85	97	70-130
Benzene	ug/m3	43	78	70-130
Cyclohexane	ug/m3	46	62 vo	70-130
1,2-Dichloropropane	ug/m3	62	90	70-130
1,4-Dioxane	ug/m3	49	84	70-130
2,2,4-Trimethylpentane	ug/m3	63	78	70-130

Date of Report: 08/23/22
Date Received: 08/15/22
Project: Skyway Redevelopment 200552, F&BI 208223

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

Laboratory Code: Laboratory Control Sample (continued)

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Methyl methacrylate	ug/m3	55	75	70-130
Heptane	ug/m3	55	73	70-130
Bromodichloromethane	ug/m3	90	103	70-130
Trichloroethene	ug/m3	73	101	70-130
cis-1,3-Dichloropropene	ug/m3	61	94	70-130
4-Methyl-2-pentanone	ug/m3	55	101	70-130
trans-1,3-Dichloropropene	ug/m3	61	88	70-130
Toluene	ug/m3	51	89	70-130
1,1,2-Trichloroethane	ug/m3	74	105	70-130
2-Hexanone	ug/m3	55	71	70-130
Tetrachloroethene	ug/m3	92	123	70-130
Dibromochloromethane	ug/m3	120	121	70-130
1,2-Dibromoethane (EDB)	ug/m3	100	104	70-130
Chlorobenzene	ug/m3	62	103	70-130
Ethylbenzene	ug/m3	59	81	70-130
1,1,2,2-Tetrachloroethane	ug/m3	93	101	70-130
Nonane	ug/m3	71	68 vo	70-130
Isopropylbenzene	ug/m3	66	101	70-130
2-Chlorotoluene	ug/m3	70	100	70-130
Propylbenzene	ug/m3	66	91	70-130
4-Ethyltoluene	ug/m3	66	85	70-130
m,p-Xylene	ug/m3	120	90	70-130
o-Xylene	ug/m3	59	95	70-130
Styrene	ug/m3	58	89	70-130
Bromoform	ug/m3	140	122	70-130
Benzyl chloride	ug/m3	70	91	70-130
1,3,5-Trimethylbenzene	ug/m3	66	85	70-130
1,2,4-Trimethylbenzene	ug/m3	66	83	70-130
1,3-Dichlorobenzene	ug/m3	81	112	70-130
1,4-Dichlorobenzene	ug/m3	81	107	70-130
1,2-Dichlorobenzene	ug/m3	81	113	70-130
1,2,4-Trichlorobenzene	ug/m3	100	113	70-130
Naphthalene	ug/m3	71	93	70-130
Hexachlorobutadiene	ug/m3	140	130	70-130

Date of Report: 08/23/22
Date Received: 08/15/22
Project: Skyway Redevelopment 200552, F&BI 208223

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

Laboratory Code: 208157-05 (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. 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.

208223

SAMPLE CHAIN OF CUSTODY

08-15-22

Page # 1 of 1

Report To Ali Cochrane

Company Aspect Consulting

Address

City, State, ZIP

Phone 316.617.0419 Email acochrane@aspectconsulting.com

SAMPLERS (signature)

PROJECT NAME & ADDRESS: Skyway Redevelopment

PO # 200552

NOTES:

INVOICE TO

TURNAROUND TIME
☐ Standard
☒ RUSH 5-day per DB 8/16
Rush charges authorized by: AC

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	TO15 cVOCs	APH	Helium	Methane	Notes
SS-06	01	8208	203	IA / (SG)	8/15/22	29	1050	5	1056	X				X	X	
SS-07	02	2435	224	IA / (SG)	↓	30	1144	5	1149	X				X		
SS-08	03	3676	299	IA / (SG)		28	1243	5	1249	X				X		
SS-09	04	3254	225	IA / (SG)		30	1345	5	1351	X				X		
SS-10	05	3385	230	IA / (SG)		30	DRB 1515	5	DRB 1521	X				X	X	
				IA / SG												
				IA / SG												
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Nikolai Carroll	Aspect	08/15/22	1745
Received by: NP	Bisrat Tadesse	FBI	8/15/22	1745
Relinquished by:				
Received by:		Samples received at 28°C		

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